

Current Clinical Psychiatry  
*Series Editor: Jerrold F. Rosenbaum*

Timothy J. Petersen  
Susan E. Sprich  
Sabine Wilhelm *Editors*

# The Massachusetts General Hospital Handbook of Cognitive Behavioral Therapy

 Humana Press

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# Current Clinical Psychiatry

Series editor  
Jerrold F. Rosenbaum

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Sabine Wilhelm  
Editors

The Massachusetts  
General Hospital  
Handbook of Cognitive  
Behavioral Therapy

 Humana Press

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## Foreword

While, at first thought, we conceptualize our therapeutic efforts as working with the patient/client to change thought, emotion, and behavior, in truth what we must do is to change, literally, rewire, the brain, to accomplish these goals. What is remarkable about our field is that we now know that we can and do accomplish this with the therapeutic tools that have been developed, and that through learning and experience, effective treatment literally rewires the brain and rebalances circuits that are responsible for how we think, feel, and behave. It is incumbent on all behavioral health caregivers to learn these skills, to acquire these tools, in order to be credentialed professionals privileged to care for and to provide effective treatments for fellow humans who suffer.

This volume that my remarkable colleagues have produced is unique in that it brings together foremost clinical and research experts who all have active clinical research programs based in an academic medical center, a place that is often the court of last resort for the most challenging and complicated cases. They have offered an accessible text, both in terms of its readability and in the clarity of clinical guidance. Case examples are used in each chapter to illustrate how the described techniques can be applied to actual patients.

The format of this volume is also unique in the CBT book world as the content spans basic skills/applications and more specialized applications and topics. Our department has endeavored to make these expertises available to all who seek to develop or enhance their clinical skills, and some readers may wish to in addition pursue our online CBT portfolio of courses for which this handbook will become the main “reading and resource” going forward. Our ultimate mission is to create a community of learners who continue to develop evidence-based practice skills and look to MGH as their education “provider.” We will always be grateful for your feedback and suggestions as we pursue our mutual goal of reducing human suffering and impairment.

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Psychotherapy has rich and complicated historical roots, and has evolved considerably into what we today consider generally accepted, modern forms of treatment. One of the earliest forms of psychotherapy, developed over 2,000 years ago, was based on the principles of Buddhism and posited that mental suffering was caused by ignorance stemming from a craving for attachment. If an individual followed the “Noble Eightfold Path to Enlightenment,” this craving would be eased (The Four Noble Truths and Noble Eightfold Path, [1]). Other notable, early forms of psychotherapy, spanning antiquity through the early nineteenth century, include Hippocrates’ focus on bringing the “four humors” into balance (Hippocrates, ca. 460

BC–ca. 370 BC [2]), emphasis on balancing the forces of Yin and Yang [3], various forms of hypnotherapy [4, 5], and exorcism [6]. More formalized models of “talk therapy” were not developed until the late nineteenth century, when Freud and subsequent followers began their transformative clinical work.

The beginning of the twentieth century marked a period of rapid growth and refinement of psychotherapy, with notable developments taking place in Europe and the USA. From 1900 through the end of World War II, key developments included publication of Freud’s seminal work *Interpretation of Dreams* [7], establishment of the American Psychological Association, opening of the first mental health clinic at the University of Pennsylvania, Adler and Jung’s departure from strict Freudian views and the resulting formation of the Individual and Analytical schools of thought [8, 9], Horney’s establishment of Neo-Freudianism [10], and publication of Carl Roger’s seminal work *Counseling and Psychotherapy* [11].

Significant branching of theories and forms of psychotherapy occurred during the mid-twentieth century. In addition to publication of the first Diagnostic and Statistical Manual of Mental Disorders (DSM; [12]), this period marked the appearance of what is known as the “first wave” of evidence-based psychotherapies. As a group, these therapies were in part a rejection of the perceived shortcomings of psychoanalytic theory and techniques (e.g., overemphasis

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on childhood experiences as the primary cause of psychopathology, lack of standardization of techniques, absence of validated outcome measures). Among the most important of these new therapies was behavioral therapy developed and codified by such pioneers as Wolpe and Skinner. Behavior therapy represented a significant paradigm shift in that observable events (behaviors) were the primary unit of interest and proved to be modifiable based on reinforcement strategies and contingencies [13, 14]. Along with this core component of the “first wave,” another notable progress was taking place in the development of different schools of psychotherapy including Perls’ creation of Gestalt Therapy, development of Maslow’s Humanistic Psychology, and the spawning of psychodynamic therapies and their briefer versions [15–17]. The “second wave” of psychotherapies, occurring in the late 1960s and 1970s, centered on a focus on cognitions as the primary drivers of affect and behavior. Rather than simply respondents to behavioral contingencies, human beings were viewed as engaging in active cognitive processing that had a significant impact on day-to-day experience. This “second wave” was accompanied, in parallel, by the development of both social psychology and computer programming. Within social psychology, an emphasis on researching how people interact with each other led to the creation of attribution theory, which posits that individuals actively determine causes of others’ behavior through reflective thought. Within the world of computer science, programming language and the concept of a “central processor of information” served as an accurate and useful model for understanding human thinking. Social psychologists additionally contributed to the empirical development of CBT with the advent of information processing theory. Information processing theory represented a critical paradigm shift in which humans were seen not as simply responding to external stimuli, but as active cognitive processors of information presented to them from their external world [18]. This theory helped establish thought processes or cognitions as legitimate targets for scientific research and therapeutic interventions. Initially this new line of thinking was met with criticism

from those solidly in the behaviorism camp as external, observable behaviors were seen by these scientists as primary in understanding the human experience.

Albert Ellis and Aaron Beck are considered to be the leaders of this second wave of psychotherapy development. Ellis created rational emotive therapy (RET; [19]). The fundamental tenet of RET is that unhealthy, self-defeating thoughts and beliefs create distress and individuals can be taught to identify and modify them. Ellis firmly believed that this treatment approach resulted in effective promotion of emotional well-being. The Albert Ellis Institute, still in existence, has successfully spearheaded positive RET outcome studies [20] and has provided training and certification to thousands of psychologists. Beck, in what was arguably one of the most significant developments in the growth of psychotherapy during this time period, created the cognitive therapy (CT) model, with a specific focus on how thoughts play a pivotal role in the development and maintenance of depression. His 1979 book, *Cognitive Therapy of Depression*, influenced the field in a profound manner and served as the basis for cognitive behavioral therapy (CBT) models created to treat a broad range of mental health disorders [21]. The Beck Institute in Pennsylvania continues to provide training for clinicians worldwide.

Subsequent to Beck’s original 1979 publication, developers of CBT treatment protocols have generously incorporated behavioral strategies into the overall treatment package [22, 23]. Thus, the term CBT, as compared with CT, is a more accurate reflection of what actually takes place during treatment—in that more behavioral strategies are now incorporated, as compared to the original CT envisioned by Beck. The relative contribution of cognitive and behavioral strategies to observed efficacy of CBT has been examined in a formal manner [23]. While some research suggests behavioral strategies to be the more “active” ingredient, in that they alone may produce the same positive outcomes when compared with the entire CBT treatment package, other research does not confirm this finding [24, 25]. At this point, the most common clinical strategy is to evaluate each patient’s individual

symptom presentation and select cognitive and/or behavioral techniques and strategies most likely to be effective and acceptable to the patient. Ultimately, the inclusion of both cognitive and behavioral techniques and strategies in the CBT treatment package helped serve the purpose of clinically bridging the cognitive and behaviorist camps. It is this combination of approaches that allows for CBT to be flexibly and effectively applied across a range of psychiatric conditions. From our perspective, CBT is most accurately defined as a specific clinical approach and set of techniques, based on empirically derived behavioral and cognitive theories, which have a strong evidence base of support for the treatment of a wide range of mental health conditions.

In the past few decades, there has been an increasing focus on treatments that incorporate concepts such as mindfulness into CBT. For example, dialectical behavior therapy (DBT) was developed by Marsha Linehan [26, 27]. DBT was originally developed to treat borderline personality disorder, but has been used with various disorders (e.g., treatment-resistant depression, [28], and binge eating disorder, [29]). Along somewhat similar lines, acceptance and commitment therapy (ACT) was developed by Steven Hayes and colleagues. ACT has acceptance as a major focus of treatment and also incorporates mindfulness and values work [30]. Some authors contend that these treatments are fundamentally related to CBT and should not be classified separately (e.g., [31]). On the other hand, Hayes and others have referred to these new treatments as the “third wave” of cognitive and behavioral therapies, implying that they are fundamentally different than older CBT treatments (e.g., [32]).

The MGH Handbook of CBT provide in-depth coverage of CBT, arguably the most widely disseminated evidence-based psychotherapy utilized today. As you will see, CBT has been adapted for use across an impressively broad range of clinical indications and modified for use across varying stages of illness. Empirical evidence confirms that CBT is more effective than no treatment conditions, and in some instances CBT demonstrates

equivalent or greater efficacy when compared with psychotropic treatments [33, 34].

Our overall mission was to create a handbook grounded in state-of-the-art, empirically based clinical research. This volume take the reader through a sequence that includes the basic principles of CBT, common applications (e.g., depression, obsessive compulsive disorder [OCD]), and, finally, highly specialized applications (e.g., use of CBT in medically ill populations, body dysmorphic disorder [BDD]). Our contributors are foremost experts in their respective specialties, and all have ongoing, active clinical research programs. Case vignettes are incorporated into each chapter to bring clinical techniques and strategies “to life.” We are confident that you will find the contents of this volume highly accessible and useful in your clinical practice. For those readers who have not received formal training in CBT, we hope that this handbook spurs your interest to engage in additional, specialized training. This will maximize the confidence you bring to your work and help ensure that the treatment being provided is of the highest possible quality. For those readers who have been formally trained in CBT, the information contained in this handbook will undoubtedly enrich your practice of CBT, and hopefully serve as an impetus to engage in more specialized CBT training. Thank you for your interest in the MGH Handbook of CBT. We wish you great success in your clinical work!

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## 2.1 Structure of Treatment

As discussed in the previous chapter, cognitive behavioral therapy (CBT) is designed to build a set of skills that increase awareness of thoughts and behaviors and help patients understand how thoughts and behaviors influence emotions. CBT uses a collaborative process in which the therapist and patient work together to problem-solve how to challenge dysfunctional thoughts and behaviors underlying the presenting problem. This is quite different

from other types of talk therapy. In CBT, the therapist teaches the appropriate skills to address the clinical problem and then the patient works to apply these skills more generally outside of session.

CBT is structured and time-limited with treatment typically consisting of 8–25 sessions, based on clinical presentation and symptom severity. Sessions typically range from 45 to 60 minutes in length, are generally scheduled every week, and are often tapered (i.e., once every other week, once a month) toward the end of treatment. Although CBT is a structured treatment, the content of each session is certainly not the same, and varies based on diagnosis and case conceptualization. In general, the treatment progresses through the following stages: (1) thorough assessment of symptoms, (2) case conceptualization/formulation, (3) psychoeducation, (4) identification of specific measurable goals, (5) practice and implementation of cognitive and behavioral treatment strategies, and (6) relapse prevention/booster sessions. Each of these stages of treatment will be discussed in further detail in this chapter.

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## 2.2 Early Sessions: Orientation to CBT

At the first session, the therapist should orient the patient to CBT by welcoming him/her and explaining the concept and characteristics of

CBT. In general, patients feel more comfortable when they know what to expect from therapy and many patients will. Orientation to CBT also involves a discussion of the focused and time-limited nature of the therapy, as well as the rationale (including empirical support) for selecting CBT to treat the patient's presenting problem. It is often helpful to use metaphors or examples that the patient can relate to when starting a new treatment. An example is:

*"CBT is probably quite different than other types of therapy you may have previously tried; it is much like taking a class which focuses on how to better cope with your problems. The emphasis is on learning and practicing new skills outside of session."*

At the first session, the therapist should discuss the nature of confidential treatment and any ethical/legal considerations. Also, the therapist can discuss that one of roles of the therapist is to keep sessions on track; so he/she may, at times, need to shift the focus of conversation. Getting the patient's agreement early on will help him/her feel more comfortable if the therapist needs to redirect or interrupt later in the assessment and/or therapy.

After orienting the patient to CBT the therapist should briefly summarize goals for the current session and for the treatment overall. For example, the therapist could say:

*"Today we will talk about the problems you are currently experiencing. Over the course of the treatment, you will learn new ways to respond to the thoughts that are bothering you, along with behavioral skills to help manage your symptoms. This is a collaborative process, so we will work together to set an agenda for each session, and decide on the therapy homework you will be assigned to do between sessions. The homework will allow you to practice new skills outside of the therapy session and to fully maximize the treatment. Over the course of the treatment, I will teach you the skills you need to have so that at the end of treatment, you can become your own therapist."*

## 2.3 Early Sessions: Assessment

An initial assessment and diagnostic evaluation is essential for effective treatment planning in CBT. Clinical diagnoses play the primary role in determining how CBT should be adapted for each particular patient. The following information should be gathered and thoroughly assessed:

- Information regarding current triggers, thoughts, and behaviors associated with problem symptoms. Inquiring about specific examples can be helpful in prompting the patient to provide more detailed information about his/her experiences.
- For example, the therapist could ask, "Can you tell me about the last time you experienced those symptoms? What occurred right before these symptoms came on? Where were you? What were you thinking/doing at the time?"
- For patients who engage in avoidance behaviors or other maladaptive behaviors, the therapist should assess the motivation that underlies these behaviors.
- The therapist could say, "What do you think will happen if you do not avoid this situation? What is the worst that you think could happen?"
- Circumstances that may have been related to the onset of the problem/disorder, such as preceding events or stressors (e.g., final exams, medical illnesses, work difficulties).
- A history of the problem/disorder. The therapist could inquire, "How long have you been experiencing these symptoms? When did they first start? How long do the symptoms last? How frequently? Have the symptoms changed over time (e.g., content of thoughts, types of behaviors, intensity of symptoms)?"
- The patient's explanation for the cause of the problem/disorder and the patient's perception of the problem.
- Questions that the therapist could ask include, "What do you think may have caused these problems to start? Was there anything that you believe may have made the problems worse?"
- As many psychological disorders have familial components, it is important to document

the family history of the disorder and other psychiatric problems. The therapist could ask, “Has anyone else in your family experienced psychological difficulties? Do you know if anyone has had the same types of difficulties that you are experiencing now?” As the presence of comorbid conditions can change the treatment trajectory and may even potentially interfere with treatment, co-occurring psychological disorders should be thoroughly assessed and accounted for prior to the start of treatment (e.g., with a structured diagnostic interview).

- Traumatic experiences, if any, should be identified; however, the therapist should keep in mind that many patients may be reluctant or unwilling to share this information during the initial evaluation period due to the sensitive nature of the experiences.
- Substance use (including tobacco use, alcohol use, caffeine consumption and prescription medication use above and beyond the prescribed dose) may contribute substantially to decreased psychological health. If endorsed, the therapist should document duration and frequency of use, amount used in a single sitting, and level of impairment caused by substance use.
- Psychosocial and functional impairment related to the problem/disorder in work, school, family, and social domains should be assessed. Level of impairment will serve as a marker for progression through treatment (i.e., Is the patient getting better/worse?); therefore, it is important to document specific ways in which the symptoms may cause the patient impairment in these various domains.
- The therapist can ask, “How do your symptoms get in the way of your life? Do they keep you from doing things you want to do? What about your relationships with family and friends?”
- Sleep disturbances can cause or exacerbate existing symptoms. The therapist should assess sleep hygiene and any sleep problems, including difficulty waking up, falling asleep, and waking frequently during the night.
- Assessment of current lifestyle (e.g., daily routines, physical activity family and social

life, and employment) will provide information regarding level of impairment, and elucidate whether a patient’s lifestyle may be a problematic factor during treatment, or a strength that can be utilized to maximize progress.

- Type, duration, dosage, and effects of current and past medications. Medications, particularly concurrent psychiatric medications, can have a significant impact on the patient’s symptoms.
- Assessment of previous psychological treatment and effects allows therapists to get a sense of how the patient may perceive the present therapy and help guide how to tailor the current treatment toward the needs of the patient.
- Questions that the therapist can ask include, “What types of things did you find helpful in your previous therapy?” “What types of things did you feel were not helpful?” “Why did you terminate treatment with your last therapist?”
- Coping strategies that are developed to manage symptoms can differ widely amongst patients, with some adopting healthier strategies (e.g., taking a bath, working out) and others relying on coping behaviors that may exacerbate symptoms (e.g., using substances, avoiding aversive situations).
- The therapist should ask, “What types of things do you do to manage your symptoms when they become overwhelming?” “How do you usually respond when you start to feel that way?”

### 2.3.1 Symptom Measures

Therapists often find it helpful to use clinician-rated assessments to make informed ratings of symptom-related impairment and distress in comparison to cases they have previously seen. In conjunction with clinician-rated measures, patient self-report measures are frequently administered and can be completed quickly and independently. Additionally, psychiatric patients may sometimes feel more comfortable completing measures independently rather than in response to a clinician’s questions. Self-report

measures may help guard against under- or over-reporting of symptoms. Used alongside clinician-rated measures, self-report forms may provide additional information to clarify the clinical picture.

Some commonly used measures include:

- Beck Depression Inventory (BDI-II; [1]) is a 21-item self-report measure that assesses cognitive, behavioral, and somatic symptoms associated with depression. The measure provides a composite score that can be utilized to track the severity of depressive symptoms over time.
- Quick Inventory of Depressive Symptomatology (QIDS; [2]) is a 16-item clinician administered or self-report (QIDS-SR) measure that assesses depression severity using *DSM* criteria for depression.
- Beck Anxiety Inventory (BAI; [3]) is a 21-item self-report questionnaire that measures the presence of clinical anxiety symptoms. Similar to the BDI-II, the BAI has a composite score that can be used in clinical practice to track the progression of anxiety symptoms.
- Post-Traumatic Stress Disorder (PTSD) Symptom Scale-Self Report (PSS-SR; [4]) assesses the presence of a traumatic event and measures the severity of the PTSD symptoms that an individual may experience due to the endorsed trauma.
- Yale-Brown Obsessive–Compulsive Scale (Y-BOCS; [5]) is a semi-structured, clinician-administered interview that assesses the presence of various obsessions and compulsions, as well as the severity of obsessive–compulsive symptoms. A 10-item composite score is provided. The Y-BOCS has been empirically validated and is demonstrated to be sensitive to treatment effects, making the Y-BOCS suitable for clinical practice.
- Schwartz Outcome Scale (SOS-10; [6]) is a brief self-report questionnaire that measures psychological well-being.
- Range of Impaired Functioning Tool (LIFE-RIFT; [7]) is a brief, clinician-administered, semi-structured interview that assesses level of functional impairment due to psychopathology in four domains: work, interpersonal relations, recreation, and global satisfaction.
- MOS 36-Item Short-Form Health Survey (SF-36; [8]) is a measure of quality of life associated with physical health. The following eight domains are assessed: overall health, physical functioning, and limitations due to physical health, emotional well-being associated with physical health, social activity, bodily pain, work, and energy. Each domain provides a score that ranges from 0 to 100 with 0 representing the worst and 100 representing the best quality of life.

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## 2.4 Early Sessions: Case Conceptualization

Case conceptualization is a framework that is used to understand the patient and his/her current symptoms as well as to inform treatment and intervention techniques. It is a set of hypotheses about what variables serve as causes, triggers or maintaining factors for a patient's presenting problems. This description of symptoms provides a means of organizing and understanding how to target interventions to alleviate the problem symptoms. Case conceptualization also serves as a basis to assess patient change/progress. Case conceptualization begins during the first session and is flexibly modified as treatment progresses and more information is gathered. Treatment plans and goals based on the case conceptualization are routinely revisited and changed based on new information and changes in clinical presentation.

The model of cognitive behavioral case conceptualization presented here has multiple origins including the functional analysis literature [9]. Case conceptualization in CBT is based on a constantly evolving formulation of the patient and his/her symptoms. The therapist frequently uses an Antecedents, Behaviors, Consequences (ABC) Model as a formalized model for conducting a functional assessment and examining behaviors in a larger context. This model rests on the assumption that behaviors are largely determined by antecedents (i.e., events that precede) and consequences (i.e., events that follow).

### 2.4.1 Antecedents

Antecedents, or events that occur before a behavior, can be an affect/emotion, thought, behavior, physical sensation or situation. For example, a patient seeking treatment for a drug abuse problem may identify the desire for relief from uncomfortable physical sensations (withdrawal symptoms) as an antecedent for drug use. To help the patient identify antecedents, the therapist and patient can work to identify conditions that affect the patient's behavior. Questions that the therapist might ask to help identify possible antecedents include:

*“What were you feeling before that happened?”*

*“What physical symptoms did you notice in your body right before you did that?”*

*“What do you usually do when in this situation?”*

*“What thoughts might go through your head before this happens?”*

*“In what situation does this often happen?”*

### 2.4.2 Behaviors

A behavior in the ABC model is an action the patient engages in. The behavior, in this model, can be something the patient does, feels, or thinks immediately following the antecedent. The behavior becomes problematic as it serves to maintain the ABC model. Some questions that may be helpful in identifying the behavior component of the ABC model are:

*“What did you do in response to that sensation?”*

*“What was the first thought you had when you felt that way?”*

*“Did you do anything to avoid that emotion?”*

### 2.4.3 Consequences

The consequences can be positive or negative and either increase or decrease the likelihood of something happening again. For example, positive consequences increase the chances that a behavior will be repeated in the future through

the experiences of something positive occurring (e.g., receiving praise) or the removal of something aversive (e.g., not having to do chores). Consequences can be of an affective, cognitive, behavioral, somatic or situational nature. Questions the therapist could ask to help identify possible consequences include:

*“What were you feeling after that happened?”*

*“What physical symptoms did you notice in your body right after you did that?”*

*“How do you usually react after you are in this situation?”*

*“How does your family react to your behavior?”*

*“What thoughts might go through your head after this happens?”*

It is important to examine both short- and long-term consequences. Short-term consequences tend to be behavioral reinforcers, while long-term consequences tend to be negative outcomes. In the case of social anxiety, the short-term consequence of avoiding a work situation that provokes anxiety, such as public speaking, is escape from a negative mood/anxiety; the long-term consequence may be trouble at work, job loss, family problems or financial stress. As a therapist, gaining understanding of the positive and negative consequences of a behavior is important in determining how to design the intervention. For example, in the case above, an intervention targeting the anxiety would decrease the need for avoidance of work situations. Here are some examples of questions that may be used to elucidate short-term consequences:

*“Do you receive attention for this behavior in some way?”*

*“What good/bad things happen as a result of this behavior?”*

*“Does this behavior help you avoid something you don't want to do?”*

*“Does this behavior make you feel good/high in any way?”*

### 2.4.4 Treatment Plan

It is helpful to keep the treatment plan as simple as possible with reasonable and objective behavioral goals. The treatment plan should be a

“living” document that can be changed based on new data or disconfirmed hypotheses. The therapist might describe the treatment plan to the patient in the following manner:

*“Thus far, we have identified some thoughts and behaviors that are likely contributing to your current difficulties. In particular, your views of yourself and your future are quite negative, and you have started to avoid many work and social situations. At this point it would be helpful to further explore your thoughts and see if we can find a more balanced view of your current difficulties. I would also like to talk with you more about re-engaging in work and social activities in a graduated, structured fashion. What are your thoughts about these goals for therapy?”*

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## 2.5 Early Sessions: Psychoeducation

Psychoeducation is information that the therapist provides to the patient about their presenting problem, the possible causes of the condition, possible maintaining factors and how the CBT treatment for that condition works. It is an important component of CBT and may be associated with symptom reduction on its own [10]. Psychoeducation is often helpful for family and friends of the patient as well. Family involvement in the treatment can serve to enlarge the treatment “team” and family members can help in facilitating the completion of CBT homework assignments.

Psychoeducation can also take the form of assigned readings about a specific problem/disorder. This is also often referred to as bibliotherapy, and is a useful tool for CBT because it allows the patient to read about his/her disorder or CBT between sessions. Bibliotherapy emphasizes the self-management focus of CBT and can accelerate therapeutic progress and maintenance of changes. Reading materials can range from assigning patients to read information on websites, book chapters, or sections of patient manuals.

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## 2.6 Early Sessions: Setting Goals

Setting goals in CBT is a collaborative process in which the therapist and patient identify specific therapeutic outcomes for treatment. The therapist works with the patient to set goals that are observable, measurable and achievable and relate to cognitive or behavioral changes relevant to the patient’s presenting problem. Patients often initially describe goals that do not meet many of these criteria (e.g., “I would like to be happy”) and the therapist should work with the patient to re-word or specify the goals (e.g., “Improve my mood by increasing amount of time that I exercise each week”). To increase the patient’s chance of success, the therapist should try to gauge how reasonable the goals are. For example setting a goal of exercising 60 minutes every day for someone who has not exercised in months would be very difficult. Start with a more achievable goal, such as exercising for 20 minutes twice over the next week, or taking daily 10 minute walks. Also, if the patient is successful he/she will be more likely to remain actively engaged in treatment and continue to work toward his/her goals. Using a graded approach to treatment goals (breaking large goals into smaller pieces that can be worked toward each week) also helps to make goals feel more manageable.

Goals are tied to specific skills that will be addressed later in treatment. When setting goals, the therapist should also try to guide the patient toward goals that involve changing the patient’s thoughts and behaviors, rather than changing the thoughts and behaviors of others around them. Treatment goals allow for increased continuity of sessions, help to focus the treatment, and enable the patient and therapist to assess the progress of therapy and identify change objectively. The therapist can think about asking the patient the following questions when guiding the treatment goal setting:

*“How would I be able to tell that your mood/anxiety/etc. was improving?”*

*“What would you be doing differently if you weren’t experiencing this symptom right now?”*

*“Is there anything you’ve stopped doing because of your symptoms that you would like to start doing again?”*

*“How would you like things to be different at the end of this treatment?”*

Examples of goals:

*“I will learn new ways of responding to my negative thoughts.”*

*“I want to be able to comfortably ride the subway every day.”*

*“I would like to be able to concentrate better while I am at work.”*

*“I want to be able to manage stressful situations more effectively.”*

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## 2.7 All Sessions: Cognitive and Behavioral Strategies

CBT therapists use data that they gather from each patient to conceptualize the presenting problem and tailor the treatment to the individual patient. Specific cognitive and behavioral strategies will be discussed in other chapters of this book; however, some examples include: cognitive restructuring, exposure, behavioral activation, relaxation techniques, and mindfulness exercises.

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## 2.8 Late Sessions: Relapse Prevention/Booster Sessions

Toward the end of treatment, as the patient is improving and using the tools he/she has learned in CBT, therapy sessions may be spaced out to once every 2 weeks and then once every 3–4 weeks. This allows for the patient to have more time to practice his/her homework between sessions and to take more control of the therapy (as he/she is becoming his/her own therapist). During the weeks when the patient is not meeting with the therapist, it is often helpful for the therapist to assign the patient to schedule a “self-session.” The self-session should involve the patient taking time to schedule his/her own agenda, review homework and skills, and set new goals for homework.

Even after treatment ends, it may be helpful to offer patients the opportunity to schedule “booster sessions.” Booster sessions help to prevent relapse through early identification of problems and skill use to get the patient back on track if he/she starts to notice his/her symptoms increasing again. Additionally, research supports the use of booster sessions and suggests that CBT interventions with booster sessions are more effective and the effect is more sustainable than CBT interventions without booster sessions [11].

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## 2.9 Structure of Sessions

Individual CBT sessions have a general structure, which clinicians follow, much in the same way as CBT as a treatment has a general structure [12]. During each weekly session, the following is covered: (1) symptom check-in/brief update, (2) bridge from previous session, (3) agenda setting, (4) homework review, (5) cognitive and behavioral strategies from agenda, (6) setting new homework, and (7) summary and feedback [12]. The content of each of these items changes from week to week, based on the patient’s clinical presentation and the stage of treatment (e.g., later in treatment less time is spent on introducing new concepts and more time is spent on review and consolidation of concepts). Adhering to this session structure allows CBT to be understandable and time-efficient for both the therapist and patient.

### 2.9.1 Mood Check/Brief Update

A brief check in at the beginning of the session on the patient’s mood and/or physical functioning allows the therapist to gauge how the patient is progressing from week to week. The therapist should ask the patient to provide his/her explanations for any mood improvements or declines that occur. It is important to try to keep this portion of the session brief and structured so that the majority of the session does not become dominated by the events of the previous week rather than teaching new skills.



### 2.9.2 Bridge from Previous Session

Providing a bridge from the previous session allows the therapist to check in on what the patient understood from the last session and reinforce that all material covered is important to the patient's clinical improvement. Clinicians can also utilize this time to note how previous skills could have been implemented in specific situations the patient may have brought up during his/her update about the prior week. Suggested questions to ask to bridge information from the previous session include:

*“Compared to last week, how is your mood, is it better or worse?”*

*“Did you experience any changes in your physical health over the last week?”*

*“Did you have any thoughts over the last week about what we discussed last session?”*

*“Was there anything we discussed last week that you had questions or concerns about?”*

*“What were the main points that we talked about last week?”*

*“In that situation, which of your skills could you have used to respond differently?”*

### 2.9.3 Set Agenda

Setting the session's agenda is a collaborative process through which the therapist and patient decide how session time will be used and in what order agenda items will be discussed. Both the patient and therapist can contribute items to be included in the agenda. In the early stages of treatment, the therapist often sets the majority of the agenda items, and toward the end of treatment there is a shift toward the patient setting more of the agenda. A suggested way that the therapist could begin this dialog is:

*“I'd like to begin today's session by setting the agenda—or decide what we are going to work on today. This is how we will start each session so that we can be sure to have enough time to cover the most important items. I have some items I'd like to suggest that we add to the agenda and I will ask you if you have any items to add as well. Does this sound okay to you?”*

By collaboratively setting the agenda, the needs of both the therapist and the patient are met. Agenda items should be in the service of treatment goals. After listing and prioritizing items for the agenda, the therapist can assign a time limit to each issue if needed (e.g., in a situation where later items on the agenda are frequently not being addressed because too much time gets spent on the earlier items). By setting a time limit for each item, chances are increased that all items can be covered in the session. Some example questions that the therapist can ask the patient while creating the session agenda include:

*“What treatment goals would you like to work on today?”*

*“What problems would you like to discuss/prioritize in this session?”*

*“What is causing you the most difficulty right now?”*

*“What do you think we should focus on in the session today?”*

*“What would you like to put on today's agenda?”*

### 2.9.4 Homework Review

Homework review should take place during every session. The review serves two main purposes: (1) it reinforces the importance of practicing the skills learned in session outside of the therapy appointment and (2) it allows the therapist to assess skill acquisition and retention from the previous session. In general, patients who complete homework between sessions show significantly greater symptom improvements than those who do not [13]. If it becomes clear during the homework review that elements of the cognitive behavioral techniques learned in the previous session were misunderstood or forgotten, it is then a good idea to use additional session time to review the skill. If a patient does not complete his/her homework, it should be directly addressed in the session. Setting up and encouraging a “win-win” scenario can be a helpful approach to homework compliance. For example, using metaphors such as likening therapy to “taking a class” or “learning a musical instrument” are often helpful. The more time spent out of session

practicing the skills, the “better grade you’ll get” or “more quickly you’ll be able to play.” Additionally, barriers to homework compliance (e.g., difficulty organizing time, external stressors, and avoidance) should be frequently monitored and addressed quickly. Some helpful questions to ask during homework review are:

*“What did you attempt/complete for homework since the last session?”*

*“How did the assignment go?”*

*“What did you learn from doing this homework assignment?”*

*“How many times and for how long did you practice your homework?”*

*“What do you think got in the way of completing your homework assignments this week?”*

### **2.9.5 Cognitive and Behavioral Strategies/Work on Agenda**

The therapist should discuss each agenda item, starting with the most important (as decided by the patient and therapist previously). During the early treatment sessions, this portion of the session is often more didactic in nature with the therapist doing the majority of the talking. If time runs short, the therapist can discuss with the patient that items that were not addressed this week will be put on the agenda for the following week. It is the therapist’s responsibility to keep the treatment discussion on track and focused; the therapist should guide the patient back to the problem being discussed when he/she drifts to other topics. If the patient persists on a tangent or topic not on the agenda, it can be helpful to ask the patient if he/she would like to add this topic to the agenda for the following week. In some cases it may be necessary to educate/review with the patient the nature of CBT and what kinds of issues are relevant for the agenda and how to spend session time optimally.

### **2.9.6 Setting New Homework**

As previously mentioned, homework is an important part of CBT and contributes to positive

treatment outcomes [13]. CBT therapists typically meet with individual patients once per week for 45–60 minutes, which amounts to less than 1 % of a patient’s waking hours in a week. In order to influence the remaining 99 % of the patient’s time and to practice what is learned in session, homework becomes an integral part of the therapy. Homework is assigned at every session and involves practice of the cognitive and behavioral strategies used in the treatment session that week. At the beginning of treatment, it is often helpful to start with educational reading. Self-monitoring homework, such as completing logs to document mood, anxiety or activity levels is also very useful as it can be used to guide the case conceptualization and treatment approach.

Much like the treatment sessions, homework often requires patients to experience some discomfort or anxiety, such as in exposure homework assignments. Additional assignments might include cognitive restructuring. These assignments aid patient skill acquisition, treatment compliance, and symptom reduction by integrating treatment concepts into the patient’s daily life. Homework is important for between-session work and making progress toward patient goals.

### **2.9.7 Summary and Feedback**

Summarizing the main points of the session and eliciting feedback from the patient at the end of the session contributes to the collaborative nature of CBT. At the end of the session, the therapist should summarize the main points of the session. As treatment progresses he/she patients to complete the session summaries themselves (further emphasizing the role of the patient in eventually becoming his/her/his own therapist). Encouraging the patient to provide feedback strengthens the therapeutic relationship and reminds the patient of the active role he/she/he plays in the treatment itself. This can also be a time for the therapist to provide feedback about progress he/she noticed and encourage and motivate patients to continue working toward their goals. Suggested questions

to ask patients during the summary/feedback portion of the session include:

*“What were your impressions of today’s session?”*

*“Did we neglect to discuss anything that you think is important?”*

*“Was there anything about today’s session that you did not understand?”*

*“Was there anything that we discussed today that bothered you?”*

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## 2.10 Summary

CBT is a goal-oriented and time-limited therapy that encourages patients to change their thinking as well as their behavior. To achieve the goals of therapy, a thorough evaluation is necessary at the start of treatment to identify both problem areas and aspects of the patient’s life that might be contributing to or exacerbating the symptoms. While patients are taught specific skill sets to manage their symptoms, the treatment is flexible in nature where goals of therapy may change with ongoing assessment and certain skills may be emphasized depending on the needs of the patient. The process is always collaborative, with the therapist working with the patient to agree on treatment goals and therapy homework assignments. As the skills learned in CBT are meant to be utilized regularly, homework assignments are an integral part of the therapeutic process and allow patients to practice CBT skills in their everyday lives. Although the therapy is time-limited, booster sessions are recommended after the end of treatment to help patients maintain their gains by giving them a means to review the CBT skills with their therapist.

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### 3.1 Cognitive Techniques

Over the past 50 years, a multitude of researchers and clinicians have contributed to the evolution of cognitive behavior therapy from its original form created by Aaron T. Beck at the University of Pennsylvania [1] to a variety of adaptations. Cognitive behavior therapy (CBT) has become the most widely utilized and researched approach of all psychotherapeutic methods [2]. The general efficacy of CBT has been demonstrated for a wide range of psychological conditions in a variety of patient populations [3], delivered in different formats (i.e., individual, group, family, couples, etc.). Specifically, years of research have demonstrated the efficacy of CBT in the treat-

ment of depression [4], suicide [5, 6], generalized anxiety disorder [7], posttraumatic stress disorder [8], schizophrenia [9], personality disorders [10], and substance abuse [11], among other disorders and psychological issues.

The intersection of CBT and mindfulness practice (i.e., as with mindfulness-based cognitive therapy, dialectical behavior therapy) illustrates one of the many ways in which the field of clinical psychology has integrated distinct cognitive approaches in an effort to develop more effective psychological interventions. In the following chapter, we explain the core techniques inherent in Beck's CBT. Further, we outline basic principles and applications of mindfulness practice, including ways in which mindfulness practice complements standard approaches to CBT. Case examples are used to illustrate each of the principles outlined throughout the chapter and tips for basic troubleshooting are briefly explored.

#### 3.1.1 The Cognitive Model

Individuals who are not experienced consumers of CBT often believe that emotions are triggered directly by situations. Unfortunately, direct attempts at changing one's emotions are typically quite difficult and can lead to further emotional and behavioral difficulties. The cognitive model challenges the common assumption that situations trigger emotions by suggesting that the

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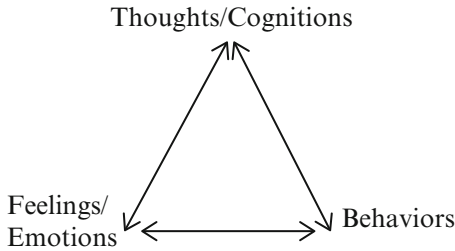
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**Fig. 3.1** Basic representation of the cognitive model using a triangle and bidirectional arrows to illustrate the nature in which thoughts, feelings, and behaviors can each influence each other

thoughts an individual has about a particular situation give rise to an emotion. Thus, a variety of cognitive interventions are aimed at changing the individual's way of thinking and belief system in order to produce lasting emotional and behavioral changes. It is critical that the therapist has a solid understanding of the cognitive model prior to initiating CBT with a patient. Further, it is important that the patient develops a basic understanding of the general tenets of the cognitive model prior to the utilization of cognitive techniques in session.

The core of the cognitive model is the understanding that one's thoughts influence one's emotions and behaviors [12]. In order to illustrate the basic concepts of the cognitive model and lay the groundwork for CBT, we find it useful to utilize a diagram and incorporate examples from the patient's own life. One basic representation of the cognitive model utilizes a triangle and bidirectional arrows to illustrate the nature in which thoughts, feelings, and behaviors can individually influence each other (see Fig. 3.1). The current chapter focuses on strategies for identifying and changing maladaptive thoughts rather than on strategies for directly modifying behaviors.

A key component of the cognitive model emphasizes that an individual's perception or interpretation of an event (i.e., thoughts) is of critical importance, rather than the actual event itself. Consider the example of an individual getting into a minor car accident in which no one was hurt, but that caused a small dent in the

person's car. One possible interpretation that the individual might have of this event could be:

*"This is a horrible way to start my day. It is all going downhill from here. Why does this kind of thing always happen to me?"*

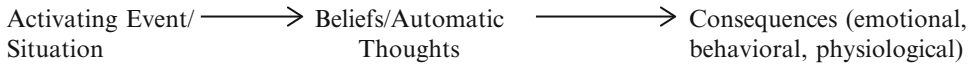
Another possible interpretation of the same event may be:

*"I'm so thankful everyone was safe and the car is only in need of minor repair. I will just be a bit late to work. This whole scenario could have been much worse. Accidents happen."*

In the first scenario, the individual is likely to report negative feelings (i.e., depressed) and approach the rest of the day with a pessimistic attitude, perhaps looking for further evidence that bad things always happen to him or her. In the second scenario, the individual is likely to report feeling somewhat neutral and maybe even relieved that more severe negative consequences did not occur. Visual representation of this process can also be explained using Albert Ellis' [13] ABC model (see Fig. 3.2).

It is critical that patients understand the concepts outlined in Figs. 3.1 and 3.2 before learning any techniques focused on change. It is often useful for patients to visualize the models, both generically, and by using personal examples. Therapists can use white boards and handouts to actively engage patients.

The cognitive model explains that three different levels of cognitive dysfunction occur within the context of psychological disturbance: automatic thoughts, intermediate beliefs, and core beliefs [12]. *Automatic thoughts* occur on the surface. They are often quick, evaluative thoughts that occur without much consideration. For example, *"I'm ugly," "They think I am crazy,"* or *"I won't get the promotion."* Individuals are often unaware of these thoughts as they occur; however, these are the thoughts that tend to have the most bearing on sudden shifts in mood. Although automatic, these types of thoughts do not just appear out of nowhere. They are often shaped by more enduring core beliefs that guide an individual's way of thinking. *Core beliefs* are our most fundamental ways of thinking about ourselves, others, and the world [14]. Core



**Fig. 3.2** Albert Ellis' [13] ABC model

beliefs are often shaped over time, beginning in childhood, as a result of our experiences in the world and the ways in which we interpret them. Core beliefs are often global, rigid, and over-generalized [12]. Although often hidden far below the surface, core beliefs are regarded as absolute truths which guide the conditional rules and assumptions (i.e., intermediate beliefs) by which we lead our lives. Core beliefs about the self are often related to issues of helplessness (i.e., “*I am useless on my own*”), unlovability (i.e., “*I am unlovable*”), and worthlessness (i.e., “*I am a failure*”) [15]. *Intermediate beliefs* differ from the other layers of cognition in that they are attitudes or rules that one follows across situations. Common maladaptive assumptions are related to acceptance (i.e., “*I am nothing unless I am loved*”), competence (i.e., “*I am what I achieve*”), and control (i.e., “*I must do this on my own*”) [12].

Initial work with a patient is often focused on identifying and challenging automatic, maladaptive thoughts. As therapy progresses, deeper therapeutic work targets the modification of core beliefs and leads to more meaningful and lasting emotional and behavioral changes. However, the task of discerning a patient's core and intermediate beliefs is not always straightforward. Developing a clear cognitive conceptualization of an individual client is one that evolves over the course of psychotherapy and often includes the testing of a variety of hypotheses [16].

### 3.1.2 Identifying Automatic Thoughts

Everybody has automatic thoughts. However, automatic thoughts and images often occur without much awareness. As humans, we are generally more in tune with shifts in emotion than the automatic thoughts that drive them. Automatic thoughts are of particular importance for patients

struggling with psychiatric illness given our understanding of psychopathology according to the cognitive behavioral model. Beck [15] has long asserted that individuals suffering from psychopathology experience biased information processing which distorts their interpretation of experiences, thus leading to thoughts that are inaccurate or unhelpful in some way.

There are various strategies for helping patients begin to identify their automatic thoughts and to increase their awareness of thoughts and emotions. Opportunities frequently occur in session when the therapist observes a shift in affect and is able to ask the patient in the moment, “*What is going through your head?*” Therapists can also conduct role plays in session to create opportunities to observe affect shifts that may not otherwise occur naturally. Patients then have the opportunity to provide the “hot” thoughts and/or images that triggered the emotional response [12]. More frequently, however, these interactions do not occur in session, and patients are faced with the task of identifying such moments on their own outside of therapy sessions. When used appropriately, the thought record can be one of the therapist's most effective tools to gather data about thoughts that patients are having between sessions.

There are a number of different types of thought records that may be used. In some cases, generic thought records are sufficient. Other times, therapists may want to consider tailoring thought records to an individual patient to target the patient's presenting problem or learning style. Some patients prefer a paper and pencil form, and other patients prefer to use more advanced technology, such as mobile phone applications or websites that provide structure for gathering the relevant data. Therapists can begin by providing patients with their own version of a thought record and instruct the patient to complete the thought record when he or she experiences some form of distress. To increase the likelihood that

thought records are used appropriately between sessions, it can be helpful to gradually increase the amount of information to be recorded. By gradually introducing patients to the various steps of cognitive restructuring, patients are less likely to become overwhelmed and more likely to complete homework and remain engaged in therapy. For example, in the first session, the therapist could provide a patient with an abbreviated thought record, including columns for recording each of the following:

- The facts about the event (i.e., time, location, etc.).
- The emotions that were experienced.
- A rating of the severity of the emotions experienced (i.e., 0–10 or 0–100).
- The automatic thoughts, or rather, the thoughts that “popped into” one’s head before, during, and after the event.

Initially, patients often find it challenging to complete thought records. Some individuals have a difficult time identifying their thoughts and report being overwhelmed with emotions. Other individuals identify a multitude of thoughts, which can also be overwhelming and can be difficult to address using a single thought record. Therapists often find it helpful to thoroughly review patients’ first attempts at completing a thought record for homework in order to assure their understanding and identify any obstacles. For patients who really struggle with thought records over time, it can be helpful to complete a thought record about difficulty completing thought records—unhelpful thoughts often interfere and are at the root of the difficulty. For patients who record a long list of automatic thoughts, therapists can work with the patients to identify the most distressing thought, as the rest of the thought record should focus on this particular thought (additional thought records may be completed for separate thoughts). Once patients have demonstrated the ability to identify their thoughts and emotions and understand how they relate to each other in the context of the cognitive model, they are ready to assess the nature of these thoughts. Davidson, Persons, and Tompkins’ DVD on using thought records is an excellent additional resource [17].

### 3.1.3 Identifying Negative Thoughts

As stated previously, individuals with psychiatric disorders are particularly vulnerable to engaging in unhelpful forms of thinking [15]. Once the therapist and patient have identified an automatic thought, it can be useful to assess the degree to which the patient believes and is distressed by the thought. If level of distress and belief in the thought are high, it makes sense that the therapist devotes additional time in the session to understanding details about the context in which the thought occurred. Decades of research and clinical observation have led to the identification of a number of common patterns of dysfunctional thinking, and cognitive therapists have adapted a language to describe the most common patterns. Various terms are used to describe dysfunctional thought patterns and are often used interchangeably: cognitive distortions, negative thoughts, thinking errors, unhelpful thoughts, and maladaptive thoughts, among others. Below is a listing of the most common types of dysfunctional thoughts, as well as brief descriptions of each thinking error and examples. It is important to note that not every negative thought will fall under one of the categories below; however, reviewing the following list with patients is an excellent starting point for cognitive therapy. A number of experts have published more thorough examinations of the definition, development, and identification of cognitive distortions [18–20]. The following list has been adapted from these resources.

#### 3.1.3.1 Common Cognitive Distortions

1. *All or Nothing thinking*: Also referred to as black or white thinking, this is a pattern of thinking that leads individuals to believe that things fall at one extreme or the other, with no room for a middle ground. Situations are usually placed in “either/or” categories. If something is not completed perfectly, it is seen as a failure.

*Example: Mary was unable to sign a new client after significant effort went into recruiting the client to the company, and, as*

a result, she told herself, “you are no good at this job, you don’t even deserve it.”

2. *Jumping to Conclusions*: Making negative assumptions/conclusions without any facts or evidence.
  - *Mind reading*: Assuming that others are thinking and/or reacting negatively to something that one is saying or doing.
  - *Fortune telling*: Predicting the outcome of a future event before it occurs.

*Examples: Jennifer calls her friend Joan for advice and Joan seems preoccupied and ends the conversation quickly. Jennifer assumes that Joan doesn’t like her anymore (mind reading) and will never speak to her again (fortune telling).*

3. *Emotional reasoning*: Concluding that one’s negative emotions are an accurate reflection of reality.

*Examples: Speaking in front of a large group of people feels terrifying, therefore it is a dangerous situation.*

*I feel hopeless, so there must be nothing for me to look forward to in the future.*

4. *“Should” statements*: Thinking that there are specific expectations about the way that people (ourselves, others, the world) *should* behave. When we do not meet our own standards, we frequently experience frustration and guilt. When others do not meet our expectations, anger and resentment often result. “Shoulds” are often used as motivators; however, they are usually ineffective in this way. “Must,” “ought,” and “have to” have a similar effect as “should.” Albert Ellis referred to this as “musterbation.”

*Example: Despite a tenuous relationship, Jim told himself, “I should call my mother weekly.” Not surprisingly, this “should” did not result in more frequent calls to his mother but did result in a greater sense of guilt as more time passed.*

5. *Catastrophizing/Magnification*: Exaggerating the importance/significance of a problematic situation. Expecting the worst scenario to occur. On the other hand, minimizing the significance of a positive situation.

*Example: Steve has a minor car accident on his way to work and determines that it is the worst day of his life.*

6. *Overgeneralization*: Making a general conclusion based on the outcome of a single event. A single event is used as evidence for a never-ending pattern. Use of the words, “always” and “never” are red flags that an individual may be engaging in overgeneralization.

*Example: A romantic relationship ends poorly, and Kim concludes that this always happens to her and she will never have a successful relationship.*

7. *Mental Filter*: Focusing only on the negative aspect of a situation and ruminating about it exclusively, filtering out any positive information.

*Example: Joe gave a presentation to a large audience at work. Despite positive feedback from a number of co-workers and supervisors, Joe dwelled on the brief moment in which he panicked, his mind went blank, and he stumbled on his words before getting back on track and successfully completing the presentation. Joe then concluded that he is a horrible speaker and will never be able to speak in front of large audiences again.*

8. *Discounting the Positive*: Denying the significance of positive situations by saying they do not count. For example, a positive result occurred by chance rather than because it was deserved.

*Example: Sue obtained an A on a difficult exam after a significant amount of time preparing but then told herself that her success didn’t count because the class average was an A.*

9. *Labeling*: Labeling occurs when one generalizes the outcome of a single negative event, often using a self-deprecating label that reflects on a person’s character rather than the current behavior. Labeling can also be used to refer to others.

*Examples: Tim loses his job and determines that he is a loser.*

*Michelle decides to end a romantic relationship that was not making her happy.*



*After a string of horrible first dates and an increasing sense of loneliness, she determines she is a fool and will never find happiness.*

10. *Personalization and Blame*: Personalization is holding oneself solely responsible for a negative outcome that is not entirely within one's control. On the opposite end of the spectrum, some people engage in blame when they overlook their contribution to a problem and solely blame others for their current problem.

*Example: Jane's son is struggling with substance abuse problems that interfered with his ability to perform at his job. Jane believes her son's problems are all her fault and prove that she failed as a mother.*

We believe it is beneficial to introduce the concept of cognitive distortions to patients in session, rather than suggesting that they simply read descriptions of the different cognitive distortions for homework. Therapists often use a handout or some other visual guide to accompany the discussion. We find it useful to briefly describe the distortion and ask the patient if this type of thinking pattern sounds familiar. Asking patients to share an example is an additional way to be sure the patient understands the distortion. Encouraging this type of dialog helps patients stay engaged in the session and provides the therapist with an opportunity to gather important information about the patient. Once patients have an understanding of the different types of distortions, a column can be added to the thought record in which they are asked to evaluate the nature of their thoughts and identify any possible cognitive distortions. It is important to note that not every thought associated with a negative emotion is actually a distortion. Further, multiple distortions are often present in a brief stream of thoughts. Once patients are able to evaluate the nature of their thoughts and identify distortions, they are ready to learn a range of cognitive techniques that are focused on challenging and restructuring the dysfunctional thoughts.

### 3.1.4 Challenging Dysfunctional Thoughts

Recognizing that one is having a negative thought is the first step toward making effective change. However, in order to restructure negative thoughts, patients need a way of gathering proof that the thought is incorrect, unhelpful, or flawed in some way. There are numerous strategies for challenging dysfunctional thoughts. The section below is not intended to be all-inclusive, but rather a sampling of some basic strategies for challenging cognitive distortions. For further explanation, see Burns [18, 19] and Persons, Davidson, and Tompkins [20]. One strategy may be very effective with one patient yet fall short with another. For this reason, it is important for clinicians to familiarize themselves with a variety of cognitive techniques. For a practical, comprehensive guide to cognitive techniques, see *Cognitive Therapy Techniques: A Practitioner's Guide* [21].

A Socratic approach is an inherent part of cognitive therapy, encouraging a collaborative exploration by the therapist and patient. The Socratic Method includes systematic questioning, which involves the use of a graded series of questions designed to facilitate independent thinking in patients [22]. Therapists can use systematic questioning to shape a patient's thought process and encourage a patient's ability to arrive at a more helpful conclusion independently [22]. Thus, the Socratic approach is inherent in each of the techniques outlined below. Techniques that challenge negative thoughts are best taught in session prior to assigned individualized practice as homework. We find it useful to use a patient's completed thought record from the previous week so we can work with the patient to practice more effective ways of managing real situations that occur in the patient's life.

- *Examine the Evidence*

What evidence exists that supports the negative thought? What evidence exists that goes against this thought? We find it helpful to ask patients to record their responses either

electronically or on paper in a notebook or on a thought record. *Example: If the patient believes that he or she is a horrible person, ask the patient to list all the qualities that support this belief and all the redeeming qualities about him self or herself which would go against the belief.*

- *Think in Shades of Gray*

Rather than viewing a situation as black or white, all or nothing, either/or, try thinking in shades of gray. This is not to suggest that one should dismiss negative events or pretend they did not occur, rather they are to be viewed as individual events, not reflective of an inherent negative characteristic or personality flaw.

*Example: Instead of perceiving himself to be a complete failure after losing a business client, Robert thought, "Losing that client was disappointing however; I am a hard worker and will be able to achieve success in the future."*

Borrowing from Dialectical Behavior Therapy (DBT: [23]), the concept of dialectics can be useful here in that it highlights two opposing (all or nothing) thoughts, feelings, or urges. Patients can observe and identify the conflicting thoughts and realize that they can occur simultaneously.

- *Survey Others*

When patients have difficulty gathering evidence for and against negative thoughts, trusted friends and loved ones can be a good source of information. Asking others about their thoughts and feelings can help patients determine if their thoughts are realistic. However, not all individuals will be a positive influence, so this technique should be used with caution, depending on the individual's social network.

- *Use the Double-Standard Exercise*

Rather than using a harsh, critical tone with themselves, patients can be encouraged to talk to themselves in the kind, compassionate manner in which they would speak to a loved one or friend. Patients can ask themselves, "If someone I know had this thought, what would I tell him or her?" Therapists can also ask patients to conduct a role play in session in which they

reverse roles and the patient is faced with having to formulate rational responses.

- *Conduct a Behavioral Experiment*

By conducting an experiment, patients can test the validity of a negative thought. This is a way that patients can expose themselves to the feared situation and determine firsthand whether or not the feared outcome comes true.

*Example: Janie thought she would die of embarrassment if she gave a lecture to 300 students. She was able to push herself to give the talk, and, although she endured it with significant anxiety, she did not die and was able to deliver the talk.*

- *Pie Technique*

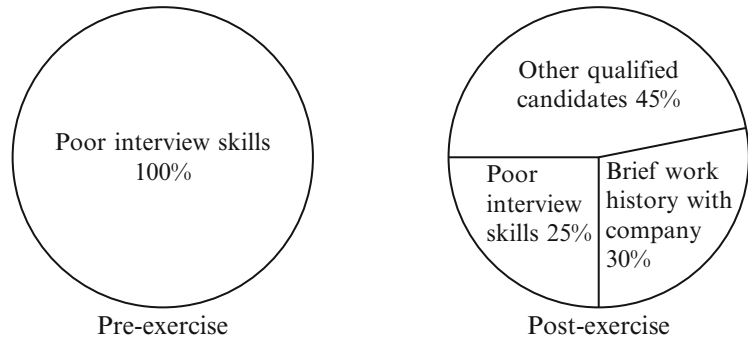
The pie technique can be especially helpful for patients who blame themselves or others for a specific outcome. It can also be useful for patients who are particularly visual, and it can be a way for patients to gain some distance from their thoughts.

For example, if Joe believes, "*I didn't get the promotion, because I am horrible at interviewing.*" The pie technique can be used to help Joe consider all the possible factors that may have contributed to him not getting the promotion. Before challenging the belief, he reports his difficulty interviewing as the sole reason that he did not get the promotion. Once the therapist uses Socratic questioning to help him consider other factors, Joe realizes that there may have been other candidates with more experience and that he might need to work longer at the company before a promotion can be reasonably expected (Fig. 3.3).

- *Downward Arrow*

This technique is useful for arriving at intermediate and core beliefs. When a therapist identifies an automatic thought that he or she suspects may be coming from a deeper belief, the downward arrow technique may be useful. The therapist can ask, "*Assuming that you are a horrible worker, what would that mean to you?*" By utilizing a line of questions about the meaning of a patient's thoughts and beliefs, including, "*what does that mean about you?*" the therapist is likely to reach an underlying core belief, such as "*I am inadequate.*"

**Fig. 3.3** The Pie technique



Additional questions to consider when challenging a negative thought (e.g., [24]):

- “Are there alternative explanations?”
- “What is the probability?” “Has this happened before?” “How do I know it will happen?”
- “When I look back on this situation 10 years from now, will I look at it any differently?” (A gentle way of saying, “so what?”)
- “What are the implications of thinking this way?”
- “What is the worst possible outcome? Could I survive? What is the best possible outcome? What is the most realistic outcome?”

Recording responses to these challenges/questions is often very helpful for patients who are learning cognitive restructuring. In session, many clinicians record this information on a white board or have patients record it in a notebook. Out of session, patients can be encouraged to record using their preferred method of thought record. By recording the evidence, patients are better able to process the information that challenges their thoughts and create a reference to refer back to in the future the next time they are faced with a similar struggle.

### 3.1.5 Formulating a Rational Response/Cognitive Restructuring

The purpose of challenging dysfunctional thoughts using the above techniques is to help patients think in a more positive, balanced and realistic way [25]. To be clear, cognitive therapists should not take a Pollyanna approach to

cognitive restructuring. It is imperative that clinicians model a balanced way of thinking for their patients. Once patients have identified the cognitive distortion and recorded evidence for and against the negative thoughts on the thought record, they are ready to add a column for the more helpful thought, often referred to as a “rational response” or “self-statement.”

Formulating rational responses, such as when completing a thought record, is the first step to changing maladaptive thinking. However, significant practice and repetition is needed to create lasting change. Negative thoughts do not typically occur in isolation. Many negative thoughts represent consistent thinking patterns. Therefore, it is not uncommon to find that a rational response that was effective in one situation will also be helpful in another situation. When patients are able to identify their most common thinking errors, they can work to generate rational responses that will be useful in many situations. For example, Sue has a tendency to avoid being with others for fear that expressing her beliefs will lead to fights, people would not like her, and relationships will end. Thus, she is left feeling insecure, unheard, and unsatisfied in relationships. Through CBT, Sue is able to recognize her maladaptive thinking, challenge negative thoughts, and formulate the following rational response: “I can assert myself in a calm, rationale way. I have in the past, and I usually feel good about myself after.” To maximize the utility of self-statements, it is best to keep them short, concise, and easy to remember. Therapists can then encourage their patients to repeatedly practice using these individualized statements.

For example, some patients commit to reading these statements multiple times each day, setting reminders in their phones or on their computers. Others utilize post-it notes and place them in their view during daily activities. Patients may also carry diary cards with self-statements in their wallets and pull them out when they are experiencing difficulty and need assistance coping with a stressful situation. It is important to get creative with patients until a plan is developed that really fits with the patient's lifestyle and maximizes the probability that the patient will follow through with out-of-session practice.

To complete the cognitive restructuring exercise when using a thought record, therapists can add one final column in which the patient rates the resulting severity of emotion that was originally reported at the start of the exercise. When the patient has identified and challenged the most distressing thought, we often observe a reduction in severity of the negative emotion. If the severity does not change by the end of the exercise, it is likely that the most distressing thought was not accurately identified and/or challenged, and further work is needed. We find that it is very important to provide psychoeducation about healthy emotional functioning and expectations for change in severity of emotion after the use of a thought record. For example, if Joe's wife files for divorce, we do not expect that 100 % of his anger and sadness disappear through the use of cognitive restructuring. Rather, we hope that the severity of the distress reduces to a more manageable level after challenging cognitive distortions (i.e., "*It is all my fault. I will never find someone to love me again. I don't deserve to be happy.*").

Thus far, we have outlined the cognitive behavioral model and techniques through which to identify and restructure negative automatic thoughts. As mentioned earlier, the initial phase of treatment must address automatic thoughts before it is possible to modify the patient's belief system. Often, patients do not present to therapy with a deep understanding of themselves in terms of intermediate and core beliefs. The focus of this chapter is the basic cognitive strategies that are essential for the novice cognitive behavior therapist. However, working with intermediate and core beliefs, conditional assumptions, and

compensatory strategies is an integral part of CBT and it is this deeper therapeutic work that often leads to lasting change.

### 3.1.6 Mindfulness

Although the history of mindfulness is deeply rooted in traditional eastern meditation practice and dates back thousands of years, its Western use and empirical study with cognitive behavioral therapies has been gaining increasing empirical support over the past several decades [26]. Mindfulness is a core component of Dialectical Behavior Therapy [23] which has been shown to be effective for a range of psychiatric populations (e.g., [27, 28]). Mindfulness-Based Cognitive Therapy [29] combines the principles of cognitive therapy with meditation and mindfulness practice and was created for individuals suffering from chronic, recurrent depression. Mindfulness is also a core aspect of Acceptance and Commitment Therapy (ACT) [30] which has been shown to be effective for a variety of patients, including those with depression, anxiety, and substance abuse (e.g., [31, 32]). Clinically, many cognitive behavior therapists informally incorporate mindfulness into their daily practice. We will provide a basic description of mindfulness, examples of mindfulness practice, and a discussion of ways in which mindfulness can complement standard CBT. Other chapters in this book will elaborate further on the use of mindfulness with specific treatment packages and populations.

#### 3.1.6.1 What Is Mindfulness?

Jon Kabat-Zinn [33], the founder of Mindfulness-Based Stress Reduction, defines mindfulness as "an awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally, to the unfolding of experience moment by moment (p. 145)." Mindfulness is a state of being, an awareness, a way of relating to internal and external experiences, nonjudgmentally and with acceptance. It is not something that needs to be learned or acquired; rather, it is something that is innate and only needs to be fostered. In today's society, it is easy to operate on autopilot. We often find ourselves somewhere and

remember nothing about the journey that was taken to get there. With routines, deadlines, and technology, we are often mindless as we go about our daily lives. When was the last time you actually paid full attention to the feeling of the bristles on your teeth and your tongue and the taste of toothpaste as you brushed your teeth? Or really experienced all the tastes, smells and textures of the food you ate for dinner while sitting in front of the television?

Discovering the ability to be mindful is best learned by experience. A basic understanding can certainly be gleaned from reading about mindfulness, but a true understanding is best understood through practice. For clinicians who wish to incorporate mindfulness into their clinical practice, personal mindfulness practice is strongly encouraged. Therapists can consider seeking training experiences where they can observe psychotherapy groups that incorporate mindfulness practice (i.e., DBT skills training groups, ACT groups, many stress management groups), enroll in a mindfulness course in the community, or take a training course for clinicians at an annual conference (i.e., Association for Behavioral and Cognitive Therapies).

Mindfulness can be practiced formally through guided exercises practiced at specific times of day and also in less formal ways. It is often helpful for new patients to begin mindfulness practice by using formal exercises, and as time goes on and they develop a better grasp on what it is like to be aware in the moment without judgment, they are better able to practice mindfulness in more informal ways. Below is a list of common mindfulness exercises that are used to help illustrate the concept. For more elaborate descriptions, please see additional texts (e.g., [34–36]).

- Mindful eating with a raisin (or some other type of food)
- Bringing awareness to daily activities (e.g., brushing teeth, washing dishes)
- Mindfulness of breath
- Mindfulness of sound
- Mindful walking
- Body scan

Readers who are first learning the concepts presented in this chapter might be wondering,

*“how can mindfulness, which is about accepting the current moment as it is, complement the concept of changing negative thoughts?”* This is also a question that many patients initially struggle to understand when presented with both concepts and is a topic of debate among clinicians within the field. However, we, and many others who have been trained in these techniques, argue that mindfulness and cognitive therapy can complement each other quite nicely. Many patients enter therapy without much awareness of their inner experiences, including thoughts and feelings. The cultivation of mindfulness can help patients identify unhelpful thoughts as they occur. For other patients, mindfulness can help create some distance between themselves and their thoughts given that it teaches patients to recognize thoughts as mental events and nothing more. Like cognitive therapy, mindfulness encourages a more flexible relationship with one’s thoughts and not interpreting one’s thoughts as definitively true [35]. Mindfulness encourages an accepting attitude and promotes the opposite of resistance. The acceptance that is inherent in a mindful approach allows patients to acknowledge the present for what it is, without judgment. Acceptance in treatment is experiencing the moment as it is and, at the same time, working to get better.

Overall, there is significant evidence to suggest that mindfulness and mindfulness practice is positively associated with psychological health and may bring about increased subjective well-being, reduced psychological symptoms and emotional reactivity, and improved regulation of behavior [26].

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## 3.2 Case Examples

The following case examples will be used to illustrate some of the cognitive techniques described in this chapter. These examples are not intended to be all-inclusive of the therapeutic work, rather, the aim is to illustrate the cognitive techniques that would be used in the beginning of treatment.

“Mary” is a 47-year-old, single woman who presented to treatment reporting a longstanding

history of low mood and a general dissatisfaction with her life. In the months prior to seeking treatment, Mary experienced a relationship break-up which triggered an increase in her depressed mood. She reported feeling “stuck” in her job, with little ambition for future advancement. Mary also reported very few meaningful relationships and a general lack of excitement in her life. She reported a history of treatment with antidepressant medication and supportive psychotherapy. Mary had never tried CBT and presented to therapy with no prior knowledge of this form of treatment. As Mary was frustrated with previous unsuccessful pharmacological treatments, Mary’s psychiatrist recommended that she try CBT.

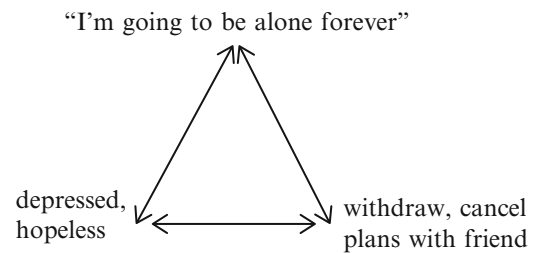
During Mary’s clinic intake, it was determined that she met DSM-V [37] diagnostic criteria for Persistent Depressive Disorder (e.g. Dysthymia) with a history of two prior Major Depressive Episodes. The first session of treatment was primarily focused on rapport building, psychoeducation about depressive disorders, and a brief introduction to CBT. Given that Mary had engaged in many years of non-CBT psychotherapy and had communicated some skepticism about this form of therapy, significant time was spent educating Mary about CBT and its distinct components. In the second session, the therapist reviewed the basic tenets of CBT and discussed the cognitive model in detail, utilizing a real-life situation that Mary had mentioned earlier in the session. The therapist utilized the cognitive triangle to identify Mary’s thoughts, feelings, and behaviors (see Fig. 3.4).

At the end of the second session, the therapist introduced Mary to thought records and asked

her to begin recording information about distressing events for homework (see Fig. 3.5).

In the third session, Mary and her therapist reviewed her completed thought record together and discussed challenges/barriers to completing the task. Next, the therapist introduced the concept of cognitive distortions to the patient, discussing specific examples of each type of distortion. In session, Mary expanded on her completed thought record, recording the relevant distortions (see Fig. 3.6). For homework, Mary completed an expanded thought record including a column where she identified cognitive distortions.

In the fourth session, the therapist introduced the concept of challenging and restructuring dysfunctional thoughts. Specifically, Mary and the therapist continued to work with the original negative thought and expanded even further on Mary’s first completed thought record (see Fig. 3.7). For homework, Mary practiced filling out a complete thought record including the identification of a negative thought, challenging the negative thought, and restructuring the negative thought.



**Fig. 3.4** The cognitive triangle to identify thoughts, feelings, and behaviors

Event	What went through your head? (automatic thoughts)	Feeling/Emotion (rate 0-100)
<i>Tuesday morning 8:30 a.m, at work my boss pulled me into his office and told me that I need to start coming to work promptly on a consistent basis.</i>	<i>He hates me. I never get to work on time. I'm never going to get promoted. Man, I hate this job. I hate this career. I feel so stuck, I'm never going to be happy.</i>	<i>Depressed (75) Hopeless (85)</i>

**Fig. 3.5** An example of a thought record for patients to begin recording information about distressing events

Event	What went through your head? (automatic thoughts)	Cognitive Error	Feeling/Emotion (rate 0-100)
<p>Tuesday morning 8:30 a.m., at work, my boss pulled me into his office and told me that I need to start coming to work promptly on a consistent basis.</p>	<p>He hates me.  <u>I never get to work on time.</u>  <u>I'm never going to get promoted.</u>            Man, I hate this job. I hate this career.  <u>I feel so stuck, I'm never going to be happy.</u></p>	<p>Mind Reading;            Overgeneralization            Fortune Telling            Mental filter            Fortune telling; Mental filter; Emotional reasoning</p>	<p>Depressed (75)            Hopeless (85)</p>

**Fig. 3.6** Expanded complete thought record, now including relevant distortions

Event	What went through your head? (automatic thoughts)	Cognitive Error	Feeling/ Emotion (rate 0-100)	Evidence for negative thought	Evidence against negative thought	Rational Response	Feeling/ Emotion (rate 0-100)
Tuesday morning 8:30 a.m., at work, my boss pulled me into his office and told me that I need to start coming to work promptly on a consistent basis.	He hates me. I <u>never</u> get to work on time. I'm <u>never</u> going to get promoted. Man, I hate this job, I hate this career. I <u>feel so stuck</u> , I'm <u>never going to be happy</u> .	Mind Reading; Overgeneralization  Fortune Telling Mental filter  Fortune telling; Mental filter; Emotional reasoning	Depressed (75) Hopeless (85)	- In same job for 10 years - Lived in same apt for 7 years - Still single	- Enrolled in accounting course - Dated Roger - Stuck is not making moves, and I am making moves!	I am taking steps to help me feel better. Hard work and change takes time.	Depressed (40) Hopeless (20)

**Fig. 3.7** Further completed thought record. It includes the identification of a negative thought, challenging the negative thought, and restructuring the negative thought



By the fifth session, Mary had been introduced to all of the basic cognitive techniques inherent in cognitive restructuring. Given this new way of examining her internal experiences, Mary required a number of sessions to practice the techniques within and outside of sessions before she and her therapist felt that she would be able to use cognitive restructuring independently.

A second case example involves the patient, "John." John is a 37-year-old married man with two young children. John presented to treatment saying that he was "stressed all the time" and felt that he was always worrying. John reported that he worked upwards of 60 hours per week, said that he had a close relationship with his wife and good relationships with his extended family and a few close friends. He said that he never felt that he has enough time to do the things that he needed to do and he was always rushing from one thing to the next. John noted that he had a prescription for benzodiazepine medication which helped him fall asleep at night.

In the initial evaluation, the therapist diagnosed John with DSM-V [37] Generalized Anxiety Disorder (GAD). In the first session, after building rapport and providing education about CBT and anxiety, the therapist introduced the concept of mindfulness. The therapist emphasized that mindfulness involved being present in the moment and being nonjudgmental. John seemed intrigued by this description and noted that this was a "foreign" concept to him as his usual modus operandi involved constantly thinking of what was coming next and being judgmental of himself and also of others. He expressed interest in learning to be more mindful, as he said that he often felt that he was missing out on enjoying the time that he spent with his children as his mind was often in another place, even when he was physically present. In this session, the therapist taught John a brief "mindful breathing" exercise, instructing him to focus on his breath, noticing the air coming in and going out. In this exercise, the therapist mentioned that John should simply notice when his mind wanders, and then gently bring his attention back to his breathing. The therapist instructed John to practice this exercise several times per day for homework.

In session two, John reported that he had only practiced mindful breathing three times during the week. John and the therapist explored the obstacles to practicing the breathing and discussed how John might overcome these obstacles. One of the obstacles that John noted was that he sometimes had the thought, "*I will do the exercise later when I have more time*" and then, predictably, never found the time to do the exercise before the end of the day when he was totally exhausted and needed to go to sleep so that he could get up early the next day and start all over. John reported that he felt very guilty about this and harshly said, "*I should have practiced more, I don't know why I am wasting your time*" to the therapist. At this time, the therapist noted that John was judging himself and asked him if he could restate this in a nonjudgmental way. John said, "*I guess I am doing the best I can. It was good that I did practice three times during the week. Hopefully next week I can find time to practice every day.*" This is somewhat similar to what might be achieved with cognitive restructuring, although it was framed in a slightly different way (having the patient observe his thought and then develop a less judgmental way of thinking about the situation).

In the third session, John reported that he had practiced mindful breathing every day except for one. He said that he noticed that he was becoming better at letting the distractions go and bringing his attention back to his breathing. At this time, the therapist talked with John about bringing mindfulness into his day-to-day life, not only when he is specifically practicing a mindfulness exercise. The therapist and John discussed how he might be mindful when he walks, eats, plays with his children, spends time with his wife, etc. The therapist and John practiced a mindful walking exercise in the session in which they walked slowly around the corridors and noticed how the ground felt under their feet, the noises that their feet made on the carpet, etc. Again, the therapist noted that if John became distracted while he was walking, he should gently notice the distraction, let it go, and bring his attention back to the moment. For homework, John said that he would practice mindful breathing, mindful walking and

also try to be mindful during at least one other activity each day.

In session four, John reported that he had completed the mindful breathing and mindful walking exercises on a daily basis. He also noted that he had tried to notice when he was not “in the moment” during various other activities, such as when he was playing with his children, in meetings at work, and walking from his office to his car. John reported that he had been able to bring himself back to the moment at these times. The therapist talked with John about the fact that this is an ongoing process and that even individuals who have been practicing mindfulness for many years will sometimes find themselves doing something mindlessly and will need to redirect their attention back to the moment. John said that he noticed that he felt calmer and less stressed when he could simply focus on the present moment.

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### 3.3 Basic Troubleshooting

The basic cognitive techniques outlined in this chapter are not effective in every patient–therapist dyad. A variety of barriers to successful implementation will undoubtedly arise. Therapists often find it helpful to identify the specific problems in behavioral terms, understand the patient’s relevant difficulties within a cognitive behavioral framework, and develop troubleshooting strategies that are based on the specific conceptualization of the patient [38, 39]. Below is a listing of factors that may complicate treatment focused on cognitive work and a few suggestions to help cognitive behavioral therapists navigate the complexities of working with patients.

#### 3.3.1 Noncompliance with Homework

Extensive research has shown that greater homework compliance is associated with positive psychotherapy outcomes [40]. When patients do not devote time between sessions to working on

strategies (i.e., complete thought records) and/or to working toward specific behavioral goals, it is important to address this in session. Therapists can explore, in a nonjudgmental manner, what happened that got in the way of the patient completing homework (i.e., they forgot, they did not have enough time, they did not understand the assignment, they were not motivated, etc.). Therapists can use cognitive techniques to elicit a patient’s thoughts and feelings about homework and the inability to follow through. In some cases, it may be clear cut, and in other cases, patients will have a difficult time identifying barriers. In these instances, it can be helpful to utilize a functional analysis in which the therapist first confirms that the patient had a clear understanding of the task, and then writes out (i.e., such as with a behavior chain on a white board) the series of events, thoughts and feelings that arose, and behaviors that eventually led to arriving at the session without completing the homework. Once there is a clear understanding of the barriers to completing homework, appropriate strategies can be employed (i.e., problem solving, motivational interviewing, etc.).

Accurate understanding of the assignment is essential to compliance. Mismatch between the patients’ and therapists’ understanding of the assignment occurs frequently. By collaborating with the patient in the development of the assignment, communicating explicitly about the homework expectations, providing a strong rationale for completing the task, matching the task to the patient’s ability level, and utilizing the patient’s strengths, therapists can optimize the likelihood that a patient will comply with a homework assignment [41]. It may be particularly helpful to write out the homework assignments in session, providing an opportunity for patients to ask questions and express understanding [42]. It is essential that a patient demonstrate “buy in” to the task and sees the potential benefits of follow through. By examining possible barriers and challenges and assessing a patient’s level of perceived competence, therapists can help problem-solve a potential barrier before it has the opportunity to hinder eventual compliance [43].

### 3.3.2 Comorbidity

Comorbidity is another factor that can impede the effectiveness of CBT. Often patients experience a range of symptoms and may meet criteria for more than one Axis I disorder. Treatment can also be complicated by the presence of an Axis II disorder and/or a medical condition. In addition, there may be differences in therapy goals between clinicians and patients. For example, a patient may seek treatment for depression and family conflict. If, in the initial assessment, the clinician learns that the patient is drinking to excess more days than not, often experiences symptoms of withdrawal, and reports a number of negative consequences as a result of drinking, the therapist may feel that the patient's drinking should be the primary focus of therapy. In this situation, the patient is unlikely to make effective progress in standard CBT for depression and is likely to require treatment focused on the substance abuse prior to addressing the depression and family conflict. Another example would be a patient seeking treatment for depression who experiences cognitive impairment secondary to another condition (i.e., history of substance use, medical condition, brain injury). A patient with even mild cognitive impairment is unlikely to achieve immediate success with a standard CBT approach. In cases such as this, the therapist may want to consider a referral for neuropsychological testing, which could result in a recommendation for cognitive remediation. CBT for patients with cognitive impairment will need to be adapted to meet the patient's specific needs. For example, the treatment may require greater repetition, use of more visual aids, and/or a slower pace. There is a need for more research to inform the adaptation of CBT for Axis I disorders to specialized populations.

The frequent presence of comorbid conditions calls for thorough evaluation upon initiation of treatment that takes into account the reason for referral and approaches the case with a wider lens in order to aid accurate assessment. Effectively treating patients with comorbidity also highlights the importance of the ongoing nature of case conceptualization and treatment planning [16].

Repeated assessment and evaluation of progress and obstacles is a necessary part of treatment. Therapists often find it beneficial to approach cases with high degree of comorbidity with much flexibility and to utilize consultation with specialists when appropriate in order to optimize treatment.

### 3.3.3 Readiness to Change

It is not uncommon that patients present for therapy with some ambivalence about change. Up to two-thirds of individuals entering treatment for mental health problems are classified in the pre-contemplation or contemplation stage of change [44]. In the context of cognitive work, ambivalence about change may become evident when patients reject attempts to challenge negative thoughts. Patients may resist attempts to gather evidence against negative cognitions and may display typical responses such as "yes, but..." when presented with alternative perspectives. Other patients may avoid disclosing important information altogether, which may leave the therapist unsure how to best help the patient feel better.

When patients display ambivalence about change, therapists can meet the patients where they are and utilize appropriate strategies. For example, patients are unlikely to effectively use cognitive restructuring when they are unsure how they feel about letting go of certain beliefs. Cognitive restructuring is typically most helpful with patients who are in the action phase of change, whereas techniques that are consciousness-raising and emotion-generating are typically more effective for clients in the contemplation phase in order to help them move into action [45]. Further, Motivational Interviewing (MI) is an approach designed to enhance intrinsic motivation for change by helping patients understand and resolve ambivalence about change [46]. A number of studies have provided strong evidence for MI as a brief pre-treatment followed by more directive non-MI interventions in patients with substance dependence and health-related problems [47]. More recently, findings have

suggested some benefit of adding MI to cognitive behavioral therapy for patients with generalized anxiety disorder [48].

There are a variety of reasons why patients may not be ready to change, and it is important to develop a clear understanding of the patients' barriers to change. In line with the CBT model, therapists can elicit automatic thoughts and beliefs about their struggles and the idea of changing thoughts and behaviors. In some cases, therapists may discover that patients' ambivalence about change is rooted in a dysfunctional thought, and by challenging beliefs about change, therapists may help patients gain the motivation needed to make effective changes in their lives.

### 3.4 Summary

Cognitive techniques are among some of the most popular psychotherapeutic tools currently used by therapists. More than 50 years of research and practice have contributed to the evolution of second- and third-wave cognitive behavioral therapies, many of which stemmed from Beck's original Cognitive Therapy for depression. However, the basic tenets of cognitive therapy remain an integral part of today's cognitive behavioral interventions. This chapter is intended to be an overview of the cognitive model and basic cognitive techniques that can be used with a variety of patients in a range of treatment settings. In addition, we reviewed ways in which mindfulness techniques can complement standard CBT.

CBT will continue to evolve. With the increasing presence of technology in our daily lives and the use of telemedicine throughout healthcare more broadly, the delivery of CBT is bound to change. Many therapists already rely on mobile applications and websites to facilitate homework between sessions. Further, there is some initial evidence that computer-assisted CBT significantly reduces therapy time (thus, reducing cost) and is as effective as standard cognitive therapy for depression [49]. We now know that these strategies are useful for many of our patients.

Future research will likely be focused on identifying moderators, mediators, and mechanisms of change within the cognitive interventions.

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Anne Chosak and Lee Baer

Cognitive behavioral therapy (CBT) is actually an amalgam of two distinct streams of research and theory, both of which focus on short-term problem-oriented treatment. This is seen in the evolution of the leading professional association for CBT: Founded in 1966 as an alternative to the dominant psychodynamic therapy of the time and holding its first annual meeting in Washington, DC, the Association for the Advancement of Behavior Therapy (AABT) was founded to apply methods derived from laws of learning (Pavlovian classical conditioning and Skinnerian operant conditioning) to reduce the suffering that resulted from mental health problems by targeting and modifying observable behaviors—that is, “behavioral therapy.”

However, by the time the association convened for its 39th annual meeting in Washington, DC, in 2005, its name had changed to the

Association for Cognitive and Behavioral Therapies (ABCT), having incorporated the effective cognitive treatments developed by Aaron Beck and Albert Ellis for treating depression and anxiety, and the field formerly known as behavioral therapy (BT) had come to become known as “cognitive behavioral therapy” (CBT). However, the initial behavioral therapy strategies which were based upon learning principles and directed at observable behaviors still form a cornerstone of CBT today, and these strategies are the focus of this chapter.

Behavioral strategies are varied, powerful, and effective. They can be incorporated into treatment for a wide range of disorders and are components of the treatments of choice for a number of psychiatric disorders. In this chapter, we describe and present case examples of two of the most basic and central behavioral strategies: exposure and response prevention (ERP) which is the first-line psychological treatment for obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD), as well as for phobias and other anxiety disorders [1–3], and behavioral activation which is a first-line treatment for major depressive disorder [4–7]. We also discuss skills training and describe how it can be used to address various clinical issues.

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## 4.1 Prolonged Exposure and Response Prevention

Exposure and response prevention (termed “prolonged exposure” when applied to PTSD) are a key strategy to target anxiety and anxiety-related avoidance from Pavlovian or classical conditioning methods for unlearning fears and avoidance. As has been described earlier, anxious patients will often fear and avoid the triggers for their anxiety. For example, a dog phobic might cross the street to avoid a dog coming his/her way. In the short-term this approach “works,” in that he/she is able to feel less anxious in the moment, but longer term he/she is not able to learn corrective information or have positive experiences in spite of triggers, so both his/her irrational fears and avoidance habits are reinforced. Exposure and response prevention provide the tools to change this self-reinforcing pattern.

“Exposure” refers to consciously confronting a fearful stimulus, such as the therapist asking a dog phobic to walk by a dog park or visit a pet store (which he/she would normally avoid). “Response prevention” is eliminating the behavioral patterns that would usually accompany or follow exposure to the stimulus, such as the dog phobic moving as far as possible from the dog, averting his/her gaze, or clinging to a companion. Being present with the feared stimulus without the usual anxiety-related responses allows for habituation, in which the individual can get used to the phobic stimulus, and his/her anxiety reduces over time. Exposure and response prevention work together, and we would not expect exposure to be successful (or as successful) unless careful attention is also paid to response prevention.

*Case illustration of exposure and response prevention in a case of obsessive-compulsive disorder (OCD):* The patient was a female schoolteacher with contamination-related OCD, specifically an irrational fear of and avoidance of anything related to blood or disease. Her core fear was of being exposed to blood-borne illness, but her levels of avoidance and fear related to any form of illness were irrational and extreme. If she

saw a bandage on someone’s hand, she wouldn’t conduct a transaction involving money with him or her or eat food prepared by him or her. If one of her students had a bandage she would stay away from that student all day. Whenever there was a public health scare, like bird flu or meningitis, she would panic and stay home from work. At school, if she noticed a coworker with an obvious cut, she would avoid touching doorknobs, using the restroom, or using the teacher’s lounge that day. If she had to use these shared areas, she might clean those areas with bleach before she would touch anything. She also avoided walking on dark patches on the pavement because “a dark patch could be blood.” She washed her hands very frequently and for long periods of time, and used hand sanitizer constantly throughout the day.

Like many with OCD, she had a belief that blood and other substances “track,” such that her hands or shoes could become easily “contaminated” and she could bring germs into her home and contract an illness, despite medical information to the contrary. If she had a “close call” with a possible contaminant, she would scrub her hands for several minutes in hot water, might throw away a pair of shoes or other item of clothing if it came within the “danger zone,” take a lengthy shower, and restrict her eating that day. At the time she began treatment, her rituals took several hours a day to complete and her work was affected; her concentration and attention were consumed by keeping track of potential sources of contamination and areas that she needed to avoid.

The therapist began treatment with a thorough assessment of the patient’s symptoms and psychoeducation about OCD. The therapist introduced the three-component CBT model, illustrated how thoughts, feelings, and behaviors interact and used examples from the patient’s experience to illustrate these principles. The therapist explained how avoidance of triggers reinforces irrational fears and discussed the concept of habituation, in which exposure to the same stimulus decreases reactivity over time. In this particular case, the therapist also provided corrective information regarding disease transmission and made sure that the patient understood

that her fear and avoidance patterns were irrational and unnecessary. The therapist explained that in ERP, she would not be asked to do anything truly risky, but, rather, to challenge her behavioral patterns and allow her to learn corrective information about normal, but anxiety-provoking, situations. Most people are able to eat a sandwich made by someone with a visible cut, but, for this patient, that would be akin to sharing a needle with someone with HIV. For this patient, “exposure” would be any normal, reasonable contact with triggers that represented a risk of illness (a dark patch, a person with a bandage or visible cut), and “response prevention” would be eliminating her characteristic compulsions (washing, restrictive eating, cleaning surfaces, excessive use of hand sanitizer).

Next, the therapist and patient collaboratively developed a fear and avoidance hierarchy, in which the patient identified a number of OCD triggers and situations she feared and avoided. Then they rank-ordered these situations to provide a hierarchy of behavioral targets from relatively easy to relatively difficult. For example, one of the easier situations was to walk past, but not on, a dark patch on the sidewalk. A moderately difficult item was eating food prepared by someone else, as long as that person appeared generally healthy. The highest item on her hierarchy was eating food handled by someone wearing a bandage or with a visible cut. As much as possible, the therapist and patient chose common, relevant, easily accessible situations when constructing the hierarchy.

The therapist then instructed the patient to stay in exposure situations ideally until her anxiety had decreased significantly. They made testable predictions about the exposure situation and recorded the predictions on self-monitoring forms. They discussed the importance of refraining from any compulsions (behavior designed to decrease anxiety) during or after exposure practice and not to use subtle “safety behaviors” to reduce her anxiety, like orienting her gaze or body away from the trigger, or subtle compulsions, like distracting herself. The therapist introduced the subjective unit of discomfort scale (SUDs) that ranges from 0 to 100 that the patient

could use to indicate how anxious she was before, during, and after exposures and gave the patient monitoring forms to record her exposure experiences.

The patient did initial exposures in session, with the therapist coaching and sometimes accompanying her, beginning with mild exposures like sitting slightly closer to “dark patches” on the therapist’s carpet than she was comfortable (perhaps 2–3 feet away), so that her anxiety was at a moderate level, and staying until her anxiety decreased significantly. They walked on the sidewalk closer to a “dark patch” than the patient usually would and focused on response prevention until the anxiety had abated (from 30 to 60 minutes, in this case). The patient rated her SUDs occasionally during exposure sessions when prompted by the therapist but otherwise was instructed not to talk, as that could distract her and thus impede habituation. At the end of the exposure session, the therapist and patient evaluated the predictions and discussed what the patient had learned from doing the exposure. Following an office exposure, the therapist assigned similar exposure homework for the week. The therapist suggested that the patient the exposure exercises at home every day if possible with a minimum of three times a week.

When assigning homework, the therapist checked in with the patient to make sure the homework was realistic and doable, and the patient felt moderately confident that she could engage in the ERPs. Each subsequent week in therapy, the patient reported on her exposure homework, and the therapist and patient did trouble-shooting regarding problems; revised homework to make it easier if necessary harder if necessary; checked in whether the patient was using safety behaviors or subtle avoidance; and, most importantly, made sure the patient wasn’t engaging in compulsions during or after exposures. As soon as the patient got somewhat more comfortable with one step on her hierarchy without doing any compulsions, she moved up another step to more challenging exposures, when possible initially doing novel exposures in session, then engaging in similar exposures for weekly homework.



Over many sessions (in this case, 20), the patient's anxiety and avoidance gradually came down. She progressed to exposure to more difficult triggers at the therapist's office and near her home; she used common areas at work no matter what; she was able to eat food prepared by others more normally; she reduced or eliminated her former compulsions (excessive cleaning of self and surfaces, excessive use of sanitizer, restricted eating, throwing out clothing and shoes). Toward the end of treatment, the patient was encouraged to become more independent in designing and reviewing ERP homework and was instructed in how to be her own therapist. She and the therapist shifted to having sessions every other week. She was encouraged to keep up exposures on her own and terminated CBT with substantial, though not complete, improvement. By that time, the OCD took up less than an hour a day and was not interfering in her work life.

The case above was relatively straightforward to treat using ERP, but this is not always the case. Patients with more complex OCD symptoms or additional psychiatric or life issues may have more difficulty engaging in treatment, and thus treatment may take longer. Other barriers that can arise with exposure might include anticipatory anxiety on the part of the patient, which can be addressed using cognitive strategies, motivational interviewing, and/or a more gradual pace and smaller exposures. The key is to choose exposures that the patient will actually do and can do while refraining from performing compulsions. Initially, to get the patient to engage in the process, it can be helpful to do therapist-assisted exposures or have a friend or loved one accompany the patient. Another challenge is that sometimes a patient's SUDS might not decrease during exposures, for instance, if the patient is either distracting himself/herself from the exposure or focusing overly on his/her irrational thoughts related to the trigger. In such a case, a useful instruction can be to redirect the patient to focus only on aspects of the situation and the present moment. Another potential issue arises when triggers don't have a step-wise progression, (e.g., flying, in which the patient either flies or doesn't). Some possible solutions might include imaginal exposure, in which a sce-

nario is taped and replayed multiple times, or virtual reality exposure (exposure using computerized images that mimic the feared situation). It is often necessary to be creative and flexible when designing exposure practices both in session and for ERP homework.

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## 4.2 Behavioral Activation

Behavioral activation was derived from a Skinnerian or operant view of depression that depressed individuals increasingly engage in fewer behaviors that produce positive reinforcement from their physical and social environment, which leads to feeling more depressed; reversing this process by gradually engaging in more rewarding activities is an easily learned method of reducing depression. The psychologist Peter Lewinsohn, the "father" of behavioral activation, began his research by examining the diaries of research participants listing the activities in which they had engaged and the moods they were experiencing. Lewinsohn observed that activities commonly associated with negative moods like depression, anxiety, and boredom were: "being near unpleasant people," "talking with an unpleasant person," "arguments with spouse or partner," "eating food I don't enjoy," "working under pressure," "being forced to do something," "doing something I don't want to do in order to please someone else," "having a project or assignment overdue," "being without privacy," "being rushed," and "not getting anything done." Conversely, activities Lewinsohn found that related to positive moods, like happiness or contentment, included: "being with friends or loved ones," "complimenting or praising someone," "thinking about people I like," "being with someone I love," "being with amusing or entertaining people," "having peace and quiet," "breathing fresh air," "doing a project in my own way," "doing a job well," "thinking about something good in the future," "being in the country," "seeing beautiful scenery," and "watching animals."

When introducing behavioral activation to a depressed patient, the therapist should explain the

theory on which it is based as well as the importance of engaging in pleasant activities to combat depression. Put simply: All humans seem to be genetically wired to be happiest when we are involved in challenging and pleasant work and social and leisure activities. When we aren't, our minds signal us that something is wrong with feelings we experience as depression and worry. If an individual spends most of his/her day inactive or doing only unpleasant or boring activities, his/her mood will come to be dominated by chronic feelings of depression, worry, and stress, and these feelings, in turn, make his/her even less likely to be active, keeping the depression cycle going. Behavioral activation is often the first CBT technique introduced because it is easily learned and can produce almost immediate improvements in mood in patients who have become inactive.

After introducing behavioral activation to the patient, the therapist will often have the patient complete a Pleasant Activities List (see, e.g.: [http://dbtselfhelp.com/html/er\\_handout\\_8.html](http://dbtselfhelp.com/html/er_handout_8.html)), which contains a list of a large number of social and solitary activities that many people enjoy. The patient should be instructed to check off any activity on the list that she enjoys or used to enjoy doing. These activities can then become targeted behaviors to gradually introduce into her daily schedule.

Behavioral activation is commonly implemented using a problem-solving therapy paradigm: (1) Diagnose the problem—after completing a depression rating scale (such as the Hamilton Depression Rating Scale (HDRS-17; [8]) or Quick Inventory of Depressive Symptoms (QIDS; [9])), the therapist instructs the patient to keep track of all her daily activities for first week, (2) brainstorm possible solutions—the therapist works with the patient to identify activities she might find pleasant or challenging, based, in part, on the Pleasant Activity List, (3) choose and try a solution—the patient should insert one or more of these pleasant activities into her daily schedule for each day of the next week, (4) assess results and fine-tune as needed—the patient and therapist review together the pleasant activities and mood ratings to make adjustments to optimize the approach to reduce depression.

*Case example of behavioral activation in a case of depression:* A female medical professional in her 20s was referred by her physician for help with her worsening depression. She reported that it was a struggle to get herself out of bed in the morning, she had difficulties with concentration at her job, and she had problems with falling and staying asleep at night. Her problems seemed to begin a few months after she and her husband had relocated to Boston the previous year from a small town in the Western United States. As she described how dramatically her lifestyle had changed since her move, it appeared likely that her depression was probably related to this marked change in her daily activities

In her previous home, she and her husband, who had recently married, had spent most of their free time together enjoying their favorite activities of hiking and skiing. But, since their move to Boston, they rarely saw each other—and, when they did, they were too tired or busy to do much of anything, and besides, they now lived in the city and no longer owned a car. Prior to their move, she had worked in a small community hospital where she knew almost everyone and enjoyed socializing with coworkers at lunch and after work. Now she was working at a high-pressure medical center hospital, where she still knew few people, and barely had time to eat lunch. She felt that, outside of her stressful job, she spent all her time either commuting to work or at home, sitting in front of the television or computer, and then collapsing into bed from fatigue. She and her husband no longer went out to dinner or met for lunch.

The therapist told her that, considering the enormous changes in her routine, it was no surprise that her mood had continued to worsen over the past year, which was reflected by a rating of moderate depression on the HDRS-17. She was asked to gather more specific details about her daily activities by keeping an hour-by-hour record (using blank activity sheets) of all the activities in which she was engaging to provide a detailed look at her everyday routine. The therapist instructed her to write in the major activity she had done during that hour and to also write down two ratings for each activity: “P” for how

much pleasure the activity had given her and “M” for how much of a sense of “mastery” or “achievement” she felt during and after completing the activity. Both were to be rated on a simple 0–10 scale, with 0 representing no pleasure or mastery and 10 representing the most possible pleasure or mastery.

When she returned for the second session with her homework, it was apparent that her problem was not that she wasn’t active at all, but rather, she was simply doing the *wrong* activities for her—activities with low ratings for both pleasure and mastery (commuting, working without social lunch breaks, eating alone at work, going to bed early so she could get up early to start her commute and work day, but lying awake worrying about how boring her life had become). She was not doing any of the pleasant, challenging, and social activities that had made her daily life so much more enjoyable while living out West.

Her activity records confirmed that, although she was out of her home most of the day, she was engaging in few activities that gave her feelings of pleasure or mastery. Like many people who are depressed and severely stressed, many of her highest ratings of pleasure were during sleep. When the therapist asked her about what kinds of things she used to love to do, at any time in her past, she lit up when she described how much she loved hiking in the mountains with her husband, skiing, taking long drives with her husband, eating dinner out, and socializing with coworkers.

Among the items she checked on the Pleasant Activity List administered during the second session were: “being with my husband,” “jogging,” “going for a drive,” “skiing,” “being in the country,” “going hiking,” “gardening,” “going camping,” “going bike riding,” “going on a picnic,” and “having coffee or tea with friends.” The therapist instructed her to choose some of these activities to insert into her daily schedule over the following week.

When she returned for her third session, the patient reported that, as planned, she had gone for a 20 minute early morning run (which was much shorter than the runs she had taken when living in the West, but she had followed the therapist’s advice to start small) and recorded high ratings of

7 for both pleasure during and after the activity and mastery, or her feeling of accomplishment from doing the activity. Both of these ratings were the highest she had recorded in several weeks.

Also, she succeeded in asking a coworker if she would like to have lunch with her later in the week. Although she felt nervous while she was asking the coworker (and so rated her pleasure doing the activity at 0), she felt a strong sense of mastery or accomplishment at having done this (a rating of 7).

The patient worked hard at behavioral activation, and, by the end of the third week, both she and her husband remarked that she was beginning to feel more energetic and interested, and after another month of using this approach and integrating more and more activities from her checklist into her routine, she found that daily planning became a part of her regular routine, rather than seeming like a therapy assignment, and her HDRS-17 depression score had dropped to the nonclinical range.

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### 4.3 Skills Training

Although ERP and behavioral activation are the primary behavioral strategies, helping patients learn more adaptive behaviors to cope with their social environment or their physiological symptoms can be a helpful part of a clinician’s CBT tool kit. Identifying and remedying skill deficits can promote higher levels of functioning for many patients. For example, the therapist may determine that the patient is avoiding either feared or potentially pleasant social activities due to inadequate social skills. The therapist and patient may identify and address simple skill deficits such as eye contact, or they may agree that there is a need to work on more complex skill sets such as assertiveness training, in which the patient is trained and coached in how to be appropriately assertive in a variety of situations. In these cases, brief social skills training (often including bibliotherapy with books such as “When I Say No, I Feel Guilty” [10] or “Your Perfect Right” [11]) may be necessary to remove

roadblocks to successful exposure therapy or behavioral activation.

Another type of skills training involves teaching patients effective relaxation practices. For some depressed patients, high levels of anxiety may prevent them from engaging in potentially pleasant activities, and brief relaxation training can speed their recovery. For anxious patients, relaxation strategies can help soothe physiological sensations, cope with stress, or help people feel more comfortable and grounded in their own body [12, 13]. It is important that patients not use relaxation strategies to distract from exposure, as that will prevent habituation and impede learning, but, if physiological sensations during or after exposures are too intense, relaxation skills can potentially be helpful if used judiciously. There are a number of online resources (such as <http://www.webmd.com/balance/stress-management/stress-management-doing-progressive-muscle-relaxation#>) and self-help books [14, 15] that provide examples of relaxation strategies. Two widely used and easily taught relaxation skills are diaphragmatic breathing and progressive muscle relaxation.

Diaphragmatic breathing involves training a patient to take deep, relaxed, full breaths. In times of stress or anxiety, it is common for people to take shallow breaths or even to hold their breath, which can trigger unpleasant physiological sensations and even set off the sympathetic nervous system, the body's alarm system. There are a variety of approaches to breathing retraining, as simple as noticing and counting breaths, to more elaborate strategies. Here is one of the simpler instructions: "Put your hands on your belly... fill it with breath like a balloon. Breathe in slowly... breathe out slowly... silently count "one" on the in breath, and silently say "relax" on the out breath. Silently count "two" on the next inhalation, silently say "relax" on the out breath. If you are distracted you can start over. Finish counting to ten, sit quietly, and notice how you feel." The key is for a person to practice deep breathing regularly, initially in a quiet and intentional setting but eventually in a variety of settings so that he/she can reliably produce a more relaxed feeling no matter what is going on around his/her.

With practice, an individual can use the breathing strategy to feel more comfortable in times of stress, at bedtime, or for a mini-break during the day. Some clinicians encourage patients to use breathing before or after exposures or during an unplanned exposure that is too high on his/her hierarchy. However, using breathing retraining during exposure can become a way for patients not to fully expose themselves to all aspects of the exposure, and it could therefore interfere with habituation, as well as sending the message that the exposure is more threatening an experience than it actually is.

Like diaphragmatic breathing, progressive muscle relaxation (PMR) can be used to address some of the physiological sensations of anxiety and help the patient to feel more grounded in his/her body. It is also a general tool for stress reduction. As with the breathing strategies, it is important not to use this during ERP as this may prevent habituation.

There are a number of variations of progressive muscle relaxation, from quite brief to quite comprehensive. A simple version is a short tense-relax instruction, as follows: "Sit comfortably, allow your body to relax. Breathe. Notice how your body feels right now. Tense the muscles of your scalp very slightly for a few seconds. Notice what it feels like. Release. Feel the difference. Breathe... now tense the muscles of your face for a few seconds... notice... release. Notice. Now shrug your shoulders gently towards your ears. Hold it... now relax. Notice. Now make gentle fists... relax. Notice. Now tense your abdomen... now relax. Breathe, notice how you feel. Now extend your legs... hold it... now relax. Tense your feet... now relax. Breathe. Now notice your whole body. Is there any area of tension? Try to relax a little more. Breathe. Allow yourself to sit for a couple of minutes and feel the relaxation."

As with any CBT strategy, it is important to try this exercise first in session so the therapist can troubleshoot, explain, and coach as needed. Once the therapist and patient have identified a PMR instruction that works well, the therapist can make an audio recording for the patient to take home, or the patient can find and purchase progressive muscle relaxation audios online.

As with diaphragmatic breathing, PMR can be part of the patient's tool kit to help with general relaxation, to help his/her be more grounded in his/her body, and to buffer the effects of stress and anxiety.

*Case example—generalized anxiety and chronic headache:* The patient was a widowed female in her 60s with a long-standing tendency toward chronic worry and nearly daily moderate headaches. She was “a worrywart” and almost any topic could launch her into a torrent of endless and unproductive “what-if” thoughts. The therapist initially used cognitive and behavioral methods with benefit, but even after the subjective worry was noticeably reduced, the patient's headaches persisted at the same level. The therapist and patient figured out that the patient maintained a chronic high level of muscular tension: “my shoulders feel like rocks.” This is a not-uncommon symptom of general anxiety, and they decided together to directly target this physiological symptom.

The therapist explained the PMR procedure and did a basic PMR induction in the office. The first attempt provided only a slight benefit to the patient's subjective rating of her muscle tension. The therapist then modified the procedure to create a lengthier PMR, spending more time per muscle group, especially during the “relax... notice” phase, and this was much more effective for the patient in terms of her subjective relaxation. Once they had incorporated that modification, the therapist made an audio recording of the longer version that the patient was to practice once in the morning, once on her lunch break, and once after dinner. Initially, the patient found it challenging to remember to do the practice, but the therapist suggested that she enter these PMR sessions into the calendar on her smartphone, which would then prompt her at the appropriate time, and she was then able to practice much more regularly. The frequent, regular PMR practice helped significantly with her muscle tension (as measured by daily ratings), and her headaches decreased in severity, although not frequency, after several weeks of consistent practice.

As with other behavioral strategies, there can be limitations or barriers to the use of relaxation

strategies. One of the most common is for the patient to have difficulty making time for, and remembering to engage in, the practice. Scheduling the practices and using prompts can be helpful, as it was for the patient in the case example. Sometimes changing breathing habits or using the tense-relax procedure can actually increase anxiety. This may be due to the fact that the body is the source of some physical sensations associated with anxiety, so paying attention can make an anxious person more aware of natural, harmless fluctuations, but these can still be anxiety provoking. Corrective information, or using a shorter or modified version of the procedure, can be helpful. Often, with practice, the sensations, or the anxious response to the sensations, will improve. The patient should not expect either strategy to “work” right away in stressful or anxiety-provoking situations, but, with practice, it can help a person feel more grounded and in control. Some people simply don't find these skills pleasant or helpful, in which case a different body-focused strategy, or mindfulness strategy, may be more appropriate or helpful as a tool for grounding and relaxation.

In conclusion, behavioral strategies are a highly effective, often first-line approach to treating a variety of psychiatric disorders. Exposure and response prevention are highly effective for the treatment of anxiety disorders and OCD, whereas behavioral activation is essential to the treatment of the depressive disorders and for any patients who have become stuck in a behavioral rut. Relaxation strategies can be useful for any patient with anxiety or stress management issues, and social skills training can help identify and remediate interpersonal deficits. Recent advances in technology provide some new approaches and resources for these strategies, such as relaxation or exposure audio files on a smartphone or using a smartphone to prompt and record ERPs or behavioral activities. While there may be limitations and barriers in the effective use of these strategies, be successfully addressed with flexibility, persistence, and patience on the part of the clinician and patient.

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## Additional Resources: Online Resources

- Progressive Muscle Relaxation: <http://www.webmd.com/balance/stress-management/stress-management-doing-progressive-muscle-relaxation#>
- Association for Behavioral and Cognitive Therapies: <http://www.abct.org>
- International OCD Foundation: <http://www.ocfoundation.org/>
- List of Pleasant Activities: [http://dbtselfhelp.com/html/er\\_handout\\_8.html](http://dbtselfhelp.com/html/er_handout_8.html)
- Hamilton Depression Rating Scale – 17 (HRDS-17): [https://pdbp.ninds.nih.gov/assets/crfs/Hamilton%20Depression%20Rating%20Scale%20\(HDRS\).pdf](https://pdbp.ninds.nih.gov/assets/crfs/Hamilton%20Depression%20Rating%20Scale%20(HDRS).pdf)
- Quick Inventory of Depressive Symptoms (QIDS): <http://www.ids-qids.org/translations/english/QIDS-C%20English.pdf>

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## Additional Resources: Books

- When I Say No I Feel Guilty: <http://www.randomhouse.com/book/169305/when-i-say-no-i-feel-guilty-by-manuel-j-smith>
- Your Perfect Right: <http://amzn.com/1886230854>, [http://impactpublishers.com/index.php?p=view\\_product&product\\_id=58](http://impactpublishers.com/index.php?p=view_product&product_id=58)

Kristen K. Ellard and Antonia Chronopoulos

## 5.1 Introduction

Anxiety disorders are among the most prevalent and costly of the mental health disorders. In the USA, epidemiological surveys place 12-month prevalence rates for anxiety disorders at 18 % of the population, with as much as 29 % of the population impacted by a diagnosable anxiety disorder by the age of 75 [1, 2]. At last estimates, anxiety disorders alone represented a cost to the USA of over \$42 billion annually [3], and much of this cost is for healthcare utilization. Anxiety disorders rarely occur in isolation, with comorbidity rates reported as high as 55 % for current diagnoses and as high as 76 % when lifetime diagnoses are considered [1, 2, 4].

Whereas the prevalence and cost of anxiety disorders are high, they remain among the most successfully treated of the mental disorders using cognitive behavioral therapy (CBT) for those who seek treatment [5]. The efficacy of CBT for

the treatment of the full range of anxiety disorders has been established across several randomized controlled trials, with disorder-specific treatments consistently yielding medium to large effect sizes in comparison to pharmacotherapy placebo or supportive psychotherapy [6] and either equivalency or superiority to medication alone [7–9]. Although a number of manualized treatments for anxiety disorders have been developed over the past several decades [10–12], these treatments converge upon a set of core CBT principles in their conceptualization of anxiety disorder pathology and approach to treatment (psychoeducation, cognitive reappraisal, behavioral exposure/response prevention). CBT for anxiety disorders focuses on addressing negative automatic appraisals of anxiety-provoking or potentially distressing situations (including modifying negative reactions to the experience of anxiety itself) and countering maladaptive patterns of behavioral avoidance. The core of CBT for anxiety disorders involves incorporating new learning and updated reward contingencies through emotion exposures designed to target the most problematic features of the specific disorders (e.g., panic-like sensations in panic disorder, intolerance of uncertainty in generalized anxiety disorder, social interaction in social anxiety disorder). More recent conceptualizations of CBT for anxiety disorders have focused on common core features of the disorders as a target of treatment, applying CBT principles across disorders, or transdiagnostically, using a single treatment

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[13, 14]. In the current chapter, we focus on the application of CBT principles to three primary anxiety disorders: generalized anxiety disorder (GAD), panic disorder (PD), and social anxiety disorder (SAD). Obsessive-compulsive disorder and post-traumatic stress disorder, both previously categorized as anxiety disorders in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR [15]), are now part of their own diagnostic categories in the newest version of the DSM (DSM 5 [16]) and are covered elsewhere in this volume.

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## 5.2 CBT Conceptualizations of Symptoms and Impairment in Anxiety Disorders

From a CBT perspective, anxiety disorders are thought to develop from biological and psychological vulnerabilities in combination with learned experiences. For example, Barlow [17] proposed a “triple vulnerability” theory. According to this theory, biological traits, such as the propensity toward heightened emotional reactivity, combined with early experiences of the world as unpredictable and uncontrollable, place the individual at a greater risk of developing anxiety disorders. These vulnerabilities, when aligned with specific learned experiences, may develop into specific anxiety disorders. For example, an individual with a biological vulnerability toward a decreased threshold for autonomic reactivity, who additionally has a low tolerance for uncertainty or unpredictability and who has learned that physical illness is dangerous, may become fixated upon the meaning and interpretation of physical sensations, developing panic attacks and eventually panic disorder.

More recent conceptualizations of anxiety disorders have focused on specific aberrant processes that are present across the disorders. Evidence from neuroscience suggests that individuals with anxiety disorders have a lower threshold for limbic reactivity to stimuli and tend to have greater limbic responses and reduced or deficient regulatory control by cortical regions in response to emotional stimuli relative to healthy

individuals [18]. Other evidence suggests that individuals with anxiety disorders exhibit attentional biases toward threat-related information [19, 20]. Some have proposed a “hypervigilance-avoidance” model of anxiety disorders, wherein individuals preferentially attend to potentially threatening information and then quickly regulate away from that information, thus thwarting the opportunity to learn new, nonthreatening interpretations and reinforcing the valuation of threat [21]. Additional research has demonstrated a tendency toward negative interpretations of ambiguous or uncertain situations, such that the individual overestimates the probability for a negative, catastrophic outcome [22]. Individuals with anxiety disorders not only interpret external stimuli as more threatening or more negative than healthy individuals but also interpret their own internal states as potentially threatening. Increased anxiety sensitivity, or the tendency to view one’s own anxiety-related physiological and cognitive responses as threatening (e.g., fear of fear), has been demonstrated across the anxiety disorders [23].

Individuals with anxiety disorders tend to experience negative affect such as anxiety and fear more frequently and intensely than healthy individuals and often engage in avoidance behaviors in an attempt to manage or control their anxiety or uncomfortable emotions. These avoidance strategies tend to backfire, however, causing marked disruption in daily functioning and serving to maintain distress. Avoidance behaviors range from the overt (e.g., avoiding going to a crowded shopping mall for fear of having a panic attack; skipping a meeting or a class in order to avoid giving an oral presentation), to more subtle behaviors (e.g., avoiding eye contact), to maladaptive cognitive processes such as excessive worrying or ruminating. These latter two strategies have more recently been conceptualized as representing cognitive avoidance strategies that attempt to ameliorate anxiety by providing an illusion of control [24, 25]. Taken together, CBT conceptualizations of the etiology of anxiety disorders suggest that individuals with these disorders have both dispositional and learned tendencies to experience negative affect



more frequently and intensely, tend to find these experiences aversive, and attempt to control these experiences through avoidance behaviors, subsequently experiencing significant distress and impairment in their daily functioning.

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### 5.3 Case Example: Patient with Comorbid PD, Social Phobia, and GAD

Patients with anxiety disorders typically present with more than a single diagnosis and, on average, meet criteria for at least two co-occurring disorders [4]. Here, we present a typical case seen at our clinic.

Samuel is a 40-year-old, single, Caucasian male referred by his treating psychiatrist for outpatient CBT. Medications upon the start of CBT treatment consisted of 40 mg citalopram with moderate benefit and 0.5 mg lorazepam PRN for residual anxiety and panic attacks. At the time of referral, Samuel reported onset of excessive worry (2 hours or more per day, often at night) and new onset panic attacks since starting his new job as a sales representative for a shoe company 2 years ago. He noticed that his worry intensified when he was alone with little to do. His worry pattern was often accompanied by physical symptoms of jaw pain/headaches, jitteriness, trouble falling asleep, distractibility, and exhaustion. Areas of worry included perseverating themes of failure at work and in relationships, specifically being disliked by coworkers and his boss, getting fired, and being all alone and homeless in the future.

Samuel described himself as being somewhat shy for most of his life. His social life at the time of referral was somewhat limited, involving social media contacts with friends and occasional weekend visits with male friends from high school. He had a limited dating history and no current romantic relationships due to shyness with women. He noted that he would like to be more comfortable initiating conversations. He reported experiencing difficulties at his last job in sales, which he left due to problems asserting himself with a challenging supervisor who he

perceived as disagreeable and hard to please. He reported that while he was well respected at his job and was meeting his job responsibilities, he experienced a sense of dread about supervising employees, making sales calls, participating in monthly company meetings, talking to his boss, and having a panic attack at work.

He reported that he had full-blown panic attacks several days a week at his previous job that came out of the blue and would last approximately 10 minutes. He reported that his panic had improved somewhat since starting citalopram but that he still experienced significant fear of having panic attacks. He reported that he usually took lorazepam in the morning to minimize risk of panic attacks at work. He carried lorazepam with him everywhere he went as an added measure of comfort, should anxiety escalate to panic levels. His panic attacks still occurred nearly every day but were not always severe. His panic symptoms usually included increased heart rate, shortness of breath, dizziness, and sweating at varying degrees of intensity. He feared that he would pass out during a panic attack or that he would lose control. He also experienced panic attack symptoms triggered by escalating thoughts of failure, helplessness, perceived criticism/rejection, and hopelessness about his future.

In addition to his medications, Samuel's main coping strategies for managing anxiety and stress included frequent checking and reassurance seeking (e.g., reading over his reports repeatedly to ensure accuracy), rushing through calls, minimizing direct contact with his boss/peers, turning down social invitations, postponing meetings with subordinates, and persistent worry about the future and his performance. His worries especially occurred while trying to relax and fall asleep.

Based on this assessment, Samuel met criteria for GAD and SAD. Whereas some of Samuel's panic attacks were triggered by worry or anxiety related to social situations, he also experienced uncued panic attacks and significant fear and anxiety about having subsequent panic attacks. Therefore, he also met criteria for PD. In the following sections, we discuss general principles of CBT that would be applied to a case like

Samuel's, followed by a discussion of specific CBT approaches to treating PD, GAD, and SAD. We illustrate how these treatment approaches can be applied using examples from Samuel's treatment.

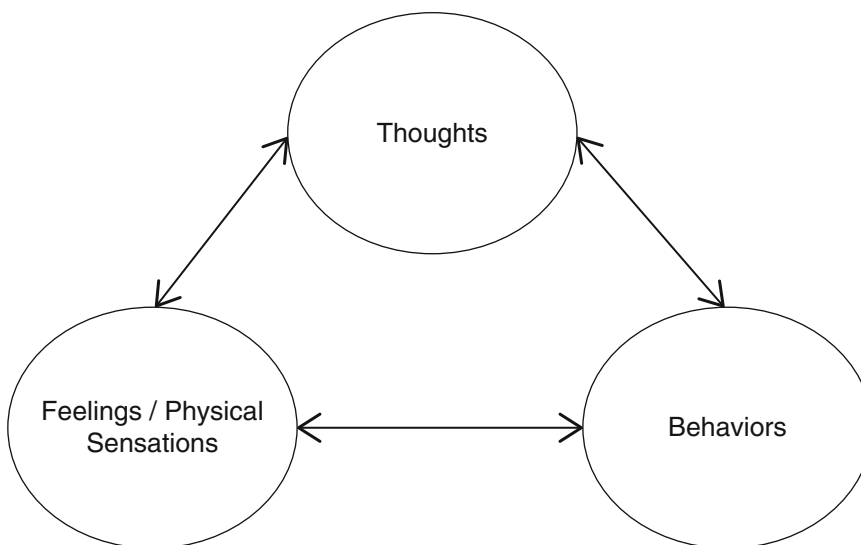
## 5.4 CBT Interventions for Anxiety Disorders

### 5.4.1 General Overlapping Constructs

Although the specific targets of treatment may vary depending upon the specific anxiety disorder being treated, a key organizing principle present across CBT treatments for anxiety disorders is that ongoing experience is the result of the dynamic interaction of thoughts, feelings, and behaviors. Termed the *three-component model of emotion*, in CBT conceptualizations of disorder and treatment, it is the influence of each of these domains upon each other that not only fuels psychopathology but also serves as the target for intervention and change. Because these three domains are dynamically interacting, bringing about change in one of these domains leads to change in the other two (Fig. 5.1).

For example, an intervention for SAD that targets maladaptive cognitions attempts to bring about change by altering interpretations and appraisals, and changing thoughts by proxy alters feelings and behaviors. By generating more realistic interpretations of a situation such that the perceived possibility for social rejection is reduced, levels of anxious arousal are diminished and approach behavior is increased. Similarly, in PD, targeting physical sensations through exposures that are designed to induce panic-like physiological sensations (a behavioral intervention termed *interoceptive exposure*) creates new learning experiences in which the patient is able to tolerate or cope with uncomfortable physical sensations without engaging in avoidance behaviors. These new behaviors, in turn, alter negative cognitions about the implications of these sensations as the perception of the tolerability of the sensations begins to change, which, in turn, lessens the intensity of the sensations. Thus, a CBT-based functional analysis of symptoms and functioning in anxiety disorders focuses on identifying patterns of dysfunction within these three domains.

Two additional CBT treatment constructs incorporated across CBT interventions for anxiety as key treatment strategies are *cognitive reappraisal* and *exposure*. Cognitive reappraisal



**Fig. 5.1** Three-component model of emotion. Adapted from [13]

refers to the examination and reevaluation of automatic thought patterns as a target of change. A key aspect of cognitive reappraisal is the identification of maladaptive versus adaptive thinking patterns. The ability to generate quick, automatic interpretations of the world around us is, at its core, an adaptive one. In order to survive a dangerous situation (e.g., an oncoming car approaching a crosswalk), it is necessary to respond quickly and efficiently to the environment (flee or avoid the crosswalk). Attention is focused on key aspects of the threat necessary to gauge responses as quickly as possible (e.g., proximity and speed of the car), while other, less relevant, information about the threatening stimulus (color, year, make of car) is filtered out. The innate ability for thought patterns to occur rapidly and without conscious awareness in situations where imminent danger is present is necessary to survival.

However, in the absence of imminently dangerous cues, such an automatic cognitive response style, in which only certain information is allowed to be processed and other information is filtered out, may not be as helpful, particularly if the automatic response is based upon overlearned biases toward threat or negative interpretations, as is seen across the anxiety disorders. Further, the more one engages in a specific thinking pattern, the more it is reinforced and the more automatic it becomes. Overreliance on maladaptive automatic, negative appraisals results in a more intensified emotional and physiological reaction and an overgeneralized response to the environment. A primary goal of CBT for anxiety disorders, therefore, is to give patients strategies for considering alternate, more adaptive appraisals of situations. Through noticing and challenging automatic thought patterns, patients practice “widening the lens” to allow new, and potentially more accurate, meanings and interpretations to be considered. As discussed above, altering appraisals about the threat value of a situation or experience (thoughts) has a direct effect on both the intensity of the experience (feelings) and subsequent actions or responses (behaviors).

*Exposure.* CBT treatments for anxiety disorders emphasize exposure exercises as perhaps the most paramount strategy for change. As mentioned

earlier, maladaptive behavioral patterns that develop in response to distressing emotions, such as anxiety and fear, by and large involve behaviors aimed at avoidance of aversive experiences. Avoidance behaviors both can be obvious, as in the case of fight or flight/escape reactions, and can occur more subtly as in procrastination, distraction, reassurance-seeking or checking behaviors, or engaging in unrealistic comfort measures (i.e., carrying lucky charms). Maladaptive avoidance patterns are self-reinforced because they work to relieve distress in the short run; however, the long-term costs (depression, isolation, low self-esteem) are usually underestimated in pursuit of immediate relief and serve to perpetuate and maintain impairment in functioning.

Exposure-based exercises are designed to counter avoidance behaviors by helping patients learn to approach stressful or distressing situations. Repeatedly approaching rather than avoiding these situations allows new learning to occur about the reward contingencies of these experiences (i.e., a previously feared situation becomes more tolerable and beliefs about one’s ability to cope with the situation are strengthened). By approaching the feared situation directly and repeatedly, the distressing emotion is elicited while new information about the situation and one’s coping ability is simultaneously being acquired. As more experience about the feared event is obtained through exposure, old thinking patterns about the stressor and one’s coping abilities are effectively challenged and substituted with more adaptive thoughts and behaviors. This process is referred to as extinction learning [26]. As the feared reactions gradually decrease, a sense of mastery and enhanced self-esteem is also achieved. Exposure-based interventions may involve overcoming feared environmental situations (e.g., agoraphobia, claustrophobia) or may be geared toward internally based fear cues such as physical sensations (e.g., dizziness associated with panic attacks) or cognitive preoccupation (e.g., worry about becoming homeless). In CBT treatments for anxiety, exposure exercises are paramount for bringing about behavior change and consolidating new learning and, thus, represent a key component of treatment.

## 5.5 General Outline of Treatment

Although the specific targets of treatment may vary across CBT treatments for anxiety disorders, treatment tends to follow a similar outline. Next, we present a typical course of CBT for anxiety disorders.

### 5.5.1 Establishing Diagnoses and Tracking Symptom Change

Obtaining a clear understanding of the patient's presenting symptoms and diagnoses is essential for treatment planning and functional analysis. There are a number of well-validated clinician administered and self-report instruments that can be used to determine baseline symptoms and functioning and to determine the presence of specific diagnostic criteria. The Structured Clinical Interview for DSM-IV Axis I Disorders, Clinician Version (SCID-CV [27]), is a semi-structured clinical interview for determining DSM-IV Axis I disorders (an updated version for DSM 5 is currently under development). Item prompts closely follow specific diagnostic criteria to determine the presence or absence of each symptom and whether full diagnostic criteria is met. The Anxiety and Related Disorders Interview Schedule for DSM 5, Lifetime Version (ADIS-5 L [28]), is another semi-structured clinical interview that assesses DSM 5 [16] diagnostic criteria for both anxiety- and mood-related disorders. Symptoms are assessed along a 0–8 dimensional rating scale of frequency and severity, with a cutoff score of 4 representing the presence of symptoms at a clinically significant level. The advantage to this dimensional approach is that it allows for the assessment of subclinical symptoms and gives the ability to capture symptoms that fall short of meeting full diagnostic criteria yet cause the patient clinically significant impairment or distress (e.g., not otherwise specified or “NOS” diagnoses). The dimensional scale also allows for the assessment of changes in symptoms over time, rather than

providing a dichotomous measure of symptom presence or absence.

In addition to diagnostic assessments, the use of self-report questionnaires throughout treatment allows for the assessment of symptom fluctuation and change over time. Commonly used assessments of symptoms related to SAD include the Social Interaction Anxiety Scale (SIAS [29]), which measures anxiety related to social interactions; the Social Phobia Scale (SPS [29]), which measures anxiety related to observation by others; and the Liebowitz Social Anxiety Scale (LSAS [30]), which assesses both interaction-related and observation-related anxiety and avoidance. The most widely used assessment of symptoms related to GAD is the Penn State Worry Questionnaire (PSWQ [31]), which determines the frequency, intensity, and controllability of worry. The self-report version of the Panic Disorder Severity Scale (PDSS-SR [32]) assesses the frequency and intensity of panic attacks experienced over the past week, as well as panic-related fear and avoidance. The Albany Panic and Phobia Questionnaire (APPQ [33]) measures fear of situations that might trigger panic-like sensations. Administering self-report questionnaires before each treatment session allows both the therapist and the patient to gather objective data regarding changes in symptoms. Scores from these measures can be plotted and graphed, providing the patient with a visual representation of treatment progress. Seeing positive changes on these measures in a graphic display can help motivate the patient to stay course in treatment. On the other hand, seeing no change or negative changes helps to prompt a discussion of barriers to progress or a reevaluation of the current treatment plan in support of improving progress.

### 5.5.2 Functional Assessment of Symptoms and Motivation for Change

CBT for anxiety begins with a thorough functional assessment, utilizing the organizational schema of the three-component model to identify specific areas of dysfunction and targets for

change (e.g., avoidance of meetings and thoughts of inadequacy are interfering in ability to maintain employment). Once the presenting problem is established, it is imperative to assess the patient's level of motivation to engage in treatment and readiness for change. CBT for anxiety is an active, oftentimes challenging treatment approach. In order to benefit the most from treatment, patients must be willing to take an active role in their treatment by engaging in assignments between treatment sessions in order to consolidate learning and be willing to submit to some initially uncomfortable experiences in order to facilitate change and recovery. Therefore, it is important for the therapist to discuss the anticipated risks and benefits of the treatment and for the patient to be able to identify for himself/herself why it is worth it to him/her to go through the treatment.

Motivational interviewing techniques [34, 35] can be useful for helping patients identify and challenge ambivalence. Helping patients list the pros and cons of behavior change versus the pros and cons of not changing a particular behavior is an effective means of gauging both motivation and readiness for change. Additionally, allowing the patient to be honest and acknowledge that he/she may want to both change and stay the same to varying degrees enables him/her to take a more balanced approach to his/her progress. In other words, should the patient feel hesitant to engage in treatment at any point, he/she is less likely to view this hesitation as a failure (thus potentially feeling the urge to give up) if he/she has acknowledged that both sides are true (willingness and non-willingness for change) and that wanting to change and being hesitant about change are not mutually exclusive. Therefore, acknowledging the existence of ambivalence at the beginning of treatment can help lessen the all-or-nothing assumption of what constitutes success in treatment.

A second motivation strategy is the identification of concrete treatment goals. By envisioning what would be different about his/her life at the end of the full course of CBT, the patient is able to have something to work toward, which aids in the motivation to stay engaged in treatment. The development of treatment goals and objectives is

meant to be a collaborative process between therapist and patient where both therapist and patient share in the discussion about the specific outcomes the patient would like to see. Helping the patient make goals more concrete allows these goals to become something that is potentially attainable. For example, rather than having "being less anxious" as a goal, the therapist can help the patient identify what being less anxious would actually look like in his/her daily life (e.g., going to movies, having dinner with friends once per week, applying for a new job). Treatment then becomes a way to facilitate moving closer to these real-world goals.

### 5.5.3 Psychoeducation

Psychoeducation about the cycle of anxiety is considered a crucial initial intervention for correcting the patient's experience of distress. It is important that patients understand the functional role anxiety and other emotions play in our lives and why it would not be helpful to eliminate these experiences entirely. For example, anxiety functions to motivate us to prepare for something in the future, like preparing for an exam or a presentation at work. Emotions like fear and anger are also important, allowing us to defend ourselves against harm. Anxiety and other emotions become problematic when they are experienced as something aversive or when they are disproportionately intense given the current context. Thus, a primary goal of treatment is learning to identify when these emotions are useful and what the patient can do differently in order for them to become more tolerable. The CBT model of emotions offers a framework for understanding how anxiety is modulated based on how our cognitions (perceptions of events), behaviors (avoidance, escape, reassurance seeking), and physical reactions (heart racing, shortness of breath) are associated. Patients often attribute the causes of their emotional experience (fear and anxiety) to the situation. However, patients can learn that specific ways in which they respond to their triggered emotions have an effect on their intensity. Therefore, a primary goal of treatment

is the identification and alteration of these maladaptive patterns of responding.

Patients are also taught how the cycle of anxiety is maintained, developing out of a learned response to their respective stressors through a pattern of avoidance and escape behaviors. These behaviors function effectively to relieve distress in the short run but maintain the problem in the long run because the anxiety and fear associated with the situation or experience remains. Without any opportunity to experience the ability to cope with the situation or experience, the aversiveness of the experience is reinforced and perpetuated. Thus, the cycle of avoidance is reinforced in the short term through a temporary reduction in anxiety and maintained over the long term by perpetuating the appraisal of the situation or experience as threatening.

Psychoeducation also involves teaching the patient the importance of self-monitoring. Through self-monitoring, the patient increases his awareness of maladaptive coping strategies and can begin to practice and consolidate skills learned through treatment. Patients are encouraged to begin self-monitoring by recording triggers for anxiety; thoughts, feelings, and behaviors they experience in response to the trigger; and the consequences of this response, both short term and long term. Subjective self-monitoring of symptom complaints also facilitates the patient's awareness of symptoms targeted for change. Patients with low emotional awareness and/or emotional intolerance can learn more about their emotional experience by engaging in daily tracking of moods, including intensity ratings, for indications of elevations in anxiety, fear, panic, anger, guilt, shame, sadness, depression, joy, pleasure, calm, etc. Providing patients with a handout of labels used to name specific emotions can be especially useful for patients who lack the awareness of shifts in affect and/or a vocabulary for describing their emotional experience. For patients with somatic fears, keeping a daily log of frequency, intensity, and duration of distressing physical cues (e.g., palpitations, shortness of breath, dizziness, chest tightness, jitteriness, diaphoresis, nausea, etc.) can help enhance understanding of the physical profile of anxiety/panic

and increase awareness and situational context of the somatic event. Similarly, patients with excessive worry can learn to engage in daily record keeping of common worry domains (e.g., health worries, relationship worries, financial worries, performance area worries, etc.) and percentage of time spent worrying per day (e.g., 0, 25, 50, and 100 % of the day).

Finally, the importance of engaging in self-monitoring through specific "homework" assignments throughout treatment is emphasized as a crucial tool for consolidating skills. Weekly homework assignments developed collaboratively between therapist and patient can serve as useful means of gauging the patient's engagement in treatment and progress toward skill-building efforts.

#### **5.5.4 Introduction of Treatment Concepts**

Following psychoeducation, the therapist begins to introduce each of the core treatment concepts. As CBT constructs are introduced and discussed during each session, topic-relevant assignments (psychoeducational reading material on anxiety, self-monitoring records, cognitive restructuring templates, exposure tasks) can be assigned to facilitate development and integration of therapeutic skills from week to week. The therapist maintains an active, collaborative role in introducing and fostering understanding about the interventions that will be used to target specific symptoms. Patients are taught to notice and record anxiety and other intense emotions, monitor and record anxious automatic thoughts, and examine behavioral responses to stress and anxiety.

Self-monitoring of anxiety-related thought patterns sets the stage for cognitive restructuring work. The therapist teaches the patient to identify, evaluate, and change dysfunctional thinking patterns associated with anxiety. Dysfunctional thoughts are modified and patients are taught to notice subsequent changes in mood and behaviors. To help patients begin to identify maladaptive automatic appraisals and other dysfunctional

thinking patterns, they can be asked to become curious of their cognitive experience, identifying the initial thoughts and images that follow an emotional trigger. For example, the therapist might ask, “What thoughts or images were going through your mind when you noticed your heart racing?” or “What thoughts did you notice about yourself, others, or the future just before or during the stressful situation?” When the patient has begun to successfully identify patterns of automatic thinking, strategies for challenging these beliefs and generating potential alternative solutions are introduced (Fig. 5.2).

These include weighing the probability that a catastrophic outcome will take place, recognizing “thinking traps” or overgeneralized automatic assumptions (e.g., “All of my coworkers think I am incompetent”; “If I have a panic attack I am going to pass out”; “I’m going to lose my job and become homeless”) and challenging assumptions about the capacity to cope in worst-case scenarios.

Similarly, patients can begin to notice and record the types of behaviors that typically follow induced emotions, and these behaviors can be evaluated in terms of their contribution to the perpetuation of the cycle of anxiety. Anxiety-driven behavior patterns (avoidance) are identified and labeled as either adaptive or maladaptive, depending upon the patient’s experience of the situation and the inherent nature of the situation. Were these behaviors appropriate to the context or were they serving as avoidance strategies? Examples of avoidance behaviors (e.g., escaping, quitting, distracting, procrastinating; safety measures; reassurance-seeking efforts; checking) are discussed and explored in relation to the patient’s experiences with anxiety. Patients are encouraged to identify both overt avoidance behaviors (i.e., avoiding riding the subway) and more subtle avoidance behaviors (i.e., always carrying water as a “safety signal”). The therapist works with the patient to promote understanding of the long- and short-term consequences of maladaptive avoidance behaviors, highlighting the effects of immediate relief from anxiety in the short run, offset by the long-term costs of chronic low

self-esteem/depression and lack of mastery when avoidance develops in response to daily benign events misperceived as dangerous.

### 5.5.5 Practice/Consolidation of Treatment Concepts

As patients learn to approach situations more directly and systematically using exposure-based methods, new information is gained that can be used to further counter distorted thinking and further reduce avoidance reactions. The rationale for exposure-based treatment can be explained to patients as a means of extinguishing irrational fear reactions and gaining a sense of mastery and enhanced self-esteem through repeated exposure to and interaction with the feared situation.

Exposure work begins with the construction of a fear and avoidance hierarchy. The therapist works collaboratively with the patient to create a list of the patient’s feared situations and experiences, placing the most feared situation at the top of the list and working down the list with less and less intense experiences. It is important that the patient achieve a sense of mastery at the start of exposure work, in order to gain confidence in his ability to successfully approach and cope with distressing or uncomfortable experiences. Thus, when designing exposure exercises, the therapist should start at the bottom of the hierarchy and work up the hierarchy week by week (Fig. 5.3).

Exposure exercises should be done in-session first, under the guidance of the therapist. In order to maximize the potential for new learning to take place, it is important that the patient be fully engaged in the exercises, allowing himself/herself to experience his/her emotions without attempting to dampen them or avoid them. Thus, the therapist should be mindful of subtle attempts by the patient to avoid experiencing anxiety, such as averting eye contact, fidgeting or “bracing” himself/herself, or rushing through an exposure. The therapist should also be mindful of the use of “safety signals.” Safety signals are subtle things the patient uses to help cope with and “get through” the situation or experience. Examples of safety signals include carrying medications, water, or other

AUTOMATIC THOUGHT RECORD			
Date/ Time	SITUATION	AUTOMATIC THOUGHT	FEELING
	What happened? Where were you? When did it happen? Who were you with?	Record the thought or image that went through your mind. <b>Belief in this thought (0-100%)</b> Circle the thinking error (s): Jumping to conclusions Emotional Reasoning Mind reading Catastrophic thinking Maladaptive thinking All or nothing thinking	<b>YOUR RATIONAL RESPONSE</b> Rate belief in new thought (0-100%)  <b>FEELING</b> Rate mood for intensity (0-100%)  <b>FEELING</b> Re-rate mood for intensity (0-100%)

Use the following questions to help you elicit one or several automatic thoughts. Respond to each question that is relevant your thought.

1. What are the facts that support my automatic thought? What are the facts that I have to dispute this thought?
2. Would other people agree that my thought is 100% true?
3. What would I tell my close friend if they were in my situation with this automatic thought?
4. Am I absolutely certain that this event will come true?
5. What's the best that could happen if my negative prediction was true? What's the worst thing?

What would I be able to do if my catastrophic thought were true

Fig. 5.2 Sample thought record



**FEAR AND AVOIDANCE HIERARCHY**

Rate the degree to which you avoid each of the following situations due to the unpleasant feelings associated with them. For each, write the applicable number in the space provided. List any safety cue or behaviors that you might rely on to make it easier for you to deal with situation.

Do Not Avoid	Hesitate To Enter But Rarely Avoid		Sometimes Avoid			Usually Avoid	Always Avoid		
0	1	2	3	4	5	6	7	8	
No Distress		Slight Distress		Definite Distress			Strong Distress		Extreme Distress

Description		Avoid	Distress	Safety Behaviors
1 WORST	Inviting someone out for dinner or coffee date	8	8	Reschedule the date
2	Initiating a conversation with a stranger	7	6	Hold onto my lucky rabbit's foot
3	Walking into a meeting last	5	6	Sit near the exit or door, grab the armrest of my chair

**Fig. 5.3** Sample fear and avoidance hierarchy. Adapted from [13]

“good luck charms” or talismans, only engaging in a situation if a particular person is present or only engaging in an activity at a certain time of day (i.e., when a place is less crowded). Safety signals interfere with extinction learning during exposures because successfully coping with a situation or experience becomes attributed to the presence of the object or person (e.g., I can ride the subway as long as I have my lorazepam with me), rather than the person’s actual ability to cope.

**5.6 CBT Conceptualizations of Pathology and Treatment Targets in Specific Anxiety Disorders**

In this section, we discuss CBT approaches to case conceptualization and treatment for each of the specific disorders (PD, GAD, SAD) and discuss how these strategies were applied in the case of Samuel.

**5.6.1 Panic Disorder**

In panic disorder (PD), the primary focus of anxiety is the set of physiological sensations that accompany a surge in autonomic arousal. Termed the “fight or flight” response, these include increased heart rate, shortness of breath, sweating, numbing or tingling sensations, trembling and shaking, nausea, feelings of unreality, chills or hot flashes, or choking sensations. The precursor to PD is the experience of an “out of the blue” or unexpected surge in autonomic arousal (panic attack) in which at least four of these symptoms are present [16]. To meet criteria for PD, the individual must have experienced at least one panic attack and subsequently exhibit significant fear of having additional attacks. Panic-like sensations are often interpreted as life-threatening, such as indicating cardiac arrest or suffocation. An individual with PD develops a heightened awareness of and vigilance for any type of physical sensation associated with a panic attack and

will often go to great lengths to avoid experiencing another attack. This pattern of vigilance and avoidance, in turn, reinforces the notion that physical sensations are intolerable, even dangerous. Thus, addressing negative interpretations of physical sensations, increasing tolerance for experiencing physical sensations, and countering avoidance behaviors are key components of CBT for PD.

CBT for PD begins with psychoeducation about the adaptive nature of autonomic arousal. Panic symptoms are broken down and explained within the context of their adaptive survival function, the “fight or flight” response. Panic is explained as a “false alarm” reaction to an otherwise harmless cue. In the case of Samuel, the therapist explained that the adaptive function of his increased heart rate is to pump more blood and oxygen to muscles in order to prepare for escape. The shortness of breath that he experienced resulted from a tightening of chest muscles as all of the muscles in the body flex in preparation for escape. Feelings of dizziness, disorientation, or unreality arose as oxygen was diverted from the brain to muscles in the limbs and pupils dilated to focus attention. Sweating occurred in order to cool the body during escape as well as to cause the skin to become more slippery and harder to grab. Other responses include feelings of nausea that result from the diversion of blood from the stomach and resulting change in gastric acid as the body diverts energy from digestion to muscles needed to flee. The purpose of explaining these responses is to allow the patient to understand that these physical responses are not inherently dangerous and are, in fact, the body “doing its job.”

Cognitive reappraisal in PD focuses on identifying catastrophic reactions to these physical sensations. The dysfunctional thinking characteristic of panic disorder has to do with the negative misappraisal of *normal* physical experiences to fear. Normal physical sensations associated with the fight or flight response are interpreted as intolerable, uncontrollable, and/or noxious (e.g., “I can’t breathe...I shouldn’t feel this way...It must be a heart attack...what if I am going crazy or losing control...I am dying!”). Using the

three-component model, patients are shown how these catastrophic interpretations of physical sensations actually serve to increase their intensity and motivate avoidance behaviors, thus fueling a cycle of anxiety.

Cognitive reappraisal in PD also focuses on challenging the patient’s beliefs about his/her ability to cope with a panic attack. The therapist helps the patient explore his/her most feared scenario that might result from having a panic attack and consider how he/she might cope in that situation. For example, in the case of Samuel, one of his greatest fears related to panic attacks was passing out at work in the middle of a meeting. The therapist helped Samuel walk through this catastrophic scenario, identifying what it would actually look like or mean if he passed out: Would he fall out of his chair? Would he end up on the floor? What would happen next? Would his coworkers point at him or laugh at him? Would they leave him lying on the floor? Would they try to help him? Following this line of questioning, Samuel was able to see that even if he did have a panic attack at work and pass out, his coworkers would likely show concern and get him help. If he were lying on the floor unconscious, they would likely call an ambulance and get him medical assistance. If he “came to,” they would likely show concern, maybe offer him some water and stay with him until he was able to get up. He realized that it was unlikely that they would ridicule him or just leave him lying there. The second line of questioning by the therapist pertained to the likelihood of this scenario happening in the first place: How many panic attacks had he had? How many times has he passed out as a result of a panic attack? How many panic attacks during a meeting resulted in him passing out or losing control in some other way? Exploring the most feared scenario in this way allowed Samuel to be more realistic about the possibility of it taking place and allowed him to feel more capable of coping should it ever happen.

To help change these catastrophic interpretations of physical sensations and counter avoidance behaviors, exposures in PD begin with the direct targeting of physical sensations through interoceptive exposures. The goal of interocep-

tive exposures is to induce the same or similar physical sensations the patient experiences during a panic attack, so that he/she can begin to separate the physical sensations himself/herself from the catastrophic appraisals. By repeatedly experiencing the physical sensations without engaging in avoidance behaviors (response prevention), the patient learns that he/she can actually tolerate the sensations and that the most feared outcome (e.g., passing out) does not occur. For Samuel, interoceptive exposures included breathing through a thin straw to elicit the sensation of shortness of breath; hyperventilating to elicit dizziness and feelings of unreality; and running in place to elicit rapid heartbeat. Other examples of interoceptive exposures include spinning in circles to elicit dizziness, wearing a tight scarf or turtleneck to elicit choking sensations, or staring into the palm of one's hand or a mirror to elicit feelings of unreality. Exposure trials are typically 1–2 minutes and should be repeated at least twice for each exercise. Having the patient rate the intensity of the distress elicited by the sensation, as well as the similarity of the experience to panic attacks, allows the patient to track changes in distress from trial to trial. The therapist should identify and point out to the patient any safety behaviors that he/she may be engaging in during the exposure. Safety behaviors are defined as anything that the patient does as an attempt to dampen the intensity of the experience, such as watching the clock and counting down the time or clutching onto the chair. These types of behaviors lessen the intensity of the experience and thereby interfere with extinction learning. Further, any success in the exposure exercise can be attributed to the safety behavior, rather than the patient's autonomous functioning.

Patients are encouraged to repeat trials every day between sessions in order to increase their tolerance of the sensations. For Samuel, these exercises were initially very anxiety provoking, and he was hesitant to try them. By starting off with shorter durations (e.g., 20 seconds, then 30 seconds, then eventually working up to 2 minutes) and tracking decreases in distress ratings over several trials, he was able to gain more confidence and eventually a sense of mastery. The

goal for each exposure challenge was achievement of minimal distress ratings over two or more consecutive trials to ensure adequate habituation.

The second phase of exposures for PD involves approaching situations that were previously avoided for fear of having a panic attack, such as going to the movies or a crowded shopping mall. Here again, it is important to be mindful of safety behaviors that might interfere with exposures. For example, Samuel reported he carried his lorazepam with him wherever he went. If he was successful with an exposure, he might have attributed this success to having the lorazepam at the ready and not learned that he could cope with the situation even in the absence of an anxiolytic. Therefore, Samuel was instructed to engage in situational exposures without bringing his lorazepam along with him. The final phase of exposures involves combining interoceptive exposures with situational exposures, so that the patient can learn to tolerate having physical sensations of autonomic arousal in previously feared or avoided situations, thereby challenging automatic appraisals of potentially catastrophic outcomes and gaining a sense of mastery. For example, exposure exercises for Samuel included walking up several flights of stairs at work before entering a meeting in order to practice sitting in a meeting with a rapid heartbeat and shortness of breath and hyperventilating or spinning in his chair prior to engaging in a conversation to practice focusing on the interaction rather than physical sensations of dizziness. Again, each exposure challenge was repeated until achievement of minimal distress ratings for that situation was recorded over two or more consecutive trials.

### 5.6.2 Generalized Anxiety Disorder

Generalized anxiety disorder (GAD) is predominantly characterized by its hallmark feature, excessive and uncontrollable worry. In GAD, the focus of anxiety is on perceived future threat, where no concretely identifiable or predictable outcome is present (overestimation of danger). The ambiguous or uncertain outcome is interpreted as potentially threatening, and the

individual in turn “keeps vigil” through worry. The broader themes of excessive uncontrollable worries in GAD may encompass multiple spheres of concern, often simultaneously, such as one’s health, the well-being of others, and one’s relationships, security, or future. Excessive worry often occurs in the absence of focused activity, such as during periods of downtime or at night while preparing for sleep, as in the case of Samuel. The worry behavior is likely to interfere with sleep onset and sleep maintenance. Excessive worry can overwhelm and impair the cognitive flexibility needed for effective problem solving, resulting in rigid interpretations of potential outcomes. Thus, the capacity to cope is underestimated and coping options are overlooked. Many individuals with GAD describe difficulty letting go of worry and struggles in experiencing pleasure, for fear the “other shoe might drop” at any moment. For example, despite the fact that Samuel was well liked by coworkers, had recently been promoted, and was performing well at work, his worries perseverated on the possibility of being fired and became associated with extreme fear of becoming homeless. CBT conceptualizations of GAD converge upon a model wherein the individual experiences uncertainty as intolerable and, in turn, engages in worry as a strategy to gain control over uncertain outcomes. By turning over “worst-case scenarios” in his mind, the individual is given a false sense of preparedness for a catastrophic outcome [25]. For example, despite having a good job in which he was advancing, Samuel could not tolerate the uncertainty around the potential of something going wrong and losing this job and played out the worst-case scenario of being fired and becoming homeless over and over in his mind. This pattern can be reinforced when the predicted catastrophic outcome does not materialize, giving the illusion that the worry somehow “worked.” For example, a mother who spends the evening worrying excessively about her son getting into an accident while he is out with friends may attribute the son’s safe return to her “vigil.” In fact, many individuals with GAD report their worries are

useful and find it difficult to imagine not keeping vigil with their worries [36].

To receive a diagnosis of GAD, the individual must also endorse additional symptoms like muscle tension, restlessness and agitation, sleep problems, irritability, and/or concentration difficulties. These symptoms are often a source of additional distress and can help to differentiate between normative worry and worry that can be considered excessive. For example, Samuel often found himself worrying at bedtime and would frequently take over an hour to fall asleep. He also endorsed excessive fatigue during the day, distractibility, and muscle tension in his jaw from clenching his teeth. The tension and fatigue associated with his worries added to his overall levels of anxiety and stress.

CBT for GAD focuses on teaching skills to help patients disengage from the cycle of worry and develop more realistic, less catastrophic assessments of uncertain outcomes. The patient is encouraged to keep a “worry record” on which they record triggers for worries, maximum level of anxiety the worries produce, anxious worry-related thoughts, and anxious behaviors. Worry records help the patient to identify specific triggers and/or patterns in their worrying, such as increased worries at certain times in the day or worries triggered by certain interactions or situations. Samuel’s worry record revealed that not only did he tend to worry most often at night but also he also tended to worry more on Sunday evenings before the start of the new work week. His worries often intensified preceding situations at work in which he would be required to demonstrate his productivity or present new ideas.

Some CBT approaches to GAD emphasize relaxation techniques, such as progressive muscle relaxation, as a way to counter the physical tension that is both triggered and fueled by anxiety and worry [37]. In this approach, learning to relax on cue functions as a way to interrupt the cycle of worry. Relaxation techniques are taught to a level of mastery under low stress conditions before being applied as a stress management technique in order to minimize risks of misattributing relaxation training with distress. Other

more recent approaches emphasize the use of present-focused mindful awareness as a tool for disengaging from worry [12]. In this technique, patients are taught skills for noticing and observing their experiences in a nonjudgmental, accepting way. Focusing on the present moment allows the patient to disengage from the cycle of negative, future-oriented worrying, allowing for more corrective information about the current situation to be noticed and recognized (e.g., that he/she is able to cope in this moment). For example, after practicing mindfulness exercises such as breath awareness or noticing sights and sounds, Samuel was able to apply this skill in order to shift his attention from his worries to the present moment. In this way, he was able to allow the realizations that he was currently doing quite well at his job, had a nice place to live, and was liked by his coworkers to enter his mind.

Cognitive reappraisal in GAD focuses on challenging the probability of assumed catastrophic outcomes (e.g., if I don't finish my work perfectly, I will be fired) and considering other possible outcomes. However, the therapist has to be careful not to begin a debate with the patient about whether or not a particular feared outcome might take place. For example, if someone worries about developing cancer, the true probability of developing cancer is likely unknown. Therefore, challenging the likelihood of developing cancer may not be helpful to the patient. Instead, challenging the ability to cope with the uncertainty around whether or not the patient will one day develop cancer is a more productive avenue for cognitive restructuring work. Helping the patient explore the tolerability of not knowing and examining the effect on his everyday life are a more useful strategy and get to the heart of GAD, which is the intolerance for the uncertainties of life and the assumption of worst-case scenarios. For Samuel, cognitive restructuring work focused on helping him to see that whereas knowing for 100 % certain he will keep his job is not possible and out of his control, being present and focused in his work from day to day is something he has control over and which supports his overall goal of keeping his job.

Exposures in CBT for GAD include imagining worst possible outcomes in vivid detail (imaginal exposures) and countering maladaptive behaviors in which the patient engages in response to worry (e.g., repeatedly calling loved ones for reassurance, checking and rechecking work for mistakes). In imaginal exposures, the patient is asked to first identify the worst-case scenario related to a worry topic (e.g., being unemployed, losing a spouse or loved one). The patient is then asked to describe in vivid detail the image of that feared or anxiety-provoking scenario taking place, including what happens next. Using cued relaxation or mindfulness strategies, the patient is then asked to observe and challenge assumptions and beliefs inherent in the imagined scenario. The therapist instructs the patient to schedule the exposure exercise to occur repeatedly at a designated time and dedicated space (e.g., scheduled worry time in a worry chair [37]). This process is repeated until the image becomes less distressing over repeated trials. Once habituation to one worry topic is achieved, the same procedure can be applied to a different worry domain until all the areas of worry are effectively challenged. For Samuel, imaginal exposures included imagining what it would be like to become homeless, including what it would be like having to give up his apartment and his belongings and what his life would look like on a typical day. After repeated exposure to these distressing images, the patient begins to distinguish the image from reality and begins to see ways in which he/she might cope should the catastrophic scenario take place, thereby weakening the distress associated with the worry thought. For example, Samuel was able to identify that there were possibilities along the way that would prevent him from ever having to become homeless, such as moving in temporarily with his sister or his friend, and that if he did ever become homeless, he could seek out resources to help him until he found a new job.

Behavioral exposures for GAD focus on countering anxiety-driven behaviors. Examples include leaving things unfinished to counter perfectionistic behavior, allowing oneself to arrive

late to an appointment, checking e-mail only once per hour, or making decisions without seeking reassurance from others. Through these types of exposures, the patient learns that he/she can tolerate the distress around uncertainty (e.g., not knowing the outcome of a decision) or that an assumed catastrophic outcome (e.g., being ridiculed or fired when late) does not inevitably take place. For Samuel, through examining his automatic appraisals, he was able to identify that one of his fears was being fired for not doing his job perfectly. As a result, he was engaging in worry-driven behaviors like checking the wording of e-mails repeatedly or taking longer to write up reports because of his need to get the wording perfect. He worried that if someone found a mistake, they would think he was incompetent and not able to fulfill his role as a supervisor. Behavioral exposures included proofreading documents only one time before sending them or composing an e-mail with a spelling mistake or omitted word. In this way, Samuel began to test his assumption that any performance that was less than perfect would result in him losing his job. Behavioral exposures such as these also help the patient to learn that whereas there is always the possibility of bad things happening in life, there are many more times when things turn out neutral, or even positively. In Samuel's case, no one mentioned anything after sending an e-mail with a mistake (a neutral outcome), and he received praise for a report he turned in after only one proofread (a positive outcome).

### 5.6.3 Social Anxiety Disorder

Social anxiety disorder (SAD) is perhaps one of the more difficult disorders to discern from "normal" experience, given the reticence of most people to speak in public and the general propensity to find initial social interactions with unfamiliar people somewhat stressful. However, in SAD, the fear of negative evaluation is so extreme that the person may limit his/her social interactions, isolate himself/herself, or even hold back from pursuing genuine interests or career paths because of the potential for social rejection. CBT conceptu-

alizations of SAD emphasize the propensity for negative self-focused attention, in which the individual evaluates the potential thoughts of others and his own performance particularly critically and harshly. In addition, autonomic responses such as flushing or trembling are perceived as indicative of the inability to perform in a socially acceptable manner and add to the evaluation of oneself as unable to cope or perform sufficiently. Therefore, two main targets of CBT for SAD are negative cognitions related to evaluations of the self and assumed evaluations by others, as well as negative reactions to autonomic reactivity triggered by a social interaction.

In the case of Samuel, his negative self-referenced thoughts focused on being inadequate and incompetent, and he viewed his anxiety-related physical sensations as confirmation of this incompetence. The stronger the physical sensations of anxiety, the more negatively he viewed himself. He would often judge himself harshly after having an interaction or after presenting at a meeting, going back over his performance in his head and criticizing himself for saying things he perceived to be "stupid." He also made assumptions about the evaluations of others, assuming they would find him boring or unintelligent and unacceptable. Making conversation was nearly impossible for him due to his fear of running out of things to say or coming across as boring. He avoided gatherings or situations in which he would need to have casual conversation, like going to parties or bars. At work, he dreaded making sales calls, fearing the person on the other end of the phone line would be angry with him or would find him irritating. He assumed others could see that he was anxious and would judge him negatively for it, particularly in group situations like meetings. He also feared his boss would eventually fire him because he was too anxious.

CBT for SAD focuses on altering self-focused attention and challenging beliefs about one's competency in social situations and perceived negative evaluations by others. Patients are encouraged to seek observable evidence for assumptions about their own poor performance as well as what someone else might be thinking

about them. Many of the automatic assumptions made by patients with SAD are not based upon what is actually said by the other person, but rather are based upon “mind reading” what the other person must be thinking. Similarly, negative evaluations of one’s own performance are often based upon non-observable outcomes or unrealistic expectations. Challenging beliefs begin by eliciting the automatic appraisal (e.g., “The audience will think I’m boring”), followed by gathering of objective evidence (e.g., “How will you know the audience is bored?”) and challenging assumptions about the implication of these responses (e.g., “What would happen if someone in the audience gets bored?”).

For example, to challenge Samuel’s belief that others found him boring, he was first asked to find observable evidence that a person to whom he was talking found him boring. He reported that if the other person looked away, he interpreted this as boredom. The therapist asked Samuel to generate alternate reasons a person might look away during a conversation. He was also asked if he had ever looked away during a conversation and whether 100 % of the time this meant he was bored by the other person. To challenge the implications of boring someone during a conversation, he was asked if he had ever been bored by what someone was talking about and whether he viewed this person as 100 % boring. In this way, Samuel was able to see that much of his thinking was based upon assumptions and not facts and that the feared outcome was not as catastrophic as he imagined.

Exposures in SAD focus on engaging in social interaction or performance situations as well as comparing anticipatory beliefs and assumptions with actual outcomes. “Social cost” exposures challenge the patient’s greatest fears of social rejection. For example, for a patient who is anxious about asserting himself/herself for fear of rejection, a possible exposure exercise would involve ordering something at a café and then changing his mind and sending the item back. For a patient anxious about interactions with others, an exposure might involve having a one-on-one conversation with someone and purposely not filling in the silence when there are gaps in

the conversation. For someone with performance anxiety, an exposure might involve giving a speech in front of an audience on an unfamiliar topic. Patients are asked to practice shifting their attention away from themselves and onto the environment around them. To facilitate this, the therapist can ask the patient to report back one or two things he/she noticed about the room he/she was in or about what the person he/she was speaking with was wearing. To help patients learn to tolerate the physiological sensations of anxiety that may be provoked by a social situation, exposures can be preceded by interoceptive exposures. For example, patients can run up and down a flight of stairs just before giving a speech in order to practice speaking while experiencing anxiety-related sensations (increased heart rate, shortness of breath). It is important to begin with an exposure exercise in which the patient can gain a sense of mastery, before moving on to more difficult situations and scenarios.

Many of the exposures discussed earlier that targeted panic symptoms and worry-related symptoms also targeted Samuel’s social fears. For example, participating in a meeting following interoceptive exposures helped counter Samuel’s fears of rejection by others due to his physiological symptoms of anxiety. Countering perfectionism by allowing mistakes in his work also addressed his fears of being evaluated as incompetent. Additional exposures for Samuel that directly targeted his social anxiety included practicing one-on-one conversations; attending a party and countering self-focused attention by focusing on what people were saying in conversation and noticing details about the room; and proceeding down a list of sales calls without skipping over or avoiding any of them.

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## 5.7 Conclusion

CBT for anxiety disorders is a collaborative, patient-centered approach to treatment. It is also a challenging approach to treatment, in that it requires active and effortful participation by patients. For those patients who are able and motivated to engage in CBT, it is a highly

**Table 5.1** Additional resources

Treatment manuals	Reference
<i>Generalized anxiety disorder</i>	Zinbarg RE, Craske MG & Barlow DH. <i>Mastery of your anxiety and worry</i> . 2nd ed. New York: Oxford University Press; 2006 Roemer L, Orsillo SM <i>Mindfulness-&amp;Acceptance-Based Behavioral Therapies in Practice</i> . New York: Guilford Press; 2010
<i>Panic disorder</i>	Barlow DH, Craske MG. <i>Mastery of your anxiety and panic</i> 4th ed. New York: Oxford University Press; 2010
<i>Social phobia</i>	Hope DA, Heimberg RG, Turk CL. <i>Managing Social Anxiety</i> . 2nd ed. New York: Oxford University Press; 2010
<i>Emotional disorders</i>	Barlow DH, Ellard KK, Fairholme CP, Farchione TJ, Boisseau CL, Allen LB, Ehrenreich-May J. <i>Unified protocol for transdiagnostic treatment of emotional disorders</i> . New York: Oxford University Press; 2010 Burns DD. <i>Feeling good: the new mood therapy</i> . New York: Harper; 1999 Greenberger D, Padesky CA <i>Mind Over Mood: Changing How You Feel by Changing the Way you Think</i> . New York: Guilford Press; 1995
<i>Websites</i>	“Treatments that Work” Oxford University Press: <a href="http://global.oup.com/us/companion.websites/umbrella/treatments/">http://global.oup.com/us/companion.websites/umbrella/treatments/</a> Association for Cognitive Behavioral Therapies: <a href="http://abct.org">http://abct.org</a>

effective approach. There are many individual CBT treatment protocols available for anxiety disorders (Table 5.1). However, key principles of CBT, including the modification of maladaptive automatic appraisals and the countering of behavioral avoidance through exposure, can be found across these available treatments. The ultimate goal of CBT for anxiety disorders is to help patients learn new ways of relating to their anxiety and other distressing emotions, so that these experiences no longer limit their ability to live a full and fulfilling life.

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## 6.1 Introduction

This chapter provides an overview of the etiology, prevalence, and clinical presentation of depression; the pharmacological and psychosocial treatment approaches for depression; a brief literature review of empirical support for depression treatments; and an outline of Cognitive Behavioral Therapy (CBT) for depression. This chapter ends with a case illustration of CBT principles for a patient with Major Depressive Disorder (MDD). For clarity, the patient in this chapter is referred to as a female and the doctor as a male.

### 6.1.1 Prevalence, Presentation, and Etiology of Depression

Major Depression is at the forefront of mental health problems. Approximately 16 % of Americans (32–35 million) will experience a Major Depressive Episode (MDE) over the course of their lifetime [1]. During a given year,

about 6.6 % of the US population will experience MDD and over half of these individuals will experience severe symptoms and role impairment [2]. Most people with a history of MDD or a MDE have had more than one episode across their lifetime [3, 4]. Depression is about twice as common in women than in men, which is likely due to biological vulnerabilities and environmental experiences [1].

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association [5]) states that to meet criteria for a MDE, individuals must endorse depressed mood and/or loss of interest or pleasure in nearly all activities for a period lasting at least 2 weeks. In addition, individuals need to endorse at least 3–4 of the following symptoms, 5 in total, to meet criteria for a MDE:

- Significant weight loss or weight gain; or decrease or increase in appetite nearly every day
- Insomnia or hypersomnia (e.g., oversleeping) nearly every day
- Feelings of agitation, irritability, or psychomotor retardation nearly every day
- Fatigue or loss of energy nearly every day
- Feelings of worthlessness or excessive or inappropriate guilt nearly every day
- Diminished ability to think or concentrate or indecisiveness nearly every day
- Recurrent thoughts of death, recurrent suicidal thoughts with or without a plan, or a suicide attempt

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For some individuals, the onset of depression is related to the occurrence of a stressful life event (e.g., loss of a loved one, relationship break up, job loss, etc.). For other people, the cause of a depressive episode is not as clear. Current research and clinical practice argues that the onset and maintenance of depression is likely impacted by a combination of biological, cognitive, and interpersonal processes [6]. Proponents of a biopsychosocial model argue that deficits in one or more of the aforementioned areas make individuals vulnerable to depression when confronted with significant life stressors.

## 6.2 Overview of Treatments for Depression

Depression is a heterogeneous illness, sometimes making it difficult to detect and treat. Depression manifests differently in various individuals. Many individuals report feeling down at times; however, not everyone who says they are “depressed” actually experiences a MDE. Depressive symptoms are often somatic/physical (e.g., fatigue, sleep disturbance, psychomotor agitation/retardation), behavioral (e.g., reduced productivity, avoidance, suicide attempts/gestures), and psychological (e.g., low self-esteem, feelings of worthlessness, excessive guilt) [7].

To date, the most extensively studied psychosocial treatment for depression is CBT [8]. Aaron Beck, MD, founder of CBT, was originally trained as a psychoanalyst. When treating patients with depression, he realized that many had similar thought patterns that, in part, drove their depression. In his seminal work, he outlined the “*cognitive triad*”: individuals with depression tend to have more negative views of: (1) *themselves* (“I’m not going to amount to anything”), (2) *the world* (“people do not like me”), and (3) *the future* (“nothing will ever get any better”). Beck also noted that, within the context of depression, individuals often adopt certain attributional styles (i.e., permanent vs. temporary, internalizing vs.

externalizing, general vs. specific). For example, a depressed individual might think his/her problem will never get fixed (permanent vs. temporary), blame himself/herself for the problem (internalizing vs. externalizing), and think his/her whole life is ruined by this problem (general vs. specific). These biased ways of interpreting the world often perpetuate depressive symptoms and may remain prevalent, even after the physiological symptoms of depression have lifted.

Other psychosocial treatments for depression may overlap and/or be incorporated into CBT as an adaptation. For example, behavioral activation (an inherent part of CBT), can function as a stand-alone treatment, is similar in efficacy to antidepressant treatment, and can be more efficacious than cognitive therapy for severely depressed patients [9]. A newer trend in psychotherapies, referred to as “third-wave” therapies, include mindfulness as a key ingredient. There is growing evidence that Mindfulness-Based Cognitive Therapy (MBCT; [10]), which integrates mindfulness meditation training with CBT in a group setting, is an effective intervention for relapse prevention in patients with recurrent MDD [11] and may be useful for patients with treatment-resistant depression [12]. Acceptance and Commitment Therapy (ACT; [13]) encourages patients to “de-center” from distressing emotions and thoughts by utilizing acceptance and mindfulness strategies and may also be effective for reducing symptoms of depression [14]. In an effort to address barriers to treatment access and dissemination, more recent studies have suggested efficacy of alternative modalities, including Internet-based CBT [15, 16] and even mobile applications [17].

### 6.2.1 Combination Treatment: Psychotherapy and Medications

Although some milder forms of depression may remit on their own, most people will require treatment for their depression. Treatments can

expedite recovery and/or decrease the burden of symptoms associated with depression. It is important to take into account specific patient characteristics (e.g., motivation, access to resources) in determining the appropriate treatment choice (i.e., pharmacotherapy, individual psychotherapy, combined treatment). For example, one might consider combination treatment (i.e., the concurrent use of both medications and CBT from the onset of treatment) for individuals with a history of chronic depression, treatment-resistant depression, and for complex clinical pictures (e.g., presence of psychiatric comorbidities, psychosocial adversity), as these individuals are less likely to respond to monotherapy [18]. Combination treatment potentially produces the greatest magnitude of response for MDD—a more complete benefit in terms of symptom reduction and improved daily functioning, leading to remission of symptoms [73]. When CBT is combined with antidepressant medication in the acute treatment phase, chances of recovery can be even greater [19]. Alternatively, sequential treatment may be beneficial for patients with financial stressors, given that antidepressants are typically less expensive than psychotherapy. Additionally, patients may choose to use antidepressant medications to reduce acute symptoms and then add a short course of therapy to address residual symptoms, rather than utilizing a more expensive and time-consuming combination treatment. It is also possible that when patients are severely depressed, medications may be needed to achieve the necessary level of functioning and symptom improvement required for CBT utilization.

### **6.2.2 Empirical Support: CBT for Depression**

For the treatment of acute depression, psychotherapy alone has been shown to be more effective than placebo or a waitlist control, and as

effective as medications, especially for mild and moderate forms of depression. Early research demonstrated the superiority of cognitive therapy over antidepressant medication [20], while other findings demonstrated that cognitive therapy and antidepressant medications are similarly effective in reducing depressive symptoms [21, 22]. Although the findings have triggered a great deal of debate, to date, only two placebo-controlled trials have suggested that cognitive therapy is less effective than pharmacological intervention [23, 24] in patients with severe depression. However, subsequent analyses have challenged the findings from the first multi-site placebo-controlled study to examine pharmacotherapy and psychotherapy and demonstrated that differences in the practitioners' experience with CBT varied by site and may have impacted results [25]. A mega-analysis of outcomes among subsamples of severely depressed patients from four major randomized trials demonstrated similar outcomes for patients receiving antidepressant treatment and CBT [26], and more recent research has suggested consistent findings [27]. Further, there is an enduring effect of CBT post-termination of treatment that is not seen following pharmacotherapy [27]. CBT may also improve long-term outcomes by preventing the recurrence of a MDE in patients with and without residual symptoms [28–30]. Individuals in the acute depression phase who engage in CBT as a sequential treatment after a course of pharmacotherapy have better long-term outcomes and lower relapse rates than individuals who receive continued medication management alone [29].

Advances in brain imaging and neuroscience may help guide future research on CBT. For example, researchers are moving to identify brain biomarkers that will provide an indication of how efficacious specific interventions will be. Specific neurobiological changes have been found following CBT [31, 32] that may differ from those found following antidepressant therapy, suggesting different mechanisms of action.

## 6.3 Key Components of CBT for Depression

### 6.3.1 Beginning Treatment

In the initial sessions, the therapist's primary goal is to learn about the patient, build rapport, and provide psychoeducation about CBT and depression. While collecting the patient's history, the therapist can ideally use the provided information to start to elucidate key CBT principles. For example, the therapist might draw and explain the CBT triangle (see Chapter 3 on Cognitive Techniques) using material gathered during the initial assessment. If a patient expresses doubt about whether or not this therapy will work for him/her, the therapist can use this as a time to demonstrate automatic thoughts: i.e., "I don't think this type of therapy will work." This thought can be examined from the CBT perspective, utilizing the CBT triangle. The therapist can work with the patient to identify related behaviors and emotions and to demonstrate basic CBT principles, highlighting the relationship between thoughts, feelings, and behaviors. This can also provide the therapist the opportunity to ask, "What is the evidence for this thought?" and to start to explore the accuracy and/or function of the thought.

The therapist tries to weave CBT techniques into the material that the patient presents in the session—i.e., to take the content of the patient's struggles and demonstrate different opportunities for problem solving or challenging unhelpful thoughts. Applying and teaching a relevant CBT technique in the moment tailors the treatment to the individual patient and starts to acclimate the patient to the CBT model. The therapist aspires to strike a balance in the first sessions between getting to know the patient and setting the tone for the treatment.

### 6.3.2 Psychoeducation

When used appropriately, psychoeducation can be an extremely powerful intervention that can

reduce symptoms of depression [33]. By providing a patient with accurate information about depression, a therapist is often able to convey a sense that he/she "gets it." Psychoeducation also normalizes the disorder, which may allow the patient to hear that depression affects many people and thus feel less alone. Furthermore, psychoeducation also empowers the patient to understand his/her diagnoses and treatment. It is important to be mindful of the amount of information communicated and the language that is used when covering this information. A patient who is depressed may be struggling with cognitive difficulties, such as impairments in concentration, memory, thinking, and information processing. Thus, it may be important to repeatedly check-in with the patient to confirm that the therapist is communicating effectively (e.g., that the therapist is not speaking too quickly or packing too much information into sessions). Some patients may find readings and handouts to be especially useful, in terms of providing a concrete way to consolidate information, while others may prefer open discussions in session. Therapists may consider the following points when providing psychoeducation to patients suffering with depression:

#### Psychoeducation on depression

- Depression is a brain disorder, not anyone's fault and not a mental or emotional weakness. Depression has important genetic and environmental factors.
- An individual with depression may be judgmental, self-critical, and lacking in self-compassion. It is important for the therapist to convey a nonjudgmental stance toward the patient and his/her depression and to encourage him/her to think about depression as a medical illness.
- The stigma of mental health is still present, so it may be helpful to educate the patient about how to talk with others about his/her depression without feeling embarrassed and/or ashamed.
- Symptoms occur on emotional, physical, and cognitive levels. A patient often recognizes the physical symptoms of depression and may be less aware of the cognitive symptoms of depres-

sion or vice versa. For example, one's thinking, even one's personality, may change as a result of depression. It can be helpful to highlight that the patient's thinking might be biased due to depression, rather than the patient having an inherent inability to accurately assess situations. Labeling "depressed thinking" can be a useful way to externalize the patient's less effective thinking or cognitive distortions.

- Depression is a heterogeneous disease and can present with a myriad of symptoms—e.g., anxiety, insomnia, fatigue, etc. ("your depression might not look like your friend's depression or what you expect depression to look like"). As such, there are different treatments that may be appropriate for different symptoms. The therapist could say, "if CBT is not a good fit for you, there are several other options to consider, such as medications, psychodynamic therapy, problem solving therapy, treatment for insomnia, etc." CBT can fail the patient; the patient does not fail CBT (again adopting a nonshaming, accepting stance).
- Depression is often driven by negative thoughts. A patient typically does not have depressed feelings without depressed thoughts—i.e., this/something is hopeless. Conveying this information may help the patient start to identify general categories of maladaptive thinking. A patient typically does not have anxious feelings without anxious thoughts—i.e., something is unsafe/dangerous, or angry feelings without angry thoughts—i.e., something is unfair may help to further elucidate categories of thinking for the patient.
- Medication can be an important part of treatment for depression. The therapist can work alongside the psychiatrist/prescribing physician to reinforce information about medications, manage and identify side effects, and monitor compliance and improvement. The therapist can also assist the patient to advocate for medication changes and/or support him/her to advocate for him/her own treatment. For example, encouraging him/her to make an appointment with his/her psychiatrist if side effects are troublesome.

### **Psychoeducation on CBT for depression**

- CBT includes structured sessions that begin by setting a collaborative agenda. It is also expected that a patient completes homework between sessions to maximize the potential benefits of treatment. Sometimes the therapy is like the lab, where hypotheses are formulated and explored. The data gets collected from behavioral experiments outside of therapy.
- There is usually a logical bidirectional relationship between thoughts, feelings, and behaviors. Therapy is most effective when patients accept and buy into this rationale for treatment [34].
- A patient may opt to take notes in therapy sessions or take a photo (e.g., with a smart phone) of the white board for his/her record. These strategies may help him/her recall or draw upon important concepts during emotionally laden situations outside of session.
- The relationship between the therapist and patient tends to feel different than in many other forms of psychotherapy, as the CBT therapist is typically collaborative and direct, similar to a "coach." The patient is encouraged to be an active participant in the treatment.
- Given the common experience of hopelessness in depression, especially about getting better, it is important that the therapist structure the therapy so that there are small, attainable goals very early in the treatment, even potentially in the first session, to build momentum.
- Treatment may involve gradually facing painful long-standing thoughts, feelings, and experiences that have been habitually avoided. As such, a patient may feel worse before she feels better. Feeling worse might actually be an indication that therapy is working: "stirring up the silt from the bottom of the pond can make the water murkier. Yet, this may be the only way to purify the pond's water." As this is challenging, it is important to communicate that treatment will progress at a pace that feels manageable to the patient.

### 6.3.3 Assessment of Symptoms

It may be useful to use established measures of depression for initial assessment of depressive symptoms, treatment planning, and monitoring symptoms throughout the course of therapy. Depending on the treatment setting, a variety of measures may be appropriate. Clinician-administered rating scales, such as the Hamilton Depression Rating Scale (HAM-D; [35]) or the Montgomery-Asperg Depression Rating Scale (MADRS; [36]) may be useful tools to assess the severity of symptoms, both during the initial assessment, and also before weekly sessions to monitor change. A semi-structured diagnostic interview, such as the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID; [37]), could be used to diagnose MDD and assess the presence of other comorbid Axis I disorders. A number of self-rated questionnaires can also be utilized to assess severity of depressive symptoms and monitor change, including the Beck Depression Inventory-II (BDI-II; [38]) and the Quick Inventory of Depressive Symptoms (QIDS; [39]). When patients are treated for depression, there are also related constructs that may be useful to measure, such as dysfunctional attitudes (Dysfunctional Attitudes Scale; [40]), stress (Perceived Stress Scale; [41]), quality of life (Quality of Life Enjoyment and Satisfaction Questionnaire; [42]) and hopelessness (Beck Hopelessness Scale; [43]). As part of the assessment and conceptualization, the therapist will want to rule out other conditions that can mimic depression, such as certain medical conditions (e.g., hypothyroidism) or substance abuse/dependence. If indicated, the clinician may encourage the patient to have a medical evaluation to rule out medical conditions that could cause or contribute to depressive symptoms. Lastly, there is always an evaluation for risk of suicidal behavior, as this is a common symptom of depression. The Columbia-Suicide Severity Rating Scale (C-SSR) is recommended as a well-validated and thorough measure that assesses current and lifetime assessment of suicide risk and behavior [44].

### 6.3.4 Instilling Hope

The patient struggling with depression often comes to therapy without hope. The therapist may need to hold the hope for both parties. A vital ingredient throughout treatment, and especially in the initial phase, is the therapist's ability to convey that therapy might provide the patient with some relief. The therapist can offer a "kernel of hope" by clearly stating, in some fashion, "I have hope that you will get better." In the initial session, the therapist might also say something like, "I already have a few ideas as to how we might go about exploring this problem of yours" and then list a few potential ideas to be reviewed later on. Sometimes, the therapist's ability to accurately provide a summarizing statement of what he/she is thinking and hearing after the initial session provides a hopeful and validating message, particularly when the patient feels genuinely heard and understood.

### 6.3.5 Therapeutic Alliance

CBT is typically considered a change-focused therapy. However, without a solid therapeutic alliance and safe environment, change is less likely to occur [45]. The therapeutic alliance is a critical factor to facilitate treatment and is necessary (but not sufficient) to achieve permanent change [46]. It is important to convey a sense of warmth, empathy, acceptance (i.e., unconditional positive regard), and genuineness that is consistent with Carl Rogers' model of effective psychotherapy [47–50]. In the process of building a strong therapeutic alliance, validation is inevitably an integral component. Marsha Linehan, creator of Dialectical Behavior Therapy (DBT), highlighted the necessity of the dialectic of both validation and change [51] in the therapeutic encounter. Through effective validation, the therapist communicates to the patient that his/her behavior and/or emotions/reactions make sense given his/her circumstances/context [51]. Without understanding/validating the patient's suffering, the therapist risks exacerbating the

patient's tendency toward self-criticism and shame. The therapist can demonstrate validation or empathy in various ways. For example, the therapist can state, "Of course you feel that way. I might feel that way too, if I had those thoughts about myself." Another way of expressing validation is by communicating a belief in the patient's ability to get out of their misery [51]—expressing to a patient that you believe in his/her and always believe things can get better. Further, an integral part of CBT is asking the patient for feedback about each session, which helps to ensure that the patient feels understood and is working alongside the therapist [47].

### 6.3.6 Therapist Qualities

There are certain therapist variables that may lend themselves to enhancing the alliance. Ideally, the therapist conveys openness toward the emotional experiences of himself/herself and his/her patients [74], in order to convey an environment of exploration. Patients presenting with depression are oftentimes used to a life that has reinforced their own feelings of isolation and defectiveness. Others in the depressed patients' interpersonal spheres have often fallen away, due to the withdrawal of the patients. It has long been shown that the behavior of depressed individuals has a negative effect on the moods of people with whom they interact, often leading to rejection and subsequent isolation [52]. Additionally, the therapist aims to make it clear that he/she is interested in the patient's inner life and that it is the patient himself or herself who knows his or her inner reality, not the therapist. This assists the patient in not staying in a helpless role, which is common in patients with depression. The therapist may ask, "Did I get that right?" or "Is that what you mean?" The tone of the conversation can stay slow in order to convey a level of respect and importance for the patient's words.

The therapist strikes a balance between being scientific, yet nurturing and warm. The therapist validates the patient, in addition to testing out beliefs. For example, it is important to remember

the dialectic of validation and change [51]: acknowledge that the patient's feelings and behaviors make sense (e.g., "I think anyone would feel that way, if they had those thoughts about themselves"), in addition to challenging their beliefs and feelings. The therapist tries to help the patient nonjudgmentally understand and look at his/her thoughts, feelings, behaviors, reactions, and urges with loving kindness and acceptance—trying to understand the patient's point of view, while conveying that the therapist too is a human—not nit-picking or judging the patient, but adopting a helping stance. Without this stance, the patient may not feel safe enough to make changes. Therapist disclosure, when appropriate, thoughtful, and purposeful, can aid in creating this stance. For example, the therapist may illustrate an example from his/her own life in which he/she is using behavioral/emotional avoidance and how hard it is to tolerate the feelings necessary to make behavioral changes.

### 6.3.7 Case Conceptualization

The conceptualization drives the therapist's interventions and is considered fundamental to providing effective treatment [53]. Given the importance of conceptualization, it is vital for the therapist to continue to develop and hone case conceptualization skills. In CBT, a case conceptualization, also called a case formulation, is a process by which the therapist and patient work collaboratively to first, describe and mutually agree upon the patient's particular problems, and then, explain the factors that caused/contributed and maintained them using cognitive behavioral theory [54]. It is important for the therapist to include the patient in the formation of the conceptualization [54]. For example, a patient may have a story about their anxiety and depression, and it is important for the therapist to understand the patient's point of view about the origin of his/her symptoms, regardless of the accuracy. This understanding/conceptualization is used to guide treatment interventions. The treatment interventions are transparent to the patient, in that they



understand the reasons behind the interventions being recommended. Although there are formalized case formulation approaches (e.g., [47, 55]), many cognitive therapists utilize their own approaches in clinical practice.

### 6.3.7.1 Step 1: Gathering Data

The initial conceptualization often stems from having conducted a thorough diagnostic and psychosocial assessment (e.g., social family psychiatric, and medical history). It can also be helpful for a patient to describe his/her presenting issues in the context of current stressors and past experiences, because it can help explain current problematic behaviors. The first step is to describe the patient's presenting problems (e.g., depressed mood, inability to engage in activities) in cognitive and behavioral terms. Throughout the conceptualization process, the therapist allows the patient to put together as many pieces of the puzzle as possible, guiding the patient along the way.

Following initial descriptions of presenting problems, case formulations often involve identification of triggers and factors that maintain the problems, drawing on the cognitive behavioral model of depression. Patients may find it helpful to visualize the maintenance cycle of depression with some form of chart. This process can help engage the patient in therapy by providing a rationale for their symptoms and associated interventions [56]. It is impossible to fully understand a patient after a few therapy sessions. However, it is the therapist's job to create an initial conceptualization with the patient that will guide the early stages of treatment and, to adjust accordingly as new information is gathered. As CBT progresses, the case conceptualization may change. Factors are uncovered over time that explain why a patient is vulnerable to presenting problems (predisposing factors) as well as factors that highlight strengths that can be used to build resilience (protective factors). As evidenced by the iterative process outlined above, case conceptualization is a process that evolves over time in the context of new information and patient responses to therapeutic interventions [56]. Below, we elaborate briefly on a number of

key elements involved in cognitive case conceptualization with depressed patients.

### 6.3.7.2 Step 2: Early Life Experiences

Cognitive theory suggests that a child learns to make sense of his/her reality as a result of early experiences with his/her environment, which can lead to the adaptation of attitudes and beliefs that later can prove maladaptive [57]. There is substantial evidence to suggest that loss in childhood (e.g., [58]), childhood sexual abuse (e.g., [59]), and problematic parenting behaviors (e.g., [60]) increase an individual's risk for developing depression. Therefore, it is important to develop a solid grasp of the patient's early life experiences and how they might have contributed to the patient's view of self, others, and the future (the cognitive triad). The therapist starts by gathering a history from the patient, looking for significant and formative experiences. The therapist asks the patient about significant life events, traumatic experiences, and messages received by important others in his/her world (e.g., parents, grandparents, friends, other relatives).

For example, the therapist might ask the following questions to the patient:

- What was your mom like?
- What messages did your mom/dad/caregiver give to you about yourself?
- Who/what helped you feel confident about yourself?

The therapist might ask himself/herself the following questions:

- How safe does this environment sound?
- Was this a judgmental, critical, or invalidating environment?
- How nurturing was the environment?

### 6.3.7.3 Step 3: Core Beliefs

Out of early life experiences, individuals begin to develop core beliefs, or schemas, about themselves. Core beliefs are an essential part of the cognitive theory of depression [61]. Beck [47] hypothesized that those individuals who are vulnerable to depression often experience underlying beliefs related to a sense of helplessness and/or unlovability as a result of early learning experiences. Core beliefs

are typically “I” statements, such as “I am not worthy of love” or “I am unlovable,” and tend to display a pattern of extreme thinking in which something is often “all-or-nothing” (e.g., worthy versus not worthy).

Core beliefs may lie dormant for long periods of time, but become activated by particular stressors, losses, or situations. For example, an individual might have an underlying belief about worthlessness that was more or less dormant until a relationship ends and triggers the core belief, “I’m worthless.” Core beliefs can also contribute to the maintenance of depressive symptoms. In some cases, a stressful event may trigger a depressive episode in the absence of a maladaptive core belief. Yet, the experience of chronic or recurrent depression can often generate negative automatic thoughts that over time become habituated or ingrained into the patient’s view of herself, others, and the future (the cognitive triad). In an acute depressive episode, it is also possible that someone who once displayed positive or neutral core beliefs might start to develop negative core beliefs, as it becomes harder to remember what it felt like to be euthymic.

#### **6.3.7.4 Step 4: Automatic Thoughts and the CBT Triangle**

Beck [47] demonstrated that depressed patients display negative thoughts or “automatic thoughts” about the self, world, and future (the cognitive triad) that reinforce underlying dysfunctional core beliefs. Specifically, negative automatic thoughts persist as a result of systematic distortions in information processing (e.g., all-or-nothing thinking, jumping to conclusions). Dysfunctional thoughts, in turn, exacerbate depressed mood and inhibit adaptive behaviors. Through the use of various cognitive techniques, patients are taught to collect information about their thoughts in a systematic way, which then allows them to test the accuracy of their thoughts, and eventually restructure them in more balanced and helpful ways. In working with depressed patients, we recommend using terminology that is free from judgment and prefer to refer to cognitive distortions as unhelpful, maladaptive, unbalanced, unskillful, or ineffective thoughts.

Part of the case conceptualization stems from an understanding of the relationship between the patient’s thoughts, feelings, and behaviors in real-life situations. In CBT, therapists often utilize the “triangle” as a way of gathering information to inform the case conceptualization to help a patient understand cognitive theory and the rationale for treatment. The triangle refers to the bidirectional relationship between thoughts, feelings, and behaviors. Working through triangles is similar to a situational analysis. The therapist and patient discuss a real-life situation and then look for the relationship between events, interpretations (i.e., thoughts/beliefs), emotions, and behaviors. The therapist may ask the patient: “When did you notice a shift in your mood?; What were you thinking?; How did you behave?” These types of questions help get the patient to start analyzing and articulating the chain of events around emotionally laden situations. Once the patient starts to elucidate the relationship between thoughts, behaviors, and emotions, it typically gives them a chance to respond differently in the real world. The therapist encourages the patient to imagine a more adaptive automatic thought or core belief and the behavioral consequence (e.g., “If I think of it differently, am I more likely to respond in this other way?; If you had thought this thought, how do you think you would have responded?; or Had you experienced this other emotion, what might you have thought and how might you have reacted?”).

#### **6.3.7.5 Conditional Assumptions and Compensatory Strategies**

To cope with their core beliefs, individuals tend to create “conditional assumptions” about themselves and the world [47]. These types of assumptions are often in the form of if/then statements and relate to the way in which the patient copes with, or compensates for, a painful core belief. For example, the depressed patient might think, “If I do things perfectly, then I am worthwhile,” where the inverse, “If I make a mistake, I am worthless,” can get the patient into a pattern of maladaptive/extreme behavior (in this case perfectionistic). The therapist will want to highlight these conditional assumptions to the patient when he/she notices

them in the patient's narrative. Assumptions are often revealed in the process of uncovering automatic thoughts and cognitive restructuring [47]. Patients often reveal their compensatory strategies while sharing the ways in which they navigate, cope, and get stuck in life. For example, a patient can develop very high standards for himself/herself and spend an excessive amount of time and energy working and reviewing every step of his/her work in order to prevent himself/herself from making a mistake and exposing a sense of worthlessness. The therapist can write the patient's rules into "if/then" statements on the board as they are revealed in order to help him/her see the relationship between his/her underlying beliefs, conditional assumptions, and compensatory strategies.

### 6.3.8 Treatment Plan

The conceptualization is the groundwork for the development of a treatment plan agreed upon by both the therapist and patient. Key elements of a treatment plan include developing a problem list—things that the patient might want to work on—and then prioritizing treatment targets. The definition of treatment goals is also an important component of the treatment plan. These goals should be concrete, measurable, and specific—this allows them to be evaluated on a weekly basis. Lastly, it may be helpful to discuss obstacles and/or barriers to achieving goals (e.g., going against core beliefs feels uncomfortable, unknown, and can produce a great deal of anxiety. A patient may also perhaps have to tolerate uncomfortable affective states to set self-protective boundaries).

There are a number of factors that contribute to formulating a patient's treatment plan. Once an initial case conceptualization is made, the therapist must consider the patient's specific presentation of symptoms and comorbid diagnoses. For example, depression and anxiety are frequently comorbid conditions. If the therapist believes that anxiety symptoms are exacerbating the depression, the therapist might choose to address the symptoms of anxiety first [62]. Research suggests that CBT for depression is less effective for

patients with anxious depression, thus it may be beneficial to first target the CBT for anxiety [63], particularly given that depression often improves with CBT for anxiety [64]. The therapist might also elect to address the core beliefs driving both depression and anxiety versus core beliefs that only impact either the depression or the anxiety.

### 6.3.9 Behavioral Techniques in the Treatment of Depression

Many depressed patients who first present for therapy report a pattern of isolation, loss of energy, fatigue, and a lack of engagement in activities they used to enjoy. Depressed patients sometimes pull away and disengage from the world when feeling down, and this tendency typically worsens their mood and reduces problem solving ability [75]. After the initial phase of treatment focused on psychoeducation about depression and CBT, many clinicians utilize a behavioral approach (i.e., behavioral activation and/or pleasant event scheduling) to improve the degree to which a patient is engaged with the world. Behavioral activation alone is an effective treatment for patients with a range of severity levels of depression [9]. The initial goal of behavioral activation is to get patients "jump started." It is understood that increasing a patient's activity level can have a positive impact on one's thoughts and mood. The theory behind behavioral activation assumes that depressed patients have too many problems with too few rewards [65]. Often, depressed patients have a difficult time "buying in" to the rationale behind behavioral activation. Therapists can explain that passivity, isolation, and lack of exercise typically worsen with depression. Due to low motivation and lack of interest, activities, hobbies, and social lives fall away. Such events lose their appeal with a loss of pleasure. Therefore, it is important to encourage patients to "force" themselves to engage in pleasant events to try to slowly re-engage into the positive realm of life to create some sense of enjoyment, even if it is difficult. Depressed patients not only do not

experience the positive spectrum of life, but they also have more time experience the negative—to ruminate and worry. The therapist can explain that engaging in activities, even in the absence of motivation and/or pleasure, is necessary to fight depression. It is imperative that the therapeutic relationship be solid, as this is a difficult feat, and the patient must follow through with the therapist's recommendations before she begins to feel the benefit.

Once patients understand the rationale behind behavioral activation, and efforts have been made to weaken positive reinforcement of depressed behavior (e.g., sympathy or help from others) and negative reinforcement (e.g., avoidance behavior), patients are ready to increase the frequency and subsequent reinforcement of healthy behavior [66]. In order to get an accurate sense of patients' daily routines and their level of functioning at the beginning of treatment, it is often helpful to ask patients to complete a daily activity record where they can record hour-by-hour activities, including eating, sleeping, watching television, etc. In addition, it is useful to have patients rate their mood or the degree to which the activities are pleasurable using a rating scale (0–10; 0=worst, 10=best). Therapists can explain to patients that it is important to get an accurate picture of their daily lives before considering what can be changed. Depressed individuals often initially bring back completed activity logs to the next session that lack many (if any) pleasurable activities. By completing an initial activity record, many patients realize that they are less active than they originally thought. Therapists can explain to patients that, although it is unreasonable to expect all activities in our daily lives to be optimally pleasurable, some amount of pleasurable activities is associated with positive outcomes and recovery from depression. Therefore, it is reasonable to work together toward incorporating a greater number of pleasurable activities into daily routines. The behavioral work will largely be focused on determining what activities would be most helpful and identifying strategies for implementation, including addressing barriers.

Given that the ultimate goal of behavioral activation is to help patients change their behav-

ior in order to increase their experiences with sources of positive reinforcement [75], behavioral activation incorporates pleasant activity scheduling and the use of both short- and long-term goals. Proponents of the brief behavioral activation treatment for depression (BATD; [66]), a manualized approach to behavioral treatment, suggest identifying behavioral goals within major life areas (adapted from Acceptance and Commitment Therapy, [13]), including relationships, education, employment, recreational activities, physical/health issues, spirituality, and psychological/emotional issues. Within these areas, individuals can determine a range of long-term (e.g., lose 30 lb) and short-term (e.g., go for a walk three times per week, keep daily food diaries) goals. Once goals are selected, therapists work with patients to construct an activity hierarchy with 15 pleasurable activities that are rank-ordered according to difficulty. Lejuez et al. [66] provide structured handouts in which therapists can track a master log of all goals and patients can monitor weekly progress on goals as they move through their hierarchies. Therapists and patients collaborate weekly on the frequency and duration of all activities and the identification of weekly rewards that are intended to reinforce successful completion of weekly targets.

Although it is possible to utilize a manualized approach to behavioral activation [66], many therapists promote the same behavioral principles using their own handouts and strategies. In determining specific behavioral goals, it is important to remain objective and realistic. It is especially important that the first behavioral goal is one that is easily incorporated into the patient's daily life and can reasonably be achieved. The sense of accomplishment that comes from following through with a planned activity is particularly important early on in behavioral treatment, even if a sense of pleasure from participation in the activity is not immediately present. In addition to being a way to get patients more active in life, behavioral activation is a means of building a sense of mastery and competency through completion of graded task assignments [67]. Short-term goals at the start of treatment are often related to changing basic routines (e.g., eating, sleeping, socializing)

and help to shift patients' life situations in more positive directions [75]. Some examples include visiting with a relative, cleaning the house, paying bills, exercising, or cleaning off a desk that contributes to procrastination/avoidance of responsibility. Once patients are able to achieve a sense of competency in completing a range of activities, the sense of mastery generalizes to other areas, and they may be able to tackle more complicated goals with less immediate rewards. Shifting to more long-term goals and complex life circumstances (e.g., finding a new relationship, changing careers) requires more time and can lead to substantial changes in the long-run.

It is important for patients to identify an effective way of tracking and monitoring their engagement in pleasurable activities and progress toward goals. Whether patients use weekly activity records, tailored handouts, applications on mobile phones, or calendars, documenting their progress can be reinforcing in the moment and can also serve as data and patients can refer back to this documentation in the future if they encounter difficulty with motivation. Some patients will be able to generate ideas of pleasurable activities with ease. Patients can be asked to think back to times when they were not depressed and to consider what activities gave them a sense of pleasure and accomplishment. Other patients will need significant help identifying sources of pleasure. There are a variety of free handouts available to patients that outline long lists of pleasurable activities (e.g., Life Activities Checklist, [66]).

### **6.3.10 Cognitive Techniques in the Treatment of Depression**

#### **6.3.10.1 Cognitive Restructuring**

Cognitive restructuring is one of the main ingredients in depression treatment [47]. The aim of cognitive restructuring is to guide patients to analyze their thinking in an objective, nonjudgmental manner. A hallmark element of cognitive therapy is unpacking thoughts; in other words, understanding the origin of the thoughts, looking for past and present evidence for the thoughts,

and identifying alternative thoughts based on evidence. This type of work is often facilitated through the use of a thought record [47, 68]. These alternative thoughts (interpretations) might then lead to a change in behavior and feelings. Below are samples of cognitive restructuring that may help depressed patients arrive at more balanced/alternative thinking.

#### **6.3.10.2 Distancing from Thinking**

There are several cognitive techniques to encourage an individual to get "space" from his/her thinking; in other words, to evaluate his/her thinking from a more neutral stance. The goal is for the patient to become less wedded to his/her thoughts so that he/she can better unpack his/her thinking without becoming defensive, as defensiveness is a huge barrier to change/treatment. Thought records are frequently used to teach patients how to capture their automatic thoughts and begin to evaluate them from a neutral or objective stance. Some patients might elect to use "notes" on their smart phones as a means of capturing their thoughts in lieu of a hardcopy thought record. Another technique that may be useful if a patient is getting "stuck" on a particular thought is to teach the patient to "imagine" that his/her thoughts are flashing across a computer screen. The brain is a thought generator and makes thoughts all day. The idea is not to get too caught up on a thought, but to be able to recognize the thought and let it go very. Similar strategies are an inherent part of the observing, nonjudgmental stance encouraged in mindfulness-based treatments. The therapist might say something like, "as you see your thought appear on the computer screen, try not to own it—just let it pass until the next thought appears. Do not cling to your thought. It is just one of many thoughts."

#### **6.3.10.3 Alternative Explanations**

One of the oldest techniques in cognitive therapy is the "reframe" or helping a depressed patient see something in a different light. Because the depressed patient's ability to problem-solve decreases as he/she becomes more myopic and inflexible in his/her thinking, he/she will often miss alternative explanations to an event. In her

book about freeing children from negative thinking, Tamar Chansky [69] often asks the patient to think, “What else might it be?” A therapist might say: “I can see why you think that, and I was thinking this other thing might also be true.”; Or, “Is there any evidence for this other interpretation. I remember you telling me about another way to think about this?” The therapist then provides the frame and the evidence for an alternative view, if the individual does not come up with it on his/her own. It can be helpful to use an “and” statement between the therapist’s point of view and the patient’s point of view, so that both perspectives are validated [51]. For example, “I see what you are thinking, and I’m wondering if my interpretation also has some truth in it?” The therapist can also ask questions such as: “If you wanted to feel different, what would you have to think? How would your thinking have to change? How would you tell a friend or family member to think about the situation?” In answering these questions, the patient can think about ways to view a situation that would allow a different emotional response.

#### **6.3.10.4 Biases**

The therapist tries to use nonjudgmental language to describe the fact that most of us are not “blank slates”; most of us go into the world with biases. The therapist can explain a situation from his/her own personal life that elaborates a personal bias. For example, the therapist could say, “My next door neighbor growing up was an athlete, and he was not very friendly to me. So, I am biased to believe that athletes are not friendly.” Again, the goal is for the patient to become curious as to what his/her biases might be. Biases are often related to early life experiences and core beliefs. The following metaphor could apply: three people on three different mountain tops are looking down into the same valley and witness a car crash in the valley. Each person might report a slightly different narrative as to what caused the car crash, given their perspective from the mountain top. In addition to fact that individual perspectives are based on differing vantage points, they are also biased due to past experiences.

#### **6.3.10.5 Downward Arrow**

Another common technique is the downward arrow, first coined by Beck et al. [8], which is used to help uncover core beliefs. When a patient provides an automatic thought, the therapist might utilize Socratic questioning to inquire about the meaning behind, or inherent in, the patient’s thought—for example, “What else might this mean or say about you?” Below the thought, the therapist draws an arrow pointing down ward and then writes the new thought. The therapist might ask again, “Now, does that say anything else about you, or does that say something/mean something about your future?” The idea is to keep digging, unpacking the thought/interpretation to better understand why the patient has that interpretation/bias. This technique can help the therapist better understand interpretations and biases, as well as underlying core beliefs. Please see case example for an illustration of this technique.

#### **6.3.10.6 Worst-Case Scenario**

Another technique is to aid the patient in feeling that if the “worst” happened that they would have the personal resources to deal with the situation. Some people refer to this as the “worst case scenario,” in that the goal is to come up with the worst possible outcome (“Is that the worst or could you imagine something worse happening?”). Once the patient and therapist decide on the worst-case scenario, they can brainstorm a list of possible solutions for managing this scenario, potentially change the scenario, and/or learn to accept it. They can also try to “predict” the likelihood of the worst-case scenario versus an alternative outcome. For example, if the worst-case scenario is only 10 % likely and an alternative outcome is 70 % likely, the patient might elect to spend more time problem-solving around the alternative outcome.

#### **6.3.10.7 Accuracy Versus Functionality**

Given that depression changes the way one thinks, cognitive techniques can help us to better estimate the believability of a thought. A therapist

can use a scale of 0–100 (0 representing not believable at all and 100 representing completely believable) to determine the believability of a thought. One determines the believability by trying to spell out the evidence, both past and current, that supports the belief. The therapist explains that the evidence can come from many different places: information from others (“What would your friend tell you? What feedback have you received from the people in your environment?”) or events in the patient’s life (“I succeeded one other time”). The therapist can remind the patient of previously reported evidence (“I remember when you told me you did well in college, do you think that would apply here?”). As a result of this exercise, typically one of three things occurs: (1) The patient determines that the belief is indeed accurate, based not only on past evidence, but also on current evidence. (2) The patient comes to understand that the belief is accurate, but mostly based on past evidence and is not supported by present-day evidence. (3) The patient understands that the belief is not as accurate as she thought. The therapist can mention these three likely outcomes and discuss them with the patient. If the belief is accurate, but problematic for the patient, the therapist and patient could work on coming up with alternative beliefs that are as accurate, if not more accurate, that might be more beneficial. In this spirit, sometimes the therapist could suggest a different belief and propose the idea that the patient and therapist work through the evidence together to see if there is any alternative support for this new belief.

Another option is to test the functionality of the belief (how function is this belief?). If a thought appears to be accurate to some degree, the therapist might offer another solution, which is to “debunk” the thought despite having some accuracy. For example, a depressed patient might feel worthless due to being overweight. When looking at evidence of worth in connection to weight, the therapist suggests that the world does value being skinny and looking a certain way (“look at any billboard, movie stars”). Hence, if one believes Hollywood’s definition of beauty, most of us would be “too big” or not “beautiful enough” to

have positive self-esteem and feel good about ourselves. Further, it is possible that the important people in our lives have given us negative messages about the way we look. The belief, “I am not beautiful, because I am overweight” could be “accurate” to some degree, in that this may be a culturally held notion, she might choose to debunk the belief because it is not a “functional belief.” A discussion around the functionality of a certain belief can be useful (“How does this belief help you? How does this belief get in the way of your feelings of positive self-worth? Is there another belief worth considering? Is there an alternative way to look at this?”).

### 6.3.10.8 The Devil’s Advocate

Another useful technique is for the therapist to play the “devil’s advocate” and present another point of view. By acknowledging that the therapist is playing devil’s advocate, it removes the feeling of “the therapist is right, and I am wrong,” yet still allows the therapist to challenge the patient’s point of view. Another approach is for the therapist to say something like, “you know, I might be wrong, but I was thinking about it slightly differently.” [47] Others also suggest (e.g., [70]) also suggest using the questions: “What would your friend tell you in this situation?” or “What would you tell a friend in this situation?” This can help the patient to envision a different perspective. The therapist could also encourage the patient to play devil’s advocate; “So if you were the devil’s advocate this time, what might you try to argue?” Thinking about a problem or belief from various perspectives can often help patients realize the ways in which they may be “biased.”

### 6.3.10.9 Stories and Metaphors

Providing an image or a story can be useful in the service of enhancing information processing in sessions [71]. Sometimes, having a story, metaphor, or an example can really help a patient grasp the truth of a concept in an intuitive way. One such example is the story of watering the flowers versus the weeds, which could go something like this:

Therapist: If you wanted a garden of flowers, what would you have to do?  
 Patient: Water and nurture the plants.  
 Therapist: If you want a garden of weeds, what do you have to do?  
 Patient: (laughs) Nothing.  
 Therapist: Negative thinking or biased thinking, do you think it is more like flowers or weeds?  
 Patient: Weeds.  
 Therapist: Positive or neutral thinking, is it more like flowers or weeds?  
 Patient: Flowers  
 Therapist: Right, so what does this metaphor/story tell us?  
 Patient: I suppose I need to nurture my more balanced and positive thinking or the negative thinking takes over?  
 Therapist: Yes, what else?  
 Patient: Keep pulling the negative thinking? How do I do this?  
 Therapist: Yes, and there are several ways to do this, such as acknowledging the negative thinking, but then concentrating more on the flowers or balanced thinking.

The goal is to have a discussion around how negative and/or biased thinking is often pervasive and it does not take much for these types of thoughts to litter the mind. Positive or neutral thinking can take more work to have and to maintain. Much like weeds can take the nutrients and sunlight from the other plants in the garden, negative/biased thinking can do the same to the positive/neutral thinking, and take over the mind. “It is hard to see the flowers when they are being choked out by the weeds.” This metaphor can emphasize the idea that sometimes we cannot even notice the positive/neutral things in our lives, if the negative thoughts (weeds) are overgrown.

### 6.3.10.10 The Gargoyle

Michael Otto, Ph.D. [71] describes the story of a gargoyle, which represents depression. The therapist tells the patient that the gargoyle, the stone-like creature from a side of a building, is no longer on the side of the building, but has jumped upon the person’s back. The gargoyle is heavy like the weight of depression. The gargoyle can make it hard for us to get out of bed, as it feels like there is a weight on our shoulders. The therapist can extend this metaphor to include other physical symptoms of depression endorsed by

the patient. The therapist then explains that typically people know less about the cognitive elements of depression and that depression actually changes the way we think. The gargoyle is not only on one’s back, but starts to creep inside one’s head, tinkering with one’s ideas, so it gets hard to figure out, “are these thoughts or is this the gargoyle? Are these my thoughts or is this the depression?” The therapist could ask the patient, “is that the gargoyle talking to you again?” Or, “how did the gargoyle beat you up in this situation?” By externalizing the depression as the gargoyle, it can allow for an individual to have the distance/space to be more willing to examine his/her own painful inner thoughts, feelings, and behaviors.

### 6.3.10.11 Rationally I Get It, but Emotionally I Don’t Feel It

When doing cognitive restructuring, a common response from depressed patients is: “rationally I get it, but emotionally I don’t feel it.” It is possible that there is yet another underlying belief that the therapist has not yet identified. In these cases, the therapist can keep digging in hopes of finding the belief that might still be driving the old thinking because, on some level (consciously, subconsciously, unconsciously), the patient has a barrier to identifying another belief. It is also possible that further evidence for the existing belief has not yet been uncovered. For some people, their thinking changes prior to their emotions. With these cases, the therapist reminds the patient of the new ways of thinking and that he/she needs to act discordant with his/her present emotions (opposite action in DBT; [51]), as well as to remind himself/herself to try on the new feeling that logically accompanies the new way of thinking.

### 6.3.11 Termination

Once goals are met, the therapist and patient can have a dialog about whether they want to continue treatment and devise new goals, or whether it makes sense for the patient to take a break from treatment. It can be helpful to identify triggers



and warning signs of relapse prior to termination. It is useful to review the work that has been done to help generalize learning. Booster sessions can be offered if a patient starts to experience relapse and/or recurrence of symptoms. Ideally, a patient should feel as if she could return to treatment, if needed, and that because she has done a nice piece of work, a break is warranted. This can also take away some of the finality of treatment termination, which is inherent in other forms of treatment. There is less emphasis on the relationship between the therapist and patient, and more focus on the goals and ways in which functional impairment and symptoms can be ameliorated to help the patient achieve a life that is consistent with his/her goals and values. Generally, cognitive behavioral therapists do not want patients to be in treatment forever. Rather, the goal is for the patient to learn a set of skills and then go out into the real world and apply them.

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## 6.4 Case Example

### 6.4.1 Background

“Julia” is a 35-year-old single, Caucasian female who presented to an outpatient depression clinic for CBT for depression. Her *primary complaint*: “I’m depressed and not really doing much beyond working. I am oversleeping and eating and feel awful about myself.”

### 6.4.2 Intake

Julia reported symptoms consistent with a diagnosis of MDD with avoidant tendencies. She reported the following symptoms of depression: sadness, lack of interest/pleasure, guilt, oversleeping (hypersomnia), increased appetite, feelings of worthlessness, loss of energy, decreased concentration, and psychomotor retardation. She reported no suicidal ideation. Additionally, Julia reported being sensitive to rejection (a sign of atypical depression) and wanting to avoid interpersonal interactions, including an unwillingness

to get involved with others without reassurance that she would be liked. Further, she had fears of being shamed or embarrassed in social situations, behavioral inhibition in social situations, and displayed avoidance of risk-taking. She has had several past episodes consistent with a diagnosis of MDD.

She denied any significant medical issues. Julia’s mood was “OK” and her affect was relatively bright (i.e., she could smile and make jokes). Her affect was congruent with her level of depressive symptomatology reported during clinical interview using the mood module of the SCID [37] and self-report assessment using the Beck Depression Inventory (BDI; [72]). Upon mental status assessment, there was evidence of psychomotor retardation (e.g., moving slowly and slow rate of speech), linear and goal-directed thought process, intact concentration, reactive affect, and fluent speech. She denied any history of psychosis, mania, suicide attempts, or homicidal ideation.

### 6.4.3 Psychiatric History

Julia had no history of inpatient psychiatric treatment. She had several courses of outpatient therapy (mostly psychodynamic) in the past, which varied in degree of reported helpfulness. In the last episode of depression, she was treated with psychotherapy and medication. She was prescribed fluoxetine, but was unable to tolerate the side-effects.

### 6.4.4 Social History

Julia was the eldest of four children, with three younger sisters. Her father was a self-employed carpet salesman, and her mother was a homemaker. She reported that her father was seldom home, was somewhat distant and shy and that he drank excessively. In contrast, Julia described her mother as loving, social, and well-liked. Despite this description, Julia repeatedly questioned her mother’s love. Her parents’ relationship was marred by her father’s drinking.

When Julia was 12 years of age, her mother died suddenly in a car accident. Julia assumed primary responsibility of caring for her three younger sisters. Due to the loss of his wife (Julia's mom), her father's behavior reportedly became more unstable, chaotic, and less predictable, as his alcohol intake increased.

Julia reported being well-liked and popular in middle school, often going out of her way to make others laugh. However, Julia remembers feeling disingenuous and detached from friends. Julia completed high school and performed well academically. Following graduation from high school, she attended a state university, experiencing academic challenges throughout college. She lived alone in an apartment and worked as a real estate agent.

#### **6.4.5 Case Formulation from CBT Perspective**

##### **6.4.5.1 Early Life Experiences**

In reaction to the instability in her childhood, Julia attempted to play the role of peacekeeper in her family. In spite of her attempt to adaptively cope with her environment, she felt insecure and anxious around her father, and desired greater comfort and attention from her mother. Though she believed her mother to be a warm, loving person, she could never convince herself that her mother truly loved her. When Julia's mother passed away, she was fully thrust into a parental role, assuming responsibility for her sisters and attempting to maintain some semblance of stability in spite of repeated financial crises. Repeated losses (deaths of several loved ones) further destabilized her view of herself and the world.

##### **6.4.6 Core Beliefs**

As a child, she believed her mother did not love her because of some inherent deficiency. Julia's primary core beliefs were "I'm unlovable, inadequate, and deficient."

#### **6.4.7 Conditional Assumptions and Compensatory Strategies**

In response to these rather devastating beliefs, Julia developed a conditional assumption/rule that, although she was unlovable, people could love her out of obligation (If people are obligated to me, then I'm loveable). She also believed that she could gain love by taking care of others (e.g., being there for them, bringing them gifts). Further, she thought that doing things for others would make them feel obligated to love her. Likely, the rule around, "If I take care of others, then they will love me," in part, stemmed from her role as caretaker.

Other rules that surfaced during treatment were:

- "If I get attention, then that means that people care."
- "If I do not get attention, then that means people don't care."
- "If I meet other's needs without asking for anything, then they will love me back."

Unfortunately, the black-and-white thinking evident in these conditional assumptions made it challenging for her to personally see her inherent worth and realize that someone might love her for that alone. In addition, because she was unable to see evidence of being unconditionally loved or liked, she quickly shifted to an extremely negative position, assuming that no person could love her, and, if they did, it was only out of obligation. Ironically, her coping or compensatory strategies left her feeling that others only loved her due to obligation, what she did for them, or because she had subjugated her own needs. That is, she was not engaging in behaviors that would allow her to feel unconditional love to refute her negative core beliefs.

##### **6.4.8 Working Hypothesis**

Given the instability of her childhood, and the devastating losses, Julia struggled with the core beliefs that she was unlovable, inadequate, and deficient. In addition, she believed that others were undependable as caretakers, and expressed

fear of abandonment. These core beliefs became activated in interpersonal situations in which she started to feel close to someone. For example, she often predicted that she would be disappointed by others, and since she often had unreasonably high expectations in these situations, she was indeed let down. These disappointments were then taken as further evidence for her core beliefs. She had adapted and survived in adulthood by mostly keeping to herself and not taking risks in interpersonal relationships. She tended to choose relationships that would inevitably fail her, and choose people who were unable to love her in an unselfish manner. She had unrealistic beliefs about the emotional closeness that others seemed to enjoy, and, found herself alone and isolated, often feeling depressed and sad. She compensated and distracted herself, in part, by living out an unrealistic “fantasy” life which further isolated her and reinforced her unrealistic expectations for others.

#### **6.4.9 Treatment Plan**

At the onset of treatment, Julia chose to work on her depression. Julia was quick to understand the CBT conceptualization of her situation and agreed to work on identifying and challenging negative automatic thoughts. Julia and her therapist came up with a Problem List and Treatment Goals (Table 6.1). She agreed to keep a record of thoughts that seemed to trigger negative emotions. In therapy, she and her therapist also addressed her behavioral responses to these thoughts, and worked on identifying the pros/cons of her responses, as well as alternative responses. Julia was encouraged by the behavioral activation component of the therapy (e.g., increasing and tracking her social interactions with other people). Julia was quickly able to reliably identify distorted automatic thoughts and produce more rational responses. For example, over time, she was able to recognize the disadvantages of black-and-white thinking (please see [47] for a list of typical cognitive distortions).

Please see Table 6.1 for a summary of a problem list, treatment goals, and interventions for this case.

#### **6.4.10 Obstacles**

Julia was extremely bright and usually able to provide feasible evidence that supported her automatic thoughts. Although Julia and the therapist worked to identify the evidence that did not support her automatic thoughts, it was often challenging to come up with alternative responses that seemed reasonable to her. Finally, although she had tried medications to alleviate some of her depressive symptoms, she had been unable to tolerate the side effects of any medication for an extended period of time.

#### **6.4.11 Examples of Cognitive Restructuring**

##### **6.4.11.1 The CBT Triangle and Thought Records**

In the first few sessions, the therapist and Julia worked on understanding the CBT triangle and identifying the connection between thoughts, feelings, and behaviors in response to a situation (see Table 6.2).

After Julia started to more easily identify these connections, the therapist started working on thought records with Julia to question the validity of her negative automatic thoughts and restructure them into more accurate thoughts (see Table 6.3).

To uncover Julia’s core beliefs, the therapist utilized the Downward Arrow Technique to identify core beliefs about herself. Please see Table 6.4 for a detailed example.

#### **6.4.12 Example of a Behavioral Intervention**

At the beginning of treatment, Julia reported going to work and spending most of her free time watching television. In the past week, her only contact with people was at work. On a scale from 0 to 10 (10=best), she rated her level of enjoyment in watching TV as a 2 and interactions at work as a 5, which was the most pleasure she experienced all week.

**Table 6.1** Problem list, treatment goals, and interventions

<p>Problem list</p> <ul style="list-style-type: none"> <li>(a) Depression</li> <li>(b) Social isolation (i.e., friendships, dating/partnership)</li> <li>(c) Lack of enjoyable activities</li> <li>(d) Black-and-white thinking</li> <li>(e) Avoidance of emotions</li> <li>(f) Anger and defensiveness (vulnerabilities turned to outward expression of anger and defensiveness)</li> </ul>
<p>Treatment goals</p> <ul style="list-style-type: none"> <li>(a) Reduce sadness and depression</li> <li>(b) Increase activities, especially those involving social interactions</li> <li>(c) Reduce cognitive distortions, especially black-and-white /all-or-nothing thinking, and identify rational responses</li> <li>(d) Improve ability to accurately identify emotions (e.g., anger vs. sadness)</li> <li>(e) Increase the expression of emotions and talk through feelings of anger and sadness</li> </ul>
<p>Interventions</p> <ul style="list-style-type: none"> <li>(a) <i>Activity scheduling</i> to address depressive symptoms and to increase social interactions</li> <li>(b) <i>Role-plays</i> in session to increase adaptive responses in stressful/emotionally arousing interpersonal situations</li> <li>(c) <i>Thought records</i> to identify negative automatic thoughts and develop rational responses</li> <li>(d) <i>Behavioral activation</i> to increase participation in activities that would give pleasure and a sense of mastery</li> </ul>

Behavioral activation was a particularly important first step in treating Julia’s depression. Taking into account her baseline level of activity, as assessed using a daily activity record, Julia and her therapist began by brainstorming various, manageable activities that she could schedule into her weekly routine; the aim was to help her to re-engage with the world and gain a greater sense of pleasure and mastery. Possible activities included:

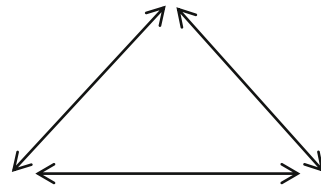
- Going for a walk in the park
- Meeting friends for coffee
- Going to the gym
- Calling one of my sisters

Together, Julia and her therapist determined which of the activities seemed most reasonable. Next, they determined the frequency and duration

**Table 6.2** Using the CBT Triangle

Dialogue	<p>Therapist: When did you notice the shift in your mood?</p> <p>Julia: I was thinking about my sisters not calling me.</p> <p>Therapist: What does it mean to you that they didn’t call? Were they supposed to call?</p> <p>Julia: Sometimes I just feel like they don’t have time for me. I tend to call them more than they call me.</p> <p>Therapist: Have you talked to them about why they don’t call?</p> <p>Julia: No.</p> <p>Therapist: I’m just wondering if they’d say they don’t have time or if they’d have another explanation.</p> <p>Julia: I don’t know.</p> <p>Therapist: Any evidence they care about you, but don’t call?</p> <p>Julia: I don’t think so.</p> <p>Therapist: I thought one of your sisters sent you a birthday gift the other week. Would that be evidence that your sister cares for you?</p> <p>Julia: I suppose so.</p> <p>Therapist: Do they tell you they care? Ever tell you they love you?</p> <p>Julia: Yes. Mostly by text, as we don’t talk a lot.</p> <p>Therapist: Do they text you often?</p> <p>Julia: Yeah, a few times a week [she laughs, realizing where this line of inquiry is going].</p>
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Written on the board **Situation:** *Julia’s sisters have not called.*  
**Automatic Thought:** “My sisters do not have time for me.”



**Behaviors:** withdraws, cries **Feelings:** sad, lonely, rejected

of the activity. They discussed potential barriers to engaging in the activity and determined strategies to help maximize the possibility of follow-through. The therapist found it helpful to be creative with the strategies that Julia used to increase the likelihood that Julia would adhere to the planned behavioral activities, such as setting

**Table 6.3** Example of thought record

Emotions (%)	Automatic thought	How believable is this thought?	Evidence supporting thought	Evidence against this thought	How believable is this thought now based on the evidence?	Alternative explanation/ thought
Sad (80 %) Lonely (90 %) Angry (75 %)	My sisters do not have time for me or care about me.	75 %	They didn't call.	They bought me a birthday gift. They text me. They tell me they love me.	45 %, not as believable as it was before.	They may care and show it in other ways.

alarm clocks as reminders and leaving post-it notes around the house.

While engaged in behavioral work, it can also be important to take note of any unhelpful thoughts that may be impeding patients' follow-through with pleasurable activities. For example, while generating a list of pleasurable activities, Julia stated, "I used to go to coffee with friends, and now I don't because I'm not motivated and don't get enjoyment out of it." Depression often comes with a lack of motivation and pleasure; however, there was also likely a bidirectional relationship in Julia's belief that no one really liked her, which inhibited her ability to enjoy social activities (and may in fact have made them aversive) and led to further avoidance of formerly enjoyable activities.

**6.4.13 Case Conclusion**

Overall, Julia made significant gains and her behaviors became more effective. Despite the change in her behaviors, Julia's thinking was slower to respond to treatment. She utilized booster sessions for continued work on changing her automatic thoughts, identifying rational responses, and conducting behavioral experiments to test out more adaptive beliefs. Booster sessions were utilized when old beliefs got re-activated and for relapse prevention (i.e., identifying factors and situations that put her at risk for relapse).

**6.5 Summary**

Depression is quite common and symptoms can cause impairment across multiple domains of functioning. Having a basic understanding of

**Table 6.4** Example of the downward arrow technique

Dialogue	
	Therapist: Hypothetically, if your sisters tell you they don't have time to call, would that mean something to you or say something about you?
	Julia: It would mean that I don't deserve a phone call.
	Therapist: Maybe you don't deserve a call. Why would that be?
	Julia: I don't deserve to be loved. My sisters do not love me as evidenced by the fact that they don't call often.
	Therapist: Out of curiosity, what would it mean or say about you if they did not love you?
	Julia: I don't understand.
	Therapist: Does it mean something about you if they do not love you?
	Julia: Me as a person? It may mean that no one will love me.
	Therapist: Maybe.
	Julia: My sisters can't love me because I'm unlovable.
Written on the board with Julia	<p style="text-align: center;">My sisters do not call</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">They do not have time to call</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">They do not care about me</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Maybe they do not love me</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">I am unlovable</p>

treating depression is fundamental to clinical practice. CBT is one of the most effective treatments for depression and helps patients to better understand that depression is a brain disorder that typically results in physical, behavioral, and cognitive changes. The hallmark CBT strategies for treating depression are behavioral activation and cognitive restructuring. Depression is quite heterogeneous, so it is important to tailor the treatment approach to the individual patient.

Despite being a structured treatment and having a treatment plan, CBT for depression also tends to be somewhat fluid. The treatment plan is a living document and often the therapist will re-conceptualize as he/she learns more information about the patient and, as obstacles emerge. New strategies will often be considered and implemented in a collaborative effort with the patient. Further, interventions will be adapted based on what is working in the treatment. Being “effective” requires the therapist to be willing to change the course of treatment when needed.

The therapy ideally allows for the patient to become her own therapist and coach by feeling confident in her new skillset to manage life’s challenges. Additionally, if needed, returning to treatment for booster session is encouraged. CBT for depression has been shown to be very effective, likely leading to brain changes, as evidenced by neuroimaging technology, and is often used alone or in combination with antidepressant medications.

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## Additional Resources: Self-help Books for Depression

- Coping with Depression* (Lewinsohn, Antonucci, Brekenridge, & Teri, 1984)
- Managing Anxiety and Depression* (Holdsworth & Paxton, 1999)
- Feeling Good—The New Mood Therapy* (Burns, 1999)
- What Should I Do? A Handy Guide to Managing Depression and Anxiety* (Kennedy & Lovell, 2002; Mead et al., 2005)
- Mind over Mood: Change How You Feel by Changing the Way You Think* (Greenberger & Padesky, 1995)
- The Mindful Way through Depression* (Williams, Teasdale, Segal & Kabat-Zinn, 2007)

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## Books for Therapists

- Depression: Causes and Treatment* (Beck, 1967).
- Cognitive Therapy of Depression* (Beck, Rush, Shaw, & Emery 1979).
- Mindfulness-Based Cognitive Therapy for Depression* (Segal, Williams, & Teasdale, 2002).
- Cognitive Therapy: Basics and Beyond* (Beck, 1995)
- Cognitive Therapy for Depression* (Young, Rygh, Weinberger, & Beck, 2008)
- Cognitive Therapy Techniques: A Practitioner’s Guide* (Leahy, 2003)

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## On-line Resources

- BluePages: provides psychoeducation on depression and its treatment
- MoodGYM: an online CBT package



University of Michigan, self-management of depression resources: <http://depressiontoolkit.org/>

The American Psychiatric Association has guidelines for evidence-based treatments (<http://psychiatryonline.org/guidelines.aspx>)

The UK based National Institute for Health and Care Excellence has information on evidence-based treatments for psychiatric disorders (<http://www.nice.org.uk>)

TED talk on depression: [www.ted.com/talks/andrew\\_solomon\\_depression\\_the\\_secret\\_we\\_share.html](http://www.ted.com/talks/andrew_solomon_depression_the_secret_we_share.html)

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## Phone Applications

Life Charge: Journal your ups and downs: <https://itunes.apple.com/us/app/life-charge-journal-your-ups/id648567759?mt=8>

The Cognitive Behavioral Institute of Albuquerque's CBT app: <https://itunes.apple.com/us/app/ipromptu/id717391862?mt=8>

MoodKit: [www.moodkitapp.com](http://www.moodkitapp.com)

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## 7.1 Overview

Bipolar disorder is characterized by recurrent hypomanic/manic and/or depressive mood episodes that cause severe impairments in daily functioning [1, 2]. It affects approximately 5.7 million (2.6 %) of adult Americans. Most individuals (50–67 %) experience their first episode before the age of 18 [3]. Bipolar disorder is among the leading causes for disability in the world [4–6]. Mood-stabilizing medication is the first line of treatment for bipolar disorder. Most patients with bipolar disorder require multiple medications to relieve their symptoms, and few patients with bipolar disorder respond to monotherapy [7]. Despite pharmacotherapy, most of them will experience ongoing symptoms, functional impairment, and recurrence of mood

episodes [8–14]. Therefore, several psychosocial interventions have been developed to treat bipolar disorder adjunctive to mood-stabilizing medication. These include cognitive behavioral therapy (CBT), family-focused therapy (FFT), and interpersonal and social rhythm therapy (IPSRT). In this chapter, we review the implementation and empirical support for the efficacy of CBT for bipolar disorder.

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## 7.2 Bipolar Disorder: Clinical Presentation

A diagnosis of bipolar disorder requires an episode of hypomania or mania (either current or in the past) [15]. Both hypomania and mania refer to a period of abnormally elevated, expansive or irritable mood coupled with increased self-esteem, grandiose ideas, talkativeness, racing thoughts, distractibility, decreased need for sleep, and increased activity levels often involving pleasurable and/or risky behaviors (e.g., spending sprees) [15]. The distinction between hypomania and mania is determined by the duration and severity of the mood elevation episode. Individuals who experience expansive, or irritable mood and the associated symptoms for at least 4 days experience a hypomanic episode, provided the symptoms are so severe that they impair functioning (e.g., work, relationships). If the period of mood elevation lasts for 7 days or more and impairs functioning, a manic episode is

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diagnosed. Manic episodes can present with mood congruent psychotic symptoms. This may be grandiose ideas (e.g., being the messiah) or paranoia (e.g., that other people are out to get me) coupled with a lack of recognition of how unrealistic those ideas are (lack of insight). The presence of a manic episode leads to a diagnosis of bipolar I disorder provided the manic episode was not drug-induced or due to any medical factors [15]. For a diagnosis of bipolar I disorder, a history of depression is not required. Individuals who have experienced at least one hypomanic episode as well as one or more episodes of major depression are diagnosed with bipolar II disorder. Patients may experience both manic and depressive symptoms at the same time (e.g., dysphoric, depressed mood and racing thoughts). This is called a mixed state. While experiencing full manic and major depressive episodes at the same time is rare, mixed features (the simultaneous presence of depressive and manic symptoms) are quite common.

Most bipolar patients experience multiple episodes of depression and mania over their lifetime. Overall, depression and ongoing and pervasive depressive symptoms tend to be the most difficult aspect of treating bipolar disorder. For example, the Collaborative Depression Study, a longitudinal study that followed patients with mood disorders (unipolar and bipolar disorder) over a 13-year period, found that patients with bipolar disorder changed their mood status an average of six times per year and spent almost half of their time symptomatic [12]. Depressive symptoms accounted for three times as many weeks compared to weeks spent manic or hypomanic [12]. Ongoing residual symptoms of depression or mania render patients at high risk for relapse [14]. In the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD), a large, multi-site, NIMH funded study conducted at medical centers and universities in the United States, most patients who were not in a mood episode at the time of enrollment into the study still experienced noticeable mood symptoms, including difficulties sleeping, concentration issues, low energy, and self-critical thinking [16]. For

patients who recovered from a mood episode in their first 2 years of the STEP-BD program, those with residual depressive or manic symptoms had a shorter time to depressive recurrence [14]. Residual manic symptoms at recovery and proportion of days of elevated mood in the preceding year substantially shortened the time to the recurrence of a manic, hypomanic, or mixed episode [14]. These data emphasize the importance of treating ongoing depressive and manic mood symptoms.

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### 7.3 Assessment

For determining whether a participant has bipolar disorder, structured clinical interviews such as the MINI Neuropsychiatric Interview or the Structured Clinical Interview for DSM-IV [17, 18] can be used. Obtaining input from family members is often helpful, because self-report of hypomanic and manic symptoms may not be reliable, especially if the patient is already manic. Structured interviews not only aid diagnosis, but they also provide information about the risk for, and the severity of, depressive and hypomanic/manic episodes. A therapist wants to know how frequent and severe episodes of mood elevation have been. Did a patient have full-blown manic episodes or only hypomania? Did manic episodes involve psychotic thinking (i.e., delusions of grandiosity, paranoia, or religious delusions)? Were high-risk behaviors such as excessively spending money, gambling, taking drugs, or risky sexual behaviors involved? During therapy there will be critical decision-making points where this information will be helpful to guide the decisions the patient and therapist need to make. For example, if one knows that mania symptoms such as speeded thinking and increased energy has never escalated into full-blown mania for a given participant, and are not associated with high-risk behaviors, the patient and therapist may decide to work on those periods using CBT skills. On the other hand, if history has shown that initial mania symptoms escalate into full-blown mania quickly, increasing (or adding another mood-stabilizer) may be necessary. In addition to structured

clinical interviews, the severity of depression or mania symptoms can also be determined using questionnaires such as the Beck Depression Inventory (BDI-II) [19] and the Quick Inventory of Depressive Symptomatology Self-Report (QIDS-SR) [20] or clinical rating scales such as the Young Mania Rating Scale [21], the Hamilton Inventory of Depressive Symptoms (HRDS) [22] and the Montgomery-Asberg Scale for Depression (MADRS) [23].

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## 7.4 Cognitive Behavioral Therapy for Bipolar Disorder

To date, several cognitive behavioral treatments for bipolar disorder have proven effective as adjunctive to medication. These include, but are not limited to, psychoeducation about bipolar disorder, mood monitoring, cognitive restructuring (a technique to challenge maladaptive thoughts), problem solving training, as well as activity scheduling or reducing activities (when patients become manic). These CBT skills have been combined in various ways to yield a host of CBT-based interventions (both group and individual) that have been implemented at different stages of bipolar illness (acutely ill, stable, etc.). Overall, the mainstay of these treatments is based on the assumption that if people with bipolar disorder learn more about their disorder, begin to monitor symptoms, and adjust their thoughts and behavior such that they minimize the risk for relapse, that this will likely benefit the course of their illness [24]. Below we describe some of the core CBT techniques designed to prevent relapse and treat acute depressive and manic symptoms. The combination of CBT techniques for a particular patient depends on his/her symptom profile and history of manic and or depressive mood episodes. Psychoeducation and mood tracking are typically part of every course of CBT. This helps to raise insight for the chronic nature of the disorder and motivates patients to be aware of critical mood symptoms (e.g., to intervene early when mood manic mood symptoms arise). For relapse prevention, this is often combined with

cognitive restructuring of negative or hyperpositive thoughts that may increase the risk for depression or mania (see below). When patients are depressed, cognitive restructuring is often combined with behavioral activation (activity scheduling) and problem solving training to enhance self-efficacy. When patients have become hypomanic or manic, behavioral strategies are used to decrease hypomania/mania most often in conjunction with increasing or adding anti-manic medication. Due to the chronic nature of bipolar disorder, treatment is often not time-limited. Rather, patients intensify sessions during periods of acute depression, or hypomania/mania and then, once mood episodes have resolved, continue with mood monitoring by themselves and contact the therapist/psychiatrist once mood symptoms worsen again.

### 7.4.1 Psychoeducation

A central goal of psychoeducation about bipolar disorder is to provide the patients with a better understanding of the disorder and to enlist him/her as an active ally in the treatment of the disorder. Similar to diabetes, where patients' nutritional choices influence blood sugar levels, we convey to patients that their behavior can influence their mood and the course of bipolar disorder. Psychoeducation for bipolar disorder typically includes information about the disorder being chronic with recurrent depressive and manic mood episodes as well as the role of mood-stabilizing medications in the treatment of bipolar disorder. The latter point is important as only the minority of bipolar patients are fully adherent to their medication regimen [25–27]. Moreover, bipolar patients not taking their prescribed medications, or only taking them irregularly, increases their risk for relapse and re-hospitalization considerably [27, 28]. There are several reasons why bipolar patients may not be fully adherent, such as side effects (e.g., sedation, weight gain), a lack of insight into the chronic nature of bipolar disorder, an under-appreciation for the role of medications in

managing their illness [29], denial of the severity of the disorder, and fear of becoming dependent on their medications [30]. Likewise patients may also be ashamed about the need to take psychiatric medications, may perceive medications as unnatural, and do not want their feelings controlled by the medications. Others believe that if they just try hard, they can control mood without medications [31]. In addition, patients may discontinue their medications due to a desire to experience elevated mood and thus, non-adherence may be a warning sign of mood elevation [27]. Many of these thoughts/beliefs can be addressed using cognitive restructuring techniques described below.

Psychoeducation also addresses that mood episodes typically do not occur out of the blue, or spontaneously, but are often preceded by warning signs that signal the worsening of mood. Helping patients to recognize these early warning signs, as well as triggers for these signs (i.e., symptom recurrences), will increase the likelihood that they will be able to change their behaviors and/or thoughts, thereby preventing the manic or depressive mood exacerbation. In this context, the role of feelings, thoughts and behaviors in intensifying depressive and/or manic mood is discussed. For example, increased energy and more optimistic thoughts may lead to a patient staying up longer at night and getting less sleep. Lack of sleep is one of the risk factors for mania. As a result, staying up longer at night, and getting less sleep may in turn decrease the need for sleep, speed up thoughts, increase energy further, gradually leading back into a full-blown hypomania or mania. Likewise, having a difficult day at work may trigger negative automatic thoughts and feeling depressed, leading to a decrease in pleasurable activities that may counteract depression, thereby increasing the risk for depression. For these reasons, mood monitoring is a cornerstone in the treatment of bipolar disorder because it helps to identify the recurrence of mood symptoms early, helps to identify triggers, and provides the opportunity for early intervention before patients slip back into full blown depression or mania.

## 7.5 Mood Monitoring and Relapse Prevention

Daily mood monitoring can be conducted by means of mood trackers such as the one shown in Fig. 7.1. Although the idea of mood charting often has intuitive appeal to therapists, they should not be surprised that this idea is not greeted with a warm welcome by patients. In fact, many patients do not like monitoring their mood. This is understandable if one takes into account that directing attention toward one's own mood, especially if things are not going so well, makes mood symptoms more salient. For this very reason, mood charting itself is kept relatively brief and does not keep participants focused on the mood for very long. The daily mood tracker (see Fig. 7.1) can typically be completed in less than 20 seconds. For similar approaches see Otto and colleagues [32].

Each column represents a day of the month (column one=day 1). Each day, participants complete only one column. At the beginning of the day, patients record their number of hours of sleep from the previous night. At the end of the day, right before they go to bed, participants make two ratings (i.e., place a checkmark in the corresponding row): the most elevated and the most depressed their mood became during that day. In addition, patients are asked to rate how anxious and irritable they were during the day and whether they took their medication (which can be listed on the bottom of the tracker). In order to start the process of identifying triggers, participants can make notes on any stressful, negative, or positive events that occurred during the day. This way, the mood tracker also serves as a tool for raising awareness toward triggers of mood symptoms. Early detection of mood worsening ("warning signs") provides a window of time where participants can intervene by employing coping strategies that may prevent the downward spiraling of mood symptoms into full mood episodes. Recognizing warning signs and triggers provides a chance to develop strategies that prevent future bipolar episodes [33].

Mood Tracker: Name \_\_\_\_\_ Month \_\_\_\_\_

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
<b>DAYS</b>																															
Much:																															
Some:																															
Little:																															
<b>NORMAL</b>																															
Little:																															
Some:																															
Much:																															
<b>DEPRESSED</b>																															
Anxiety																															
Irritability																															
Weight on day 28																															
Hours Slept																															
Medication(name/mg)																															

For Anxiety and Irritability: 0=None, 1=Mild, 2=Moderate, 3=Severe. Adapted from Otto et al., (2009)

Fig. 7.1 Daily mood tracker

Tailoring the CBT strategies (see below) to a patient's warning signs and capacity is critical. For example, cognitive re-structuring may be too difficult for patients who have difficulties concentrating, as this skill can require a lot of attention and focus. Thus, for these patients it may be more realistic to help them cope with mild or moderate signs of depression or hypomania/mania by drawing upon more basic self-care strategies (e.g., taking medications, eating meals, getting support from others). In addition, it may be helpful to identify people who can support a patient to follow through with their "ways to cope" and capitalize on a patient's strengths. Individuals with bipolar disorder tend to have difficulty establishing social support [34], but for those who do have supportive friends and family, it can be very useful to include them in the patient's relapse prevention plan [35]. For example, friends and family may be more likely than patients to notice warning signs of bipolar depression or hypomania/mania as well as be able to help them use CBT strategies (i.e., remind them to take their medications, help to identify evidence against their cognitive distortions). Finally, we recommend encouraging patients to actually practice using their relapse prevention plans. Given that it is often easier to practice CBT skills and strategies when one is feeling well, we suggest that therapists encourage the use of ways to cope early, or not wait until the patient is experiencing moderate to severe signs of bipolar disorder before accessing these plans. If a patient is not using their plan, then it is likely evident that the plan needs to be modified.

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## 7.6 CBT Techniques for Bipolar Depression

In general, the CBT techniques for bipolar depression resemble those that are used in unipolar major depression. For brevity, we will focus on three in this chapter: (1) activity scheduling, (2) cognitive restructuring of automatic negative thoughts, and (3) problem solving.

*Activity Scheduling:* Depression often comes with lowered activity levels due to low energy

levels and anhedonia. CBT asks patient to begin monitoring their current levels of activities using a weekly activity chart [32]. Patients are then asked to schedule activities that break up the stress of the week. This may involve watching a favorite television show, reading, meeting friends. Patients begin to schedule these activities regularly. Two types of activities are typically included: (1) pleasant events: activities that a patient finds relaxing, soothing or pleasurable (address in the lowered motivation that usually comes with depression), and (2) mastery-based activities, which give the patient a sense of meaning, achievement and that he/she is moving in a productive way. Pleasant and mastery-based activity levels are increased over the course of the treatment.

*Cognitive Restructuring:* As in unipolar major depression, patients with bipolar disorder experience maladaptive negative thoughts that can be addressed with cognitive restructuring using thought records. Maladaptive thoughts often have certain themes to them. For example, a patient may tend to see things only one way or refuse to consider alternative thoughts (e.g., "My job will always be terrible," "I never have any friends"). He/she may also tend to experience one negative event and then believe that many more negative things will happen (e.g., "Things always go wrong"). Another thought error is to blame themselves, or take responsibility for something that did not work out in a way that could have been anticipated ahead of time (e.g., "I should do more," "I should have done this or that"). Patients may also make assumptions that others are judging them negatively (e.g., "This person does not like me"). Patients are guided to become more aware of situations/moments when the mood lowers and to begin to pay attention to the thoughts that are present at that time (see example of the thought record below, adapted from [32]). For example, as shown in Table 7.1, a patient may have a fight with his/her partner (column 1: *Situation*) and feel sad (column 2: *Feeling*). The intensity of the emotion/feeling is rated on a 0–10 scale (column 2). A score of a "0" corresponds to having no emotional response whereas a score of a "10" means that the most intense emotional

**Table 7.1** Cognitive restructuring of automatic negative thoughts

Situation	Feelings (intensity 1–10)	Automatic thought	Evaluation of automatic thought/ alternative thoughts	Feelings (intensity 1–10)
Fight with partner	Sad 9	“He/she never loved me and never will”	“We rarely fight and he/she does many things that show me that he/she loves me”	Sad (4)

experience possible for that individual. Associated negative thoughts may be: “He/she never loved me and never will” (column 3). Once the automatic negative thought is identified, the patient is asked to look for evidence *for* and *against* the negative thought (column named “evaluation of automatic thought”). After identifying this evidence, and developing, a more adaptive, alternative thought, the patient is then asked to re-rate their initial emotion.

**Problem Solving:** Patients with bipolar disorder are often lower functioning and tend to present with unresolved problems that can trigger negative thoughts and lower mood. Therefore, we also recommend identifying unresolved problems early on in treatment and engaging patients in problem solving. This involves (1) identifying problems that are distressing to the patient, and (2) finding a specific time in the patient’s schedule to engage in problem solving. The general steps [32] are practiced in session and then by the patient at home. They involve (1) identifying the problem and what makes it bothersome, (2) brainstorming all possible solutions that come to mind, (3) evaluating solutions (advantages and disadvantages of each), (4) selecting a solution or combination of solutions, (5) implementing the solution, and (6) evaluating its effectiveness and revising the course of action as needed.

## 7.7 CBT Techniques for Hypomania/Mania

**Cognitive Skills for Hypomania/Mania.** Mood elevation (i.e., hypomania/mania) has a profound effect on one’s thoughts such that individuals tend to see things in an unrealistically positive way. For example, individuals in this phase may

**Table 7.2** Examples of hyperpositive thoughts and associated behaviors

Hyperpositive thought	Associated behaviors
“I can be better than everyone else”	Lack of respect for others Not working as hard as one can Alienating others
“I deserve that now”	Expressing impatience Expressing frustration
“I can do anything that I want”	Risk taking behaviors Behaviors that ignore possible negative outcomes
“I can manage my bipolar disorder. I do not need my medications”	Discontinuing medication or being only partially adherent
“My thoughts are more important than others”	Arrogance Talking rapidly Interrupting others

believe that opportunities are endless and that anything is possible. These types of thoughts are considered *hyperpositive thoughts* (i.e., unrealistically positive thought). Thus, for the same reasons that it is important to conduct cognitive re-structuring with overly negative, or depressive thoughts, it is just as important to learn this skill to help modify hyperpositive thinking. Table 7.2 lists examples of typical hyperpositive thoughts and associated behaviors.

An essential component to cognitive re-structuring with hypomania/mania is helping individuals with bipolar disorder distinguish between healthy and unhealthy optimism. For example, if an individual prepared well and worked very hard on a big project at work, it might be perfectly reasonable (and helpful) for that person to feel confident or optimistic about the outcome. However, a thought is considered hyperpositive if an individual is overly confident or positive, *without* the preparation or evidence to support his/her thinking. Thought records similar



**Table 7.3** Sample thought record for hypomania/mania

Situation	Feelings (intensity 1–10)	Hyperpositive, automatic thought	Evaluation of automatic thought/ alternative thoughts	Feelings (intensity 1–10)
Meeting with boss	Happy (10+)	“I know that my boss needs me”	“My boss may like me, but he can replace me”	Happy (4)
	Confidence (10+)	“I am the best employee they have”	“I have many strengths, but so do others”	Confidence (6)
	Irritable (9)	“They just don’t understand me which is why I have bad reviews”	“There is a pattern that I am late and I am not too special to avoid punishment”	Irritable (5)
	Frustrated (9)	“I am too good for this job”	“I may do my job well, but I should be grateful for my job”	Frustrated (4)

to those used for depression can be used to cognitively restructure hyperpositive thoughts with a patient (see Table 7.2) [36, 37]. The first step in completing a Thought Record is to identify a triggering situation, or a situation during which a mood shift occurred. Given the therapist is helping the patient restructure overly positive thoughts, helping the patient identify when he or she felt too happy, optimistic, or self-confident is critical. In the example below (see Table 7.2), the patient has identified feeling too positive, or inappropriately happy, about a meeting with his/her boss. After rating the intensity of the feeling, the second step is to help individuals notice their thinking patterns during these situations, or to identify their *automatic hyperpositive thoughts*. Patients are guided to ask themselves “What thought just went through my mind?” Going through the questions in the “Checklist for Identifying Automatic Thoughts” at the bottom of Table 7.3, can also be very useful in helping patients to identify their hyperpositive, automatic thoughts [37]. The next step in modifying one’s hyperpositive thinking involves examining the evidence (or lack of evidence) for these thoughts. The aim here is to help a patient to develop a more accurate perspective on their reality to reduce the hyperpositivity. The following questions will be helpful in having the patient see an alternative reality, or develop new, more realistic, or less overly positive, thoughts [38]:

1. What is the objective evidence that my thought is true or not true?
2. What are some alternatives that might help to explain the situation?

3. If a friend were in this situation and had this thought, what would I tell him or her?
4. What is the effect of this thought on my mood? Are there any benefits? Are there any costs?
5. What’s the worst thing that could happen if this thought is true? What’s the best thing that could happen? What’s the most realistic outcome?

Finally, in the last column in Table 7.3, the therapist will help the patient re-rate their emotional response to their hyperpositive thinking now that they have considered new, alternative thoughts. Ideally, the patient will see the intensity of the emotional response lessen. Should this not occur, further cognitive re-structuring is necessary for that hyperpositive.

Therapists should be aware that it is common for hypomania/mania to re-emerge after patients have discontinued their medication or taken it only irregularly. Patients may simply forget to take their medications. Non-adherence may also be the result of dysfunctional thoughts about medications, such as, “they will no longer help me,” or “I am functioning fine without my medications,” especially when the mood has been stable for a while. Helping bipolar patients problem solve these obstacles using behavioral (e.g., scheduling, reminders, support from others) as well as cognitive skills (e.g., cognitive restructuring) can be very important in treating and/or preventing hypomania/mania.

#### *Behavioral Skills for Hypomania/Mania.*

Behavioral strategies for mood elevation symptoms are geared toward reducing behaviors that

increase mood elevation (e.g., decreasing social activities, working on multiple projects, staying up late, etc.) as well as to prevent behaviors that lead to adverse consequences (e.g., losing money gambling). As illustrated in Table 7.2, many consequences of hypomania/mania result from individuals with bipolar disorder acting impulsively [39]. For example, patients may frequently interrupt others, tell inappropriate jokes, engage in reckless driving, or make quick decisions (e.g., over spending), which can result in negative consequences. Thus, the following behavioral strategies are designed to reduce impulsive decision-making during hypomania/mania [33, 38]:

- *Reduce Spending.* Many individuals during hypomania/mania have increased impulsivity with regard to spending [39]. Thus, helping the patient reduce access to their money can be a very helpful behavioral strategy, such as, disabling accounts, requesting a guardian on accounts, or reducing the likelihood of using a credit card or other spending options. One innovative strategy involves literally freezing one's credit cards in water and storing them in the freezer. In the time that it takes to thaw the credit cards, the patient may have a chance to re-evaluate the necessity of their planned purchase.
  - *48-Hour Rule.* The 48 Hour Rule [40] encourages hypo/manic individuals to wait at least two full days *and* get two full nights of sleep before acting on any new or big plans. Given that sleep loss can drive hypomania, having the patient "sleep on it" for at least two nights before making major decisions may help them to think more clearly or accurately them.
  - *Thinking Before Doing.* When hypo/manic, the patient's thoughts and speech might be accelerated and as a result, they may be more likely to blurt out something impulsively. Thus, ask the patient to wait at least 5 seconds before they speaks to allow themselves time to carefully think through what they would like to say. This may also help to censor inappropriate jokes or comments. Given that the ability to listen attentively to others tends to diminish during hypomania/mania, encourage the patient to be aware of whether they listening to others.
  - *Avoiding Confrontation.* Encouraging patients to avoid interacting with people that trigger them, or typically cause them to feel irritated or impulsive, can be a very good behavioral advice. Increased irritability is often a symptom of hypomania and thus, the patient's patience and tolerance for difficult people or situations may be lessened.
  - *Two-Person Feedback Rule.* The Two-Person Feedback Rule [40] encourages a patient to check with two trusted friends or family members before making any major life decisions. This strategy strongly encourages the patient get input from at least two trusted sources before doing things that might be regretted later to reduce impulsive decisions, such as quitting a job or doing something new or very different.
  - *Avoiding Alcohol and Drugs.* Although it is always wise to minimize the use of alcohol and avoid the use of recreational drugs for individuals with bipolar disorder, this is especially true when hypo/manic [39, 41]. When hypo/manic, alcohol and recreational drugs can increase the chances that one might engage in risky, impulsive, or dangerous behavior.
- Other behavioral strategies for hypomania/mania include maintaining a regular sleep cycle, as decreased sleep can trigger hypo/manic episodes [42]. For example, losing sleep due to staying up late, completing projects, traveling (jet lag), or going out with friends can cause an individual with bipolar disorder mood to become elevated [43]. In addition to being a trigger for hypomania, a decreased need for sleep is also a symptom of hypomania [15]. Therefore, hypo/manic individuals may feel rested after having only a small amount of sleep. Thus, there can be a tendency for these individuals to have irregular sleeping patterns, such as staying up later or not sleeping. Thus, the following behavioral strategies may help to reduce sleep disturbance during hypomania/mania [44, 45]:
- *Reduce Caffeine Use.* Caffeine use, particularly later in the day, can also interfere with the patients' sleep [46]. Thus, encouraging a reduction in caffeine consumption, especially

in the later afternoon and evening, may help the patient's sleep and thus, simultaneously have a positive effect on one's elevated mood.

- *Minimize Stimulation.* Reducing stimulation, or activating tasks, prior to bed can be very helpful in managing hypomania/mania and preparing for sleep [45]. For example, decreasing exposure to light, loud noises, computers, and televisions can have a soothing and calming effect. Also, consider encouraging the patient to read boring materials, listening to white noise or soothing music, or any other activities that contribute to sleepiness prior to bedtime.
- *Change Dysfunctional Thoughts on Sleep.* Bipolar patients often will have dysfunctional thoughts about sleep when hypomanic/manic, such as, it is not important or may reduce one's productivity or fun. Helping the patient to re-structure these dysfunctional thoughts will likely increase their motivation to practice these sleep hygiene techniques and thus, be more successful in creating a healthier sleep schedule.
- *Relaxation or Mindfulness Exercises.* There are several relaxation or mindfulness techniques that can help soothe and relax individuals and thus, having a calming effect on hypomania/mania. For example, diaphragmatic breathing, the use of imagery, or progressive muscle relaxation can be useful tools for patients prior to bed.

The chronic nature of bipolar disorder requires the frequency of visits to be tailored to a particular patient's mood status and needs, since treatment is often not time-limited. Below, we review the empirical support for CBT treatments for bipolar disorder.

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## 7.8 CBT for Bipolar Disorder: How Well Does It work?

Overall, adjunctive CBT has received empirical support for its efficacy to increase medication adherence, prevent relapse, and treat acute depressive mood symptoms. For example, thoughts and beliefs related to medication non-

adherence were the targets in the first CBT study for bipolar disorder [47]. At the end of CBT (as well as the 6-month follow-up), patients were taking their medication (lithium) more regularly, discontinued it less against medical advice, and also had fewer mood episodes caused by non-adherence than patients who had received regular clinical care [47]. Free-standing psychoeducation programs for remitted, stable patients with bipolar disorder in conjunction with medication have been shown to lower the rate of manic recurrences [48] or both manic and depressive recurrences [49].

Lam et al. [50, 51] investigated a CBT approach for preventing relapse [50, 51]. Compared to treatment as usual, within the first year, participants with bipolar disorder who had received CBT had fewer mood episodes. Although there was no difference in the number of mood episodes between CBT and treatment as usual at the 2-year follow-up, patients with bipolar disorder who had received CBT experienced shorter mood episodes, fewer overall mood symptoms, and fewer admissions to the hospital [50, 51]. Meyer et al. [52] found that patients receiving CBT had lower relapse rates than patients receiving supportive psychotherapy while being in active treatment for 9 months, although there were no differences in overall relapse rates at the 2-year follow-up [52]. Scott et al. [53] found that for patients with 12 lifetime mood episodes, CBT and treatment as usual (TAU) were roughly equally effective in preventing relapse [53]. For patients with fewer than 12 lifetime mood episodes CBT was more effective than TAU, whereas for patients with more than 12 lifetime mood episodes TAU seemed to be superior to CBT [53]. The lack of CBT effectiveness for bipolar disorder became more pronounced for patients with 20 or 30 lifetime mood episodes, suggesting that CBT may not be the best treatment for people with particularly severe and recurrent bipolar disorder. Depressive episodes and persistent depressive symptoms present the biggest challenge for patients with the fewest options [54].

The efficacy of various forms of intensive psychotherapy (CBT, FFT, and IPSRT) for acute

depression in patients with bipolar disorder has recently been tested in a large, randomized controlled clinical trial that was embedded in STEP-BD. STEP-BD is the largest naturalistic study of bipolar disorder to date. In this trial, depressed patients with bipolar disorder were randomized to IPSRT, FFT, or CBT (consisting of mood monitoring, relapse prevention, and Beckian style CBT). All three treatments were equally successful in decreasing the length of the depressive episodes over the course of a year, compared to a low-level treatment condition that provided patients with a workbook with information about bipolar disorder and the opportunity to meet with a professional up to three times [55]. Not only did the three treatments decrease the length of the depressive episode, they also translated into more days well over the study year, and improved social functioning and life-satisfaction [55]. Two other large-scale studies, however, failed to find beneficial effects of cognitive behavioral strategies for decreasing depressive symptoms. On the other hand, the two largest randomized studies conducted to date failed to find beneficial effects on depression severity, weeks depressed or depressive recurrences [56], although they reported beneficial effects for shortening manic episodes [56, 57] and lower risk of manic episodes [56]. These programs combined group psychoeducation (recognition of triggers for episodes, monitoring warning signs, developing relapse prevention strategies, and increasing medication adherence) with sessions that focused on increasing functioning through achieving goals in life. These findings confirm a growing realization that depression for people with bipolar disorder is more difficult to treat than preventing mania.

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## 7.9 CBT for Bipolar Disorder: A Case Example

Chris is a 25-year-old Caucasian male who presents for the treatment of bipolar disorder. On presentation, he is experiencing sad/depressed mood, loss of interest in activities, increased appetite, difficulty sleeping (waking in the middle

of the night), low energy, and feelings of low self-esteem and worthlessness. He has no current suicidal ideation and has never made a suicide attempt. He was hospitalized at age 18 for suicidal ideation and planning to overdose on his medication. Shortly after his first hospitalization he experienced his first manic episode. He reports a period of time in which he experienced significantly elevated mood, had thoughts that he could do anything, was sleeping very little, and began engaging in risky behaviors such as driving really fast, using cocaine, and spending more money than usual. This period lasted for 2 months until Chris was hospitalized again and diagnosed with bipolar disorder. Due to his bipolar disorder, the patient withdrew from his community college program. Since withdrawing, he has worked mostly seasonal positions in construction and landscaping. He has tried a number of medications over the years, and currently takes lithium (900 mg) and bupropion (300 mg). He is unemployed, on disability, and living above his parents' garage. He obtains additional income from his parents as needed. He has two close friends with whom he gets together occasionally to play video games.

Treatment began by identifying the patient's goals for therapy, which were to reduce his depressive symptoms and manage the emergence of any manic symptoms. The therapist explained the patient's current symptomatology within a cognitive behavioral framework and, how CBT will target the patient's depressive symptoms. The patient reported that he frequently thinks to himself "I cannot get anything done," (cognition) which increases his sad mood (emotion), and leads him to get back into bed and avoid future tasks (behavior). Throughout the first three sessions, the therapist explained the rationale for CBT (e.g., how changing one's thoughts and behaviors may lead them to having more adaptive, or positive, thoughts, feelings and behaviors). During these initial sessions, the patient was also introduced to mood monitoring, and tracking medication compliance, with a mood diary. Issues of medication compliance were addressed in these early sessions given the patient's tendency to "skip" medications as he

“missed his manic highs.” He also began tracking his daily activities using a weekly schedule in these early sessions. The therapist explained how a balance of both pleasurable and mastery activities can not only buffer against depression, but also can help reduce the patient’s current depressive symptoms. Together the patient and therapist identified new or previously engaged in pleasurable activities that the patient could add to his weekly schedule such that it might bring the patient joy or a sense of competence. The patient identified that he used to enjoy video games and laundry as examples of pleasurable and mastery activities, respectively, that he could potentially add back into his routine. Lastly, the patient was given an explanation of how negative automatic thoughts can maintain or exacerbate his depressive symptoms and the patient was shown how to identify these thoughts using a thought record. An example of a situation that triggered negative thinking in the patient was that his new dog urinated in the apartment. The patient believed that this was due to some failure of his ability to take care of the dog, and he would have to give it away which left him feeling hopeless and sad.

In sessions four through six, the patient continued with daily mood monitoring. His depression remained in the mild to moderate range as he focused on continuing to schedule additional pleasurable and mastery activities. He committed to taking a walk (pleasure), reading fiction (pleasure), and cleaning parts of his kitchen (mastery). He also began to work on challenging negative automatic thoughts. In the example above, he was able to identify his negative thinking as catastrophizing and challenged it with the thought that he has only had the puppy for a few weeks and thus, it may take some time before the dog is house trained. This reduced his sadness, and he felt more confident that he might be able to care for the dog after all and as a result, was not necessarily a “failure.” In these sessions, the therapist also introduced the patient to problem solving strategies, including identifying multiple solutions to the problem, and examining the pros and cons of each. The patient realized that he often would follow the first solution that came to mind,

even if that solution was not indeed the most effective. He also learned how to break down large tasks into smaller pieces, which gave him the ability to work in steps toward a larger goal such as cleaning his kitchen.

At session 7, the patient had reported on his mood diary symptoms of mood elevation and decreased need for sleep in the past week. For example, he was spending several nights in a row working on organizing his apartment and sleeping only 1–2 hours a night. Although the patient was feeling very good about his progress and increased energy and motivation, the therapist validated the patient’s feelings and engaged gently in psychoeducation with the patient around the emergence of manic symptoms. The therapy shifted for the next several sessions to focus on strategies for managing hypomanic/manic symptoms including sleep hygiene, challenging hyperpositive thinking, and strategies for reducing impulsivity. The patient and therapist discussed the importance of the patient continuing to engage in his nighttime routine of trying to get to sleep close to his usual bedtime of 10:00 pm. If the patient was having trouble sleeping, he could do a quiet activity such as reading for 30 minutes before trying to sleep again, and he and the therapist discussed the rationale for not going online, watching TV, playing video games, or getting up to clean his apartment. Together they also worked to prioritize the growing task list that the patient felt compelled to complete as his mood elevated and to limit the number of tasks per day that the patient was doing. The patient would write down new ideas or projects in a notebook and was instructed to wait 48 hours and have two full nights of sleep before acting on any new plans. One of the ideas that he came up with during this time was to move to a new state because he believed it would be easier to find work. He was also encouraged to discuss his plan with at least two people (of which the therapist was one) before moving ahead with it. He and the therapist closely examined the patient’s hyperpositive cognitions of positive fortune telling (“I’ll find a place to live—no problem”), his underestimating of risk (“It will all work out”), and his lack of

thinking of the negative consequences (what will happen to his health insurance, treatment, social network, etc.). Together they explored the pros and cons of moving to a new state and imagined the potential negative outcomes from making this decision too impulsively. In the midst of this work, the patient was encouraged to meet with his psychopharmacologist to see if any medication adjustment might be helpful to manage the patient's increasing hypomanic symptoms.

## 7.10 Summary and Future Directions

In this chapter we reviewed a set of core CBT strategies designed to monitor mood, identify warning signs for relapse, and to treat symptoms of acute depression and mania. Therapists should be aware that bipolar disorder rarely occurs by itself; 98 % of individuals with bipolar disorder have another lifetime psychiatric disorder that warrants treatment [58]. The most common include lifetime alcohol and substance dependence (60 %) and anxiety disorders (50 %) [59]. These tend to adversely impact the course of bipolar disorder. For example, relative to bipolar patients without an anxiety disorder, individuals with both bipolar disorder and a co-morbid anxiety disorder experience longer illness duration, greater illness severity, higher rates of suicide, and overall poorer treatment response [59–63]. Therefore, in addition to mood monitoring, relapse prevention strategies and, the treatment of symptoms of acute depression or mania, concurrent psychiatric disorders should be addressed using either specific CBT protocols for these disorders or a transdiagnostic CBT approach [64–66].

Mindfulness-based cognitive therapy has also been adapted for the use in bipolar disorder and may be effective for particularly severe bipolar disorder for which CBT relapse prevention does not appear to work better than treatment as usual [67, 68]. Given that 30–40 % of patients with bipolar disorder have cognitive problems even when they are not depressed or manic [69–73], cognitive remediation strategies have become increasingly important for treating bipolar disorder [74].

Finally, patients with bipolar disorder and their healthcare providers tend to view their psychiatric care as the most important aspect of medical needs [75–77]. This view has led to a relative inattention to many of the physical diseases these patients have [76, 78, 79]. For example, there is a link between being overweight/obese and bipolar disorder [80, 81]. Overweight or obese individuals with bipolar disorder have been found to exhibit increased rates of detrimental health-related behaviors (e.g., poor eating and nutritional habits) that increase the risk for cardiovascular disease and other medical comorbidities (hypertension, hyperlipidemia, diabetes, etc.) [82–85]. Obesity and its medical complications in bipolar disorder are associated with more lifetime depressive and manic episodes, more overall mood symptoms, slower rate of improvement of depressive symptoms and reduced quality of life [86–88]. Therefore, for overweight or obese patients with bipolar disorder, weight management and exercise-oriented CBT programs should be considered [89].

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# Cognitive Behavioral Therapy for Obsessive–Compulsive Disorder: Theory, Assessment, and Treatment

# 8

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## 8.1 Clinical Presentation and Classification

Obsessive–compulsive disorder (OCD) is characterized by obsessions and compulsions. Obsessions are repetitive, intrusive, and unwanted thoughts, images, or urges that evoke distress or anxiety (e.g., thoughts or images of a loved one being in a car accident; [1]). Individuals experiencing obsessions tend to suppress, ignore, or neutralize the intrusions with a different thought, or through a behavior, such as a compulsion. Compulsions involve repetitive physical behaviors (e.g., checking, washing) or mental acts (e.g., counting, praying), which an individual feels driven to perform following an obsession, or performs based on the application of rigid rules [1]. In addition, compulsions are meant to decrease discomfort or the likelihood of some dreaded event occurring. The obsessions and/or compulsions must consume a substantial amount of time

(e.g., at least 1 hour/day) or cause significant distress and interference in daily life. OCD is thought to be a heterogeneous disorder, meaning the content of obsessions (e.g., violent thoughts, blasphemous images, urges to wash) and form of compulsions (e.g., repeated physical or mental checking, ordering and arranging, counting) may involve various clinical presentations.

Historically, OCD has generally been classified as an anxiety disorder in the American Psychiatric Association’s (APA) *Diagnostic and Statistical Manual of Mental Disorders* (DSM). The fifth and most recent edition of this manual, *DSM-5* [1], has incorporated a new Obsessive–Compulsive and Related Disorders section which includes OCD, as well as body dysmorphic disorder (BDD), hoarding disorder, trichotillomania (hair pulling), and excoriation (skin picking) disorder. Diagnostic criteria for OCD in the *DSM-5* are largely consistent with previous editions such as the *DSM-IV-Text Revision*, and continue to characterize the clinical presentation of OCD as involving obsessions and/or compulsions [1].

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## 8.2 Etiology of OCD

Although the etiology of OCD is largely unknown, research has identified psychological, biological, and environmental risk factors that are associated with the development and maintenance of OCD symptoms.

### 8.2.1 Psychological Factors

Psychological factors are believed to be involved in the development of OCD symptoms. Maladaptive cognitions and core beliefs may foster perceptions of danger [2] thereby leading to appraisals of one's intrusions as being important and meaningful. In this manner, a catastrophic misinterpretation of the meaning of one's thoughts is argued to exacerbate and maintain symptoms of OCD [3, 4]. In addition, a number of meta-cognitions are argued to influence OCD symptomatology, namely the importance of one's thoughts, the controllability of one's thoughts, an inflated sense of responsibility for harm, overestimations of threat, perfectionism, and an intolerance of uncertainty (Obsessive–Compulsive Cognitions Working Group [OCCWG] [5]).

### 8.2.2 Biological Factors

Biological factors that lead some individuals to be more vulnerable to the development of OCD have also been identified, including abnormal brain circuitry, neurotransmitters, genetics, and bodily responses to certain types of infections. Regarding brain circuitry, individuals with OCD have demonstrated hyperactivity in the prefrontal orbital cortex, striatum, and thalamus [6]. Moreover, insufficient levels of the neurotransmitter serotonin, a chemical messenger in the brain, have also been demonstrated in OCD, and psychopharmacological treatments for OCD often aim to increase levels of this neurotransmitter [7]. There is evidence demonstrating that OCD runs in families suggesting that a genetic predisposition has a partial role in OCD [8, 9]. Finally, there is a growing body of research suggesting that contraction of an immunological infection, such as *Streptococcus* may lead to the onset of OCD in children who are genetically predisposed to develop OCD [10]. It is important to note that this subtype of pediatric OCD, Pediatric Autoimmune Neuropsychiatric Disorder Associated with *Streptococcus* (PANDAS), is uncommon.

### 8.2.3 Environmental Factors

Environmental factors such as pregnancy and traumatic experiences may also influence the development and maintenance of OCD symptoms. The events of pregnancy and childbirth, as well as related stress, may lead new mothers and fathers to begin having unwanted, intrusive thoughts about harming their own child [11]. In this manner, it is important for clinicians to recognize that these types of thoughts are unwanted, do not involve intent or purpose, and are problematic because they are so far removed from the individuals' belief systems. In addition, certain traumatic experiences may play a role in OCD in that some individuals who have experienced an acute trauma may present with OCD-like symptoms (e.g., repeated washing or checking), and often times individuals who meet diagnostic criteria for OCD also report experiencing a traumatic event [12, 13].

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## 8.3 Prevalence and Comorbidity of OCD

OCD affects roughly 2–2.5 % of the population [14, 15]. The onset of OCD typically occurs during adolescence, although it may occur during early childhood or early adulthood [16]. OCD has been found to have high rates of comorbidity with other Axis I anxiety and mood disorders, namely unipolar depression (37 %), generalized anxiety disorder (GAD; 31 %), agoraphobia or panic disorder (22 %), and social phobia (15 %; [17]). Furthermore, obsessive–compulsive-related disorders, such as BDD, have been found to have high comorbidity rates with OCD (25 %; [18]).

In addition, there is symptom overlap with other psychological disorders that involve intrusive thoughts, images and urges, and repetitive behavior aimed at reducing distress. For example, (a) individuals suffering from a preoccupation with a perceived defect in appearance and repeated mirror checking would be better classified as having BDD, (b) those suffering from excessive worry about real-life concerns would

be better classified as experiencing a symptom of GAD, and (c) patients who are overly preoccupied with having a disease may be better classified as suffering from health anxiety. Further, individuals experiencing repetitive-like behavior such as skin picking, hair pulling, and stereotyped movements, would be better classified as having excoriation, trichotillomania, and stereotypic movement disorder, respectively [1].

Given these high rates of comorbidity and symptom overlap, it is important to differentiate between, and identify, co-occurring psychiatric disorders when assessing for OCD. Diagnostic interviews are useful for distinguishing between psychiatric disorders and assessing for a wide range of Axis I disorders. In addition, as previously mentioned, OCD is a heterogeneous disorder, which involves variable presentations of associated obsessions and compulsions. OCD symptom dimensions and related beliefs should also be assessed to aid in developing an idiosyncratic treatment approach for each patient.

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## 8.4 Assessment of OCD

A number of standardized assessment tools have been developed for use with OCD patients, including diagnostic interviews, as well as symptom severity and meta-cognitive measures. A selection on these assessment tools have been highlighted below; however, this list is not meant to be comprehensive.

### 8.4.1 Diagnostic Interviews

#### 8.4.1.1 Structured Clinical Interview for DSM-IV-TR Axis I Disorders: Patient Version (SCID-I/P; [19])

The SCID-I/P is a clinician administered semi-structured interview, which assesses for Axis I disorders according to *DSM-IV-TR* diagnostic criteria. The SCID-I/P employs a categorical system to indicate the presence of disorder-specific symptoms; and thus, allows for a full differential diagnosis of all anxiety disorders. A revised SCID-I/P reflecting updates incorporated into the

*DSM-5*, including the new Obsessive–Compulsive and Related Disorders section, is scheduled to be released in the near future.

#### 8.4.1.2 Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; [20])

The ADIS-IV is a clinician-administered semi-structured interview, which assesses for Axis I disorders using diagnostic criteria consistent with the *DSM-IV*. Ratings of symptom severity are obtained using a dimensional scale as a means of supplementing categorical ratings to indicate whether diagnostic criteria have been met for a specific disorder.

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## 8.5 Assessment of Symptom Severity

### 8.5.1 Yale-Brown Obsessive–Compulsive Scale (Y-BOCS; [21, 22])

The Y-BOCS is a clinician-administered scale that assesses OCD symptom severity. The scale consists of ten items that examine obsessions and compulsions in terms of frequency, intensity, controllability, and interference in daily life.

### 8.5.2 Obsessive–Compulsive Inventory-Revised (OCI-R; [23])

The OCI-R is an 18-item self-report measure involving six domains: washing, checking, obsessing, neutralizing, ordering, and hoarding. The degree of OCD symptom severity experienced within the past month is rated within each domain.

### 8.5.3 Dimensional Obsessive–Compulsive Scale (DOCS; [24])

The DOCS is a self-report measure involving 20 items, which assess OCD symptom severity. This scale involves four dimensions of OCD symptoms,

including contamination, responsibility for harm and mistakes, symmetry/incompleteness, and unacceptable thoughts.

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## 8.6 Meta-cognitive Measures

### 8.6.1 Obsessional Beliefs Questionnaire (OBQ; [5])

The OBQ-44 is a self-report measure that assesses beliefs associated with OCD. There are 44 items that assess three domains, including importance and control of thoughts, inflated responsibility for harm, and perfectionism/concern about certainty.

### 8.6.2 Thought Action Fusion Scale (TAFS; [25])

The TAFS is a 19-item self-report scale that assesses two components of magical thinking. In particular, the TAFS assesses beliefs regarding an increased likelihood of an event occurring due to thinking about the event (Likelihood TAF), and beliefs regarding an unacceptable thought being the moral equivalent of actually committing the associated action (Moral TAF).

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## 8.7 CBT Strategies to Treat OCD

A wealth of evidence has demonstrated that cognitive and behavioral strategies are effective treatments for OCD (for a review, see [26]). The first stage of these empirically supported interventions involves providing psychoeducation on the cognitive-behavioral model of OCD. In this phase, the patient is informed that intrusive thoughts are normal and common occurrences experienced by those with and without OCD [27]; however, misinterpreting the intrusions as significantly important, dangerous, or reflective of one's moral standards can transform normal and innocuous intrusions into clinical obsessions [3, 4]. By highlighting the common occurrence of intrusions and the pivotal role of one's interpretation, the patient's experience is not only nor-

malized, but the initial groundwork for cognitive therapy is also established.

Next, using clinical examples from the patient's symptom profile, the therapist should highlight how the misinterpretation of intrusive thoughts lead to a significant increase in emotional arousal, specifically anxiety. Subsequently, the patient engages in behaviors that reduce the uncomfortable feelings and physiological sensations. At this point, the clinician should outline the short- and long-term consequences of engaging in rituals. For instance, while compulsive behaviors provide immediate relief from negative affect, in the long term, the patient learns to rely upon the rituals as a maladaptive coping strategy and ultimately, the intensity and frequency of the intrusions will increase [28].

Once the patient understands the cognitive-behavioral model and can apply its essential tenets to his/her idiosyncratic symptoms, the clinician should discuss the important components of the intervention: (1) identify and challenge misinterpretations of intrusive thoughts, (2) confront feared or avoided situations, (3) refrain from engaging in compulsive rituals as a maladaptive coping strategy, and (4) learn that anxiety will naturalistically decrease following provocation and that ritualistic behaviors are not needed. Next, the clinician should complete a functional assessment of OCD symptoms in order to identify and better understand the triggers and feared consequences associated with obsessional phenomena, the patient's common misinterpretations of intrusive thoughts (e.g., having an intrusion increases the likelihood of the corresponding event occurring in the external world), and the compulsions used to decrease emotional arousal. Upon completion of the functional assessment, the clinician and patient should work collaboratively to build a fear hierarchy that will systematically target the patient's feared or avoided stimuli.

Depending on the patient's and clinician's preferences, the treatment can begin with cognitive therapy. In this phase, the clinician helps the patient understand the difference between the content of intrusions (e.g., "my parents will be harmed if I don't repeatedly pray for them") and appraisals

of intrusions (“all thoughts are significant and need to be attended to”). Upon the patient’s understanding of this differential, the therapeutic work shifts to modifying the maladaptive appraisals or misinterpretations by using classic cognitive restructuring techniques, such as evidence gathering [29, 30]. Additionally, Socratic questioning should be used to help the patient recognize (and scrutinize) the validity and effectiveness of clinging to obsessive beliefs and their associated sequelae (e.g., heightened anxiety, reliance upon compulsions, increased avoidance behavior, decreased quality of life; [30]). For example, if a patient reports experiencing an appraisal involving the overestimation of danger, the clinician can ask the patient: (1) to role play by arguing the other perspective and generating alternative hypotheses, (2) whether he/she would be willing to bet a large sum of money on the feared outcome, (3) to calculate the probability of harm by identifying the different steps or events that would need to happen in order for the feared outcome to occur, (4) to use the downward arrow technique to identify the beliefs underlying the overestimation of danger, or (5) to use mindfulness-based strategies (e.g., let thoughts come and go naturally without trying to modify them).

Following, or along with, cognitive therapy, the clinician should implement behavioral strategies, specifically, exposure with response prevention (ERP). ERP consists of two essential components. The exposure involves approaching the feared stimuli (or avoided situation) repeatedly and the response prevention involves resisting the urge to engage in the compulsive behavior. Prolonged and repeated exposure alters the relationship between the patient’s fear and the associated thoughts, feelings, and behaviors by approaching the feared situation, experiencing significant distress, and allowing one’s anxiety to naturalistically decrease without the use of maladaptive behaviors [31]. In doing so, ERP provides the patient with new information that is inconsistent with his/her fears. Through experiential learning, the patient disconfirms catastrophic beliefs regarding the necessity of rituals, as well as reduces reliance upon compulsions to reduce negative affect.

Through the course of treatment, similar exposures should be repeatedly performed, which will systematically weaken the relationship between the feared stimulus and emotional arousal, ultimately resulting in fear extinction. In order to facilitate success with ERP, feared situations should be approached hierarchically. It is recommended that a patient confront a feared stimulus that provokes a moderate amount of anxiety prior to more challenging exposures. For instance, a patient might first touch a contaminated shirt with one hand and resist the urge to wash/clean herself prior to performing an exposure that involves wearing the shirt for the entire day (without subsequently showering). Conducting exposures in this systematic manner builds the patient’s sense of success and enhances his/her confidence to tackle more difficult exposures later in treatment.

It is important to note that it is normal for the patient to experience anxiety during the exposure exercise. In fact, patients learn to tolerate and accept anxiety over the course of this treatment. An increase in anxiety not only indicates that the patient’s fear has been activated, but will facilitate the modification of maladaptive beliefs and teach the patient that anxiety will decrease on its own without the use of compulsive rituals. Therefore, it is imperative that the therapist does not “rescue” the patient from anxiety through distraction or by abandoning the exposure. Rather, the therapist should help the patient remain engaged with the cognitive processes associated with the exposure by having his/her report the thoughts, feelings, images, or urges that are provoked by the exposure and continually remind his/her of the purpose of the specific exercise (e.g., “we are both sitting with the uncertainty about whether you contracted HIV”).

A number of different exposure strategies have been developed to effectively target the patient’s obsessions and avoidance of feared stimuli. Most common is the *in vivo* exposure, in which the patient approaches feared (or avoided) stimuli, and experiences a significant increase in anxiety. An *in vivo* exposure engages the patient in the exercise, is prolonged and repeated to facilitate effective habituation, and encourages the

patients to refrain from completing compulsive rituals. Some examples of in vivo exposures include: (1) eating a burger from a restaurant to target a fear that the food has been poisoned and resisting the urge to ask for reassurance regarding its safety, (2) purposely walking on the cracks of sidewalks to challenge a fear that doing so will cause catastrophic harm to loved ones and refraining from “undoing” the damage through prayer, and (3) writing an email with spelling errors to target feared consequences regarding perfectionism and refraining from modifying or rechecking the email.

A strategy that is specifically designed to target feared stimuli that cannot be accessed in vivo is imaginal exposure. Imaginal exposures tend to involve scripted stories that detail the patient’s feared outcome. These stories are then audio recorded and listened to repeatedly by the patient in order to facilitate habituation. Akin to the in vivo exposure, it is imperative for patients to refrain from engaging in covert or overt rituals that might “undo” the imaginal exposure. For instance, a patient who fears that she will “lose control” and murder her child might actively suppress this negative unwanted intrusion. The imaginal exposure therefore breaks this pattern and encourages the patient to approach, not avoid, the fearful thought. Therefore, the patient might write a detailed story (in the present tense), in which she starts to hear voices that tell her to kill her son. The story then describes the patient rushing into her son’s room and throwing him down the stairs and ends with looking at her son’s body on the ground. An imaginal exposure story should be tape-recorded and last approximately 60–90 seconds. The patient should then listen to the recording repeatedly and track her anxiety.

In addition to the type of imaginal exposure described above (termed “primary imaginal exposure”; [32]), there is another strategy, termed “preliminary imagined exposure,” that can be conducted prior to an in vivo exposure. This therapeutic strategy can be implemented as a first step for patients who are not yet prepared to directly confront the feared situation. For instance, if a patient has a complex shower routine and is not ready to modify its compo-

nents or order, then a preliminary imagined exposure might be used. In the script, the patient can describe completing the shower routine in the wrong order and outline how it feels for his/her anxiety to increase. The story can end on a note of ambiguity and describe a fear that his/her anxiety will continue to mount and will not decrease. Including this ambiguous conclusion in the imagined exposure facilitates habituation to the uncertainty associated with completing in vivo exposures.

## 8.8 Empirical Support for CBT for OCD

Several randomized controlled trials have demonstrated the effectiveness and efficacy of behavioral and cognitive treatments. Treatment outcome research in this arena has tended to separately test the effect of ERP and cognitive therapy. In terms of behavioral treatments, therapist-directed ERP has been found to be a more effective treatment when compared to active interventions, such as anxiety management [33], progressive muscle relaxation [34], and self-directed ERP [35], as well as inactive conditions, such as placebo or waitlist controls [36, 37]. Additionally, research has demonstrated that combining exposure strategies with response prevention is a more efficacious treatment than either treatment alone (for a review, see [26]), suggesting that these therapeutic strategies should be applied together for maximal effect.

While ERP has been consistently shown to be an effective treatment, a number of patients (approximately 25 %; [37]) are reluctant to engage in ERP due to the challenging nature of exposures. To provide treatment to those who are disinterested in ERP or for whom ERP was ineffective, cognitive-based OCD treatments were developed [30, 38] and have been shown to be potentially as effective as ERP in terms of OCD symptom improvement [39]. A recent study by Wilhelm and colleagues [40] creatively utilized a modular approach to treatment, such that individuals only received the cognitive therapy modules that were relevant to their personalized



obsessive beliefs. Findings indicated that patients in the cognitive therapy condition not only experienced a significant reduction in OCD symptom severity compared to the waitlist control group, but also demonstrated a clinically significant reduction in Y-BOCS scores at post-treatment and the treatment gains were maintained at the 3-month follow up.

While numerous research studies have compared the therapeutic effect of ERP and cognitive therapy, the majority of clinicians utilize both treatment approaches and tailor the intervention depending on the patient's needs (e.g., a patient who refuses to engage in ERP would be provided with a course of cognitive therapy). In support of this flexible CBT approach, a recent study demonstrated that 2 years after individual ERP or cognitive therapy for OCD, the effects of both interventions remained stable, reflecting the durability of each approach [41].

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## 8.9 Case Example

William is a 38-year-old Caucasian male with significantly interfering OCD. His symptoms began at age 22 after he graduated from college. At this time, he reported being overly concerned with a need for symmetry and order; however, his symptoms have since transformed and his OCD has had an episodic course. Four years ago, after the death of his mother, he experienced a dramatic increase in symptomatology and developed excessive concerns about cleanliness and became hypervigilant to potential sources of contamination. William's contamination-related concerns intensified over the past 4 years and have led to considerable functional impairment.

During the initial intake, William was administered the Y-BOCS to assess obsessions and compulsions and to ascertain a severity score for his OCD symptoms. The Y-BOCS indicated that his current obsessions primarily involved a fear of contracting HIV. His obsessional fear was triggered by: (1) interacting with someone who demonstrated flu-like symptoms, (2) seeing media portrayals of HIV or AIDS (e.g., public service announcements for HIV prevention, TV shows or

films with a character with HIV), (3) being at a doctor's office, (4) being near a hospital, and (5) having unexpected physiological sensations (e.g., a sudden sharp pain in his abdomen) or physical symptoms (e.g., a small bruise on his upper arm). Once his obsessional fears were triggered, he engaged in overt behavioral rituals, which included repeatedly asking others for reassurance that he had not contracted HIV, seeking reassurance on the Internet (e.g., researching his current physical symptoms), or washing his hands until he believed he was free of contaminants. He also engaged in mental or covert rituals, such as repeatedly telling himself that he had not developed HIV and mentally scanning his body to determine if there were any odd or unusual sensations. In addition to the compulsions listed above, William also avoided places (e.g., doctor's offices, hospitals) and people (e.g., anyone who was ill) that triggered his obsessional concerns. The Y-BOCS identified the themes of his OC symptoms, and yielded a severity score of 28, indicating that William's OCD symptoms were in the moderately severe range prior to treatment.

In the intake, the therapist also gathered information related to functional impairment and William's treatment history. William reported that his OCD symptoms significantly interfered in his social, work, and familial functioning. At his insurance sales job, he repeatedly asked his coworkers about his current physical symptoms, avoided meetings where anyone appeared ill, and frequently spent time searching the Internet for information pertaining to any "odd" physiological sensations he experienced. In his relationship with his girlfriend and other family members, his persistent reassurance-seeking, pervasive difficulty concentrating due to his mental rituals, and significant avoidant behaviors led to their extreme frustration and eventual withdrawal of affection and support.

Last year, at his girlfriend's urging, William sought therapy at a local psychological services center. He received 12 sessions of supportive psychotherapy that did not involve cognitive therapy or ERP. After a dozen sessions, William reported having a good relationship with his therapist, but did not feel his OCD symptoms had

improved. After he reluctantly agreed to visit to his primary care doctor, he received a prescription for 20 mg of fluoxetine and a referral to a clinic for specialized CBT.

At the onset of William's weekly CBT treatment, he reported excitement about potential symptom relief, but significant hesitancy about the discomfort and anxiety associated with ERP. After the initial assessment, his treatment began with psychoeducation. William was taught the cognitive-behavioral model of OCD and the rationale for cognitive and exposure-based therapies. Upon his demonstrated understanding of the model (e.g., being able to apply the cognitive and behavioral principles to his own symptoms), his therapist collaboratively developed a fear hierarchy. The lower items involved watching film clips or TV shows in which a character had HIV and higher items involved more challenging exposures, such as sitting in a hospital's waiting room and shaking hands with the receptionist or patients and refraining from washing his hands.

Given William's hesitancy regarding ERP and to provide him with concrete strategies that he could apply to his symptoms, his therapist began with cognitive therapy. Over three sessions, William was taught a number of cognitive techniques to test the validity and utility of his appraisals and the necessity of his compulsive behaviors. For instance, William utilized the "courtroom strategy" to examine his misinterpretation of harm (e.g., overestimating the likelihood that he will contract HIV). William practiced arguing, as though he was in a courtroom, the concrete evidence for and against his belief that unusual or unexpected physiological sensations were indicative of HIV. Additionally, William worked to calculate the probability that his feared outcome would occur, by outlining all the necessary steps for contracting HIV. These strategies, at their core, helped William identify and modify his misappraisals regarding the likelihood of harm.

Following the introduction of cognitive strategies, William reported a subjective reduction in symptoms. His therapist then began conducting ERP, which was guided by the fear hierarchy

developed earlier in treatment. His therapist started with an exercise aimed at breaking William's association between the term "AIDS" and an anxiety response. To do so, William wrote the term "AIDS" repeatedly for 5–10 minutes. Throughout the exercise, William was asked to monitor his subjective anxiety, physiological response, and urge to neutralize. Next, to determine the most appropriate behavioral exposure, William and his therapist identified the following situation that provoked a moderate degree of anxiety: sitting on the curb a block away from a hospital's emergency room. During this exposure, William sat with the uncertainty regarding whether someone with HIV had walked down this sidewalk, whether he/she had sat in this exact spot, etc. William was instructed to monitor his anxiety throughout the exposure exercise, as well as to refrain from asking the therapist for assurance that he had not contracted HIV. For homework, William was instructed to do this assignment every day and if, over the week, it no longer provoked significant anxiety, he could intensify the exposure by touching his hands to the ground or talking to patients who were exiting the hospital. While completing these tasks, William was encouraged to avoid engaging in compulsive rituals that would reduce his emotional arousal.

In addition to in vivo exposures, William completed imaginal exercises aimed at helping him habituate to his fear of contracting HIV. To do so, William recorded a 60-second script in which he contracted HIV from unsafe sex and was unsure of his prognosis. William listened to this exposure 15–20 times in each sitting and monitored his anxiety throughout the imaginal exercise.

After 13 sessions, William had reached the top of his fear hierarchy and he reported engaging in compulsive rituals significantly less and felt more capable of challenging and modifying obsessional processes. In fact, William had not searched the Internet for reassurance of his HIV status for 2 months and he indicated that he had not sought reassurance from family members for the last 3 weeks. William was administered the Y-BOCS, which yielded a score of 11, placing him in the nonclinical category and reflecting a

clinically significant reduction in symptoms. At this point, William continued to experience intermittent intrusive thoughts regarding his HIV status and reported infrequently engaging in excessive hand washing and avoidance of those who he perceived to be “ill.”

Given his improvement, William and his therapist transitioned to meeting every 2 weeks to target his remaining symptoms. Eventually, William’s solid understanding of the CBT structure prompted a transition to self-sessions. Within the self-session structure, William conducted CBT on his own. He used a planned agenda and strengthened and generalized his use of cognitive and ERP strategies through homework assignments. William was then given the opportunity for future booster sessions with the therapist to maintain his treatment gains or receive guidance on new symptom presentations.

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## 8.10 Conclusions

OCD is now categorized in the new Obsessive–Compulsive and Related Disorders section included in *DSM-5*. This psychological disorder is primarily characterized by obsessions and/or compulsions [1]. However, OCD is a heterogeneous disorder in that the content of obsessions and form of compulsions may involve various clinical presentations. As is the case with most psychological disorders, the etiology of OCD is unknown; although a number of psychological, biological, and environmental risk factors have been identified, including interpretation biases, abnormal brain circuitry, and pregnancy. Comorbidity and symptom overlap with other Axis I disorders is relatively common; thus, it is important to identify and differentiate between co-occurring psychiatric disorders during the assessment phase of treatment. A number of standardized assessment tools are available to assess the presence and severity of OCD symptoms and related beliefs, including diagnostic interviews, symptom severity measures and meta-cognitive measures.

Following a thorough assessment of OCD symptomatology, it is recommended that CBT be

applied, given its substantial empirical support as an effective treatment. In this intervention, clinicians begin with psychoeducation about OCD and the introduction of a conceptual model based on the individual’s clinical presentation and CBT principles. Patients are informed about the universal experience of unwanted intrusions and how the catastrophic misinterpretation of the meaning of one’s thoughts may lead to the development of clinical obsessions and related ritualistic behaviors [3, 4]. Next, the short- and long-term consequences of engaging in compulsive and avoidance behavior should be discussed. Depending on the preferences of the patient and clinician, cognitive strategies may be administered at this point in treatment. Cognitive restructuring techniques are used to modify maladaptive appraisals or misinterpretations. Additionally, beliefs regarding the importance and control of thoughts, inflated responsibility for harm, perfectionism, and concern about certainty may be directly targeted. Behavioral experiments are useful in challenging specific maladaptive beliefs. ERP can be implemented subsequent to, or in tandem with, cognitive-based strategies. The patient’s exposures should aim to disconfirm catastrophic beliefs and alter the relationship between compulsions and the reduction of negative affect. Exposures should be repeatedly performed in a hierarchical manner, meaning that the patient should start with a feared stimulus or situation that evokes a moderate amount of anxiety prior to engaging in more challenging exposures. Most clinicians utilize both cognitive and behavioral treatment strategies and tailor the intervention to meet the needs and preferences of the patient.

Although major advances have been made in the psychological treatment of OCD, since roughly 25 % of patients refuse to engage in ERP [37], and 37 % do not achieve a significant improvement in symptoms [42], future research aimed at improving cognitive and behavioral strategies is warranted. To address these concerns, clinical research studies are presently investigating how to improve the (a) rate of patients’ symptom remission through the augmentation of CBT with D-Cycloserine (DCS) and (b) acceptability of treatment by utilizing

mindfulness-based strategies, such as Acceptance and Commitment therapy. Additionally, given that OCD is a heterogeneous disorder and involves various clinical presentations, modular treatments with a more flexible approach than standard manuals, or targeting specific predominant OCD subtypes may prove to be fruitful [40, 41]. For additional information regarding diagnostic measures, empirically supported treatments, and available providers, please review the table, “Resources for OCD.”

## 8.11 Resources for OCD

### Websites

- International Obsessive–Compulsive Disorder Foundation: [www.ocfoundation.org](http://www.ocfoundation.org)  
 OCD and Families: [www.ocdandfamilies.org](http://www.ocdandfamilies.org)  
 Association for Behavioral and Cognitive Therapies (ABCT): [www.abct.org](http://www.abct.org)

### Self-help books for OCD

- Baer, L. (2001). *The imp of the mind: Exploring the silent epidemic of obsessive bad thoughts*. New York, NY: Penguin Group  
 Baer, L. (2012). *Getting control: Overcoming your obsessions and compulsions* (3rd ed.). New York, NY: Penguin Group  
 Foa, E. B., & Wilson, R. (2001). *Stop obsessing! How to overcome your obsessions and compulsions* (Revised Edition). New York, NY: Random House Publishing Group

### Therapist CBT manuals for OCD

- Wilhelm, S., & Steketee, G. S. (2006). *Cognitive therapy for obsessive compulsive disorder: A guide for professionals*. Oakland, CA: New Harbinger Publications  
 Abramowitz, J. S. (2006). *Understanding and treating obsessive-compulsive disorder: A cognitive-behavioral approach*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers

### Therapist manuals for basic CBT strategies

- Beck, J. S. (2011). *Cognitive behavior therapy: Basics and beyond* (2nd ed.). New York, NY US: Guilford Press  
 Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. H. (2011). *Exposure therapy for anxiety: Principles and practice*. New York, NY US: Guilford Press

### Reproducible assessment measures

- Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010) is available at: <http://www.unc.edu/~jonabram/DOCS.html>

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# Cognitive Behavioral Treatment for Trichotillomania (Hair-Pulling Disorder) and Excoriation (Skin- Picking) Disorder

9

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Trichotillomania and pathological skin picking have long been conceptualized as obsessive–compulsive spectrum disorders given their respective clinical phenomenologies, comorbidities, family histories, and treatment response. In DSM-IV-TR [1], trichotillomania was included in the Impulse-Control Disorders Not Elsewhere Classified section of the diagnostic manual. With advancing scientific knowledge and the advent of the DSM-5 [2], pathologic skin picking was first identified as a new diagnostic category (Excoriation [Skin-Picking] Disorder). In DSM-5, both disorders (with trichotillomania now labeled Trichotillomania [Hair-Pulling] Disorder) are located in the OCD and Related Disorders section of the manual. (For purposes of this chapter, we will use HPD and SPD to refer to trichotillomania and pathologic skin picking, respectively, even when referencing prior research conducted with DSM-IV-R criteria.)

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## 9.1 Demographics

Both HPD and SPD are now understood to be more common than known historically. Prevalence rates range between 0.6 % and 3.4 % have been reported for HPD depending on gender and the restrictiveness of diagnostic criteria (e.g., [3, 4]). Prevalence rates for SPD in college students, dermatology patients, community samples and a randomized US population sample have ranged from 1.4 to 5.4 % (e.g., [5, 6]).

In both disorders, reported prevalence is greater in females than males. An increased tendency for women to seek psychological treatment (with disorder occurrence rates often determined from clinic records) may contribute to this gender differential. Further, gender-specific hormonal influences and a societal trend toward greater emphasis on physical appearance in females may also explain this difference.

A bimodal onset has been reported for HPD, with peaks in early childhood and later at the beginning of puberty. Early onset HPD is often a benign form of the disorder that remits spontaneously without treatment. In contrast, later onset HPD generally persists if untreated. SPD is reported to have a trimodal onset with peaks occurring before age 10, during adolescence, and

between 30 and 45 years of age, with childhood and adolescent onset the most common [7].

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## 9.2 Phenomenology

In HPD, hair can be pulled from any bodily site, most commonly the scalp, followed by eyelashes and eyebrows. Specific hairs with odd textures (e.g., kinky or wiry) or colors (e.g., gray or white) may be preferred, or hairs resulting in a specific physical sensation or emotion upon extraction. In SPD, skin picking can involve scabs, “bumps” on the skin or even healthy tissue. Most often skin picking involves the face, chest, shoulders, back, cuticles or extremities. Some hair pullers and skin pickers may utilize tweezers, pins or other instruments to remove tissue.

In both disorders, the time spent engaged in the behavior can vary considerably and may involve many hours daily. In more severe cases, these disorders can result in severe medical sequelae (e.g., trichobezoars or hair balls from ingestion of extracted hair or systemic infections from skin excoriations) and significant impact on functioning including social withdrawal and impaired work or academic performance [8]. Considerable heterogeneity in hair pulling and skin picking patterns exist both inter-individually and intra-individually.

From a phenomenological perspective, both HPD and SPD can present with two behavioral styles. Habit-like (or automatic) hair pulling or skin picking occurs outside of awareness and is often associated with sedentary activities (e.g., reading, using the computer, watching TV). In this style, awareness generally occurs after the behavior has been initiated. In contrast, focused hair pulling or skin picking is characterized by a conscious choice to engage in the behavior in the context of strong urges or mounting tension. Most hair pullers and skin pickers exhibit both behavioral styles and the ratio of automatic to focused behavior can fluctuate over time within the individual. While the majority of hair pullers endorse automatic hair pulling as the more common behavioral style, the findings for skin pickers have been less consistent.

## 9.3 Etiology

A thorough discussion of disorder etiologies and conceptual models far surpass the scope of this chapter. Both biological and environmental variables are hypothesized to entertain roles in the development and/or maintenance of these disorders. For purposes of this chapter, we will only briefly review existing knowledge of the neurobiology of these disorders but emphasize cognitive behavioral mechanisms involved in disorder maintenance given their particular relevance to practicing clinicians.

Little research to date has investigated the neural substrates of these disorders. Reported family history and family study data have suggested a role for genetic factors in these disorders [9–11]. Twin studies of HPD [12] and SPD [13] have provided more rigorous evidence implicating genetic variables. The failure of twin studies to account for all of the variance in disorder occurrence, however, points to the parallel involvement of environmental factors in these disorders. Several candidate genes have been implicated but without replication studies to date.

Our knowledge of the neurochemistry of these disorders is similarly limited. Based on treatment response to 5-HT serotonin inhibitors (serotonergic reuptake inhibitors) alone, dopamine blockers (neuroleptics) alone and combination treatment with both agents, it was hypothesized early on that serotonin and dopamine neurotransmitters were involved in HPD. Known cases of SPD-like behaviors with the use of dopamine agonists, both medications and illicit substances, and the waning of SPD-like symptoms following discontinuation of dopamine agonists, have suggested the involvement of dopamine in SPD. More recently, the efficacy of n-acetylcysteine in a randomized controlled trial for HPD [14], coupled with the involvement of SAPAP proteins at glutamatergic synapses, highlight a role for glutamate in the neurochemistry of these disorders.

Similarly, our understanding of brain structures and neuroanatomic circuitry in these disorders is sparse. HPD structural imaging studies have provided mixed evidence for gray matter

abnormalities in multiple brain regions including the frontal cortices, putamen, anterior cingulate cortices, and the cerebellum (e.g., [15–17]). These brain areas have known involvement in habit learning, generation and suppression of motor responses and emotion regulation. Disorganization in white matter tracts has also been reported for both disorders [18, 19].

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## 9.4 Cognitive Behavioral Mechanisms in HPD and SPD

Cognitive behavioral models for psychological disorders generally focus on internal and external variables that function as behavioral antecedents or consequences for the target problem. Mechanisms of positive reinforcement (i.e., the provision of a positive stimulus after behavioral occurrence) and negative reinforcement (i.e., the reduction of aversive stimuli after behavioral occurrence) are hypothesized to account for behavioral maintenance over time. In HPD and SPD, the hair pulling and skin picking behaviors are likely maintained by positive reinforcement (such as gratification or pleasure upon removing unwanted hairs or the feeling of smooth skin after skin picking) and/or negative reinforcement (such as the release of stress or the reduction of itch).

Mansueto, Townsley-Stemberger, Thomas, and Golomb [20] proposed an early comprehensive behavioral model (ComB) for HPD that emphasized the relationships between affective, behavioral and cognitive cues, the hair pulling behavior and its consequences. This model identified both external and internal factors as potential cues for hair pulling. Consequences to the behavior were believed to maintain the hair pulling through operant conditioning. A model similar to ComB has more recently been proposed by Franklin and Tolin [21]. Both of these models can readily be adapted to behaviorally conceptualize skin picking as well.

Recent advancements in the field also recognize that experiential avoidance (e.g., [22, 23, 24]) may play a role in symptom presentation and change in symptom severity with treatment. Similarly, the construct of emotion regulation

(e.g., [25–29]) has also been invoked to account for some of the variability in symptom presentation in these disorders and treatment-related symptom improvement in HPD.

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## 9.5 Cognitive Behavioral Treatment for HPD and SPD

### 9.5.1 Overview

The standard first-line non-pharmacological treatment for HPD and SPD is based on Azrin and Nunn's habit reversal training (HRT; [30]) developed to treat a wide variety of body focused repetitive behaviors. HRT was originally a multi-component treatment package consisting of 13 individual techniques including awareness training, competing response training, contingency management, relaxation training, and social support, among others. Most practitioners today do not currently include all of the original elements of HRT in treatment, with an emphasis placed on awareness training, competing response training, and social support. While HRT is the foundation for cognitive behavioral interventions for both HPD and SPD, stimulus control training, Acceptance and Commitment Therapy (ACT), and Dialectical Behavior Therapy (DBT) are also often incorporated into treatment. (ACT is described in more detail in Chapter 6 on chronic depression and DBT is described in more detail in Chapter 17 on borderline personality disorder.)

### 9.5.2 Behavioral Assessment

Cognitive behavioral treatment for HPD and SPD starts with a comprehensive behavioral assessment of the target problem. Self-monitoring of the target problem, coupled with in-session problem review, provide the cornerstones of behavioral assessment.

Self-monitoring is imperative for several reasons. First, identification of the idiosyncratic symptom profile allows for a thorough functional analysis of the target behavior and ensures that treatment is tailored to the individual. While HRT



and stimulus control are believed to be effective for habit-like hair pulling and skin picking, more focused hair pulling and skin picking may benefit from additional treatment elements. Secondly, the behavior of self-monitoring enhances awareness of the problem behavior, its triggers, and early motor behaviors. When hair pulling or skin picking is more habit-like in nature, the individual is unable to employ coping strategies without awareness of the problem behavior. Thirdly, self-monitoring provides a baseline frequency for the problem behavior that can be used to monitor change as treatment progresses, and provide reinforcement and motivation with symptom improvement. Lastly, self-monitoring can result in symptom reduction through the phenomenon of behavioral reactivity.

Patients can self-monitor the occurrence of hair pulling and skin picking behavior, and its related triggers and consequences, with a paper and pencil log or use of a smartphone. Alternative self-monitoring strategies can entail the collection of extracted hair or skin in a box or envelope, or the use of a golf ticker-type instrument. Many hair pullers and skin pickers are already aware of some of the triggers and consequences to their hair pulling and skin picking; however, a systematic ongoing assessment captures the full range and the precise pattern of these variables.

Behavioral triggers can include situations, activities, times of day, sensations, thoughts, and feelings. Examples of situational triggers include the bedroom, living room, and office desk. Watching TV, talking on the phone, and showering. Trigger sensations can include pressure, pain, sensitivity, and itch. Examples of trigger thoughts include: “One hair doesn’t matter,” “Only this one last time and then I will stop,” “I can’t stand this wiry hair,” “I need to remove this scab to make my skin smooth,” and “I won’t be able to focus until I remove that pimple.” Trigger feelings can range from pleasant emotions (such as excitement and fascination) to unpleasant emotions (such as stress, shame, anxiety, and irritation). As discussed earlier, consequences to hair pulling and skin picking can include relief from stress, reduction of itch, gratification that unacceptable hairs are removed or pleasure from smooth skin after scab removal.

### 9.5.3 Self-Report Assessment Instruments

Several paper and pencil self-report instruments have been developed for the assessment of problem severity and behavioral style.

Severity of HPD can be measured with the Massachusetts General Hospital (MGH) Hairpulling Scale (MGH-HPS; [31]). The MGH-HPS is a 7-item scale for the assessment of the severity of hair pulling behavior and urges. Severity of SPD can be assessed using the Skin Picking Scale (SPS; [32]) or the Skin Picking Scale-Revised (SPS-R; [33]). These instruments require only several minutes to complete and can be used serially throughout treatment to benchmark symptom severity and document change.

Self-report scales are also available to measure behavioral styles in both HPD and SPD. The Milwaukee Inventory for Subtypes of Trichotillomania-Adult Version (MIST-A; [34]) and the Milwaukee Inventory for Styles of Trichotillomania-Child Version (MIST-C; [35]) assess focused versus unfocused or automatic hair pulling. The Milwaukee Inventory for the Dimensions of Adult Skin Picking (MIDAS; [36]) can also be used to assess focused versus unfocused skin picking. As stated earlier, these instruments can clarify the predominant hair pulling or skin picking style, which can have subsequent implications for treatment choice.

### 9.5.4 Psychoeducation

Prior to treatment initiation, the clinician should provide psychoeducation regarding HPD or SPD. Provision of information regarding the problem behavior can assist patients in improved recognition of their behavioral patterns and also establish appropriate expectations for treatment outcome. Models of the disorder can be introduced and explained to enhance understanding of disorder etiology and symptom maintenance, as well as identify points of intervention for treatment. Bibliotherapy references can be provided for additional education.

### 9.5.5 Motivational Interviewing

Assessment of the individual's motivation for behavioral change is recommended prior to treatment initiation. In cases in which the patient expresses ambivalence, use of motivational interviewing techniques (e.g., [37]) is recommended unless the clinician and patient decide not to pursue treatment. Thoughtful examination of patient motivation is encouraged as premature treatment initiation runs the risk of treatment failure and erroneous conclusion by the patient that the treatment is ineffective.

### 9.5.6 Habit Reversal Training: Awareness Training

Awareness training for HPD and SPD involves identifying the chain of events that begin with the behavioral triggers/urges, leads to the hair pulling or skin picking behavior, and culminates in the post-pulling or post-picking reinforcement. Much of the success of HRT depends upon this awareness, as the effective use of competing responses cannot occur in its absence.

Awareness training also emphasizes the importance of identifying and interrupting, early steps in the behavioral sequence with the expectation that early implementation of the competing response is more likely to be effective. Awareness can be enhanced in many ways including instructing patients to view oneself in a mirror while engaging in the standard sequence of their hair pulling or skin picking, self-monitoring, in-session discussion of the problem behavior (and cueing if the problem behavior occurs), and use of collateral involvement to provide additional cueing upon behavioral occurrence.

### 9.5.7 Habit Reversal Training: Competing Response Training

A competing response, by definition, is a behavior that one can engage in that is incompatible with the problem behavior targeted in treatment. Competing response practice can take the form of making fists, holding hands together, holding the

steering wheel tightly while driving or squeezing fidget toys. Acceptability of different competing responses may vary among patients and different situational triggers may warrant different competing responses. For example, a patient may find playing with a koosh ball quite effective while watching TV but prefer to hold the steering wheel tightly while driving.

The patient is instructed to engage in the competing response for 60–90 seconds when aware of hair pulling or skin picking. If the urge persists, or is still strong enough that the target behavior might still occur, the competing response is repeated until the urge subsides. The competing response should be practiced at the first sign of a trigger, whenever possible, to increase the likelihood of success. Competing responses can also be performed preventively before entering trigger situations. The clinician should demonstrate the competing response and have the patient practice it in session several times to ensure skill mastery and to troubleshoot any difficulties.

### 9.5.8 Habit Reversal Training: Social Support

Social support, when available, can be a useful tool in treatment. This can entail the involvement of a family member or friend who can coach the hair puller or skin picker on the use of coping skills and provide reinforcement for ongoing effort. Whenever possible, it is useful to bring the collateral support person into a treatment session to identify methods of cueing and praising the patient that are acceptable to both the patient and the support person. It is critical that the patient take primary responsibility for identifying the desired mechanism of social support to avoid embarrassment or conflict with loved ones.

### 9.5.9 Stimulus Control Training

Stimulus control techniques are generally introduced along with HRT during the first few treatment sessions. As stated earlier, it is hypothesized

that these tools are most effective, along with the HRT, in addressing the habit-like or automatic hair pulling and skin picking.

Stimulus control refers to environmental changes that make it harder for hair pulling or skin picking to occur. This environmental modification focuses on the antecedents to hair pulling or skin picking and can include a broad array of techniques. Trigger situations (such as studying or watching TV alone) can be avoided, especially at times when the hair puller or skin picker is more vulnerable to engage in the problem behavior (e.g., when anxious or fatigued). Stimulus control can also involve leaving a situation or changing the activity when the target problem starts (e.g., taking a water break or changing the work task to more actively engage the hands). Alternatively, stimulus control can involve creating barriers to hair pulling or skin picking in trigger situations, such as wearing thin gloves or rubber fingers while watching TV, using baseball caps to cover scalp sites for skin picking and hair pulling, using false nails to make it harder to grasp hairs or pick at the skin, and applying Vaseline or conditioner to sites for hair pulling and skin picking.

Stimulus control can also involve replacing the sensory stimulation provided by the hair pulling or skin picking. It is important to enlist the help of the patient to identify what senses are engaged during the hair pulling and skin picking in order to identify appropriate replacements. Most common is the tactile reinforcement provided by manipulation of extracted hair or skin and the oral stimulation from biting or chewing the hair or skin. Replacements might include touching wheat grass, fingering a string or jute with a similar texture, playing with dental floss in the mouth or biting on alfalfa sprouts or sesame seeds.

Lastly, environmental modifications can be implemented to provide cueing when hands move toward a site for hair pulling or skin picking. Wearing a bell on a bracelet around the wrist, applying hand lotion with a strong smell, or using arm weights can alert the patient before the hand engages in hair pulling or skin picking.

### **9.5.10 Reinforcement/Contingency Management**

Reinforcers, such as going to the movies or enjoying a favorite coffee drink, can be employed to increase use of treatment skills or to reward ongoing behavioral abstinence. Inclusion of scheduled rewards can enhance control over hair pulling and skin picking by altering the cost–benefit analysis for these target problems. Whenever possible, it is preferable to reward skills use rather than behavioral abstinence as ongoing skills practice optimizes the likelihood of behavioral abstinence (Should the individual puller or picker simply practice behavioral abstinence, he/she will not develop the control needed to handle stressful external events and may experience trigger setbacks).

### **9.5.11 Relaxation Training**

Relaxation training can be employed to treat HPD and SPD when stress and anxiety are identified as common behavioral triggers for the hair pulling or skin picking. Relaxation training can involve progressive muscle relaxation, imagery retraining, or diaphragmatic breathing.

### **9.5.12 Cognitive Restructuring**

For many chronic hair pullers and skin pickers, negative appraisal of their behaviors can become an automatic accompaniment to the target problem. Many individuals with HPD and SPD can also experience comorbid depression and anxiety along with their repetitive behaviors. Cognitive restructuring (see Chapter 3 of this volume for a full description of this technique) can be helpful to modify these negative self-appraisals and to address the dysfunctional cognitions that can accompany co-occurring mood symptoms.

### **9.5.13 Acceptance and Commitment Therapy (ACT)**

As discussed earlier, it has been hypothesized that HRT and stimulus control alone are inadequate to

treat focused hair pulling and skin picking when intense emotions or sensations trigger the problem behavior. The rationale for including ACT skills in cognitive behavioral treatment for HPD and SPD is to target the experiential avoidance that mediates the relationship between unpleasant private events (such as feelings of anger, shame, or guilt) and the hair pulling or skin picking.

ACT is designed to change the focus from emotional control strategies to the acceptance of emotions, thoughts, and other unpleasant private events that represent the context in which these behaviors occur. While ACT, to date, has only been rigorously investigated for the treatment of HPD, it is reasonable to similarly augment HRT and stimulus control for SPD with these techniques when treatment outcome is not optimal.

A detailed description of ACT treatment components is beyond the scope of this chapter. We will provide; however, a brief synopsis of its important treatment elements. The first several treatment sessions typically focus on teaching ACT principles, including valued living. This refers to the identification of what the individual considers to be of importance, and what they are willing to strive toward despite experiencing uncomfortable inner experiences. One would tailor this exercise to targeting areas of valued living that could be affected by the hair pulling or skin picking (e.g., being a good parent and engaging in an activity with their children rather than pulling or picking around them).

Discussion with the individual who suffers from hair pulling or skin picking would address the desire to control private events related to the target behavior, including the urges to hair pull or skin pick. The success (or rather failure) of prior control strategies to reduce unpleasant events is highlighted. This awareness is used to encourage a commitment to approach internal events in an alternative fashion, that is, with willingness and acceptance.

The concept of cognitive defusion is also introduced with an emphasis on understanding the role of language in our experience, how it is defined by personal events and the importance of learning to de-center from unpleasant thoughts and emo-

tions. In ACT-enhanced behavioral treatment, HRT and stimulus control target the automatic hair pulling or skin picking, whereas the ACT strategies of willingness and acceptance of internal experiences are used to manage the focused and skin picking. Metaphors and behavioral exercises are employed throughout ACT to foster an understanding of this approach and to incorporate use of these coping skills into daily life.

#### **9.5.14 Dialectical Behavior Therapy (DBT)**

DBT was initially developed by Marsha Linehan [38] for the treatment of individuals with impulse control problems and affective dysregulation. Given the prominence of these issues in hair pullers and skin pickers, it can be useful to employ some of these techniques to augment traditional HRT and stimulus control.

DBT offers a systematic step-by-step approach to the acquisition of coping skills. Similar to ACT, DBT emphasizes non-judgmental awareness and acceptance. DBT-enhanced cognitive behavioral treatment utilizes the DBT skills modules of mindfulness training, emotion regulation, and distress tolerance. Similar to ACT, this approach has not been empirically studied in SPD but would be recommended for treatment of skin picking, especially when focused skin picking is prominent, and more standard treatment approaches have had limited or no success.

DBT mindfulness can be an important skill in treatment for several reasons. Mindfulness increases focused attention and, thus, promotes awareness and early detection of behavioral triggers and preliminary motor movements. Mindfulness also teaches ways to process internal experiences that eclipse the need for avoidance, distraction, or judgment. The meta-awareness of mindfulness can result in a gentler response to unpleasant emotions. Useful skills can include the “what” (observing, describing, and participating) and the “how” (non-judgmentally, one-mindfully, and effectively) of mindfulness.

Emotion regulation training provides instruction in skills to regulate affect without engaging

in the target behavior. Improving lifestyle balance (e.g., treating physical illness, healthy eating, avoiding substance abuse, optimizing sleep, and obtaining regular exercise) can reduce vulnerabilities to negative emotions that often trigger hair pulling and skin picking. Daily engagement in pleasant experiences is encouraged, along with developing a sense of mastery by engaging in activities in which one feels competent. Mindfulness, along with acceptance, of unpleasant and difficult inner experiences is highlighted. Finally, identifying ways to change non-adaptive emotions by acting opposite to them may be helpful.

DBT distress tolerance skills can help patients learn adaptive ways to manage distress and crisis situations without resorting to hair pulling or skin picking. The goal of distress tolerance skills is to cope with difficult situations without making the situation worse. Learning to distract momentarily from a distressing situation is an example of a distress tolerance skill. The acronym “ACCEPTS” [38] summarizes the skills of focusing on other Activities, Contributing to others, making Comparisons to others who are suffering more, engaging in opposite Emotion activities, Pushing away the difficult emotions temporarily, thinking other Thoughts to reduce the focus on the distressing situation, and distracting by focusing on other Sensations. Self-soothing skills using the five senses (e.g., listening to music, looking at family pictures, stroking your baby’s hair, and smelling lavender) are also taught. Another useful DBT distress tolerance skills set identifies ways to “IMPROVE” the moment [38] including Imagining more pleasant situations, finding Meaning in the distress, Praying, if one is religious or spiritual, learning to Relax, focusing on One thing in the moment rather than being overwhelmed by all the stressors, taking a short Vacation from the distress, and Encouraging oneself like a supportive coach. The DBT concepts of acknowledging reality through radical acceptance and willingness can be beneficial. Finally, decision matrices can help patients select more adaptive choices by reviewing the pros and cons of adaptive and maladaptive behaviors.

### 9.5.15 Relapse Prevention Training

At the conclusion of treatment, the therapist should review relapse prevention strategies including distinguishing between a “lapse” or setback and a “relapse,” identifying ongoing or future risky situations likely to trigger hair pulling or skin picking, and highlighting healthy lifestyle practices that reduce vulnerability to the target behaviors. Useful cognitive behavioral coping skills should be reviewed and a relapse prevention plan that specifies a schedule for strategy implementation upon setbacks should be outlined.

## 9.6 Empirical Support for Cognitive Behavioral Treatment for HPD and SPD

Limited empirical research has evaluated the efficacy of cognitive-behavioral treatment for HPD in adults. Even less investigation has been conducted to study cognitive behavioral treatment outcomes for SPD.

While only a few randomized controlled trials have studied cognitive-behavioral treatment for HPD, these studies have successfully documented its efficacy. Azrin, Nunn, and Frantz [39] were the first investigators to provide documentation that HRT was superior to the comparison treatment of negative practice. Ninan, Rothbaum, Marsteller, Knight, and Eccard [40] showed a clear superiority of cognitive behavioral treatment over both placebo and clomipramine in treatment for this disorder. Van Minnen, Hoogduin, Keijsers, Hellenbrand, and Hendriks [41] also found cognitive behavioral treatment to be superior to both a wait-list group and fluoxetine for HPD.

More recently, Woods and colleagues [24] and Keuthen and colleagues [27] have completed randomized controlled studies comparing ACT-enhanced behavior therapy and DBT-enhanced cognitive behavioral treatment for HPD. Woods and colleagues [24] in a 10-week wait-list controlled trial demonstrated significantly greater reductions in hair pulling severity and impairment,

plus experiential avoidance, for the treatment versus wait-list group. Importantly, decreases in experiential avoidance were correlated with reductions in hair pulling severity. Keuthen and colleagues [27] in an 11-week minimal attention controlled trial reported greater improvement in hair pulling severity and emotion regulation capacity for the treatment versus minimal attention control group. Reductions in hair pulling severity were correlated with improvement in emotion regulation in maintenance and follow-up, though not at post-treatment.

There exist few well-controlled studies evaluating the efficacy of cognitive behavioral treatment for SPD. Teng, Woods, and Twohig [42] conducted a wait-list controlled trial of HRT and reported a superior outcome for the active treatment versus wait-list control group. Similarly, Schuck, Keijsers, and Rinck [43] compared a brief 4-session HRT package to a wait-list control and also noted significant pre-to-post treatment improvement for those in the HRT group, with maintenance of treatment effects at 2 months follow-up. To our knowledge, there has been no randomized controlled trial investigating ACT-enhanced behavior therapy for SPD though there have been promising case studies.

Historically few studies have assessed maintenance of treatment gains. When follow-up data were collected, treatment gains were often lost. Notably, ACT-enhanced treatment has shown maintenance of treatment gains at 3-month follow-up [24, 44]. DBT-augmented cognitive behavioral treatment, while a more recent approach to the treatment of HPD, also shows promising results with treatment maintenance at 3- and 6-month follow-up [26].

A meta-analysis conducted by Bloch and colleagues [45] provides evidence for the superiority of cognitive behavioral treatment over medication treatment. However, it bears mention that this meta-analysis was conducted prior to the Grant, Odlag, and Kim [14] study demonstrating the efficacy of n-acetylcysteine in the treatment of HPD. To our knowledge, no meta-analysis has been published examining cognitive behavioral and medication treatments for SPD. In two randomized controlled trials comparing cognitive

behavioral treatment with serotonergic reuptake inhibitors [40, 41], the cognitive behavioral treatment was shown to be superior to the pharmacological intervention.

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## 9.7 Case Vignette

Sandy is a 23-year-old, single female with report of increasing depression for several months coinciding with worsening of her hair pulling (HPD) and skin picking (SPD). She had been in treatment before for depression and family problems, but never specifically for her HPD and SPD.

She started to pull her hair at 12 years of age after being instructed to extract a hair in science class to view under a microscope. She recalled a curious pleasure upon extraction of the hair and fascination with the slippery root sheath. She felt compelled to pull out several more hairs at home later that night, running her fingers over the roots and biting off the bulbs at the end of the hair shafts. Over the next few months, she created a quarter-sized area of depilation on the crown of her scalp. Her mother questioned her about this but she feigned ignorance as she feared upsetting her mother. Her pediatrician did not ask her if she pulled her hair but simply gave her topical ointments. Peers started to notice her bald spot, resulting in social withdrawal. At times she pretended to be ill to avoid school. Different hairstyles and hats were used to camouflage the hair loss. She stopped competing on the track and swimming teams when her hair loss was noticed. She avoided sleepovers as her girlfriends would spend time styling each other's hair at these gatherings.

She pulled when tense or stressed but also when unaware while studying or watching TV. She realized she could pull pubic hair instead and allow the scalp hair to grow back. She felt better that she no longer had visible hair loss but increasingly felt ashamed and secretive. She also started to pick at scabs and other skin lesions where her skin was "not smooth." Both hair pulling and skin picking provided relief when stressed and gratification if she could either remove hairs with odd textures (e.g., wiry or kinky) or "bumps" on her skin. At times she stayed up late using

tweezers and pins to extract ingrown hairs and pick at her skin. Her guilt further fueled the behaviors as hair pulling and skin picking would soothe her when upset. She was often tired the next morning after getting to bed late, and had some difficulty focusing in school and at work. She began to wonder if she was “crazy” as she did not know anyone else with these problems. As her leisure and social activities dwindled, she spent more time at home hair pulling and skin picking. Her mood worsened as well given decreased productivity and less time with family and friends.

Her parents took her to a psychologist in high school when her grades plummeted. Several mental health professionals diagnosed her with depression; others screened her for learning and attention issues. No one commented on her hair thinning or facial excoriation even though it was apparent. She was referred for antidepressants and family therapy as several therapists viewed her mother as anxious and too controlling.

Sandy had tried over the years to manage these behaviors on her own using band-aids on her fingers and hats on her head, cutting her nails short and always having a toy for her hands to “fiddle with.” At times she would go for days “white knuckling” it, though, inevitably, she would relapse when upset or resume hair pulling or skin picking out of awareness. She never had a remission that lasted more than 1 week.

Her initial evaluation included a comprehensive interview and completion of self-report scales for severity of hair pulling MGH-HPS, skin picking (Skin Picking Scale-Revised; SPS-R), depression (Beck Depression Inventory-II; BDI-II [46]) and anxiety (Beck Anxiety Inventory; BAI) [47] as well as styles of hair pulling (Milwaukee Inventory for Subtypes of Trichotillomania-Adult; MIST-A) and skin picking (Milwaukee Inventory for Dimensions of Skin Picking; MIDAS). Baseline severity scores included: MGH-HPS—25, SPS-R—14, BDI-II—16 (mild depression), and BAI—23 (moderate anxiety). Baseline scores on the MIST-A (automatic subscale—25, focused subscale—50) and the MIDAS (automatic subscale—20, focused subscale—23) revealed both focused and automatic hair pulling and skin picking.

The first cognitive behavioral treatment session provided psychoeducation on both disorders and introduced self-monitoring. For homework she was instructed to record all behavioral episodes and related triggers and consequences. In Session 2, review of her homework indicated urges were more severe when awareness was reduced, and additional triggers were identified. Sandy reported improved awareness and motivation secondary to her monitoring exercise. Competing motor responses were presented as a coping strategy with instruction to practice them for a minimum of 60 seconds whenever experiencing urges or engaging in hair pulling or skin picking.

In Session 3, stimulus control strategies were introduced to block the behaviors, cue her upon behavioral initiation, or provide alternate sensory stimulation. Specific stimulus control procedures were identified for different situations. Among these were strategies to block the skin picking and hair pulling (e.g., cutting her fingernails short, using rubber fingers on both thumbs, wearing caps/hats/scarves to cover her hair, applying antibiotic ointment to excoriated areas, and putting conditioner in her hair), cue her during reduced awareness (wearing bangle bracelets/bell on arm, verbal cueing from her partner, and timed alarms on her phone/desktop when engaged in sedentary activities) and provide alternative tactile stimulation (koosh balls, silly putty, and floral wire).

By Session 4, habitual skin picking and hair pulling were reduced but the more focused behaviors persisted. Severity of depression and anxiety were also largely unchanged. Sessions 4–6 focused on instruction in mindful breathing and the “what” and “how” skills of mindfulness from DBT [38]. Mindfulness practice was utilized to further elevate her awareness of urges and behavior and reduce the worry that often preceded both behaviors.

Sessions 7–9 subsequently addressed Sandy’s acknowledged difficulties with emotion regulation. She lacked skills to manage her stress, frustration and anxiety, all of which were common triggers for her hair pulling and skin picking. DBT emotion regulation strategies that she found helpful included: reducing emotional vulnerability with lifestyle balance (she committed

to improved eating habits, more routine exercise and more sleep), opposite action (she assertively initiated discussions with her supervisor around work problems rather than withdrawing when upset), and letting go of emotional suffering through acceptance. Her self-monitoring record indicated that, as she learned more ways to cope with uncomfortable emotions, she engaged less and less in hair pulling and skin picking.

Sessions 10 and 11 introduced specific skills for tolerating distress when urge levels were high. Sandy identified the DBT strategies of distraction, radical acceptance and deriving meaning from suffering to be particularly helpful. Lastly, relapse prevention was covered in Session 12, including a discussion of the “abstinence violation effect” and development of a relapse prevention plan.

At post-treatment, her scores were MGH-HPS—6, SPS-R—3, BDI-II—5, and BAI—8. Automatic hair pulling and skin picking no longer occurred and focused hair pulling and skin picking were reduced by 75 %. Three monthly booster sessions focused on review of skills and problem-solving coping strategies for residual hair pulling and skin picking episodes. At 3-month follow-up, hair pulling (MGH-HPS—9) and skin picking (SPS-R—5) severity scores were slightly elevated from post-treatment but still significantly lower than at treatment initiation.

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## 9.8 Summary and Future Directions

The last few decades have witnessed significant advances in our understanding of body-focused repetitive behaviors. To wit, the creation of a new diagnostic category for skin picking in the DSM-5 (Excoriation [Skin-Picking] Disorder) bears testimony to this. The impetus for this new diagnostic classification derived from recent findings of significant prevalence rates, potentially serious medical sequelae and possibly marked functional impairments associated with pathological skin picking. In addition, compelling data have suggested that skin picking is distinct from other similar problems (e.g., Trichotillomania [Hair-Pulling] Disorder).

Not unlike the trajectory of scientific advancement for other disorders, we have made strides in characterizing the problems of HPD and SPD, but still face the challenge of developing treatments that achieve robust and enduring symptom reduction for most individuals. Further recognition of the existence of multiple behavioral styles for these disorders (i.e., habitual and focused), and preliminary study of the roles of experiential avoidance and emotion regulation, have afforded us a more nuanced understanding of these disorders. Augmented cognitive behavioral treatments that target unpleasant inner experiences and that also address habitual behaviors with lowered awareness, have offered promise for more enduring symptom improvement.

However, only single randomized controlled trials exist to date for ACT-enhanced behavioral treatment and DBT-enhanced HRT for the treatment of HPD. These studies have demonstrated superior outcomes only over wait-list control [24] and minimal attention control [27] in reducing hair pulling severity. Considerable work is still necessary to compare these augmented treatment protocols to treatment as usual, to each other, and to effective psychopharmacologic treatment (such as n-acetylcysteine). Dismantling studies would be helpful to identify the effective elements in these multi-component treatment protocols. To date, neither of these augmented cognitive behavioral approaches has been studied in randomized controlled trials for SPD.

We recommend the practicing clinician conduct a thorough functional analysis of the target problem, both at baseline and at intervals throughout treatment, as symptom patterns frequently change over time. Additionally, the relationships between HPD and SPD with other psychiatric conditions also requires thoughtful evaluation, as the symptoms of comorbid disorders can function as triggers for the hair pulling and skin picking. Preliminary or parallel treatment of co-occurring disorders may be warranted to achieve acute treatment benefit and maintenance of symptom reduction for the hair pulling and skin picking. While existing treatment protocols can be helpful tools in the design of treatment interventions, it is critical that clinicians carefully



assess each individual case and tailor their treatment interventions to the idiographic variables present for each hair puller and skin picker. Tables 9.1 and 9.2 provide a list of resources helpful to both clinicians and patients.

**Table 9.1** Resources

National advocacy organizations	
Trichotillomania Learning Center	
Internet Address: <a href="http://www.trich.org">www.trich.org</a>	
Mailing Address: 207 McPherson Street, Suite H	
Santa Cruz, CA 95060-5863	
Voice: (831) 457-1004	
International OCD Foundation	
Internet Address: <a href="http://www.ocfoundation.org">www.ocfoundation.org</a>	
Mailing Address: P.O.Box 961029	
Boston, MA 02196	
Voice: (617) 973-5801	

**Table 9.2** Suggested readings

Authors	Title and publication information
M. E. Franklin & D. F. Tolin	Treating Trichotillomania. Cognitive-Behavioral Therapy for Hairpulling and Related Problems. New York, N.Y.: Springer Science+Business Media, LLC, 2007
J.E. Grant, D.J. Stein, D.W. Woods, & N.J. Keuthen (Eds.)	Trichotillomania, Skin Picking, & Other Body-Focused Repetitive Behaviors. Washington, D.C.: American Psychiatric Publishing, Inc., 2012
N.J. Keuthen & S.E. Sprich	Utilizing DBT skills to augment traditional CBT for trichotillomania: An adult case study. <i>Cog Behav Pract</i> 2012; 19(2):372–380
N.J. Keuthen, D.J. Stein, & G.A. Christenson	Help for Hair Pullers. Oakland, CA: New Harbinger Publications, Inc., 2001
F. Penzel	The Hair-Pulling Problem: A Complete Guide to Trichotillomania. New York: Oxford University Press, 2003
D.W Woods & M.P. Twohig	Trichotillomania: An ACT-enhanced Behavior Therapy Approach. Therapist Guide. New York: Oxford University Press, 2008
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# Behavior Therapy for Tourette Syndrome and Chronic Tic Disorder

# 10

Hannah E. Reese and Aisha Usmani

A tic is a sudden, rapid, recurrent, nonrhythmic, motor movement, or vocalization [1]. Tics can be characterized as simple or complex. Simple tics are of short duration and typically only involve a single muscle group. For example, simple motor tics can include eye blinking, facial grimacing, head jerking, and shoulder shrugging. Simple vocal tics can include throat clearing, grunting, sniffing, or snorting. Complex tics are of longer duration, involve multiple muscle groups, and often appear purposeful. For example, complex motor tics can include hand gestures, jumping, twirling, touching certain objects, or copying another's gestures (echopraxia). Complex vocal tics can include repeating one's own words (palilalia), repeating the last-heard sound or word (echolalia) or blurring out obscenities (coprolalia). Persistent (Chronic) tic disorder (CTD) is characterized by one or more motor *or* vocal tics that may wax or wane in frequency but persist for at least 1 year since onset. Tourette's syndrome (TS) is characterized by multiple motor tics

*and* one or more vocal tics (although not necessarily present concurrently) that may wax or wane in frequency but persist for at least 1 year since onset. For both disorders, onset must be prior to 18 years of age. In addition to tics, most individuals report feeling a premonitory urge to tic, often described as a pressure, tension, or energy, that immediately precedes the tic and is temporarily relieved by the completion of the tic (for review [2]).

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## 10.1 Prevalence, Course, Comorbidity, and Etiology

Although prevalence estimates vary widely, recent research suggests an approximately 1 % lifetime prevalence rate for TS. The lifetime prevalence of CTD has not been well-established, but it is generally considered to be more common than TS (for review of epidemiological data pertaining to TS and CTD see [3]). Males are approximately four times more likely to develop tics than females [3]. Tics usually emerge between 4 and 6 years of age and simple motor tics, such as eye blinking, are often the first symptoms to appear [4]. As described above, both TS and CTD are characterized by a waxing and waning course. Symptoms typically peak in severity around 10 years of age and many individuals experience a significant and sustained improvement in symptoms by late adolescence ([4, 5]; for review [6]). Obsessive-compulsive disorder (OCD) and attention-deficit hyperactivity

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disorder (ADHD) are the two most common comorbid conditions [7]. There is no single cause of tic disorders. They are currently best conceptualized as neuropsychiatric disorders resulting from an interaction of genetic, biochemical, and environmental factors (for review [8]).

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## 10.2 Treatment

Antidopaminergic medications (i.e., typical and atypical neuroleptics) and alpha-2-adrenoreceptor agonists (e.g., clonidine, guanfacine) are commonly used medications for tic disorders (for review [9]). Medications can provide meaningful relief from symptoms, but are often only partially effective and accompanied by marked unpleasant side effects. In the past few decades, a number of psychosocial interventions, including habit reversal training (HRT), massed negative practice, self-monitoring, contingency management, exposure and response prevention (ERP), and cognitive-behavioral therapy (CBT) have been developed and tested in the treatment of TS and CTD [10, 11].

HRT, a behavioral approach originally developed by Azrin and Nunn in 1973 [12], has emerged as the psychosocial treatment of choice for tic disorders (for review [10, 13–15]). As with the medication treatments, HRT is not a cure for tics. However, it can provide meaningful improvement and, unlike medication treatment, is not associated with negative side effects. Across five randomized controlled trials utilizing an active comparison condition (e.g., supportive psychotherapy, ERP), HRT was associated with 18.3–37.5 % reduction in tic severity from pre- to post-treatment (for review [14]). Moreover, in a review of the literature examining the efficacy of HRT for tics, Cook et al. [10] concluded that HRT met the American Psychological Association’s criteria for a “well-established treatment.”

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### 10.3 HRT

HRT is a multicomponent treatment. In its original form [12, 16, 17] it included the following components: (1) self-monitoring, (2) aware-

ness training, (3) competing response training, (4) motivation enhancement/social support, (5) generalization training, (6) contingency management, and (7) relaxation training. Over time, researchers have developed and tested different variants of the original treatment package. The most-recent and well-defined variant of HRT is called Comprehensive Behavioral Intervention for Tics (CBIT; [18]). It primarily consists of awareness training, competing response training, function-based interventions, and relaxation training. CBIT was found to be superior to supportive psychotherapy in children [19] and adults [20]. In what follows we will outline the theory and techniques that comprise CBIT.

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### 10.4 Psychological Model of Tic Maintenance

CBIT is based on a psychological model of tic maintenance rooted in the fundamental principles of learning theory [12, 15, 18]. The model assumes that while tics have a genetic and neurobiological basis, there are important internal and external/environmental factors that serve to reinforce their occurrence and contribute to their maintenance. The most central assumption in the model is that tics are negatively reinforced by relieving the individual from the discomfort associated with the premonitory urge. A premonitory urge is an uncomfortable sensation, often described as a pressure, ache, tension, or energy that immediately precedes the tic and is temporarily relieved by completion of the tic. As a result, the tic is negatively reinforced each time it successfully rids the individual of the urge. Thus, a primary goal of CBIT is to break the connection between the premonitory urge and the tic itself. Patients are assisted in allowing the discomfort associated with the premonitory urge to naturally decrease without engaging in the tic. A second goal of CBIT is to identify and modify other internal and external factors (e.g., stress or anxiety, social attention, certain activities, caffeine) that can make the tics more likely to occur. Thus, effective treatment also includes a thorough assessment of any internal or external/environmental factors associated with tic

exacerbation and the development of function-based interventions aimed at reducing factors that may trigger the tics (antecedents) or be reinforcing factors that reward the tics (consequents).

## 10.5 Assessment

The diagnosis of TS or CTD should be based on the criteria outlined in the most-recent version of the Diagnostic and Statistical Manual (DSM-V; [1]). In cases with an unusual presentation or complicated history, consultation with a neurologist may be necessary to rule out another movement disorder or an organic cause for the tics.

The Yale Global Tic Severity Scale (YGTSS; [21]) is the gold-standard clinician-rated measure of tic severity. The YGTSS is a semi-structured interview that takes approximately 15–20 minutes to administer. Raters assess motor and phonic tics separately in five domains: number, frequency, intensity, complexity, and interference. Each domain is rated on a scale from 0 to 5, with 5 indicating greater severity. Additionally, raters provide an impairment score from 0 to 50 (with higher scores indicating greater impairment) reflecting the individual's overall impaired functioning due to his or her tics.

A useful and brief self-report measure of tic severity is the Parent Tic Questionnaire (PTQ; [22]). The PTQ asks the parent to report on the presence, frequency, and intensity of 14 motor and 14 vocal tics. A parallel measure, the Adult Tic Questionnaire (ATQ) has also been developed. It is identical in structure and content but has not yet been psychometrically validated.

## 10.6 Treatment Overview

Although the length of treatment has varied widely in the literature (e.g., one 2.5 hour session [16] to 20 sessions over 8–11 months [17]), treatment most often consists of 8–12 weekly 1-hour sessions with 3–6 additional bi-weekly or monthly booster sessions. Keeping these guidelines in mind, we recommend that clinicians flexibly adapt the length of treatment based on individual patient needs.

Following a detailed assessment, the therapist should provide psychoeducation about the nature of the disorder and the theoretical model guiding the treatment. The website of the Tourette Syndrome Association (see Table 10.1) is a great resource for patients and also has a number of handouts that may be helpful in presenting this information to patients. Behavior therapy is difficult and requires a great deal of concentration, time, and effort on the part of the patient. Therefore, we recommend that the therapist ensures that the patient clearly understands the treatment rationale, and addresses any ambivalence or motivational issues that the patient may have prior to beginning the interventions. When the patient is ready to begin awareness training, the therapist should

**Table 10.1** Resources

### *National advocacy organization*

Tourette Syndrome Association, Inc

Internet Address: [www.tsa-usa.org](http://www.tsa-usa.org)

Mailing Address: 42-40 Bell Boulevard

Bayside, NY 11361

Voice: (718) 224-2999

Fax: (718) 279-9596

### *Suggested readings*

Woods, D. W., Piacentini, J., Chang, S., Deckersbach, T., Ginsburg, G. S., Peterson, A. L., Scahill, L. D., Walkup, J. T., & Wilhelm, S. (2008a). *Managing Tourette syndrome. A behavioral intervention workbook: Parent workbook*. New York: Oxford University Press

Woods, D. W., Piacentini, J., Chang, S., Deckersbach, T., Ginsburg, G. S., Peterson, A. L., Scahill, L. D., Walkup, J. T., & Wilhelm, S. (2008b). *Managing Tourette syndrome. A behavioral intervention: Adult workbook*. New York: Oxford University Press

Woods, D. W., Piacentini, J. C., Chang, S. W., Deckersbach, T., Ginsburg, G. S., Peterson, A. L., Scahill, L. D., Walkup, J. T., & Wilhelm, S. (2008c). *Managing Tourette syndrome. A behavioral intervention for children and adults: Therapist guide*. New York: Oxford University Press

Reese, H. E., Timpano, K., Siev, J., Rowley, T., & Wilhelm, S. (2010). Behavior therapy for Tourette syndrome and chronic tic disorder: A web-based video illustration of treatment components. *Cognitive and Behavioral Practice, 17*, 16–24

Note: The Reese et al. manuscript also includes web-based video demonstrations of awareness training, competing response training, and example competing responses

work with the patient to develop a comprehensive list of the patient's tics ordered from most to least bothersome (i.e., tic hierarchy). The hierarchy should include a unique label (e.g., head jerk, foot stomp) for each of the patient's tics and a rating of how bothersome each tic has been in the past week on a scale from 0 (not at all bothersome) to 10 (extremely bothersome). Each tic should then be re-rated at each subsequent therapy session to assess progress. This hierarchy will guide the treatment. We recommend beginning with the most bothersome tic. However, if that feels too difficult for the patient, it may be more motivating for the patient to start with a less challenging tic. We also recommend targeting one new tic at each treatment session, if possible.

This process begins with awareness training for the first tic. At the subsequent session, the therapist should continue with competing response training and the development of function-based interventions for the first tic, and introduce awareness training for the second tic on the hierarchy. Thus, after the first awareness training session, each session would include the following procedures: review of homework, competing response training and the development of function-based interventions for the tic that the patient monitored in the past week, awareness training for the next tic on the hierarchy, and assignment of new homework. After successfully targeting each of the patient's tics, the therapist should introduce relapse prevention strategies, including the gradual tapering of session frequency, to encourage the patient to independently apply the skills acquired in treatment. For session-by-session treatment outlines, we highly recommend the recent therapist manual and patient workbooks published by Woods and colleagues (see Table 10.1).

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## 10.7 Awareness Training

Awareness training lays the foundation for all other interventions in CBIT. It is essential that patients are aware of the occurrence and precise nature of their tics, the associated premonitory urges, and the factors that make their tics better or worse in order to develop and implement

effective competing responses and function-based interventions.

Awareness training begins by developing a very detailed description of the step-by-step sequence of movements involved in the tic. Careful questioning and observation is necessary at this stage of awareness training. Helping the patient clarify the precise nature of his or her tics with matter-of-fact questioning can also simultaneously build rapport. When describing a tic, the patient and therapist should be concrete, specific, and define all terms. For example, when describing a "nose rub," the patient should describe exactly what constitutes a "rub," which part of the nose is rubbed, which hand and/or fingers are used, what the first movement of the tic is, etc. We sometimes ask the patient to imagine that the therapist cannot see the patient and needs to understand the tic completely through a verbal description. At times, the patient may benefit from using a mirror to examine his or her tics. In addition, the therapist should gently point out any discrepancies between the patient's description of the tic and the therapist's observation of the tic.

After describing the tic, the patient should describe the premonitory urges in a similar fashion. The patient will ultimately implement competing responses whenever he or she identifies a premonitory urge and sometimes even prior to an anticipated urge (e.g., when entering a situation in which tics are very likely to occur). Therefore, attending to the occurrence of sensations that precede tics is of critical importance.

This process can sometimes be uncomfortable or difficult for the patient as he or she may not have discussed their tics in such detail previously, and may have also intentionally ignored the tics. Patients, especially younger patients, may also be unaware of some of their premonitory urges and may require guidance in identifying them. We recommend acknowledging this discomfort at the outset and encouraging the patient to provide as much information as he or she feels comfortable with. It is not uncommon that a full description of each of the tics emerges over several sessions as the patient starts to pay more attention, notices new features, and feels more comfortable disclosing to the therapist.

Once the patient has formulated a description of the tic and its premonitory urges, he or she practices identifying and acknowledging the occurrence of the tic and the warning signs. The therapist should begin by asking the patient to either verbally (e.g., say, “There was one.”) or physically (e.g., raising a finger or hand) acknowledge each time that the tic occurs in session. The therapist should also inform the patient that he or she will gently note tics missed by the patient. Practice should continue until the therapist is confident that the patient is aware of when the targeted tic is occurring. This process can then be repeated to include awareness of the premonitory urges. The patient should be encouraged to acknowledge the earliest possible sign of tic occurrence. Again, practice should continue until the therapist is confident that the patient can identify the premonitory sensations.

Once awareness training for the first tic has been practiced in session, the patient is asked to monitor that tic in the subsequent week. We recommend that the patient choose at least three or four half-hour periods of time during which he or she will closely monitor the targeted tic. The patient should record the time, situation, and a written tally of each tic occurrence, using a paper and pencil, or smart phone type device, whichever results in a higher monitoring rate. Furthermore, the therapist should encourage the patient to subtly note each tic occurrence as often as possible throughout the week. At this point, we recommend informing the patient that monitoring of the tic may produce a temporary increase (or a perceived increase) in the frequency of tics, but that ultimately enhanced awareness is necessary for the successful implementation of the competing response.

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## 10.8 Competing Response Training

After the therapist and patient are reasonably confident that the patient is aware of when the first tic on the hierarchy is occurring, they should move onto competing response (CR) training. The primary purpose of the CR is to provide the patient with a physical response that helps them

allow the premonitory urge to subside independently without engaging in the tic. As mentioned previously, successful implementation of the CR depends on adequate awareness of the tic. In turn, effective maintenance of treatment gains relies in large part on the consistent utilization of the CR [18, 23].

CR training entails four steps, including: (1) psychoeducation regarding CR guidelines; (2) identifying a suitable CR for a given tic; (3) therapist demonstration of the CR; and (4) having the patient practice the CR.

The first step should orient the patient to the characteristics of an effective CR. There are three basic criteria that should be taken into consideration when establishing a CR:

1. The CR is generally opposite or incompatible with completion of the tic.
2. The CR should be inconspicuous and compatible with ongoing movements or activities.
3. The CR should be able to be maintained without discomfort for at least 1 minute, or until the urge to tic subsides, whichever is longer.

After reviewing these criteria, the therapist and patient should then work together to develop a CR for the targeted tic. Patient input is essential in this process and we have often found that patients have identified potential CRs in their previous attempts to manage their tics. It is also important to remember that there is no correct CR and no two patients will be exactly the same. Table 10.2 provides a brief summary of some CRs that may be effective for common tics (see also [18, 24]). For complex tics, we recommend developing a CR for the very first component of the tic. It is therefore necessary for the patient and therapist to carefully identify the specific sequence of behaviors or movements associated with the complex tic to determine where the point of origin is. Often, by interrupting the first movement, the entire sequence of movements is prevented. It should also be noted that it is sometimes difficult to develop a CR that is opposite or incompatible with the tic. In this case it may be appropriate to identify an alternate and more feasible behavior that while not in direct opposition to the tic, would nevertheless aid the patient in allowing the urge to tic to independently subside, that is, without engaging in the tic. For example,



**Table 10.2** Commonly occurring tics with accompanying potential competing responses

Tic	Competing response(s)
Eye blinking	Slow, rhythmic (every 3–5 seconds) eye blinking Maintaining a steady, soft gaze on a fixed point
Nose wrinkle	Close mouth, pull upper lip down and roll it under top teeth
Vocal tics: throat clearing; grunting; coprolalia, etc.	Diaphragmatic breathing with an emphasis on maintaining a continuous, comfortable, regular rhythm
Grimace	Slight purse of the lips
Neck tics/head jerk	Start with opposite action (e.g., if tic always starts with a chin movement to the right then competing response could involve moving chin to the left) Gently lower chin to the chest
Shoulder tics	Pull shoulder(s) down toward ground Hold upper arm(s) against torso Pull shoulders back, bringing shoulder blades closer together
Arm tics	Bring arm(s) in against the side Cross the arms in front Clasp hands in front Put hands in pockets
Finger tics: tapping; touching	Make a fist Push palms and fingers together Place hands flat against another body part
Stomach tensing	Diaphragmatic breathing with an emphasis on maintaining a continuous, comfortable, regular rhythm
Moving toes up or around	Gently push toes against the ground or a shoe Raise the heel to maintain constant pressure against the ball of the foot and the toes

in a study of HRT for oral-digital habits (e.g., thumb-sucking) in children, Woods et al. [25] found that clenching one's knees upon noticing the urge to suck one's thumb was just as effective as making a fist upon noticing the urge.

Once a suitable CR has been agreed upon, the therapist should demonstrate the correct implementation of the CR to the patient. The CR should be initiated at the earliest sign that a tic is occurring, or about to occur. It should then be

maintained for a minute or until the urge to tic has subsided, whichever is longer. Finally, the patient should practice using the CR, during the session. Ideally, with practice the patient should be able to engage in the CR before the tic even occurs; however, at the beginning of treatment they should be encouraged to implement the CR even if he or she notices that a tic just occurred. If a patient's premonitory urge subsides rather quickly (well under a minute), it can be helpful to use a timer to help the patient learn how long he/she should maintain the competing response (one full minute). If a patient does not tic in session, it can be helpful to have him/her practice with a simulated tic to ensure that he or she is implementing it correctly.

After successful in-session practice, the therapist should assign at-home practice. As with awareness training, we recommend at least three or four half-hour periods in which the patient will plan to use the CR any time that they tic or notice the urge to tic. They should be encouraged to use the CR at other, unplanned, times as much as possible. For some patients, especially younger patients, recruiting the assistance of a family member or friend can be extremely helpful in completing the at-home practice. The support person should be instructed to provide encouragement for the patient as well as gentle reminders to use the CR if the patient is not using it as planned.

## 10.9 Function-Based Assessment and Intervention

Function-based assessment begins with a thorough inventory of the internal and external factors that are associated with worsening of tics. Antecedents are the factors that occur before a tic occurs, and consequents are the factors that occur after the tic occurs. These factors should be assessed independently for *each* tic that the patient is experiencing as the environmental contingencies can differ between tics. The functional assessment will aid the therapist in identifying factors that may need to be reduced, modified, eliminated, or situations in which the patient needs to practice the competing response. Woods

et al. ([18], page 30) provide a list of common antecedents and consequents that may guide assessment, but generally, the therapist should assess for any factors that are associated with tic exacerbation.

Antecedents may be internal (e.g., emotions, hunger, fatigue) or external (certain situations, activities, times of day). For example, an individual may report that his/her tics are much worse when he/she is hungry. In this case, a function-based intervention could involve eating at regular intervals throughout the day and always having a small snack on hand. As another example, an individual might report that his/her tics are much worse when he/she is overly scheduled. In this case we would work with the individual to schedule breaks into his/her day.

It is very common for individuals to report that their tics are exacerbated during times of stress, tension, frustration, or anxiety [26]. For this reason, diaphragmatic breathing and progressive muscle relaxation are standard components of CBIT, typically introduced in sessions four or five. In our experience, traditional anxiety and stress-management techniques such as cognitive restructuring, time management, activity scheduling, and problem-solving can also be useful additions to therapy.

Some antecedents may not lend themselves to modification but can be targeted for planned practice with the CR. For example, a patient who reports that his tics are much worse during business meetings might make it a goal to practice the CR specifically during those times. We would also encourage the patient to go into those situations with the CR already engaged.

Consequents often include attention (positive or negative) or escape from a situation or task. For example, an individual may receive extra attention from his/her loved ones when he/she tics. In this case, the family members may be unwittingly reinforcing the tic by providing positive attention for its occurrence. Because we know actions that are reinforced are more likely to occur in the future, we would work with the family to help them ignore the tic. As another example, a child might report that he/she gets pulled out of class when his/her tics increase. If

this is something that the child enjoys, then we would recommend that the school try not to remove him from class. Alternatively, the school could make every effort to ensure that the child is not escaping work or other responsibilities when he/she is pulled out of class.

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## 10.10 Relapse Prevention

Relapse prevention is essential in helping the patient independently apply the skills learned in treatment. When the patient is ready, we recommend gradually tapering the frequency of the treatment sessions. During this time the therapist and patient should also review all of the treatment strategies and discuss how they could be applied to any new tics or to the resurgence of a previous tic. The natural course of tics are to wax and wane over time, and thus the patient should be warned against feeling like they are “back to square one” if they experience an increase in tics or the urge to tic. Instead, they should be prepared for such times and be ready to apply the same behavioral strategies they have already used in treatment. To maintain treatment gains we would also recommend that the patient schedule self-sessions on a weekly basis. Self-sessions provide a structure for the patient to check-in with himself or herself regarding symptom severity, practice, and continued goals.

In what follows we provide a case review illustrating many of the principles and techniques outlined in this chapter.

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## 10.11 Case Example

Seraphina is a 19-year-old, single, female college student who was referred for treatment of tics by her neurologist. Seraphina first developed tics in early childhood. She reports a long history of multiple motor and vocal tics which occurred for several years prior to being diagnosed as TS. The severity of her tics waxed and waned over the years. As a child Seraphina relied on the support of her parents to manage the interference associated with the tics. Seraphina had recently moved

away from home to attend college, however, and the separation from her parents and college-related stress were making it more difficult for her to manage her tics. Seraphina had never received any form of psychosocial treatment. At the time Seraphina came to see the therapist for tic management, she was taking Guanfacine, as prescribed by her neurologist. Her current tics included abdominal clenching, bicep clenching and jerking, neck jerking, shoulder shrugging, throat clearing, and loud vocal sounds. Seraphina also reported significant worry about various areas of her life, including being in college, student loans, her health, and future. She also endorsed associated symptoms including irritability, fatigue with muscle tension, and difficulties sleeping when worried. Based on Seraphina's symptom report, the therapist diagnosed Seraphina with generalized anxiety disorder (GAD) in addition to TS.

Treatment began by focusing on the tics, as Seraphina felt her tics, and the muscle pain they caused, were more troublesome than her anxiety. The first session focused on psychoeducation regarding TS. The second session focused on introducing CBIT, explaining the different elements of CBIT, and beginning awareness training. Because Seraphina did not experience any tics during this session, the therapist provided her with instructions for detecting the tics and premonitory urges at home. The therapist also provided Seraphina with a form to help her monitor the factors associated with worsening her tics.

In session three, Seraphina's homework revealed that her tics were exacerbated when she was stressed or sleep-deprived. Seraphina also experienced a few motor tics in session three and this provided the opportunity for in-session practice in noticing the premonitory urges to tic and the tics themselves. The therapist and patient then worked together to develop a competing response for her bicep clenching tic, which Seraphina regarded as the most interfering tic. For this tic, Seraphina noted a premonitory urge in her shoulder area, at the place where the arm and shoulder intersect. An effective competing response involved pushing her elbow away from her body slightly, which prevented her biceps from clenching. Seraphina practiced implementing

this competing response at the first sign the tic was about to occur in session. She maintained the competing response until the urge to tic subsided, which in her case, was several minutes. The therapist then provided instructions for continuing this practice at home. Because Seraphina reported ongoing sleep difficulties, and fatigue was a trigger for tic exacerbation, the therapist also introduced basic sleep hygiene skills to Seraphina during session three. Session four was similar to session three and competing responses to other tics were taught and practiced in session. During session five, relaxation strategies were taught, both to target the muscle tension associated with the tics, and to help reduce stress and worry (i.e., applied relaxation for anxiety treatment). Specifically, the therapist introduced diaphragmatic breathing and progressive muscle relaxation. The therapist and Seraphina then practiced these exercises together in session. Sessions six and seven continued to focus on tics, including awareness training and competing response training for other tics.

In session seven, the therapist also began focusing more on Seraphina's anxiety by providing psychoeducation about anxiety. In session eight, Seraphina reported that she was having difficulty remembering to use the competing responses at unplanned times. For example, she often forgot to use competing responses when in class. Accordingly, the therapist assisted Seraphina in identifying ways to remember to use the competing response when needed. They agreed that Seraphina would set an alarm on her phone in silent but visual mode (light flashing) during class hours, which served as a reminder to use the competing response, if needed. The therapist also introduced and demonstrated cognitive restructuring to target Seraphina's worry. Sessions 9 through 12 continued to focus on her tics and anxiety in the same way. By session 10, Seraphina began to notice a decrease in her urges to tic, such that her need to practice the competing responses was reduced. She also began to experience lower anxiety with consistent cognitive restructuring practice, and improved sleep with sleep hygiene skill use. In session 13 the therapist introduced some brief behavioral acti-

vation skills for mood management, as Seraphina was experiencing lower mood related to some family stressors. Session 14 involved teaching 7-muscle PMR, as Seraphina had been doing well with the 16-muscle PMR, but found it too time-consuming to practice daily with her busy school schedule. Sessions 15–17 focused on 4-muscle PMR, refining cognitive restructuring, and learning ways to adapt competing responses. Learning to adapt competing response was an important part of Seraphina's training for independent skill use. The therapist coached Seraphina in developing new competing responses for her existing tics, if the old competing response became effective or infeasible to use in certain situations. For example, the competing response that Seraphina had previously developed for her shoulder shrugging tic was to press her shoulder against her chair. This worked in most situations. However, at a certain lab class at school, only stools and benches were provided to sit on. For this type of class situation, or when she was standing, Seraphina tried another competing response which was to tighten the muscles in her shoulders. Because Seraphina understood the principles of CR training, she also knew how to create new competing responses for any new tics or new circumstances that arose. Finally, sessions 18 and 19 focused on creating relapse prevention plans for both Seraphina's tics and worry. By the end of treatment, Seraphina noted feeling more confident about being able to manage her tics, which she said was the most powerful aspect of the treatment for her. She also reported decreased worry and anxiety and had an action plan for how to address a resurgence of symptoms. Seraphina returned approximately 6 months after treatment for a booster session to review cognitive restructuring, detect premonitory urges, and create effective competing responses.

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## 10.12 Summary

TS and CTD are chronic neuropsychiatric disorders resulting from an interaction of genetic, biochemical, and environmental factors. Symptoms

typically develop in early childhood and wax and wane in severity over time. Many individuals will experience a marked reduction in symptoms by adulthood. There is currently no known cure for tics. Medications, including neuroleptics and alpha-2-adrenoreceptor agonists, can be effective, but are associated with significant side effects. In contrast, psychosocial treatments have been shown to significantly reduce tic severity without side effects. The most well-established psychosocial treatment for tics, CBIT, is based in principles of learning theory. CBIT teaches patients to manage their tics more effectively by becoming more aware of the tics, the premonitory urges, and the factors associated with tic exacerbation. Patients then learn to engage in a competing response which assists them in allowing the urge to tic to subside independently, and are assisted in developing function-based interventions aimed at modifying or reducing the factors that may be triggering or reinforcing the tics. We are encouraged by recent advances in the behavioral treatments of tics. Hopefully, future research aimed at improving our understanding of the causes of tic disorders, and elucidating the mechanisms of change in treatment, will allow us to further improve the treatments available to our patients.

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## 11.1 Introduction

The hallmark symptom of body dysmorphic disorder (BDD) is an excessive preoccupation with perceived defects in physical appearance that are not noticeable to others. It is currently classified in the DSM-5 under obsessive–compulsive and related disorders [1]. BDD differs from normal appearance concerns, as it can contribute to significant interference in social and occupational functioning. When real physical flaws are present, they are minor and individuals with BDD display an exaggerated concern about the severity of the defect. Individuals with BDD report intrusive thoughts about their appearance and often spend several hours (an average of 3–8 hours/day) thinking about their appearance concerns [2]. In addition, nearly all patients perform time-consuming and repetitive behaviors to hide, fix, or correct their appearance, such as camouflaging their appearance with makeup or accessories, excessively grooming, touching or measuring body parts, comparing body parts with others, researching ways to improve appearance

on the Internet, and excessively mirror checking [3]. Any body part may be the focus of concern, and research suggests that concerns can progress and shift focus over time [4], with patients averaging a preoccupation with 5–7 body areas over the course of illness [3]. The most common areas include the skin, hair, nose, eyes, or teeth [3]. Some BDD patients also have shape/weight concerns; pervasive concern with shape and size, perceptual distortions about one’s physical appearance, and dietary compulsions may be present in both eating disorders and BDD [5]. BDD is frequently comorbid with eating disorders, as recent evidence indicates that 12 % of inpatients with eating disorders had comorbid BDD, and lifetime prevalence of BDD was 15.0 % [6]. However, significant disordered eating or the absence of other nonweight-related concerns may be indicative of primary eating pathology.

An associated feature of BDD is poor insight. Thus, many patients try to improve their appearance through cosmetic surgery, which is often not helpful and may exacerbate symptoms [7]. Indeed, one study showed that up to 33 % of patients seeking rhinoplasty reported at least moderate symptoms of BDD [8]. Furthermore, BDD is associated with significant psychosocial impairment, which may contribute to social avoidance and, in severe cases, suicide [9]. Research suggests that 24–28 % of individuals with BDD have attempted suicide and that 0.3 % have completed suicide, which represents a higher

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morbidity rate than other psychiatric disorders such as depression and anorexia nervosa [10, 11].

Large epidemiological studies indicate that the prevalence of BDD ranges between 0.7 and 2.4 % [12–15]. Approximately 5.3 % of college students endorse self-report symptoms of BDD [16]. Studies have also examined the prevalence of BDD in various clinical samples. One study found that the prevalence of BDD in an outpatient clinic for anxiety disorders was 6.7 %, and was particularly high (12 %) among patients with social anxiety disorder [17]. A more recent study examining BDD prevalence in adult outpatients with mood, anxiety, and somatoform disorders found that approximately 1.8 % of the sample met diagnostic criteria for BDD [18]. Among inpatient samples, the prevalence of BDD appears higher, ranging between 13.1 and 16.0 % [19, 20]. This is consistent with evidence showing high rates of comorbidity between BDD and other Axis I disorders, such as depression, obsessive–compulsive disorder, social phobia, and substance use disorder [21]. Taken together, these data suggest that BDD is a relatively common disorder, which frequently co-occurs with other psychological disorders, and that it may be important to detect symptoms in clinical practice.

Given the complex and heterogeneous nature of body dysmorphic disorder (BDD), its etiology and pathophysiology remain unclear. However, several biological, psychological, and sociocultural factors have been examined for their role in the development and maintenance of BDD (for a review, see [22]). For example, the etiology of BDD has been associated with dysregulated brain circuitry in the orbitofrontal cortex [23], abnormalities in visual processing [22, 24], maladaptive cognitive factors such as selective attention [25], culturally variant standards of beauty [26], and social learning experiences, which contribute to negative appearance-based self-appraisals [27]. Cognitive behavioral models of BDD [27–29] purport that BDD is developed and maintained by the reinforcement of maladaptive avoidance behaviors, such as persistent mirror checking and grooming, and dysfunctional cognitive processes, such as negative appraisals of body image, self-focused attention, and post-event rumination.

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## 11.2 Cognitive Behavioral Model of BDD

Cognitive behavioral therapy (CBT) models of BDD (e.g., [28, 29]) incorporate biological, psychological, and sociocultural factors in the development and maintenance of BDD. The CBT model is based on the premise that individuals with BDD selectively attend to specific and/or minor aspects of appearance. This theory is informed by clinical observations and findings from neuropsychological [30] and neuroimaging studies [22, 24], which suggest that patients over-focus on details (local) rather than holistic (global) elements of a visual stimuli. Furthermore, individuals with BDD tend to exaggerate the meaning and importance of minor, or even nonexistent, physical imperfections. For example, when walking into a restaurant, a patient with BDD who has concerns about his/her skin might have the thought, “Everyone in the restaurant is staring at me and thinking about how ugly and red my skin is.” Patients are also more likely to misinterpret minor flaws (e.g., a blemish) as major personal flaws (e.g., “If my skin is red, I am unlovable”; [28, 31]). Additionally, the model postulates that negative feelings (e.g., anxiety, shame, sadness) resulting from maladaptive interpretations lead to attempts to neutralize these feelings with ritualistic behaviors (e.g., excessive grooming, surgery seeking) and avoidance of trigger situations (e.g., social situations). Because rituals and avoidance behaviors sometimes temporarily diminish painful emotions, they are negatively reinforced, and, in this way, are hypothesized to maintain dysfunctional BDD-related behaviors.

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## 11.3 Cognitive Behavioral Treatment for BDD

A new modular CBT manual was developed specifically for BDD (CBT-BDD; [29]) and has been shown to be efficacious [32, 33]. CBT-BDD consists of 22 individual 60-minute sessions over 24 weeks (see [29]). Three introductory sessions include psychoeducation, case formula-

tion, motivational enhancement, and goal setting. Next, core treatment components include cognitive restructuring, exposure and ritual prevention, and mindfulness/perceptual retraining. Optional treatment modules can be used with patients who have symptoms requiring specific strategies (e.g., skin picking/hair plucking); modules can be used for as long as necessary. All patients receive relapse prevention (last 2 sessions).

### 11.3.1 Assessment

CBT begins with a careful assessment of BDD and related symptoms. Clinicians should inquire about BDD-related areas of concern, thoughts, behaviors, and impairment. Patients with BDD are often embarrassed or ashamed of their body image concerns and are less likely to voluntarily disclose them. Assessment can also inform the future need for motivational interviewing techniques, as well as modular interventions to address particular concerns (e.g., skin picking, muscle dysmorphia; [29]).

The following assessment tools can be used to screen, diagnose, and assess the severity of BDD: The *Body Dysmorphic Disorder Questionnaire* (BDDQ; [34]), a brief self-report measure of appearance concerns, distress, and impairment, can be used to screen for BDD; it is not indicated for use as a diagnostic instrument. The *BDD Diagnostic Module (BDD-DM)* is a brief, semi-structured module based on DSM-IV criteria used to diagnose BDD [35]. The *Yale-Brown Obsessive Compulsive Scale Modified for BDD (BDD-YBOCS; [36])* is a reliable and valid 12-item semi-structured clinician-administered scale that rates the current severity of BDD symptoms. Scores range from 0 to 48 with higher scores indicating more severe BDD symptoms. The *BDD Symptom Scale (BDD-SS; [37])* is a self-report scale that rates the severity of specific BDD symptoms. The scale organizes symptoms into similar clusters of problem behaviors (e.g., checking and comparing; skin-picking and hair pulling; avoidance) as well as problematic beliefs and attitudes about appearance. The BDD-SS can

be used to inform clinical decision making and help to evaluate the effectiveness of treatment on specific symptoms as well as overall severity.

Given the high rates of depression and suicidality in BDD, it is critical to evaluate depression and suicidality at the onset of, and at regular intervals throughout, treatment. A measure of depressive symptoms that allows for close monitoring of suicidal thoughts, such as the *Beck Depression Inventory-II (BDI-II; [38])* is recommended.

It is also important for the therapist to differentiate BDD symptoms from other commonly co-occurring disorders (e.g., social phobia, OCD, eating disorders). The therapist can use the assessment of a patient's BDD symptoms to individualize therapeutic interventions (e.g., psychoeducation, building of an individualized CBT model, exposure and ritual prevention exercises). In particular, assessment of insight is important as some individuals with BDD may have poor insight into their symptoms, believing that their problems are not psychiatric in nature, and thus best addressed through appearance enhancing interventions (e.g., plastic surgery) alone [29]. The *Brown Assessment of Beliefs Scale (BABS; [39])* is a valid, reliable 7-item interview that dimensionally measures insight regarding inaccurate beliefs (e.g., "I look like a disfigured monster"). Scores range from 0 to 24, with higher scores reflecting poorer insight/greater delusionality.

### 11.3.2 Psychoeducation

Therapists can begin by providing patients with some initial information on BDD (e.g., typical symptoms, prevalence). Psychoeducation also involves the therapist presenting patients with the CBT model of BDD. The therapist and patient can then derive a cognitive behavioral model for the patient's specific BDD symptoms, including hypothesized factors that may have contributed to the development of the disorder (e.g., selective attention to detail, perfectionism, biological predisposition), as well the current maladaptive



thinking and behavioral patterns maintaining the symptoms [29, 40].

Therapists can help patients maximize the usefulness of treatment by establishing a general session structure and flow from the outset. Sessions typically begin with a brief mood and symptom check followed by a review of the previously assigned homework. Then, the therapist and patient will collaboratively set an agenda for a particular session (e.g., exposure/ritual prevention where a patient walks into a store without wearing sunglasses). Sessions typically end with the therapist and patient deciding on the homework assignment for the week (e.g., the patient will go into three public spaces without his/her sunglasses on), as well as giving the patient time to summarize and provide feedback to the therapist on the session. The importance of between-session homework should be stressed. Practicing CBT skills between sessions can help the patient practice his/her new strategies in a real-world context. Homework compliance has been associated with better CBT outcome in OCD [41] and anxiety [42].

### 11.3.3 Motivational Strategies

Motivational strategies, including motivational interviewing (MI) techniques [43] are used frequently during CBT for BDD. Many BDD patients are ambivalent about therapy, and may worry about giving up appearance-related beliefs and behaviors. For example, a patient might be afraid that if he/she were to stop spending hours grooming his/her hair, then he/she would lose complete control over his/her appearance and be seen as a vagabond. Motivational strategies typically start in the first session by assessing the patient's reasons for wanting change and potential barriers to change (e.g., poor insight, desire for surgery; [29]). Motivational strategies for BDD emphasize a nonjudgmental stance in which the therapist guides the patient in exploring his/her willingness and readiness for change. The goal of MI is to elicit statements from patients indicating interest and optimism in their ability to change ("change talk"; e.g., "I'd prob-

ably be happier if I didn't worry so much about my skin"). Common techniques include Socratic questioning to explore the pros and cons of change and developing discrepancy between living a life that is controlled by BDD symptoms and the patient's values and goals, for example by asking the patient to look forward (e.g., "What would you like your life to be like in 5 years?").

Individuals with BDD often have poor insight. Patients with delusional BDD beliefs may be completely convinced that their appearance-related beliefs are true (e.g., "I am 100 % certain I look like a freak"). A common pitfall of therapists is to try to persuade the patient that his/her BDD concerns are wrong, or to offer appearance-related reassurance (e.g., "You're very handsome; Your skin isn't that bad"). These strategies frequently end in arguments and can compromise the therapeutic alliance. Rather than challenging the validity of BDD beliefs, the therapist is encouraged to empathize with the patient around his/her distress and establish a common goal of improving functioning and quality of life (e.g., "Your body image concerns seem to be causing you a lot of suffering, let's work together to try to reduce your distress"; [29]).

### 11.3.4 Cognitive Restructuring

Cognitive restructuring involves the identification, evaluation, and restructuring of automatic, maladaptive BDD thoughts. Therapists can begin by introducing patients to common cognitive distortions in BDD, such as "all-or-nothing thinking" (e.g., "This pimple makes me completely disgusting") or "mindreading" (e.g., "I know my wife wishes I was more muscular"). Patients are then encouraged to monitor their appearance-based thoughts in and outside of the session and identify cognitive distortions, particularly in high distress or avoided situations (e.g., "Why am I so anxious when I go out with my friends?" "I am worried everyone will be staring at my pimples" Cognitive distortion: "personalization"). After the patient becomes comfortable with identifying maladaptive BDD thoughts, the therapist can aid the patient in learning to evaluate and modify

these thoughts (e.g., [29, 40, 44]). While it is often helpful to evaluate the validity of a maladaptive thought (e.g., “What is the evidence that my wife thinks I’m too puny?”), it can also be beneficial to examine its usefulness (e.g., “Is it really helpful for me to think that I can only be happy if I’m more muscular?”; [29]).

### 11.3.5 Exposure and Ritual Prevention (E/RP)

Prior to beginning exposure and ritual prevention, it can be helpful for the therapist and patient to review the patient’s BDD model. This can help to identify the patient’s BDD rituals (e.g., excessive mirror checking) and avoidance behaviors (e.g., avoiding friends) and facilitate discussion on the role of rituals and avoidance in the maintenance of BDD. The therapist and patient should collaboratively develop an exposure hierarchy of anxiety provoking and/or avoided situations (e.g., going to dinner with friends, wearing a swimsuit at the beach). Avoidance of daily activities, or activities that could reveal one’s perceived flaw, are common. Patients may avoid shopping (e.g., changing in a dressing room), swimming or going to the beach, intimate sexual encounters, going to work or class, or accepting social invitations, for fear of social rejection. Situations aimed at broadening a patient’s overall social experiences should be included in the hierarchy. For example, instead of avoiding social situations entirely for fear that his or her skin looks really “disgusting,” a patient should be encouraged to go out twice a week with friends. The initial exposure assignment should be mildly to moderately challenging and have a high likelihood for success. Thereafter, the therapist should guide the patient through a systematic completion of E/RP based on the hierarchy, from least anxiety provoking to increasingly more challenging situations. To reduce rituals like excessive grooming or mirror checking, patients are encouraged to monitor the frequency and contexts in which they perform their rituals. The therapist can introduce strategies to help patients to resist rituals, for example, delay (e.g., wait more time than usual before checking the mirror) or reduce rituals

(e.g., wearing less makeup when out in public) with the goal being eventual elimination of these behaviors [29]. The patient should be encouraged to use ritual prevention skills when engaging in exposure exercises. The therapist can encourage the patient to view exposure as a “behavioral experiment” during which they evaluate the validity of negative predictions (e.g., “If I don’t wear a long-sleeved shirt, someone will laugh at my pale arms”). The goal of E/RP is to help patients both practice tolerating distress without intervening with safety/ritual or escape behaviors and to garner objective information to evaluate their negative beliefs [29].

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## 11.4 Advanced Cognitive Strategies

Once the patient has become adept at identifying and restructuring automatic appearance-related beliefs, the therapist can introduce advanced cognitive strategies to examine more deeply rooted “core beliefs.” Common core beliefs in BDD include, “I’m inadequate,” “I’m worthless,” or “I’m unlovable” [40]. These core beliefs filter a patient’s experiences, are self-maintaining, and, if not addressed, are likely to impede treatment progress and long-term maintenance of gains. Core beliefs often emerge naturally during the course of therapy; however, they can also be elicited using the downward arrow technique. This technique involves the therapist asking repeatedly (as if a broken record) what the worst consequences of a patient’s beliefs are (e.g., if the thought is “People will think that my skin is too red,” the downward arrow technique would involve asking the patient, “What would it mean if people noticed your skin was too red?”) until the core belief is reached (e.g., “If people noticed that my skin was too red, they wouldn’t like me and this would mean that I am unlovable”; [29]). Negative core beliefs can be addressed through cognitive restructuring, behavioral experiments, and strategies such as the self-esteem pie. For example, the self-esteem pie can be used to help patients challenge the core belief “I’m worthless” or “I’m inadequate.” The therapist asks the

patient to draw a pie including all components that contribute to his/her self-esteem, including positive traits. Patients learn how to broaden the basis of their self-worth to include factors other than appearance (e.g., talents, achievements, intelligence, moral values).

#### **11.4.1 Mindfulness/Perceptual Retraining**

Individuals with BDD often have a conflicted relationship with mirrors and reflective surfaces. A patient may alternate between spending hours in front of the mirror scrutinizing, grooming, or picking, and extreme efforts to avoid seeing his/her reflection. Information processing studies have revealed that individuals with BDD have a tendency to over-focus on detailed visual information in lieu of the global picture [30, 45]. Clinically, this manifests as heightened selective attention toward particular body parts that patients perceive as ugly (e.g., focusing on small marks on the face rather than seeing the entire face), which then maintains maladaptive BDD beliefs and behaviors. Perceptual retraining in the mirror helps patients to see “the big picture” rather than hone in on perceived problem areas, by teaching the patient to observe and describe his/her body in objective, nonjudgmental terms. Perceptual (mirror) retraining consists of having the patient learn to observe and describe different body parts (from head to toe) at a normative distance from the mirror (e.g., arm’s length or 2–3 feet) using nonjudgmental terms. Standing an arm’s length distance allows patients to see and describe their entire appearance. Instead of harsh, judgmental language (e.g., “I have disgusting raccoon eyes”), during perceptual (mirror) retraining, patients learn to describe themselves more objectively (“My eyes are hazel”). Thus, when viewing their entire image and describing it in neutral, nonevaluative terms, patients with BDD may be less likely to focus on details and distort aspects of their appearance and may be more likely to notice other positive aspects of their appearance they may have been overlooking [29]. When practicing perceptual (mirror) training, it is important that the therapist encourages patients to eliminate

ritualistic or “safety” behaviors they may typically use in front of the mirror, such as grooming or touching certain body parts (e.g., elimination of touching face in mirror).

Perceptual retraining can also be used in other environments in which the patient selectively attends to aspects of their and others’ appearance (e.g., in social situations, while at work/class). It can be helpful to have the patient practice attending to other things in the environment (e.g., conversation in which he/she is engaging, what the food tastes like) as opposed to focusing on his/her own or others’ appearance [29].

#### **11.4.2 Modular Interventions**

Modular interventions can be applied as needed throughout CBT for BDD and include: skin picking/hair plucking, muscularity and shape/weight, cosmetic treatment and mood management [29]. More than one-third of patients with BDD engage in compulsive skin picking and hair plucking designed to improve appearance [46, 47] and many BDD patients find it to be their most distressing symptom [48]. This module uses habit reversal training to address specific skin picking or hair pulling concerns. The muscularity and shape/weight module is used for individuals suffering from muscle dysmorphia, a subtype of BDD in which patients (mostly males) worry they are insufficiently big or muscular [49]. The module is also used for patients who have shape/weight concerns in addition to concerns about specific body parts [29]. The majority of patients with BDD seek dermatological or surgical intervention prior to seeking therapy and many are ambivalent about CBT and its potential benefits even after starting therapy [29, 50]. The cosmetic treatment module combines cognitive and motivational strategies to address maladaptive beliefs about the perceived benefits of surgery while at the same time helping the patient to explore the pros and cons of pursuing cosmetic surgery in a nonjudgmental environment [29]. Depressive symptoms are common in patients with BDD and may become treatment interfering [21]. The mood management module combines activity scheduling, as well as cognitive restructuring techniques for more severely depressed patients [29].

### 11.4.3 Relapse Prevention

Throughout treatment and, particularly during the final sessions, patients learn to schedule healthy activities (e.g., hobbies, a volunteer job) to replace BDD-related behaviors. Treatment ends with relapse prevention, focused on consolidation of CBT skills and helping patients plan accordingly for the future. Therapists help patients prevent, expect, and react effectively to upcoming challenges (e.g., going on a date or job interview) and setbacks. Therapists will often recommend that patients conduct self-therapy sessions in which they set time aside weekly to review treatment strategies and set upcoming BDD goals. Booster sessions can be offered after treatment ends as a way to periodically assess progress, maintain gains and review CBT skills as needed [29].

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## 11.5 Efficacy of CBT for BDD

Extant research has revealed that CBT is efficacious in the treatment of BDD ([51, 52]; for reviews, see [53, 54]). Evidence from early case studies indicate that behavioral [55–57] and combined cognitive behavioral strategies [58, 59] reduce symptoms of BDD. Two single-subject multiple baseline studies systematically demonstrated the effectiveness of ERP [60] and of cognitive therapy [61]. Specifically, Campisi [60] conducted ERP with four individuals with BDD, consisting of 7 weeks of 90-minute sessions, occurring three times/week. ERP was successful in decreasing obsessions and compulsions related to body image concerns in three of the four participants, although discomfort with appearance and body dissatisfaction remained. Geremia and Neziroglu [61] treated four individuals with BDD via cognitive therapy alone (consisting of twice-weekly 75-minute sessions, over 7 weeks) and found a significant reduction in obsessive thoughts related to body image in three out of four patients, with two of the patients also showing a significant reduction in BDD-related ritualistic behaviors. In addition, three of the four patients showed a significant increase in body satisfaction.

Uncontrolled and controlled treatment outcome studies for BDD in both individual and group formats have also yielded positive intervention effects. An open group treatment study using cognitive behavioral techniques showed a significant reduction in BDD symptoms, as well as symptoms of depression [62]. Neziroglu et al. [63] conducted an open trial of intensive CBT for BDD and found significant improvement in BDD symptoms for 12 of 17 patients. More recently, Wilhelm et al. [32] piloted a newly developed modular CBT manual for BDD (CBT-BDD) with 12 patients. To increase the sample's representativeness the authors used broader inclusion criteria (e.g., patients with suicidal thinking, delusional BDD beliefs, and both genders) than used in prior CBT studies. Treatment consisted of 18–22, 60-minute individual sessions, and BDD symptoms improved significantly.

Wilhelm et al. [33] further tested their manualized CBT-BDD in a randomized control trial of 36 adults with primary BDD. Treatment consisted of 22 sessions over 24 weeks [33]. At post-treatment, BDD and related symptoms were significantly improved, with large effects noted. Gains were maintained during an extended follow-up period. Two other randomized controlled studies, one of group CBT for BDD versus a waitlist control [44], and another of individual CBT versus a waitlist control [40] also displayed significant reductions in BDD symptoms with large treatment effects. McKay et al. [64] conducted an open phase study examining ERP with ten participants. At the end of treatment, a 6-month maintenance program was instituted for five of the patients, while the other five served as controls. All of the participants evidenced significant reductions in BDD-related symptoms from pre- to post-treatment, suggesting that ERP alone may be an effective treatment option for BDD.

While these studies have provided preliminary empirical evidence in support of CBT for BDD, they should be interpreted with caution. Inconsistencies across studies including widely varying session length (from seven to 30 sessions) and intensity of session duration (with sessions varying from 1 to 3 hours at a time) could account for differences in treatment outcome [32, 52]. Additionally, several of these treatments

lacked a standardized manual with the exception of Rosen et al.'s [44] group treatment (which primarily focused on weight and shape as opposed to other aspects of appearance), Wilhelm et al.'s [62] group treatment study, and Wilhelm et al.'s CBT-BDD studies [32, 33].

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## 11.6 Clinical Example

Jessica is a 26-year-old single Caucasian female who presented for treatment with excessive concerns about the appearance of her skin. Jessica reported concerns about her nose as a child which then morphed into skin concerns that surfaced at age 24. Others often complimented her on her porcelain white skin. Nonetheless, she felt her skin was “too red” and made her “look ugly.”

Jessica spent hours a day checking her appearance in any mirror she could find, including her bathroom mirror, the mirror at work, and a small mirror she carried with her. She made frequent appointments with dermatologists to ask for the “latest” skin care products and hoped these would improve the appearance of her skin. She tried to avoid getting “too hot” because she feared that heat would worsen her condition. Given that she was a personal trainer, she could not avoid exercising, but would keep a fan on her while exercising and sprayed her skin with purified water every 5–10 minutes to keep herself cool and to keep sweat off her face. She also had cut certain foods out of her diet out of fear that they might cause acne, even though she had no proof that she suffered from any food allergies or sensitivities.

She avoided going out with friends for fear of being judged or compared to her “prettier friends.” In her career, she desired to move into sales but stopped herself from applying to these jobs out of fear of constant interaction with new people. She frequently asked her boyfriend and mother for reassurance about her skin, but could not bring herself to believe their responses. These behaviors were taking a serious toll on her relationships and her work performance.

Before starting treatment, a structured diagnostic interview was used to assess Jessica's

symptoms. She was diagnosed with BDD and a history of GAD and OCD. Jessica received a score of 30 on the BDD-YBOCS, which was in the moderate to severe range.

### 11.6.1 Overview of Treatment Protocol

Jessica's treatment followed the protocol outlined in Wilhelm, Phillips, and Steketee's [29] CBT-BDD manual. She was told she would receive 6 months of weekly therapy, and then booster sessions as needed, with the goal being “to become her own therapist.” The therapist started with educating Jessica about BDD. They reviewed how genes, neurotransmitters in the brain, and personality factors could play a role in putting a person at risk for developing BDD. She learned how environmental factors could worsen an existing predisposition. Finally, her therapist described how stressful life events also have the potential to exacerbate symptoms. While Jessica had an extremely supportive family that did not emphasize beauty, she was perfectionistic and had always been an anxious child. Among other things, she had regularly worried about her grades in school growing up, then about her competency at work, and now she had added her appearance to a seemingly unending list of growing concerns. Jessica had also been diagnosed with cancer when she was a small child. Luckily, it was treated successfully but it was a traumatizing experience that reinforced her tendency to worry about “bad things happening to her.”

After reviewing the causes of BDD, the therapist then started to teach Jessica about common thinking errors that individuals with BDD often make, so she could more easily identify and counteract these thoughts when they occurred. She found herself relating most to the mind-reading error (“I just know other people think I'm ugly”) and the fortune-telling error (“My face is going to explode with acne and redness if I do one thing wrong to my skin”). She started to learn how to talk back to these negative thoughts and to test them out when she started the behavioral part of treatment.

Next, Jessica's avoidant behaviors were targeted through exposure. The therapist and Jessica developed a hierarchy of situations that Jessica confronted one by one over the course of treatment. Jessica's hierarchy included going out with friends she considered prettier than she, exercising without a fan or using water on her face, letting her picture be taken and showing them to friends, and eating "off-limit" foods (e.g., chocolate, dairy). Jessica and her therapist also reviewed the role of rituals in reinforcing BDD symptoms and gradually faded out her use of these rituals. Eventually Jessica stopped seeing her dermatologist, buying new skin products, engaging in mirror checking, and asking for reassurance. The therapist taught her perceptual (mirror) retraining to teach her how to have a healthier relationship with the mirror. Her mother was brought to a session so the therapist could encourage her not to indulge Jessica's need for reassurance and to instead encourage Jessica to use her new set of skills. Finally, the therapist helped Jessica use her cognitive skills to identify and modify deeper level (core) beliefs (e.g., "I'm unlovable"; "I'm worthless"). The therapist also taught her more advanced cognitive strategies, including building a self-esteem pie, to help Jessica learn to broaden the basis of her self-worth (e.g., volunteer work, family, friends, intelligence). Jessica filled her newfound free time with more meaningful and self-esteem building activities such as playing with her dog, working with pediatric cancer patients at a local hospital, and reading.

Finally, Jessica and the therapist discussed how she would maintain her gains after treatment ended and also when to call for a booster session to help ward off possible relapse. She started doing self-sessions and started to space out the frequency of her final visits in an effort to "try things on her own." When treatment ended, her final BDD-YBOCS score was a 10 and her improved quality of life reflected that score. She applied for and was offered a sales job that she accepted and flourished at. Her friendships improved because she spent more time going out with friends. She also developed the courage to break up with her boyfriend, whom she could not

see herself marrying. Before treatment, she had been scared to leave him and start dating other people for fear that "no one else would ever love her given her appearance." She found the strength to take risks and date new people. She also came to love the new activities that had replaced her BDD behaviors, especially working with kids with cancer. Jessica reported that thoughts about her appearance never left her mind completely, but they were quieter, less distressing, easier for her to dismiss, and less damaging to her work and relationships.

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## 11.7 Conclusions and Future Directions

BDD is a common and debilitating disorder associated with considerable psychosocial impairment and morbidity. Shame and embarrassment about body image concerns can preclude individuals from seeking psychological treatment. In addition, poor insight often leads individuals with BDD to seek dermatological or surgical treatments, with relatively low levels of satisfaction [50]. BDD's relatively high prevalence and substantial morbidity underscore the importance of proper screening and treatment. Standardized assessments and empirically supported psychiatric/psychological treatments for BDD are available.

CBT for BDD is informed by cognitive behavioral models of the development and maintenance of BDD (e.g., [28, 29]), including recent insights into the neurobiology of BDD [24]. CBT for BDD has been shown to effectively reduce symptoms of BDD and associated symptoms (e.g., depression, delusional beliefs; [32, 33, 40, 62]). CBT for BDD generally includes psychoeducation, cognitive interventions (e.g., to address maladaptive appearance-related beliefs, the importance of appearance), exposure to avoided situations and prevention of rituals, and mindfulness/perceptual retraining (e.g., to reduce selective attention to details such as appearance flaws). Additional components may include motivational interviewing techniques, which often play an important role for patients with poor insight, and

flexible modular interventions (e.g., skin picking, surgery seeking; [29]). Certain patients with BDD (e.g., adolescents, acutely suicidal patients) require specialized assessment and intervention. Depressive symptoms may need to be specifically targeted during or prior to BDD treatment with CBT techniques or SRIs. Patients should be monitored closely throughout treatment for suicidality; those with acute suicidality may need to be referred for a higher level of care. As BDD usually first manifests in adolescence, treatment development and testing for this age is critical. Suggestions for CBT for adolescent BDD include parent/school involvement and taking into account age appropriate tasks and transitions in the development of treatment materials (e.g., language and graphics), topics, and rewards (see [65]). Additional resources, including select treatment manuals and self-help books, guidelines for working with special populations, and BDD-related websites are listed in Table 11.1. Future directions may include expanding on the development and use of modular treatments for patients with BDD as well as further study of interventions for special populations (e.g., children and adolescents).

While CBT for BDD (both individual and group) has been established as an efficacious intervention, few CBT outcome studies for BDD have demonstrated efficacy with the use of a standardized manual [32, 33, 44, 62] and thus, large sample trials of CBT for BDD with the use of standardized manual are needed. In addition, CBT-BDD has been shown to be effective when implemented by expert [32] and novice [29] therapists. Thus, research suggests CBT-BDD is a feasible, acceptable treatment that can be delivered effectively by therapists with little prior training in BDD. Given the severity of the disorder and dearth of available treatment services, future efforts should be put forth toward dissemination of empirically based treatments for BDD. In addition, efforts to understand the active components of CBT for BDD could lead to further advances in the understanding of the etiology of BDD and the development of more potent treatments. Finally, future research aimed at

**Table 11.1** Additional resources for therapists

*Selected books and journal articles*

- A Cognitive-Behavioral Treatment Manual for Body Dysmorphic Disorder (2013) Sabine Wilhelm, Ph.D., Katharine A. Phillips, M.D., and Gail Steketee, Ph.D. Guilford Press
- Body Dysmorphic Disorder: A Treatment Manual (2010) David Veale FRCPsych, MPhil, B.Sc., M.D. and Fugen Neziroglu, Ph.D., ABBP, ABPP Wiley-Blackwell
- Understanding Body Dysmorphic Disorder: An Essential Guide (2009) Katharine Phillips, M.D. Oxford University Press
- The Broken Mirror: Understanding and Treating Body Dysmorphic Disorder (Revised and Expanded Edition, 2005) Katharine Phillips, M.D. Oxford University Press
- The Adonis Complex: The Secret Crisis of Male Body Obsession (2000) Harrison G. Pope, M.D., Katharine A. Phillips, M.D., and Roberto Olivardia, Ph.D. The Free Press
- Cognitive-behavioral therapy for adolescent body dysmorphic disorder. Greenberg JL, Markowitz S, Petronko MR, Taylor CE, Wilhelm S, Wilson GT. Cogn Behav Pract, 2010 17, 248-258
- Treating body dysmorphic disorder with medication: Evidence, misconceptions, and a suggested approach. Phillips KA, Hollander E. (2008). Body Image, 5, 13-27
- Body dysmorphic disorder and cosmetic surgery. Crerand CE, Franklin ME, Sarwer DB. Plast Reconstr Surg. 2006;118(25):167-180

*Self-help guides*

- Feeling Good about the Way You Look: A Program for Overcoming Body Image Problems (2006) Sabine Wilhelm, Ph.D. Guilford Press
- The BDD Workbook: Overcome Body Dysmorphic Disorder and End Body Image Obsessions (2002) James Claiborn, Ph.D. & Cherry Pedrick, R.N. New Harbinger Publications, Inc

*Websites*

- International OCD Foundation: [www.ocffoundation.org](http://www.ocffoundation.org)
- Massachusetts General Hospital BDD Clinic and Research Program: [mghocd.org/bdd](http://mghocd.org/bdd)
- Body Image Program at Rhode Island Hospital: [www.bodyimageprogram.com](http://www.bodyimageprogram.com)
- Los Angeles BDD & Body Image Clinic: [bddclinic.com](http://bddclinic.com)

identifying shared core mechanisms and response to treatment across disorders may help to inform clinical decision-making and targeted treatment components.

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# Transdiagnostic Cognitive Behavioral Therapy for Eating Disorders

# 12

Emily K. Gray and Jennifer J. Thomas

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## 12.1 Overview: Etiology, Prevalence, and Clinical Presentation

Eating disorders (EDs) are complex syndromes characterized by disordered cognitions (e.g., preoccupation with food and eating, overvaluation of shape and weight) and behaviors (e.g., food restriction, binge eating, compensatory behaviors). Cognitive behavioral therapy (CBT) is the treatment of choice for adults with bulimia nervosa (BN) and binge-eating disorder (BED) [1]. The application of CBT to adolescents, and to individuals with anorexia nervosa (AN) and other specified feeding or eating disorder (OSFED), is the focus of ongoing research.

### 12.1.1 Etiology

The etiology of EDs is multifactorial, with both genetic and environmental contributions to risk [2]. Early research focused on sociocultural pressures, in light of the overrepresentation of

eating disorders among young females. More recent research has highlighted that eating disorders are highly heritable and often associated with reliable neurocognitive and neuroendocrine abnormalities that may contribute to risk. However, a comprehensive etiological model for these complex behavioral disorders has yet to be formulated. Fortunately, as we will illustrate, a complete understanding of underlying causes is not necessary for the provision of effective treatment.

### 12.1.2 Prevalence

Though low-weight eating disorders are relatively rare, disorders involving binge eating and/or purging are more common. Recent data from the US National Comorbidity Survey Replication (NCS-R) revealed a prevalence of AN, BN, and BED of 0.9, 1.5, and 3.5 %, respectively, among women. Comparable estimates for men were 0.3, 0.5, and 2.0 % [3], underscoring the rather narrow gender gap for a set of disorders typically associated with girls and women. Because the NCS-R study used *DSM-IV* criteria (which are stricter than newly revised *DSM-5* criteria) and did not screen for subthreshold presentations (i.e., those now subsumed under OSFED), these figures are probably conservative. Indeed, a recent study of 496 US adolescent females identified a prevalence of OSFED (11.5 %), twice

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as high as the prevalence of AN, BN, and BED combined (5.2 %) [4]. Importantly, subthreshold eating disorders can be just as severe as their full syndrome counterparts in areas of eating pathology, general psychopathology, and physical health [5].

In addition to prevalence rates, it was also noteworthy that fewer than half of NCS-R respondents with AN, BN, or BED had ever received eating disorder treatment [3], highlighting the critical need to enhance access to evidence-based interventions.

### 12.1.3 Clinical Presentation

*DSM-5* eating disorders include AN, BN, BED, and OSFED [6]. (Avoidant/restrictive food intake disorder, pica, and rumination disorder are feeding disorders also listed in *DSM-5*. However, since little is known about their optimal treatment or the potential applications of CBT, they are outside the scope of this chapter.)

*Anorexia nervosa.* The hallmark feature of AN is a markedly low body weight (e.g., body mass index < 18.5 for adults or below the fifth percentile for children and adolescents). This is the direct consequence of adjusting eating and/or exercise habits to create a negative energy balance. In conjunction with physical and behavioral manifestations, cognitive distortions such as intense fear of weight gain and/or magnifying the importance of shape and weight are typically present. AN can be divided into two subtypes: restricting type (which includes rigid dieting, fasting, and/or excessive exercise) and binge-eating/purging type (characterized by repetitive binge episodes and/or purging behavior such as self-induced vomiting or misuse of laxatives, diuretics, or other medications).

*Bulimia nervosa.* The *sine qua non* of BN is binge eating, or consuming a large amount of food in short period of time, accompanied by loss of control. To counteract this excessive caloric intake, individuals with BN engage in compensatory behaviors (e.g., self-induced vomiting, fasting, excessive exercise, or misuse of laxatives,

diuretics, or other medications) to prevent weight gain. Because purging behavior only partially reduces caloric absorption, body mass index among individuals with BN is in the normal or overweight range. Binge episodes and compensatory behaviors must occur at least once per week for at least 3 months before the diagnosis can be conferred. Similar to AN, those with BN disproportionately base their self-worth on body shape and weight.

*Binge-eating disorder.* BED features binge-eating episodes that occur at least once a week for at least 3 months, in the absence of compensatory behaviors. Binge eating is usually accompanied by feeling overly full, eating even after achieving physical satiation, eating alone to hide the behavior, and/or feeling disgusted, remorseful, or depressed. BED can be differentiated from normative overeating by the substantial distress that characterizes those who have the disorder.

*Other specified feeding or eating disorder.* OSFED is a *DSM-5* category that encompasses clinically significant disordered eating patterns that do not meet criteria for another feeding or eating disorder. Example OSFED presentations include anorexic features without low weight; binge eating and/or purging of insufficient frequency or duration to meet full BN or BED criteria; repetitive purging in the absence of binge eating; and persistent night eating.

While classification systems provide a common language through which clinicians and investigators can identify, discuss, and study psychiatric illness, they emphasize differences rather than similarities. In contrast, CBT for eating disorders is “transdiagnostic” in its scope. Specifically, unlike someone without an eating disorder, who may derive self-esteem from a wide variety of domains, (e.g., quality of relationships, work performance, artistic ability, or athleticism), individuals with eating disorders typically base their self-worth primarily—or even exclusively—on their shape, weight, and/or ability to restrict food intake. It is this core psychopathology, which cuts across eating disorders, that CBT is designed to address.

### 12.1.3.1 Evaluation and Assessment of Eating Disorders

The initial evaluation process for an individual with an eating disorder usually consists of a clinical interview, medical evaluation, and possibly the use of standardized assessment instruments. The Eating Disorder Examination (EDE [7]), a structured interview developed to assess eating disorders in adults, can be lengthy to administer (1 hour or more) and is mainly used for research purposes. More recently, the Eating Disorder Assessment for the DSM-5 (EDA-5 [8]), a semi-structured interview keyed to the DSM-5 criteria, has offered promising clinical utility with quick administration time (10–15 minutes) and greater ease of use (i.e., an “app” format). For self-report measures, both the Eating Disorder Examination Questionnaire (EDE-Q [9]) and Clinical Impairment Assessment (CIA) [10] can be used both during the initial assessment and throughout treatment to monitor and track treatment response. For example, a baseline EDE-Q score may be around 4 and then drop to a 2 at the end of treatment, falling within one standard deviation of community norms. Similarly, with the CIA, a patient’s initial score may be in the 25–35 range and then following treatment drop to 11, which would be below the clinical cutoff.

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## 12.2 Overview of CBT-E for Eating Disorders

The core principles of CBT for eating disorders have been developed over 30 years of intensive research and are well described in several manuals. The version that we present here—“enhanced” CBT (i.e., “CBT-E”)—was developed by Fairburn [11] and colleagues at Oxford University and, arguably enjoys the greatest empirical support. True to CBT roots, the fundamental elements of CBT-E are similar to those found in CBT approaches to other disorders, such as collaborative empiricism, psychoeducation, self-monitoring, and exposure. Therefore, the novice eating disorder therapist can rely on general CBT experience as a basic foundation for the treatment, tailoring key interventions to address the specific psychopathology of eating disorders.

CBT-E is symptom-focused and time-limited, and can range in length from approximately 20 sessions (for patients who are not underweight) to 40 sessions (for patients who need to restore their weight). Patients who have extremely low weight (e.g., body mass index < 14.0 kg/m<sup>2</sup>) or acute medical issues are not candidates for CBT-E as they will likely require a higher level of care (e.g., inpatient hospitalization). CBT-E is a structured treatment that comprises four distinct phases.

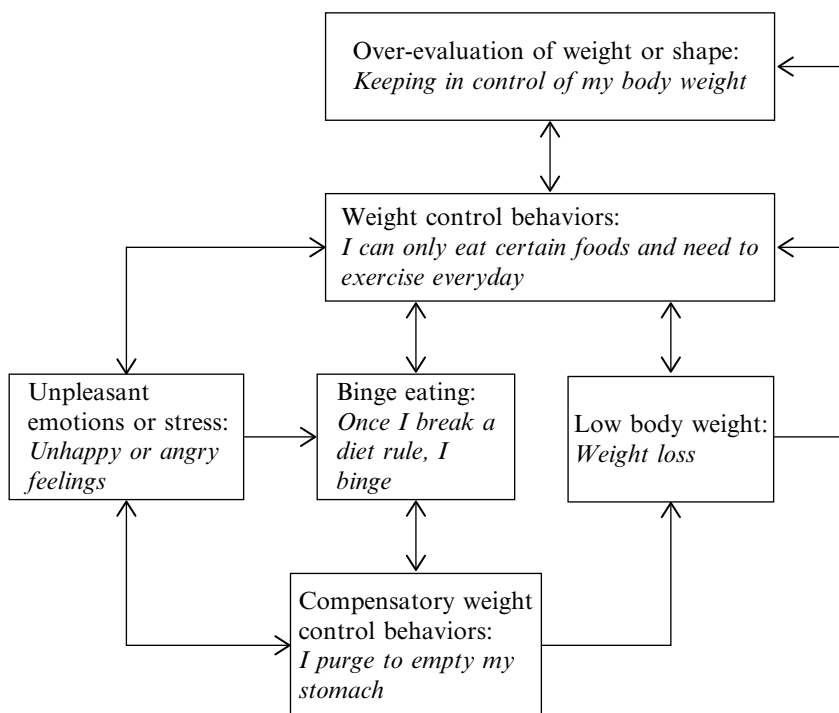
### 12.2.1 Stage 1: Achieving Early Behavioral Change

The goals of Stage 1 are to engage the patient in treatment, collaboratively create a personalized formulation of the illness, provide psychoeducation about eating disorders, and introduce the patient to in-session weighing and regular eating. Stage 1 typically includes six sessions. Fairburn [11] recommends meeting twice weekly during Stage 1, though in our experience this is not always possible for logistical or financial reasons, and in such cases weekly sessions may suffice. Similar to starting any therapy, building rapport and enhancing motivation is essential. Table 12.1 summarizes the key interventions of the first session. The general structure of all Stage 1 sessions includes (1) in-session weighing, (2) reviewing homework, (3) setting the agenda, (4) working through the agenda, and (5) wrapping up by summarizing the discussion and assigning relevant homework.

*In-session weighing.* In-session weighing is a collaborative exercise in which the patient is weighed (without shoes) and the therapist plots the number on a graph to illustrate long-term trends. Taking weights in session is crucial so that low-weight patients can be held accountable for consistent weight gain and all patients can evaluate the cognitive distortions that perpetuate the eating disorder such as “If I eat a piece of cake for dessert one night, my weight will immediately shoot up five pounds!” During the weigh-in process, the therapist provides education on how “one cannot interpret a single reading”

**Table 12.1** Components to initial session of CBTE for eating disorders

Key tasks	Core elements	Example with patient Anna	Pitfalls and potential solutions
Engagement	Empathy, actively involving the patient, instilling hope, and checking back with the patient around any concerns	“I can see that coming in today took a lot of courage and it has been a while since you have been in treatment. What would successful treatment look like for you?”	Avoid being controlling, judgmental, or paternalistic
Assessment	Take inventory and follow-up on any gaps left during the initial interview including details around the nature and severity of the current state psychopathology	“There are a few areas that are still cloudy that would be helpful for me to understand. I am interested in learning about how the eating disorder impacts your daily life. Would you mind walking me through your typical day?”	Ask direct questions about symptoms of binge eating, restricting, and self-induced vomiting
Creating a formulation	Invite the patient to help personalize a formulation that explains the vicious cycle of the eating disorder	See Fig. 12.1 in Case Example	Avoid using jargon or dismissing the patient’s perspective
Describing treatment	Give the patient the “nuts and bolts” of treatment by covering key topics: describing CBT, practicalities (number, duration, frequency of treatment sessions, and preferred method of contact), agenda setting, in-session weighing, risk of treatment dropout	“With every session, we will start by doing a quick check-in about the week and then we will set an agenda for the session together, which will include in-session weighing and checking homework”	This is a collaborative process and therefore must allow the patient to offer concerns or questions
Self-monitoring	Introduce self-monitoring as essential for both recognition of moment-to-moment feelings/ thoughts/behaviors and highlighting opportunities for change	See Fig. 12.2 in case example	Prepare the patient that it is common for worsening of symptoms during the initial few weeks of the self-monitoring process, but that the patient will ultimately habituate to the anxiety
Homework	<ol style="list-style-type: none"> <li>1. Monitoring records</li> <li>2. Review formulation</li> </ol>	<p>“Because we only have a few hours a week to work together, treatment works best when it is reinforced by out of session attention. Therefore, between sessions, there will be some expectation to prepare for the next steps”</p> <p>“I know that we have gone over a lot of things today. I would like to know what stuck out to you as something you will take home with you.”</p> <p>“Also, at the end of sessions, I find it really helpful to review what we went over. I will go over the bullet points as I remember them. Please let me know if there is anything I may have left out”</p>	<p>Recommend using “next steps” instead of homework</p> <p>Asking the patient to summarize early in treatment may be intimidating. An alternative could be having the patient recount what he or she will “take home” from the session</p>
Summarizing	At its best, summarizing is a very effective tool. However, initially in treatment, modeling this skill helps create a collaborative and safe setting for therapeutic change		



**Fig. 12.1** Anna's personalized CBT-E formulation

([11], p. 63). Indeed, weight (like heart rate) fluctuates within a reliable range, based on factors such as measurement error, time of day, and hydration.

*Creating a personalized formulation.* To provide a roadmap for change, the therapist works collaboratively with the patient to create a personalized formulation of the eating disorder. The therapist draws this diagram during session by eliciting the patient's own experiences to highlight the self-perpetuating nature of the illness, in which overvaluation of shape and weight leads to rigid dieting, which then leads to low weight (in AN) and/or bingeing (in BED) and purging (in BN). An example formulation for "Anna," a patient with BN, appears in Fig. 12.1. After creating the formulation, the therapist emphasizes that CBT-E interventions are designed to target each of these problems in turn.

*Self-monitoring.* A core element of CBT-E introduced in Stage 1 is self-monitoring of food intake and associated thoughts and feelings. Throughout treatment, the patient is asked to keep a daily record of all food and drink consumed, along with the time of day, place of consumption, whether the eating episode was a regular meal or snack versus a binge, and whether the episode was followed by a compensatory behavior such as vomiting or laxative use. These records not only provide essential data on the nature of the eating disorder symptoms between sessions but also help the patient track progress and bring self-defeating patterns (e.g., chronic malnutrition; triggers for bingeing and purging) into greater awareness. (For an example of CBT-E monitoring record, see Fig. 12.2.)

*Reviewing homework.* Like in-session weighing, reviewing homework is a common element of

Time	Food/Drink	Place	*	V/L	Content, Thoughts, Feelings
7:30 am	Black coffee w/ splenda	Car			I am running late for work and I feel like I'm starting a bad day.
1:30 pm	Greek yogurt	Desk			So far, so good. Pleased with my self control.
2:30 pm	~20 chocolate chip cookies	Break room	*	V	Ugh!! Cookies left over from holiday party. I was out of control and could not stop until I finished the whole plate—why do I always do this??
5:00 pm	Cocktail and appetizer (2 egg rolls)	Bar			I don't need dinner.
8:30 pm	Family size bag of potato chips, one pint of ice cream	Kitchen	*	V	Before I opened the bag of chips, I knew I was going to binge and I ate the ice cream to help with the purge. I'm disgusting. I ate WAY too much and I don't need breakfast tomorrow.
10:00 pm					Went to the gym to run 4 miles.

(\* ) Represents a binge episode, (V) represents vomiting, (L) represents laxative use

**Fig. 12.2** Anna's completed CBT-E self-monitoring record

CBT-E that will be repeated in each session. Early in Stage 1, the main focus of homework review is to enhance the quality of the self-monitoring records. Later Stage 1 homework assignments are aimed towards helping the patient establish a pattern of “regular eating” (i.e., consuming three meals plus two or three snacks per day). This overarching meal structure eliminates long periods of fasting, which may lead to weight loss (in AN) or feelings of hunger and deprivation that trigger binge eating (in BN or BED). For example, the wise therapist may invite a patient who typically waits several hours between lunch and dinner to add an afternoon

snack in order to reduce the likelihood of an evening binge.

*Setting the agenda.* Similar to other forms of CBT, setting an agenda helps to create a collaborative tone where the therapist and the patient mutually agree on the content of the session. While setting the agenda, it is important to consider the following sources: homework, matters of significance that come up during the review of homework, the patient's suggestions, and new topics based on stage of treatment. Throughout treatment, engagement and motivation are essential, and it is worth checking in with the patient



around his or her attitude and motivation for behavioral change. During session 1, part of the agenda will be to revisit the patient's personalized formulation, which will evolve and become more detailed as the patient's insight improves.

*Psychoeducation.* Also in Stage 1, the therapist provides general education about eating disorders. For example, many patients are surprised to learn that the most distressing features of the eating disorder—including preoccupation with food, extreme mood lability, and binge eating—are a direct result of starvation [12]. Similarly, greater knowledge of the medical complications (e.g., bone health, cardiac function, endocrine abnormalities, mortality risk) may enhance motivation for change. With regard to vomiting and laxative use, it is often helpful to weigh the significant medical risks (ranging from rupture of the esophagus to electrolyte abnormalities resulting in possible risk of seizure and cardiac arrhythmia) against the ineffectiveness of these strategies for decreasing caloric absorption.

### Common Stage 1 Challenges and Potential Solutions

- *What if the patient wants to focus on past events (unrelated to the eating disorder)?* The therapist validates these concerns, but emphasizes the here-and-now focus of CBT-E. Outside events can be added to the agenda if they are relevant to the desired behavioral changes.
- *What if the patient does not complete the monitoring records?* The therapist emphasizes the importance of monitoring for identifying triggers and troubleshoots how to make monitoring more convenient for the patient (e.g., by using a smartphone “app” like [www.recovery-record.com](http://www.recovery-record.com)).
- *What if the patient refuses to be weighed?* The therapist validates the patient's anxiety about stepping on the scale but predicts that, as with any exposure, anxiety will decrease with time as the patient habituates to the experience. In-session weighing may further be framed as vital treatment information, with the analogy that the patient would not go to the dentist without opening his or her mouth.

### 12.2.2 Stage 2: Transitional Stage

Stage 2 represents a very brief transitional phase in which the therapist and patient review progress, identify barriers to change, and use these data to collaboratively design the second phase of treatment. Stage 2 typically comprises just 1–2 weekly sessions. Therefore, during this stage, it is important to reinforce the behavioral changes that were introduced in Stage 1 (e.g., self-monitoring and regular eating) and identify ongoing challenges (e.g., continued bingeing, purging, and restriction). The specific maintaining mechanisms (e.g., overvaluation of shape/weight, dietary restriction, and changes in mood) for residual symptoms will become the major focus of Stage 3.

### Common Stage 2 Challenges and Potential Solutions

- *What if the patient has not made sufficient behavioral change to move on to Stage 3?* The therapist may consider lengthening Stage 2 and/or augmenting CBT-E with additional supports such as nutritional counseling from a registered dietitian or pharmacotherapy from a psychiatrist.
- *What if the patient feels ambivalent about change?* Among patients with eating disorders, ambivalence is the rule rather than the exception and—in the case of AN—is even diagnostic of the illness. To help ambivalent patients prepare for change, the therapist can utilize motivational enhancement strategies such as reviewing the pros and cons of change (in both the short and long term) and helping the patient imagine his or her life free from the eating disorder. For cases in which the eating disorder is highly egosyntonic, the wise therapist may even frame the entire treatment as a behavioral experiment in which the patient may choose to return to the eating disorder, if desired, after treatment completion. The assumption here is that once the patient has experienced the benefits of symptom remission (i.e., improved nutritional status, elevated mood, and enhanced self-esteem), he or she will be unlikely to return to a lifetime of disordered eating.

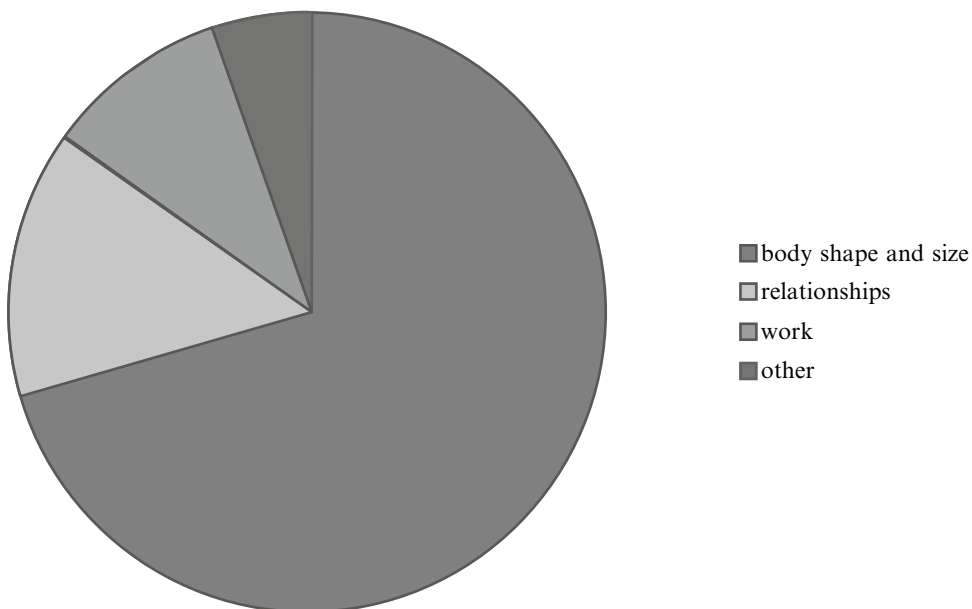
### 12.2.3 Stage 3: Addressing Underlying Maintaining Mechanisms

Stage 3 represents the main body of CBT-E, during which meetings take place at weekly intervals. The goal is to address the primary mechanisms that maintain the eating disorder, as previously identified in Stage 2. Using the same basic structure of previous sessions, the therapist continues in-session weighing, sets an agenda, and assigns homework for review in the following session. Drawing on the patient's personalized formulation, potential topics to cover during Stage 3 include the overvaluation of shape, weight, and control over eating; shape checking and avoidance; feeling fat; reducing dietary restriction; and tackling mood-related changes in eating.

*Overvaluation of shape, weight, and control over eating.* An exercise to help illustrate the core psychopathology that cuts across eating disorders involves asking the patient to list the domains of life (e.g., quality of relationships, success at work or school, hobbies) that he or she uses to determine

self-worth. The patient then creates a pie chart in which the size of each slice represents the relative significance of each domain. (See Fig. 12.3 for an example.) This exercise is powerful in its ability to foster cognitive dissonance between the domains that the patient valued prior to the onset of the eating disorder and the realization that the majority of his or her time (and therefore the majority of the pie chart) is currently focused on shape and weight. The therapist can use Socratic questioning to help the patient appreciate how basing his or her self-esteem on success or failure in a single domain is quite risky, because even minor missteps (e.g., gaining one or two pounds) may lead the patient to erroneously conclude that he or she has absolutely no redeeming qualities. This realization then lends itself to homework assignments aimed to foster alternate sources of self-evaluation outside of shape and weight (e.g., making a date with a friend, trying a new activity).

*Shape checking and avoidance.* Another way to reduce the influence of body shape and weight on self-evaluation is to reduce the behavioral manifestations of body image disturbance—shape



**Fig. 12.3** Anna's self-evaluation pie chart

checking and avoidance. Common shape checking behaviors include comparing one's body to others, scrutinizing oneself in the mirror, pinching body parts for fatness, and repeatedly trying on special clothing. Avoidance behaviors can range from mild (e.g., sucking in one's stomach to appear thinner, wearing baggy clothing to hide one's shape) to severe (e.g., not showering or even leaving the house when "feeling fat"). Self-monitoring can help raise awareness and assess the frequency and extent of this behavior, and creative homework exposures (e.g., asking the patient to wear form-fitting clothes or focus on neutral parts of the body while looking in the mirror) can phase out avoidance behaviors.

*Feeling fat.* Patients with eating disorders often misattribute negative emotions or physical sensations related to fluctuations (real or imagined) in shape or weight. In actuality, such feelings of "fatness" are unlikely to be resolved by changing one's shape or weight. The therapist can use in-session weighing to contrast large fluctuations in feelings of fatness with relatively modest fluctuations in weight. Additionally, self-monitoring can heighten the patient's awareness of the context in which such feelings of "fatness" occur, to ascertain whether the patient is systematically misinterpreting feelings of sadness, loneliness, or anger as increased "fatness."

*Reducing dietary restriction.* If patients persist in cutting out certain foods or minimizing caloric intake even in the context of establishing a pattern of regular eating, the therapist can assist the patient in designing behavior experiments to test hypotheses about the consequences of breaking dietary rules. For example, if a patient predicts that eating pizza will result in an immediate three-pound weight gain or trigger a certain binge, the therapist can assign the patient to eat a moderate portion of pizza in a safe environment where the patient is unlikely to binge (e.g., dinner with a friend) and compare weights from the session before and after.

*Addressing event-related changes in eating.* In Stage 3, the therapist should also assist the

patient in identifying triggers for residual eating disorder behaviors, particularly low mood. Patients can then be encouraged to identify alternative pleasurable activities that distract from postprandial fullness or urge to binge (e.g., phoning a friend, reading a book, going for a leisurely walk). Similarly, patients can practice problem-solving skills to address interpersonal stressors (e.g., arguments with significant others) that give rise to restricting, bingeing, and purging.

*Additional Stage 3 modules.* Based on prior research and clinical observations about the likely characteristics of nonresponders, the full CBT-E manual includes modules for addressing additional potential maintaining mechanisms such as perfectionism, mood intolerance, core low self-esteem, and interpersonal difficulties. However, there is little evidence for the greater efficacy of the broad (versus focused) form of CBT-E [13]. Given that the focused version is likely to be appropriate for the vast majority of patients, we do not cover the supplemental modules here but rather refer the interested reader to the full CBT-E manual (i.e., Fairburn [11]) to learn more.

### **Common Stage 3 Challenges and Potential Solutions**

- *What if the patient does not endorse shape and weight concerns? How do you design Stage 3?* CBT-E assumes that, in order for the patient to be engaging in eating disorder behaviors, he or she must be overvaluing some aspect of his or her self-evaluation. The therapist and patient can work collaboratively to figure out which domain this might be. In some cases, the overvalued domain may be an extreme need for overall self-discipline in general rather than shape, weight, or eating, per se.
- *What if the patient has difficulty engaging in behavioral experiments or exposures?* As in any behavioral treatment, the therapist can assist the patient in creating an exposure hierarchy and gradually move from easier to more challenging tasks.

### 12.2.4 Stage 4: Relapse Prevention

The purpose of Stage 4 is to maintain behavioral change and minimize the chance of relapse. Sessions are less frequent (e.g., every 2–3 weeks) until treatment completion. With the tapering of appointments, the patient is able to practice independently facing any challenges that occur between sessions. During Stage 4, it is essential to explore not only which events trigger reactivation of the eating disorder mindset but also to identify effective strategies that may help the patient to avoid reengaging in disordered eating cognitions and behaviors. The centerpiece of

Stage 4 is the creation of a detailed relapse prevention plan, as exemplified in Fig. 12.4.

#### Common Stage 4 Challenges and Potential Solutions

- *What if the patient has achieved behavioral remission but is reluctant to conclude therapy?* The therapist praises the behavioral changes the patient has already achieved and expresses confidence in the patient’s ability to become his or her “own therapist.”
- *What if the patient has not yet achieved remission or continues to struggle with comorbid problems such as substance misuse,*

	<b>Main Points</b>	<b>In My Own Words</b>
<b>My Healthy Routine</b>	<ul style="list-style-type: none"> <li>- Eat regularly (3 meals + 2 snacks/day)</li> <li>- No diets or cleanses</li> <li>- Avoid body checking</li> <li>- Try new activities and maintain friendships</li> <li>- Exercise in moderation</li> </ul>	<p>“This is the stuff that I need to do every day and I know that it makes me feel good, like I am taking good care of myself.”</p>
<b>Triggers for bingeing, purging, or restricting</b>	<ul style="list-style-type: none"> <li>- Arguing with my financé</li> <li>- Getting negative feedback</li> <li>- Wedding day</li> <li>- Pregnancy</li> </ul>	<p>“I may have a hard time with conflict, and anything that draws attention to my shape and weight.”</p>
<b>Warning signs for relapse</b>	<ul style="list-style-type: none"> <li>- Skipping meals</li> <li>- Going to the gym before work or for &gt; 1 hr</li> <li>- Trying on smaller size clothes</li> <li>- Comparing with other’s bodies</li> </ul>	<p>“I like to think about it like a song being replayed over and over. I know all the words and can now identify it even if it is just starting to play the first few notes.”</p>
<b>Strategies to deal with setbacks</b>	<ul style="list-style-type: none"> <li>- Be aware of symptom triggers</li> <li>- Problem solve and attend directly to the situation that’s upsetting me</li> <li>- Think about my broader life goals</li> </ul>	<p>“I’m learning that I have to deal with stuff instead of using my eating disorder to hide from it. Most real problems can’t be solved by just changing my weight.”</p>

**Fig. 12.4** Anna’s CBT-E relapse prevention plan

*depression, or self-harm?* In the case of ongoing eating disorder symptoms, the therapist may lengthen CBT-E or consider an alternative therapeutic approach (e.g., interpersonal therapy). In the case of comorbid problems, the therapist may elect to implement (or refer to another therapist who can provide) the complementary CBT interventions described in this volume.

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## 12.3 Case Example: CBT-E for Bulimia Nervosa

The following case example highlights common elements shared with other modalities of CBT as well as the elements of treatment that are unique and specific to CBT-E for eating disorders.

Anna was a 28-year-old, newly engaged female who presented for treatment of BN. She had previously received inpatient treatment for an episode of AN at the age of 15, but terminated the work once she achieved her target weight. Now, at the urging of her fiancé, she presented for treatment to address the binge eating and purging (self-induced vomiting and excessive exercise) she had recently developed in the context of moving to a new city and starting a new job as an elementary school teacher. After a comprehensive evaluation, Anna scored within the clinically significant ranges of both the EDE-Q (4.5) and the CIA (30) and was referred for CBT-E, because it has the strongest evidence base for the treatment of BN and because she did not exhibit any contraindications for treatment (i.e., no suicidal ideation, severe clinical depression, persistent substance misuse, major life events or crises, or inability to attend appointments).

### 12.3.1 Stage 1: Achieving Early Behavioral Change

*Initial session.* Anna arrived early to the initial session, friendly yet guarded. She had not remembered much of her previous adolescent inpatient treatment, but recalled it as punitive and harsh, stating, “whenever my weight would go

down, I felt like I was ‘in trouble.’ No one acknowledged my hard work.” She was hesitant to disclose her eating disorder symptoms, embarrassed that her fiancé had discovered her BN by unexpectedly entering the kitchen during a private binge. Ultimately, Anna endorsed bingeing and purging at both home and work, approximately five times per week. She found the personalized formulation (Fig. 12.1) to be informative and acknowledged that her binge/purge behaviors helped her to manage stress. She worried that the in-session weighing would be upsetting: “I haven’t weighed myself in five years. If I see the number, I’ll freak out!” she exclaimed.

When the therapist introduced self-monitoring, Anna became quiet and then said: “I just don’t see how this will help. Besides, with my busy life, I just don’t know how I could do this without totally unraveling. Isn’t it just going to make me *more* obsessed with my eating?” In response to her concerns, the therapist normalized that many patients, when they first start monitoring, become preoccupied as they become more aware, but this typically fades in the first few weeks. The therapist also recommended that Anna consider using a smartphone app to make the monitoring more user-friendly and discrete.

Anna was also reluctant to be weighed in session. “I almost decided to not come today because of this,” she said. “I don’t think I can handle this today.” Her therapist empathically responded, “I can see why you feel this way as it has been so long since you have seen your weight. After working with many people who start treatment just as you are, after time, with each weight we get, it gets easier and by the end, the hope is that one number will not have so much power as to ruin your day.” After better understanding the therapist’s rationale for in-session weighing, Anna reluctantly agreed to step on the scale. Her weight was 135 lbs at a height of 65 in. (body mass index = 22.5 kg/m<sup>2</sup>, normal range), which the therapist plotted on a graph.

*Remainder of Stage 1.* Anna came to the second session without doing her self-monitoring homework. The therapist responded with validation

and curiosity, while emphasizing the importance of keeping detailed records of her food intake and associated thoughts and feelings, as follows:

Anna: “I thought about doing the records. I really did! But then my day got really busy. I forgot until I had gotten home from work, and by then I had already binged so I was too embarrassed to write anything down.”

Therapist: “Thanks for being honest. So, the embarrassment following the binge made it too difficult to record?”

Anna: “Yes, I didn’t want to write it down because it makes it more real.”

Therapist: “I know what you mean. But a tree that falls in the forest still makes a sound. The binge did happen and it had an impact on you. The recordings help us to better understand this impact and, at the same time, challenge you to be more compassionate towards your behaviors. This is not easy to do. What do you need to be successful with the monitoring?”

With hesitation, Anna agreed to try the monitoring and, at the subsequent session, had brought in a full week of records. After jointly studying the monitoring record (see Fig. 12.2), Anna and her therapist discovered that she was eating very little during the day (skipping breakfast and eating only yogurt for lunch) and was therefore quite vulnerable to evening binges when she got home from work feeling hungry and stressed. After the therapist introduced the concept of regular eating, Anna agreed to incorporate a light breakfast and pack a more substantial lunch to eat at work.

### 12.3.2 Stage 2: Transitional Stage

By the second stage of treatment, Anna was bingeing and purging just 1–2 times per week. She identified dietary restriction and the overvaluation of shape and weight as the primary maintaining mechanisms of her eating disorder. “I start off my day well,” she said of her dietary rules. “Now I eat breakfast and lunch as planned, but then, if I have something bad like a cookie, I feel like I ruined the whole day and I’m totally out of control. Then, it’s like, what’s the use? I might as well binge because I have to throw up

anyway. Regarding body image, she identified her upcoming wedding as a trigger for increasing her focus on weight and shape: “Everyone is expecting me to look perfect when I walk down the aisle. What if I look like a disgusting pig?”

### 12.3.3 Stage 3: Addressing Underlying Maintaining Mechanisms

During the pie chart exercise, Anna listed body shape and weight, relationships, and work as her primary sources of self-esteem, with the largest area of the pie (Fig. 12.3) represented by weight/shape (70 %) and the remaining 30 % shared by relationships, work, and others. When considering the final pie chart, Anna shook her head stating, “I feel so superficial for basing all my self-worth on my appearance. I mean, I really do love my family and the great kids I teach, but you wouldn’t know it from looking at how I spend my time—dieting, exercising, and body checking.” Referring back to the chart, Anna was asked to imagine what would be different if relationships or work were to increase in size. Anna reflected on this stating, “I’ve avoided my sister’s invitations to hang out for so long that she hardly even calls me anymore. It’s just that I’m afraid to spend time with her because she always asks me to do something that involves food. Maybe I should actually return her calls and not just text that I am too busy. I guess we could go out for coffee.” She was also open to trying new activities stating, “I think I’ll sign up for a Spanish class. I teach several kids for whom English is a second language, and I’ve been wanting to try something new.” To address shape checking, Anna admitted that she often sucked in her stomach throughout the day and had purchased a wedding dress two sizes too small saying, “It know it sounds ridiculous, but I thought that the day would be ruined if I wasn’t wearing a specific size.” In collaboration with her therapist, she agreed to return the dress and order it in a size that fits her now—not ten pounds from now—and agreed to do a clothing exposure with a form-fitting shirt stating “I was concerned about my stomach when I first left my house, but by the time I got to work, I forgot about it.”

### 12.3.4 Stage 4: Relapse Prevention

Anna presented to her final sessions apprehensive that she was not ready to complete treatment. Although she was eating regularly and had not binged and purged for 7 weeks and was within a standard deviation of community norms on the EDE-Q (1.8) and below the clinical cut-off on the CIA (14), she expressed concern that “What if I’m not 100 % better? I’m worried that if we stop meeting, I’ll completely fall apart.” She and her therapist discussed how treatment is a lot like learning to ride a bike; independent practice would help her continue to hone her skills. The therapist also assured her that she could certainly return for booster sessions if needed. In Stage 4, Anna was able to identify key strategies for her success, including following a regular eating pattern to avoid restricting, continuing to resist body checking, and spending more time with family and friends. In session, she identified key triggers for urges to restrict, including disagreements with her fiancé and getting critical feedback from the school principal at work. With this exploration, she and her therapist cocreated a relapse prevention plan (see Fig. 12.4) and Anna reflected on her recovery: “Therapy helped me learn that dieting was the problem, not the solution. I don’t completely love my body but I’m not going to let the number on the scale ruin my day when there’s so much else that’s important to me—like my students and my fiancé. I still sometimes have eating disordered thoughts, but I don’t have to act on them.”

## 12.4 Empirical Support for CBT in Eating Disorders

The unique efficacy of CBT for eating disorders involving binge eating and/or purging is well established. For example, a recent randomized controlled trial demonstrated that CBT-E was significantly more effective than psychoanalytic therapy for BN. Two years after starting treatment, 44 % of patients who received 5 months of CBT-E were abstinent from binge eating and purging, compared to only 15 % who received 2 years of psychoanalytic therapy [14]. Another study that followed obese patients with BED for

12 months posttreatment reported remission rates of 51 % for CBT compared to just 36 % for behavioral weight loss treatment [15]. “Rapid responders,” or patients who show substantial symptom reduction (e.g., a decrease of >1 standard deviation on the Eating Disorder Examination Questionnaire [16], or cessation of purging behavior [17]) within the first 4 weeks of CBT, are about twice as likely as non-rapid responders to reach full remission by the end of treatment. Importantly, the effectiveness of CBT for bulimic syndromes in “real-world” patients with high levels of psychiatric comorbidity closely mirrors the efficacy observed in randomized controlled trials, with approximately half of patients achieving remission after 20 sessions [18].

There is relatively less evidence for CBT efficacy in low-weight eating disorders. In two recent uncontrolled trials of CBT-E for AN, just 21.7 % of adolescents [19] and 41.4 % of adults [20] reached a minimally normal weight for height (defined as BMI >95 % of that expected for adolescents or BMI ≥ 18.5 for adults) after 40 sessions, even though eating disorder psychopathology significantly decreased throughout treatment. Another recent study of CBT for AN targeted adults who had been chronically ill for at least 7 years, prioritizing quality of life as the primary treatment focus. Despite significant improvements in mood and social adjustment, mean BMI increased by just 0.5 points and remained in the underweight range after 30 sessions [21].

## 12.5 Future Directions and Summary

### 12.5.1 Future Directions

Despite its established efficacy, CBT for eating disorders is not widely practiced in the community [22]. Thus, an important future direction is the broader dissemination of CBT-E, especially to under-resourced areas around the globe. A second crucial next step involves highlighting moderators (who benefits?) and mediators (how does change take place?) of treatment outcome. In the short-term, identifying rapid responders prior to treatment would allow clinicians to allocate

**Table 12.2** Additional clinician and patient resources for eating disorders CBT*CBT books for clinicians:*

- Fairburn, C.G. (2008). *Cognitive behavior therapy and eating disorders*. New York: Guilford
- Waller, G., Cordery, H., Corstorphine, E., Hinrichsen, H., Lawson, R., Mountford, V., & Russell, K. (2007). *Cognitive behavioral therapy for eating disorders: A comprehensive treatment guide*. Cambridge: Cambridge University Press

*CBT books for patients:*

- Fairburn, C.G. (2013). *Overcoming binge eating: The proven program to learn why you binge and how you can stop*. New York: Guilford
- Thomas, J.J., & Schaefer, J. (2013). *Almost anorexic: Is my (or my loved one's) relationship with food a problem?* Center City, Minnesota: Hazelden/Harvard Health Publications

*Links to CBT handouts for patients:*

- [www.credo-oxford.com](http://www.credo-oxford.com)
- [www.almostanorexic.com](http://www.almostanorexic.com)

resources most efficiently and consider alternative approaches for those unlikely to benefit. In the long term, enhancing the effectiveness of CBT-E for the 50 % of patients who do not fully respond (particularly those with low weight), and adapting the treatment for feeding disorders such as pica, rumination, and avoidant/restrictive food intake disorder, will be of paramount importance.

### 12.5.2 Summary

CBT is the first-line approach for adults with BN and BED and holds promise for adolescents as well as those with AN and OSFED. The successful clinician applies fundamental cognitive and behavioral principles that cut across psychiatric disorders (e.g., agenda setting, self-monitoring, Socratic questioning, behavioral experiments) to address the specific psychopathology of eating disorders (i.e., the overvaluation of shape, weight, eating, and their control). Like any manualized approach, CBT for eating disorders may appear “cookie cutter” on paper, but the creative therapist tailors the intervention to create a personalized experience for each patient (Table 12.2).

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9. Eating Disorder Examination Questionnaire, version 6.0 (EDE-Q; Psychopathology Assessment). The questionnaire version of the EDE (EDE-Q) and Clinical Impairment Assessment (CIA) can also be found online, see <http://www.credo-oxford.com>. Also available in *Cognitive Behavior Therapy and Eating Disorders* by C.G. Fairburn, Appendix B, pp. 309–18.
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# Cognitive Behavioral Therapy for Adult Attention-Deficit Hyperactivity Disorder

# 13

Susan E. Sprich and Steven A. Safren

ADHD in adulthood is one of the most highly prevalent psychiatric conditions, affecting 3–4 % of adults in the USA [1]. In the past, it was generally assumed that children with ADHD “grew out of” the disorder. However, follow-up studies have demonstrated that symptoms and impairment persist into adulthood in approximately two-thirds of childhood cases [2]. ADHD occurs more frequently in boys than girls, and this gender difference has been found to persist into adulthood [1]. Adults with ADHD have been found to have impairment broadly in academic, behavioral, and social domains [3]. Specifically, adults with ADHD may struggle in areas such as work performance, marital relationships, finance management, and health behavior engagement [2]. A higher frequency of driving accidents has also been found in adults with ADHD [2]. Psychiatric comorbidity is common in adults with ADHD [1]. The most commonly observed comorbidities were mood disorders, anxiety disorders, substance disorders, and impulse control disorders [1].

The present chapter provides an overview of the diagnostic features and clinical presentations of adults with ADHD, an overview of the cognitive behavioral therapy, developed through a series of research studies at Massachusetts General Hospital, and a case example to illustrate the use of the techniques described.

The core feature of adult ADHD as detailed in the DSM-5 [4] is “a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development,” as characterized by symptoms of inattention and/or symptoms of hyperactivity and impulsivity. There can be two types: a predominantly inattentive type and a predominantly hyperactive/ inattentive type. The predominantly inattentive presentation is diagnosed when an individual endorses at least five out of the nine symptoms of inattention (e.g., “often has difficulty sustaining attention in tasks or play activities,” “often has difficulty organizing tasks and activities”). The predominantly hyperactive/impulsive presentation is diagnosed when an individual endorses at least five out of the nine symptoms of hyperactivity and impulsivity (e.g., “often fidgets with or taps hands or feet, or squirms in seat,” “often has difficulty waiting his or her turn”). A diagnosis of ADHD combined presentation is made when individuals endorse at least five symptoms of inattention and at least five symptoms of hyperactivity/ impulsivity. It is notable that the criteria for the diagnosis of ADHD are the same for adults and

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children, with the exception of the number of symptoms (5/9 are needed for each presentation in adults and 6/9 are needed for each presentation for children and adolescents). In order for the diagnosis to be made, it is also required that several inattentive or hyperactive symptoms present before the age of 12 years, and that several inattentive or hyperactive-impulsive symptoms are present in two or more settings [4]. Additionally, it is required that there be clear evidence that the symptoms interfere with functioning and do not occur exclusively during the course of schizophrenia, or another psychotic disorder, and are not better explained by another mental disorder [4].

### 13.1 Treatment

Although stimulants and other medications have been shown to reduce core neurobiological symptoms for many adults with this disorder, many adults with ADHD continue to experience significant residual symptoms while on medications, or cannot tolerate the medications due to side effects [5]. Even those who do respond to medications typically have significant continued symptoms. In most medication treatment studies, for example, a “responder” is considered someone with a 30 % reduction in symptom severity [6]. As with any set of symptoms, a 30 % reduction is not a 100 % reduction, and depending on severity before treatment, significant problems can continue even after a 30 % symptom reduction [6].

As a result, many adults with ADHD may require psychosocial treatment. Traditionally there have been relatively few resources available to clinicians. In the last decade; however, several treatment approaches have received empirical support [7–9].

The approach we have developed [10, 11] is one of the only individual psychosocial treatments for adult ADHD to have empirical support, demonstrated by randomized controlled trials. Though described in a more detailed way in a subsequent section, the treatment mainly focuses on core compensatory executive skills training and adaptive thinking. To date, we have conducted two randomized controlled trials (RCTs) of this intervention in adults. The first study was

a preliminary one, focused on adults with ADHD who were already receiving medication treatment, but still experiencing significant residual symptoms. Compared to continued medication treatment alone ( $n=15$ ), adults who received the CBT intervention ( $n=16$ ) achieved significant reductions in self-reported and independent evaluator (IE)-rated ADHD symptoms.

The second study [8] was a full-scale efficacy trial, of 86 adults with ADHD, also on medications but still experiencing significant residual symptoms. The participants were randomly assigned to receive CBT ( $n=43$ ) or an active skills-based comparison condition, relaxation plus educational support (RES;  $n=43$ ). We found that participants receiving CBT achieved lower IE-rated posttreatment scores on the Clinical Global Impression scale (CGI [12]) and the ADHD rating scale [13, 14] compared with participants receiving RES, and there were more responders in the CBT group than the RES group based on both CGI and ADHD rating scale results. These gains were maintained at 6- and 12-month follow-up.

Other investigators have examined CBT as well. For example, Solanto et al. [9] conducted a RCT of her group “metacognitive” therapy (MCT) in 88 adults with ADHD, comparing it to supportive psychotherapy. Forty-nine subjects were on medications and 39 were not. She found that MCT was significantly superior on the attentional symptoms of ADHD. Rostain and Ramsay [15] conducted an open trial of CBT plus medication in 43 adults who had been diagnosed with ADHD. They found that participants showed significant reductions in clinician-rated ADHD symptoms, with a large effect size at posttreatment. Thus, an emerging body of evidence suggests that CBT is useful in treating adult ADHD. We will describe our treatment in detail below, and provide a case example to demonstrate how the techniques can be put into practice.

#### 13.1.1 Assessment

As is true for all CBTs, the process should start with a clinical assessment to obtain information about ADHD symptoms, as well as comorbid conditions, psychosocial history, family history,

and medical history. There are a number of measures that are commonly used to assess ADHD symptoms. For example, the self-report Current Symptoms Scale (CSS [16]) can be used both to assess treatment-related change in symptoms over time and as part of an initial evaluation. The CSS consists of the 18 *DSM-IV* inattentive and hyperactive-impulsive symptom items, worded in the first person and with some wording modified to fit adults (e.g., “playing” changed to “engaging in leisure activities”). Patients rate each symptom on a 4-point Likert scale (Never or Rarely, Sometimes, Often, or Very Often) scored 0–3. Thus, severity scores on the CSS can range from 0 to 54 across all symptoms. Next, patients indicate the age the onset for endorsed symptoms. Finally they rate how often these symptoms have interfered with functioning in ten areas of life.

Another commonly used measure is the Adult ADHD Self-Report Scale (ASRS [13]; World Health Organization). The ASRS is an 18-item self-report scale developed by the World Health Organization as a screening tool for ADHD in adults. The ASRS comes in two versions: a short screening version of six items (contained in Part A of the scale) and a full 18-item version containing content from all *DSM-IV* symptoms (Parts A and B). The ASRS has a growing body of literature supporting its reliability and validity and is available online at no cost and has been translated into many different languages.

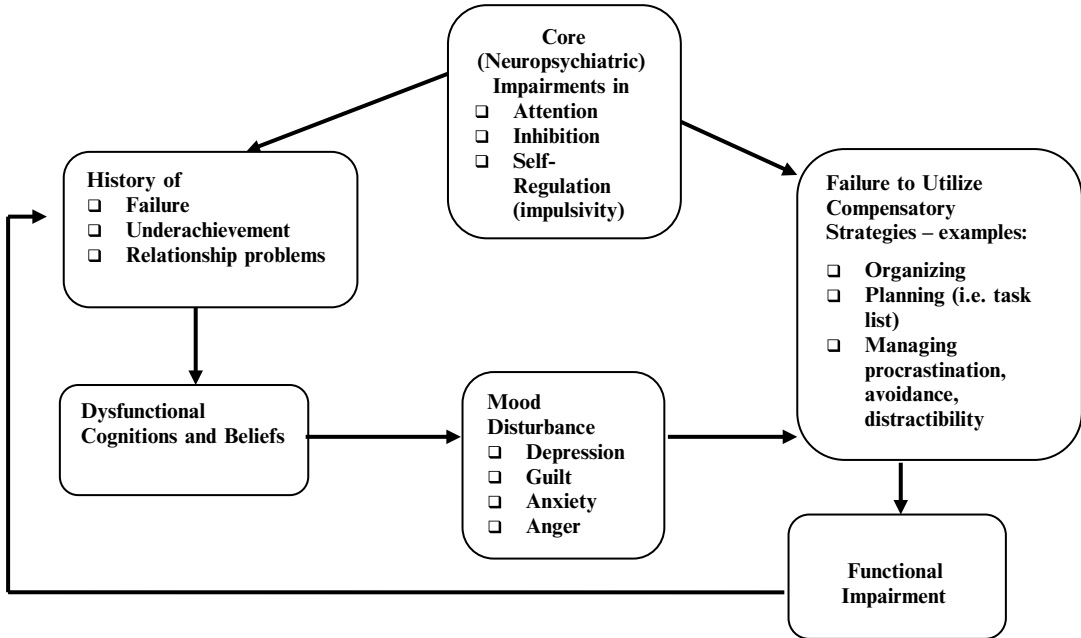
### 13.1.2 Description of CBT for ADHD in Adults

Our CBT for ADHD in adults follows a modular approach and is described in more detail in our published therapist guide and client workbook entitled “Mastering your adult ADHD” [10, 11]. There are three “core modules” that we recommend administering to all clients and two optional modules. The core modules are psychoeducation and organizing/planning, coping with distractibility, and adaptive thinking. The optional modules are applying the skills to procrastination and involvement of a partner or spouse. Below, we provide a brief description of each module.

#### 13.1.2.1 Psychoeducation and Organization/Planning

This module typically spans four sessions and involves orienting the client to a CBT model of treatment, providing psychoeducation about ADHD in adulthood, and training the patient in organization and planning skills. The therapist first orients the client to the CBT model which posits that the client has some preexisting core neuropsychiatric impairments, including deficits in attention and self-regulation (see Fig. 13.1; [17]). The model also assumes that individuals have a history of failure, underachievement, and relationship difficulties and have not learned compensatory strategies. Further, the model states that individuals may have developed negative thinking patterns and may be experiencing mood disturbances, including feelings of depression, anxiety, guilt, or anger. The model further posits that all of these factors, taken together, lead to functional impairment. The therapist goes on to explain that the treatment will focus on addressing these issues by teaching compensatory strategies as well as skills to change the negative or unhelpful thinking patterns. The therapist explains that the treatment is designed to review the skills and help the person use them long enough that they become new “habits.”

We ask clients to articulate specific goals for the treatment. Often, the goals include things like “to keep my home more organized,” “to reduce procrastination,” and “to use my time more efficiently.” By having the client set goals, the therapist is able to tailor the treatment to address these specific goals, and it also makes the desired results more tangible for the client, thus enhancing motivation. For some clients, the thought of changing long-standing behavior patterns is extremely difficult. We include an exercise drawn from the motivational interviewing literature in the orientation session—having the client list the pros and cons in the short term and the long term of changing behaviors [18]. By doing this, clients are able to remind themselves of the long-term pros of changing behaviors, yet also understand why the short-term cons often pose challenges to behavior change.



**Fig. 13.1** The CBT model, which posits that the client has some preexisting core neuropsychiatric impairments (originally published in [17])

The first set of skills in the organization and planning module is development and regular use of a calendar and task list system for appointments, schedule, and “to-do” items. We consider the calendar and task list the foundation for subsequent skills and central to the entire treatment. The therapist takes some time to understand the system that the client is currently using (if he or she is currently using a system) and also what type of system might be most comfortable for the person. For example, if the individual is currently using a smart phone or tablet computer for other things, he or she might do well with using this device to keep track of tasks and appointments. On the other hand, if the individual is uncomfortable with technology, it might make more sense to start off with a paper system and possibly move to a more technologically advanced system later.

A workable calendar and task list system is the foundation for the remaining interventions because, to use other skills in the treatment, clients must first become aware of (1) what they have to do and (2) when they need to do it. It is rare for clients to report that they have no system

at all. However, many clients either have a system that they do not use regularly or they have many different systems, such that they don’t know where to look to find out what they need to do or where they need to be, thus, a therapist may often need to help the client eliminate some of the systems so that he or she is using a single calendar and a single task list. The therapist should emphasize the importance of looking at the task list every day for a long enough period of time that it becomes a habit. Many clients report that they make a task list, but then never refer back to it. Some report that they find looking at the task list upsetting and overwhelming because it can be a reminder of everything that they have to do. They may look at the list, feel pressure to do everything right away, and then avoid key tasks altogether. The therapist needs to make the point that the goal of the task list system is for the client to have the maximal control that they can in the situation. The daily and necessary act of looking at the task list is distinct from the internal interpretation that seeing what one has to do means that they should do everything right then. The goal of

the task list is simply to make clients aware of the possible ways they could spend their time, giving them the ability to choose whether or not to do something. The alternative, not looking at the task list on a daily basis, can cause the consequence of unpredictable and uncontrollable stressors, with forgotten tasks and deadlines. When clients have multiple long-term tasks, we often suggest that they keep a “master list” of longer-term projects and tasks. In addition to their daily list of things that they hope to accomplish on any given day. It is important to reassess the daily task list at the end of each day and move any items that have not been completed onto the next day’s daily task list.

*Prioritization.* Once the client and therapist have agreed on a format for keeping track of appointments and tasks, the next skill that is taught is that of prioritization. Clients are taught to assign ratings of A, B, and C to their daily tasks. An “A” task is one that is very important and often has a deadline such that it must be completed within the short term. A “B” task is defined as a task that is important, but perhaps doesn’t have the same level of urgency. An example of a “B” task might be completing one step of a longer-term project. A “C” task is defined as a task that may be very specific and easy to do, but are of the lowest importance. Examples of “C” tasks might be things like making a hair appointment, dropping off the dry cleaning, checking emails, etc. The therapist talks with the client about the fact that, once the priority ratings are set, the client should try to be “strict” with himself or herself and complete the A task or tasks before the B task(s), and the B task(s) before the C task(s). The therapist can use self-disclosure to validate the tendency to want to come into work and start checking off items from the task list, which likely would involve doing C tasks (because they are concrete and often easily completed). However, if one does this regularly, there is the danger that the more important tasks will never be completed.

*Breaking down tasks/problem-solving.* As part of the organization and planning module, clients are taught skills to deal with tasks that end up

getting pushed off from day to day or week to week. Clients are asked to bring in an example of one of these tasks and then the therapist and the client take some time to examine whether the task is simply “too large” and overwhelming or if the client does not have a clearly articulated solution in mind. When the individual either feels overwhelmed by the task, or does not really know how to approach it, avoidance is often the result. Avoidance of difficult or overwhelming tasks often make the individual feel better in the short term, but can cause problems in the long term.

If the therapist and client decide that a task the client is avoiding is simply too large, the therapist presents options for breaking the task down into manageable chunks. A “manageable chunk” is defined as something that is possible to complete on 1 day or in one sitting. Often, clients will have enormous tasks on their lists, such as buy new house or apply to graduate school. Because these tasks have many different steps, often the client will look at the task, feel overwhelmed, and decide to put it off until a later time. If, however, the client can break the task down into small steps, he or she is much more likely to try to complete that single step. For example, if the client has “buy new house” on the list, it may stay on the list for many months. However, if the item is “call realtor,” it is much more likely that he or she will complete the task. The therapist talks with the client about different ways to break tasks down into chunks—by setting a specific amount of time that he or she will work on the task or by articulating one small step. Often, the longer that the task has been avoided, the smaller the initial step needs to be.

Another skill that is taught in the organization and planning module is problem-solving. This involves getting the client to articulate the problem that needs to be solved (e.g., I need to figure out how I am going to get to the airport on Friday), brainstorm about all possible solutions that he or she can think of, evaluate the pros and cons of each solution, and then assign a rating to each solution. It is important to remind the client to include “leaving things as they are now” as a possible solution so that the pros and cons of this can be evaluated. When a client does not take a

problem-solving approach, this solution ends up being the default result of his or her inaction and so should be evaluated along with other potential courses of action. In particular, examining the pros of inaction can help the patient identify barriers that may be keeping him or her “stuck” in the current avoidance pattern. It sometimes seems like a simple exercise, but clients often report that seeing the “data” spelled out can be incredibly useful. After going through the whole list of possible solutions, the client is able to look at the problem-solving worksheet and a clear solution emerges. At other times, the result is that there are a number of possible solutions, none of which are exactly perfect. The therapist then works with the client to choose a “good enough” alternative, and figure out how to implement the chosen solution.

*Organizing papers or other materials.* The final skill set taught in the organization and planning module has to do with the organization of “stuff.” This was originally conceptualized as the organization of papers and files, but, in this increasingly digital age, we now conceptualize this as including both actual objects/papers and electronic files. The therapist adopts a flexible approach with this session, first ascertaining the needs of each individual client. Sometimes, clients do need help with organizing their paperwork, desk, bills, or closets. At other times, individuals need help with keeping track of electronic files, emails, or other digital items. The goal is for the individual to develop a system that will allow him or her to file his or her items so that they can be easily retrieved at a later point in time. The therapist asks the client to use the “OHIO” (only handle it once) method of dealing with items. The concept behind this method is that an item is sorted into a category (e.g., “file,” “shred,” “recycle,” “donate,” etc.) immediately. The client is instructed to only handle each item once and not put any items into the “I will deal with this later” category. Each item should land in its final destination after the sorting process. The strategy of breaking a large task down into small steps can often be very useful in the sorting process. For example, if the individual has many boxes full of papers, it is

unlikely that they would be successful if they had “go through papers” on their daily task list. However, if they had “go through 20 papers,” they would be much more likely to complete the task. The therapist helps the client to develop categories for sorting and filing papers. The same strategy can be used with electronic files.

### 13.1.2.2 Distractibility

Commonly, clients with ADHD report that they are unable to complete tasks because other, less important, tasks or distractions get in the way. We begin this module by determining a baseline length of time that the client can hold his or her attention on any one, relatively nonstimulating activity. Once accomplished, problem-solving skills learned in the previous module are employed to break the tasks into units that fit within this amount of time. If distracted during the time when working, clients are taught to write down the distraction so that they can deal with it in a systematic way when the piece of the task is complete. This procedure, the “distractibility delay,” is adapted from similar techniques used in anxiety management and worry control procedures (see [19]). By writing the distraction down, rather than dealing with it in the moment, clients are able to refocus on the task at hand without worrying that they will forget about the other task and not complete it later. By increasing the time period between when an individual thinks of a distraction (e.g., “I should go online and look at information about cruises to Alaska”) and when he or she acts on it, the individual is more likely to decide that action does not actually need to be taken on that distraction in the short term. When using the “distractibility delay,” the client is asked to set a timer for the length of his or her “attention span.” While the timer is running, the client is told to work on the designated task, and, if a distraction pops into his or her mind, he or she should write it down and return to the task at hand. Once the timer goes off, the individual looks at the list and then sorts the distractions into categories—“do now”; “put on list for later”; or “distraction, forget about it.”

In the distractibility module (two sessions), clients are also taught cue-control procedures to

cue awareness of whether one is on task. Clients are taught to use a phone, watch, or other devices to beep at certain intervals and to use colored dots as visual cues on distracting objects. Whenever the alarm sounds or they see a colored dot, participants are instructed to assess whether they have been distracted from the main task at hand, and, if so, to return to that task. This module involves teaching the client techniques for scheduling breaks after he or she has completed a chunk of work, reducing external environmental distractions (e.g., Internet, telephone, window), and to develop specific “homes” for necessary items such as keys, wallet, computer, and phone so as to avoid misplacing these important objects.

### 13.1.2.3 Adaptive Thinking

The cognitive restructuring procedures used in the adaptive thinking module are principally those used by Beck [20] except that they account for specific skills deficits due to ADHD. As detailed by McDermott [21], cognitive restructuring training in this population must account for the tendency for clients with ADHD to use maladaptive cognitive techniques to avoid “downward spirals” in thinking. A downward spiral is when someone’s maladaptive thoughts quickly hit on overly negative core beliefs. We have found that there are two areas where cognitive restructuring is quite relevant for our clients with ADHD. One area where cognitive restructuring can be useful is in the area of low self-esteem and negative predictions about one’s ability to succeed in the future. The other area in which cognitive restructuring can be helpful with these clients is with “overly positive” thinking, likely a strategy to avoid downward spirals. Often, adult clients with ADHD will overestimate their ability to accomplish a task or complete it within a specified time and then have negative thoughts about themselves after they find that they have not been able to accomplish their unrealistic goals. Mitchell et al. [22] found that ADHD symptoms in a college sample predicted endorsement of “ADHD-specific maladaptive thoughts,” many of which were overly optimistic in nature. Adults with ADHD may overestimate their performance in domains in

which they are actually less skilled than others [23]. Therefore, work with these clients involves identifying both the overly negative and the overly positive thoughts in order to set more realistic goals, and cue skill use rather than avoidance. The process involves having complete thought records either on paper, on a computer, or using a smartphone “app,” and then working on developing more realistic, effective, and helpful rational responses to replace problematic automatic thoughts that have been identified.

### 13.1.2.4 Additional Modules

*Procrastination.* The first additional module (one session) involves the application of skills to the topic of procrastination. The client is asked to identify a task that he or she has been procrastinating on and then to answer some questions regarding why he or she may be putting off this particular task. Often, the procrastination is the result of the task feeling too large and overwhelming, in which case the skill of breaking down large tasks into smaller chunks is applied. At other times, the individual truly does not know the “solution” to the problem and, therefore, does not know where to start in completing the task. In that situation, the client is asked to complete the problem-solving worksheet to determine the best solution to the problem. The client is also asked to write out his or her thoughts about the task so that client and therapist can look for unrealistic or unhelpful thinking patterns that may be getting in the way of task completion.

*Involvement of a spouse or partner.* If a client has a spouse or close partner, it is strongly suggested that the individual participates in this optional single session module. The goal of the session is to provide the spouse or partner with education about ADHD. Often, significant others may become frustrated with the individual with ADHD, and may think that the individual is lazy or stubborn, which can lead to relationship stress. If the partner is more aware of the difficulties that are caused by ADHD, he or she is often more supportive and understanding, which reduces stress and can help with the success of the treatment. At this session, the therapist facilitates



discussion between the partners regarding the treatment strategies and how the non-ADHD partner can support the use of strategies at home. As with many CBT treatments, the use of family members can serve as “treatment extenders” and enhance generalization of skills outside of the therapy sessions.

### 13.1.2.5 Relapse Prevention

As with many CBT protocols, the final session of the treatment focuses on relapse prevention strategies. The therapist reviews all of the different skills and asks the client to rate each one in terms of usefulness, and also makes notes about how he or she plans to continue to apply the skills. The client is given a “troubleshooting guide” that he or she can pull out when he or she is encountering difficulties, and the therapist instructs that client to engage in monthly self-sessions in which the client checks in with himself or herself on skills use and reminds himself or herself of the skills to be practiced. Again, as is common in CBT, the therapist emphasizes that “slips” are common and reviews strategies that the client can use to help himself or herself get back on track rather than giving up at the first sign of symptom reemergence.

The following is a case example illustrating many of the principles and techniques outlined in this chapter.

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## 13.2 Case Example

Dave is a 45-year-old married man with two children, a 16-year-old son and a 13-year-old daughter. Dave was first diagnosed with ADHD at the age of 37 when his son was diagnosed with ADHD and Dave recognized the symptoms in himself and sought an evaluation. Dave reported that he did well in school up through high school, but struggled in college because he was forced to structure his own time and had more long-term assignments than he had when he was younger. Looking back, he realized that he always had a difficult time sitting still and paying attention. He said that he often didn't hand in his homework assignments, but he was able to do well on exams

without doing much preparation, so his grades were fairly good. He said that he put off writing papers in college until the last minute, but then would stay up all night before his papers were due and managed to “pull it off” and get “good enough” grades. Dave said that he would have liked to go to law school, but he felt overwhelmed by the application process and never pursued it. He has been working as an assistant manager in retail stores off and on for the past 20 years.

Currently, Dave is prescribed a long-acting stimulant medication by his primary care doctor, and he reports that it is somewhat helpful. Dave reported that he saw a counselor in college for a few sessions to discuss some difficulties that he was having related to a breakup with a girlfriend, but he said that he had never had any psychosocial treatment for his ADHD symptoms. He said that he continues to struggle with organizational issues and that this causes difficulties for him both at work and at home. He reported that he is sometimes impulsive in interpersonal situations and blurts things out that he later regrets, he has difficulties doing quiet activities that require concentration, and he fails to give close attention to details and often makes careless mistakes. He feels that he is intelligent enough to be a store manager or even a company executive, but he has been unable to progress beyond the assistant manager level at work. He noted that his wife often gets frustrated with him because he loses track of important papers, is late paying bills even when they have enough money, and has many unfinished projects around the house.

Dave entered treatment at the urging of his wife, although he said that he was able to see the difficulties that his ADHD symptoms were causing him and was a willing participant in the therapy. Treatment began with the therapist providing psychoeducation regarding ADHD and the CBT model of CBT for ADHD. The therapist explained that individuals with ADHD often lack compensatory skills for coping with their distractibility and impulsivity.

Following this, the therapist moved on to focus on Dave's organizational system for keeping track of his appointments and tasks. Dave reported that he had a number of different systems, none of

which were used consistently. He described a wall calendar at home where all family appointments were listed, an outlook calendar on his computer at work, and then several small notebooks where he listed tasks and appointments as he thought of them. He said he often carried around a small notebook, but rarely looked back at the information once it had been placed in the notebook. The first two sessions were used to help Dave develop a single organizational system. Since he always carried his phone and he was able to synch it with his work calendar, Dave and the therapist decided that he should use the calendar “app” in his phone to keep track of appointments and also keep both his master task list and daily task lists in his phone. The therapist asked Dave to keep all of his tasks and appointments in his phone and to develop a regular time to look at the information. Dave decided he would like to try looking at his appointments and tasks at night before getting ready for bed, and then again while drinking his coffee in the morning. The therapist also instructed Dave to prioritize his daily tasks each morning.

Dave asked if he could bring his wife in for the couples session early on, so Dave’s wife, Ashley, was invited for the third session. The therapist provided Ashley with psychoeducation around ADHD. Together, Dave, Ashley, and the therapist talked about the strategies that Dave would be learning in therapy and strategized about how Ashley could support Dave in the therapy, without nagging Dave to use his newly learned skills. During the session, Dave and Ashley agreed to have a weekly “family meeting” during which they would go over the schedule for the week and talk about the family priorities for the week in terms of task completion (e.g., projects that the kids were doing for school, house projects that needed to be completed).

In the fourth session, Dave was asked to bring in his task list and to identify tasks that had been carried over from day to day or week to week. The therapist talked with Dave about the reasons why he was not completing these tasks. The therapist explained that usually tasks are not completed because they are too large and need to be broken down or because the individual does not know how to go about completing the task. One task

that Dave was putting off was raking the leaves in his yard. When asked if he knew how to go about this, Dave laughingly admitted that he did know how to rake leaves. However, he noted that he had a very large yard with many trees and he said that he found the task overwhelming and kept promising himself that he would do it the next weekend. Dave and the therapist talked about how he could break the task down in terms of raking for a couple of hours or filling a certain number of yard waste bags each day. Dave said that he felt that it was more likely that he would begin the task when it was phrased in this manner.

The other task that Dave noted that he was putting off was looking for a new job. He said that he had been unhappy at his current job for a while, but he wasn’t sure how to go about finding a different type of job. Dave and the therapist completed a problem-solving worksheet, including the option of “staying at the current job.” After completing the exercise, it seemed that staying at his current job was a reasonable option for the present, due to the relatively good salary and the convenient location and work hours. However, Dave realized that he would really like to do a job that involved more physical activity and so he added some items to his task list so that he could explore career options that would be more in line with this interest.

For the final session of the organizing and planning module, Dave and the therapist talked about how he could organize his papers and other “stuff.” Since paying bills late was an issue that created stress in the family, the therapist and Dave talked about how he could set up automatic online payments for his bills. Dave also talked about how the family “office” was a source of embarrassment for him. He said that, in the past, he had sometimes let mail pile up for several weeks at a time and then, when they were expecting company, had tried to “clean up” by putting all of the mail in a box and putting it in the office. He said that they had a dozen or so of these boxes. He noted that most of the papers could probably be thrown away, recycled, or shredded, but that he felt that he needed to go through each box and examine each piece of paper to make sure that nothing important was being discarded. Dave and

the therapist talked about both, setting up a system to deal with incoming papers each day to avoid this happening in the future, coupled with breaking down the task of going through boxes into small steps and adding these steps as singleton tasks on his task list.

Sessions six and seven focused on reducing distractibility. Dave was asked to estimate the amount of time that he could spend on a boring task and then break tasks up into chunks that took that amount of time. He said that he felt that he could usually concentrate for about 30 minutes without needing to get up and do something else. He was asked to set the timer on his phone for 30 minutes and use the “distractibility delay” technique until the timer went off. Dave said that using this strategy for a few days made him realize how often he became distracted, even during a short time period. He was also asked to make a specific spot where he would leave his phone, wallet, and keys every day so that he could find them when he needed to leave. He asked his kids and his wife to help him by telling him whenever they noticed that one of these items was not in its place. He reported that this single strategy eased the tension at home considerably as it eliminated a lot of frantic searching in the mornings which often led to him being late for work or to drive the kids to school. Dave was also instructed to set reminders for himself so that he could check in and see if he had become distracted. He said that this was especially problematic at work, so he set reminders on his phone to go off every 15 minutes so that he could check in with himself to see if he was on task.

Sessions eight through ten focused on adaptive thinking/cognitive restructuring. After presenting the cognitive model, the therapist talked with Dave about problematic thinking patterns in which he might engage. Dave noted that he sometimes would have negative thoughts, such as when he thought about something such as the prospect of buying a new house. He said that he often had thoughts such as “There are too many steps and I will never be able to complete them all.” Dave especially related to the idea of “overly positive” thinking. He reported that he often had thoughts such as “I have plenty of time to clean out the whole attic this weekend,” in spite of the fact that he needed to do all of his normal chores,

take his kids to activities, go grocery shopping, and attend an all-day meeting at his church one of the weekend days.

The therapist asked Dave to complete some self-monitoring where he wrote out examples of negative or unhelpful thinking that he observed during the week. When Dave brought them into the following session, the therapist talked with him about how he could use Socratic questioning to come up with some more realistic/helpful ways of thinking about the various situations. For example, when they examined the thought about cleaning out the attic, the therapist encouraged Dave to label this as an example of overly positive thinking, ask himself if this was realistic, and come up with an alternate way of thinking about the situation that was more likely to be effective. Dave came up with the thought, “I may not have time to clean out the whole attic, but I will set aside one hour each day to go through some things, so that I will at least make a start on the project.” They talked about the fact that by having this more realistic thought, Dave was less likely to feel anxious and overwhelmed and was more likely to engage in the behavior of starting the project.

In session eleven, Dave and the therapist talked about ways to apply previously learned strategies to the topic of procrastination. Dave noted that this was the single most problematic issue in his marriage. The therapist and Dave wrote out the pros and cons of procrastinating in the short term and also the long term, a technique used in motivational interviewing [18]. Dave was able to see that by procrastinating, he was making things easier and more comfortable in the short term, but creating problems in the long term (not enough space to do the things that the family wanted to do, dealing with anger/frustration of his wife). The therapist then worked with Dave to break the task down into small steps and identify the negative thoughts that were contributing to his inaction on this issue.

In the final session of treatment, the therapist asked Dave to review his use of skills and talk about which strategies were most useful. Dave reported that the most useful skills were developing a single task list, learning to break tasks down into manageable chunks, identifying specific

places for important objects, and identifying thinking patterns that were contributing to procrastination. They went on to talk about how Dave could continue to use skills moving forward and also how Dave might cope with a “lapse” in skills use. Dave said he felt that the treatment had been quite beneficial and noted that his wife and children had noticed changes in his behavior as well.

### 13.3 Summary

ADHD is a neurobiological disorder that typically develops in childhood. In the past, it was thought that the disorder would go away by the time that individuals reached adulthood. However, it is now clear that the disorder persists into adulthood in the majority of cases and continues to cause significant functional impairment. Although medications have been shown to be effective in reducing symptoms of ADHD in adults, there are often significant residual symptoms. Additionally, some individuals are unable to tolerate medications due to side effects, or are unwilling to take medications due to personal preference. Psychosocial treatment, specifically CBT, has been shown to be beneficial in further reducing symptoms of ADHD in medication-treated adults. This treatment teaches individuals to improve their organizing and planning abilities, to learn strategies to reduce their susceptibility to distraction, to learn skills to identify thinking patterns that are unhelpful or not based on existing evidence, and to apply these skills to topics, such as procrastination. More research is needed to evaluate the psychosocial treatments as stand-alone therapies versus as adjunctive treatments to medication. Hopefully, future research will continue to improve and refine psychosocial treatments for adult ADHD.

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## 14.1 Etiology, Prevalence, and Clinical Presentation of Primary Psychosis

### 14.1.1 Etiology

It is important to remember that psychosis is a nonspecific symptom and therefore not pathognomonic of a primary psychotic disorder. Medical illnesses, drugs, trauma, and sensory deprivation can all precipitate psychosis; it is also possible to have reported psychosis as part of a factitious disorder. Primary psychosis, or psychosis associated with a schizophrenia spectrum disorder, is best understood from the perspective of the stress-vulnerability hypothesis, which postulates that an individual's risk for psychosis is determined by the interaction between his or her biological risk and environmental factors or stress [1, 2]. Although schizophrenia is thought of as a highly heritable psychiatric illness (e.g., there is a 50 % concordance rate in identical twins), that risk is determined by the combined influence of many

genes with small effects [3]. Prenatal environment also plays a role. For example, preeclampsia is associated with a 9-fold increase in rates of schizophrenia [4], and offspring of mothers exposed to flu virus in the 2nd trimester [5] are at increased risk of schizophrenia. Advanced paternal age has also been linked with increased risk of schizophrenia through increased spontaneous mutations [6]. Early onset of substance use or abuse is also associated with increased risk for schizophrenia, and cumulative cannabis use prior to the age of 15 predicted onset of schizophrenia in a Swedish sample [7]. Cultural stress has also been identified as a risk factor, for example, Afro-Caribbeans living in the UK have higher rates of schizophrenia than majority cultural groups [8], and immigrant status has long been identified as a risk factor for a delusional disorder [9].

### 14.1.2 Prevalence

Psychosis is a symptom that occurs across a wide range of illnesses and has a lifetime prevalence rate of 3 %. Schizophrenia has a prevalence of only 1 %, indicating that 2/3 of psychosis presentations will *not* develop into schizophrenia. The average age of onset for schizophrenia differs by gender. Typical onset for males is between the ages of 19 and 25, whereas women typically have a later age of onset [10], and it is not uncommon for a woman to be diagnosed in her early 30s.

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Overall, the course of illness tends to be better for women and it is believed this is a result of the later age of onset [11]. Several theories have been advanced to account for these better outcomes among women including gender differences in brain myelination [12], hormonal influences on behavior and brain development, and superior social skills at the age of onset [13].

### 14.1.3 Clinical Presentation

For most individuals diagnosed with adult-onset schizophrenia, there are three distinct phases of the disorder: prodromal, acute psychosis, and post-psychotic phases. The prodromal phase of schizophrenia can only be determined retrospectively since the majority of patients identified as having high risk for psychosis will not progress to schizophrenia [14, 15]. High-risk groups have been characterized by various criteria which typically emphasize social decline, attenuated/time-limited psychotic symptoms, and/or cognitive impairment [16]. Hafner and colleagues prospectively identified *negative symptoms* (avolition, asociality, apathy, and affective blunting) and depression as preceding the onset of positive symptoms [17]. Consistent with this, current thinking conceptualizes psychosis as a relatively late manifestation of schizophrenia, with depression, negative symptoms, and cognitive impairment evidenced in the prodromal phase [18, 19]. One of the most vexing problems in the treatment of schizophrenia in the USA is that individuals do not tend to present for treatment until 1–2 years after onset of psychosis despite the fact that it is generally thought that reducing the duration of untreated psychosis leads to superior outcomes [20, 21].

The clinical presentation in the acute psychosis phase is characterized by persistent psychotic symptoms (hallucinations, delusions, or conceptual disorganization) in the context of a significant decline in social functioning, which often overlaps with negative symptoms. Although this would seem to be a relatively narrow definition, the heterogeneity of clinical presentation in first-episode psychosis is quite striking in actual practice. This heterogeneity is a function of several

factors, including the fact that patients are often not completely forthcoming about their psychotic symptoms, differences in the prominence of negative versus positive symptom presentations, differences in primary versus secondary negative symptom presentations (e.g., asociality secondary to paranoia), and level of insight to illness. Deficits in attention, memory, and processing speed as well as *basic symptoms* or changes in the subjective sense of oneself, as well as the way in which environmental stimuli are experienced (i.e., lights/colors seem brighter, sounds louder), are also part of the prodromal and acute psychotic phase.

The post-psychotic phase is defined by the remission of psychotic symptoms, which can take months to years to achieve, even in the context of relatively good medication adherence [22, 23]. Moreover, considering the range of symptoms that are part of schizophrenia, it is important for patients and clinicians to understand the limits of antipsychotic medication—antipsychotic medication will not improve negative or cognitive symptoms of the illness, so it is common for these symptoms to persist into the post-psychotic phase. It is not uncommon for individuals to develop post-psychotic depression as they develop insight into their illness and become demoralized by the discrepancy between their developmental trajectory and that of their peers [24]. Depression [25] and substance use disorders are commonly comorbid with schizophrenia [26, 27]. The suicide rate in schizophrenia is 5.6 % [28], which, although lower than previously cited rates, is still significant.

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## 14.2 Empirical Evidence for Cognitive Behavioral Approaches for Treating Psychosis

Cognitive behavioral therapy (CBT), as it is currently conceptualized, was not applied to psychotic disorders until the early 1990s. A number of factors coalesced to promote the use of CBT including the appreciation that 30–45 % of individuals treated with antipsychotic medication continue to have treatment refractory psychosis [29].

As more fluid ideas began to develop about the boundary between psychosis and neurosis, there was more optimism about the capacity of individuals with psychosis to benefit from CBT [30].

Randomized controlled trials (RCTs) of CBT have been conducted in patients taking antipsychotic medication who continue to experience the distress of paranoia, delusions, or hallucinations, so most research reports on the efficacy of CBT pertaining to its use as an adjunctive treatment to medication. A meta-analysis of 34 RCTs of CBT in 1964 patients indicated effect sizes of approximately 0.34 on psychotic symptoms. Similar effect sizes were also found for other domains that were not necessarily the focus of treatment including negative symptoms ( $ES=0.44$ ), depression ( $ES=0.36$ ), and social functioning ( $ES=0.38$ ) [31]. These findings indicate moderate effect sizes for CBT on a broad spectrum of symptoms and have led to the following consensus guideline for the treatment of schizophrenia:

Persons with schizophrenia who have residual psychotic symptoms while receiving adequate pharmacotherapy should be offered adjunctive cognitive behaviorally oriented psychotherapy to reduce the severity of symptoms. The therapy may be provided in either a group or individual format and should be approximately 4–9 months in duration. The key elements of this intervention include the collaborative identification of target problems or symptoms and the development of specific cognitive and behavioral strategies to cope with these problems or symptoms. [32] (p. 99)

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### 14.3 Cognitive Behavioral Approach: Principles and Techniques

CBT for psychosis follows the same structure, principles, and techniques of CBT for anxiety and depression. It is time limited and collaborative and involves an individualized case formulation approach based on functional analysis, routine monitoring of outcomes, and assigned home practice between sessions. CBT for psychosis was developed with the underlying assumption that symptoms are maintained by both appraisal and

behavior and can be modified using CBT techniques. Delusions are thought of as an attempt to make sense of negative affect and/or anomalous sensory experiences [33], which result from an interaction between biology, cognition, and behavior. Kapur's conceptualization of dopaminergic dysregulation, as associated with "aberrant salience" [34], is an intriguing example of a hypothesis integrating biological and cognitive factors in the development of a delusion. Under this hypothesis the dysregulation of dopamine, which is associated with the detection of novelty in the environment, is thought to drive the ascription of importance to benign environmental stimuli (i.e., referential thinking). It may be that the patient's search for confirmatory data then sets in motion a process of flawed data gathering, which is then maintained through negative reinforcement in the form of temporary reductions in anxiety once the patient uncovers each new piece of data that "fits." Within CBT, distressing hallucinations are conceptualized as products of a person's mind that reflect a propensity to access memories, internalized language, and negative core beliefs. Further, impairments in *source monitoring*, or the ability to monitor the origin of one's own thoughts, may play a role [35]. Dysfunctional metacognitive strategies are thought to magnify the distress associated with hallucinatory experiences. A patient who perceives critical auditory hallucinations as intolerable, and as an indication of defectiveness, will likely be distressed and unable to cope well with the hallucinations. The associated distress is amplified by the experience of these phenomena as alien, rather than as emanating, from the self. Goals of CBT include fostering a curious attitude about symptoms, improving the sense of personal control over symptoms, decreasing distress, and improving functioning and acceptance of living with a difficult condition.

#### 14.3.1 Engagement

Special attention to the engagement process is needed with individuals suffering from psychosis. First and foremost, the clinician leads with empathy, conveys expertise, and expresses



hope that therapy can be helpful [36]. Many individuals have often had the experience of being secretive about their psychotic symptoms, motivated by fears of involuntary hospitalization, concerns about pressure to increase medication, or direct instructions from the voices themselves not to talk about them with clinicians. Paranoia, which is one of the most common presentations of psychosis, by its very nature, makes it difficult to form a relationship, and clinicians may be perceived as part of a conspiracy against the patient. Clinicians should pay close attention to maintaining confidentiality and to limiting the discussion of third-party communications (e.g., “I heard from your mom that you have been drinking”). It is recommended that, at the outset of therapy, clinicians encourage clients to share suspicious thoughts when they arise [37], a practice which is likely counter to what clients have typically done in other relationships. Particularly in the early phases of therapy, it is critical that the clinician adopts a curious attitude about the individual’s experience, soliciting details about how a particular belief system developed, how pieces of the belief system fit together, and current information that is being used to reinforce this way of thinking. Many new therapists are surprised by how this therapeutic stance can be maintained without colluding with the individual’s delusional beliefs. At times, the clinician and client may “agree to disagree” [38] and may choose to “work within the delusion” [39] which will be discussed later in this chapter.

### 14.3.2 Assessment and Case Formulation

Although it may be atypical to administer a semi-structured rating scale in general clinical practice, it is helpful to be aware of the instruments available for this purpose. The Positive and Negative Symptom Scale for Schizophrenia (PANSS) [40], Brief Psychotic Disorder Rating Scale (BPRS) [41], and Scale for the Assessment of Negative Symptoms SANS [42] together with the Scale for the Assessment of Positive

Symptoms SAPS [43], are the most commonly used comprehensive, semi-structured interviews for schizophrenia. Briefer measures include the Psychotic Disorder Rating Scales (PSY-RATS) [44]; for voices, the Beliefs About Voices Questionnaire-R (BAVQ-R) [45]; and, for paranoia, the 20-item self-report Paranoia Scale [46]. Self-report measures of anxiety or depression, such as the Beck Anxiety Inventory [47] or the Beck Depression Inventory-II (BDI-II) [48], are also useful.

The CBT therapist is also interested in assessing situations, thoughts, and behaviors associated with distress or specific functional difficulties. These domains would not necessarily be captured in the above-referenced measures, and are best arrived at through questioning, thought records, and other self-monitoring logs, conducted in and out of session. Although assessment continues throughout treatment, the initial assessment typically comprises between three and five sessions, and the goal is for the client and therapist to arrive at a shared case formulation within this time frame. A basic case formulation might include common triggers, thoughts, and behavioral responses associated with either the onset of or response to psychotic symptoms. More elaborate case formulations may include core beliefs about the self and others, as well as the identification of life experiences, which may have encouraged the development of certain negative core beliefs [38]. Even these more extensive case formulations should be shared in session.

In tandem with the construction of a case formulation, the assessment phase entails the development of a problem/goal list that provides the blueprint for the goals of CBT. Ideally, the client and therapist will be able to come up with a few functional goals—for example, taking a class or socializing 2x/week. Socially oriented goals are important not only because social recovery is an important treatment target for many individuals with schizophrenia [49–51], but also because social support, as well as routine involvement in meaningful activities, decreases psychotic symptoms and distress, and prevents relapse [52].

### 14.3.3 Psychoeducation, Normalization, and Destigmatization

It is highly unusual for a client presenting with psychosis to have a clear sense of what the word “psychosis” means. Individuals with diagnosed schizophrenia often claim to have not been told of their diagnosis. Those who have been told often lack a hopeful and positive outlook of the possibility of a rewarding and meaningful life. Psychoeducation about symptoms, medication, the stress-vulnerability model, and early warning signs monitoring can reduce feelings of powerlessness, provide clarity, lay the groundwork for improved coping, and provide an alternative model for the reattribution of symptoms. Focusing on common issues faced by individuals with psychosis such as handling disclosure, being out of step with peers due to interruptions in education, loss of friends during episodes of illness, and traumatic experiences and reactions associated with psychosis and treatment can also be critically important in reducing feelings of alienation. Along with individual work, family-based intervention (psychoeducation and skills training) should also be provided. There are clear benefits of providing family intervention to reduce relapse and rehospitalization, and longer (>6 month) programs have typically been found to be superior to shorter programs [32]. Many individuals with schizophrenia have contact with relatives, and this is especially true for younger individuals presenting with a first episode of psychosis.

Normalization refers to the goal of helping the client recognize that their psychotic symptoms are similar to experiences of many people who do not have mental illness. One common normalization strategy is the provision of data about the rates of psychotic experiences reported by the general population (e.g., 4 % report hallucinations and 10 % endorse delusional beliefs) [53]. In addition, therapists might integrate peers (i.e., either online or in person) to model recovery strategies for the client. An underlying premise of normalization strategies is that dysfunctional beliefs about psychotic symptoms (e.g., “No one will ever accept me because I have psychosis”) contribute to distress and therefore impede recovery from psychosis.

### 14.3.4 Behavioral Coping Strategy Enhancement

Although somewhat of an artificial distinction since there is thought to be a dynamic interplay between behavioral and cognitive change strategies, we will discuss behavioral and cognitive strategies separately. Optimizing coping strategies for psychotic symptoms is a focus of CBT treatment. The CBT therapist assumes individuals with psychotic symptoms are managing as best as possible with their experiences, but that their management skills, abilities, and techniques can typically be improved through the collaborative (i.e., client and clinician) trial-and-error approach in treatment. Individuals may want to socialize, but become isolated due to constant criticism or threats their voices make. In some cases, the individual will respond by yelling at the voices, which can further enhance social isolation and a sense of victimization. In other cases, individuals who hear frequent or constant, faint or whispering voices may find it difficult to understand the content of the voices, but nevertheless find that the voices make it difficult to socially engage.

In order to bolster coping, it is important that the clinician and client have a clear understanding of how the client has typically responded to his/her psychotic symptoms, the effectiveness of these strategies in reducing associated distress, and whether these coping strategies have been associated with any problems. One way of coping with command hallucinations, for example, is to comply with the orders and instructions. This strategy is often problematic in that it can result in self-harm, legal problems, and acting in ways opposite to values or life goals. Avoidance and safety behaviors (e.g., hypervigilance) are also common ways of responding to paranoia and voices. With these presentations, the cognitive behavioral therapist conceptualizes the behaviors as likely maintaining distress, and together with the client, the therapist identifies or elucidates the specific ways in which the behaviors interfere with functioning.

Nick Tarrier and colleagues developed Coping Strategy Enhancement (CSE) [54], designed to build upon the client’s natural coping strategies

for auditory hallucinations. In CSE, the therapist and client identify the antecedents of when the voices occur, often through self-monitoring assignments. Then, they identify what the client typically does to respond to the voices (e.g., yell at them), followed by the benefits and negative consequences of this response. The client and therapist proceed to identifying new coping behaviors, perhaps by using a list of alternative coping strategies ([38], pp. 119–124) and practice these strategies both in and outside of session, while monitoring their effectiveness. Strategies may include the use of coping statements (e.g., “I can hear these without listening”) or concrete distraction techniques (e.g., listening to music). Individuals who experience hallucinations generally identify periods of low activity as increasing the likelihood of hearing their hallucinations. Some clients may be willing to repeat what they hear in session or between sessions and record themselves speaking what they hear. Another possibility is to request the client to elicit the experience of hearing their voice(s) in session, in order to test the effectiveness of a new coping response in reducing associated distress [38]. A related approach is to train clients in attentional switching. This technique involves teaching clients about selective attention and training clients to focus their attention on one sensory experience at a time [55, 56].

The above techniques can also be adapted to hallucinations in other sensory modalities. For example, someone experiencing somatic hallucinations that they describe as sexual manipulation from an outside force would be educated about this as a common but nevertheless distressing somatic hallucination. The role of selective attention in magnifying these sensations is brought into the session. For example, “Until I mention it, you probably do not notice the pressure of your watch on your wrist or the feeling of your feet in your shoes.”

The client and therapist work together to identify both proximal and distal responses: current proximal responses could be getting angry at perceived persecutors, tensing muscles to brace against intrusion, while distal responses could be avoiding sexual imagery. The next stage involves

the therapist helping the client to evaluate the effectiveness in coping with these experiences and trying other responses to minimize associated distress. Coping responses to paranoia or other delusions can be evaluated and optimized in a similar way. For example, an individual with persecutory delusions may cope through avoidance and/or by making frequent reports to the FBI or police. Motivational interviewing strategies [57] help to create and enhance the discrepancy between life goals and avoidance behaviors, which can then serve to foster a collaborative agreement to test new ways of coping. The client and therapist may be able to come to an agreement that the client’s current approach is both ineffective and detrimental to the client’s goal to live his or her best possible life. Note that this approach, referred to as “working within the delusion” [39], may be one that is used either early in therapy, prior to the gentle analysis of whether the client’s explanatory model is accurate, or once the client and therapist have done this analysis and reached an agreement to “agree to disagree.”

### 14.3.5 Cognitive Restructuring and Behavioral Experiments

A key point regarding cognitive restructuring in psychosis is that it is not simply “reality testing” the truth/falsity of the client’s delusional beliefs. Although the gentle inquiry of the logic and connection between beliefs is certainly part of the cognitive restructuring work in CBT, there are a number of other potential targets aside from truth/falsity of delusional beliefs. There is therapeutic value in identifying beliefs associated with the perceived utility of holding a particular belief, or persisting in a certain pattern of behavior.

For example, following this line of inquiry with a client who believes he/she must spend all of his/her time attending to, and “decoding” signs in the environment, may result in a cognitive shift. This shift may ultimately free up time and allow his/her to spend time on activities he/she enjoys. Other potential therapeutic targets include self-stigmatized beliefs related to illness, beliefs about the power of voices/

persecutors, and beliefs about the client's ability to respond effectively to voices/paranoia. Additionally, the clinician may choose to explore how the client's identified belief(s) are informed by negative core beliefs about the self.

Several factors including cognitive deficits, cognitive inflexibility, and objectively difficult life circumstances can present challenges in terms of the feasibility and usefulness of traditional thought records with individuals with schizophrenia. An alternative is to use the "5-step method," developed by Mueser and colleagues. This approach walks the client through cognitive restructuring in a step-by-step fashion and includes a decision point at which the client is prompted to create an action plan in the event that he/she concludes that the evidence does support his/her belief [58]. There are other versions of dysfunctional thought modification strategies, such as the "catch it, check it, change it" method developed by Grandholm and colleagues [59].

Attributional biases and data gathering biases have been identified among individuals with psychotic disorders. Cognitive restructuring and behavioral experiments are techniques that may be used to moderate these biases. For example, individuals with paranoia demonstrate an exaggeration of the self-serving bias which results in the attribution of negative events to external factors, and of positive events to internal factors [35]. This tendency to externalize negative events to other people is thought to play a role in the development and maintenance of paranoia [60].

Recent attention has turned to identifying common cognitive distortions present among clients with prominent negative symptoms. An important triad of beliefs relating to low expectancies for success, low expectancies for pleasure, and the perception of limited resources (energy or skills) to do things have been identified [61]. As in depression and anxiety, cognitive therapy may focus on the gradual modification of such biases, with the goal of teaching the client the skill that he or she can use independently to reduce associated distress and become more functional.

Another well-established bias among individuals with schizophrenia is what has been termed the "jumping to conclusions" bias, which reflects

the tendency to gather insufficient data before making a determination [62]. Current approaches to remediate this bias include virtual reality paradigms in which the client is trained to gather more data before making a determination about a complex social interaction [63]. Clients may also benefit from training in the skill of becoming more generative in terms of explanations for events, a technique which has been used in CBT for depression [64] as well as in individuals with delusional beliefs [65].

Behavioral experiments are a direct way to gather data in CBT and may be used to investigate a delusional belief as a hypothesis. An example might be a man who holds the delusion that his current admission to a locked inpatient psychiatric unit is a test of whether he should become a doctor. He believes actors staff the psychiatric unit, not doctors. After leaving the hospital and continuing in outpatient therapy, he might talk with his CBT therapist about whether or not his beliefs were accurate. They may decide to gather evidence through an internet search and evaluate the results, assessing whether the results support his beliefs.

Another purpose of a behavioral experiment is to evaluate whether a particular pattern of behavior is having a desired effect. The client's self-monitoring of the intensity of paranoia/anxiety, and the relationship to hypervigilant behaviors, can effectively test whether hypervigilant behaviors increase paranoia/anxiety. Finally, it is absolutely critical that behavioral experiments are conducted in the spirit of "collaborative empiricism" and not to invalidate the client. Invalidation would damage the alliance, possibly creating increased conviction in the initial belief through psychological reactance.

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## 14.4 Case Example

David is a 20-year-old single Caucasian man in his junior year of college majoring in political science with no prior psychiatric history. During his first 2 years of school, he had a small group of friends and a B average. Over the fall semester of his junior year, David's grades declined to Cs; he

was taking longer to complete coursework and found it difficult to concentrate. He described feeling “uncomfortable” and not wanting to socialize with people. He also became increasingly aware of the feeling that others were taking special notice of him. He began to post cryptic messages online about his frustration dealing with “upper-middle-class elites” and started detecting subtle messages in online communications and text messages, that he interpreted as criticism for his “naivete.” Over winter break, David’s parents noticed that he was spending a lot of time in his room and not returning phone calls from friends or responding to invitations to socialize.

Shortly after returning to school for the spring semester, David’s attendance at classes and meals decreased significantly. Around this time, he described onset of hearing “mumblings” and voices trying to have conversations with him. At first he could not make out specific words that the voices were saying, but they became clearer and he heard threats such as “You’re going to die.” He recognized one of the voices he heard as the brother of a woman he dated when he was in high school and thought that the two of them were spreading rumors about him. The voices caused him periods of anxiety during which he described feeling “claustrophobic” and experiencing shortness of breath, upset stomach, and associated concerns about his health. He believed the voices were connected with other people reading his thoughts, and he began to intentionally “scramble” his thoughts to confuse those around him. He began staying up most of the night and would check outside his dorm room to see if he could find the origin of the voices.

He also began drinking alcohol in his coffee during the day to cope with stress and to help him sleep during the day. Campus police took notice of him at 3:00 am as he sat on the steps outside of his dorm room dressed in his lacrosse gear. He provided a confused account of what he was doing and was taken to the local emergency room. He was admitted to an inpatient facility where he remained for three and a half weeks. As part of his inpatient treatment, he was started on antipsychotic medication and reported that he

found it helpful in terms of helping him “think more clearly.” He took a medical leave from school and returned home to live with his parents.

Upon presenting to outpatient treatment approximately 6 weeks after the hospitalization, he continued to report his concern that others were spreading rumors about him as well as the possibility that others could read his mind, although he was not convinced. He continued to experience occasional threatening voices and thought this could be the result of other people controlling his mind.

The outpatient therapist met with David and his parents for the first three sessions. The format and goals of CBT were introduced, and the therapist provided information about what would be important to David’s recovery: medication, avoiding alcohol and illicit drugs, optimizing coping, creating a weekly schedule, and using social support. Education was provided about the cognitive model, and the therapist gave examples of how different appraisals of the voice-hearing experience could result in differing levels of distress and interference with life goals.

David described his emotional reactions to the voices as “angry and frustrated,” and his parents confirmed this when they described hearing him respond to what they assumed were the voices, in anger. They also told the therapist he had been sleeping on the floor of his bedroom near the door. David agreed he had been unsure how to respond to his voices and that he would find it useful to address this in therapy. David’s primary concern that he reported in the first session focused on what his friends at school were thinking about him because he had been hospitalized. He had called some of them to tell them he was in the “psych ward.” He was also embarrassed about some of the things he posted online immediately prior to his hospitalization. David described being confused when he reflected back on the events leading up to his psychosis; he agreed that a clearer sense of what happened would be useful.

Given that he was now living at home, both David and his family were unsure of how he should spend his time. Since coming home from the hospital, he was sleeping a lot during the day and isolating himself in his room playing video

games. He reported full adherence to his medication and denied missed doses or having any side effects. His parents agreed that he was taking his medication as prescribed.

At the conclusion of the third session, the problem/goal list included the following: (1) figure out how to handle communications with friends; (2) gain a better understanding of the events leading up to hospitalization and learn more about psychosis; (3) plan how to spend time now while living at home; and (4) develop effective ways of coping with the distress of voices, of feeling unsafe at times (40 % conviction), and of experiencing thoughts as not private (35 % conviction). For homework, David and his family were given handouts about the stress-vulnerability model of psychosis and a tip sheet for coping with psychosis. Activity scheduling was incorporated as a piece of every session to address how David was spending his time.

The next several sessions were spent learning more about the development of David's belief that he was in danger and identifying factors that may have contributed to the development of the psychosis. This was done in conjunction with providing psychoeducation about psychosis and panic disorder with the goal of helping David reattribute his experiences. At this point in treatment, he understood some of the beliefs he formerly held as psychosis, but maintained that the voices he heard were the result of mind control although he was unsure how this was being accomplished.

Prior to the onset of hearing his former girlfriend's brother's voice, he had seen photographs online of this ex-girlfriend with a new boyfriend. He reported becoming preoccupied with thoughts that she was talking behind his back to this new boyfriend and his circle of friends, and that this information had gotten to his fellow students, particularly those who were from wealthy families since that was her background. He indicated one of the reasons he and this girlfriend broke up was because her family was unsupportive of their relationship since he was from a "working class family." David and his therapist were able to reconstruct a conceptualization of how his beliefs about being "inferior," "unworldly," and "naive" were activated by seeing this photograph of his

former girlfriend with her new boyfriend. David could identify other stressors during that time which included his being the only one in his group of friends without a girlfriend, increased academic pressure, and concerns about what he would do after he graduated.

Since it was identified as a primary concern, another issue addressed early in CBT was developing a plan of whether, and how, to talk to his friends at school about his hospitalization, about his medical leave, and about his symptomatic behavior leading up to the hospitalization. After exploring a range of possible responses and evaluating each alternative, David decided to disclose that he had suffered psychosis and write an apology email to two close friends he had accused of spreading rumors about him. He elected to tell his acquaintances that he was on medical leave because he had a thyroid problem that resulted in thinking difficulties.

Subsequent sessions focused on his perception that others were spreading rumors about him, his experience of his thoughts not being private, and his coping with auditory hallucinations. An event David identified as fueling his belief that rumors were being spread about him while at school was returning to his room and finding a group of students who were unfamiliar to him talking with his roommate. He noticed that they stopped talking when he came in and that led him to conclude they were talking about him. After providing training in generating alternative explanations, together David and his therapist were able to come up with a number of alternative explanations (e.g., they were talking about someone else, they were asking a question about him, they were startled by his coming in and were not sure how to act, he appeared flustered when he came in, and they were waiting for him to express some concern). Each possible explanation reduced his conviction from 80 to 60 % that they were speaking negatively about him.

One area of inquiry that seemed to help David was when the therapist asked him about times he returned to the room and his roommate was not there. David stated he approached the door with the same level of anxiety, but when he found his roommate was out, he could feel himself relax.

David made the connection that his anxiety would predispose him to hypervigilance and cause him to anticipate some type of imminent threat. This anticipation may have resulted in him acting unusual in social situations. This behavior would then increase his perception that others were evaluating him negatively, were spreading rumors about him and, at the height of his paranoia, were plotting to harm him.

David completed self-monitoring logs between sessions in which he could identify specific triggers, the situations they occurred in, and his beliefs about each situation. These logs also required David to record his emotional and behavioral responses to hearing voices, feeling suspicious, or experiencing thoughts as not private. The therapist analyzed these logs and discussed specific experiences when David believed others were spreading rumors about him. David recognized that he experienced more distress in public situations when he observed people taking notice of him. He identified straining to eavesdrop on strangers' conversations, and when he heard a word of their conversation, he attributed it to something relevant to his life. This cycle further increased his certainty that people were saying negative things about him.

One of David's self-monitoring logs reflected a lunch at a nearby restaurant with his mother. He noticed a woman in her 20s look at him when he walked by. He thought he heard the woman say the name of the city his mother was from which led him to the conclusion that the woman was gossiping about him. By practicing the skill of generating alternative explanations with his therapist, David was able to affirm the thought that there was no reason to suspect that the woman, who was a total stranger, was saying something negative about him. The therapist worked with David to integrate new thoughts such as "Even if she is saying something bad, it doesn't matter. I will never see her again." Although David continued to have the experience of believing others were talking about him, these techniques helped him reduce his distress.

Self-monitoring of voices aims at two distinct treatment targets—optimizing coping and modifying beliefs about the voices' power. David

struggled with distinguishing what he referred to as "mind control voices" from "real voices." It was the "mind control voices" that David identified as getting in his way, and he identified the goal of developing the skill of ignoring them along with responding appropriately to "real voices."

David and the therapist made a list of the attributes of these two different types of voices and the experience of hearing them. David agreed to the suggestion of consulting this list before deciding how to respond to a voice. One of the most helpful strategies was to decide in each case whether he would bet \$20 that he was hearing a "real voice." Another strategy was no longer responding to a voice. He had become increasingly self-conscious about responding aloud to "mind control voices" so this was particularly helpful. He also agreed he would feel more confident in his ability to cope with the voices if he no longer responded to them verbally and behaviorally and agreed to stop scanning his immediate environment to determine their origin. With practice, he became more skilled at ignoring hallucinations. He ultimately developed confidence in his ability to control the voices while decreasing his perception of their power. In therapy he continued to assert that, even with this new confidence and these new skills, the voices resulted from mind control.

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## 14.5 Summary

CBT is an evidence-based practice for individuals with schizophrenia who continue to experience distress associated with treatment-resistant psychotic symptoms despite continued treatment with antipsychotic medication. As with many other evidence-based psychosocial treatment modalities for severe mental illness, CBT for psychosis is not widely available in the USA, and as a result, there are many individuals who would likely benefit from this treatment who cannot access it.

Early phases of CBT focus on socializing the patient (and family when possible) to the treatment and the cognitive model. Psychoeducation

about psychosis and its optimal management is woven throughout the treatment to promote reattribution of symptoms and to assist clients in making informed decisions about their treatment. Special attention needs to be paid to the therapeutic alliance due to the nature of psychotic symptoms, such as paranoia.

Key treatment elements include normalization and destigmatization of psychotic symptoms, enhancing coping strategies, and learning and developing techniques that increase cognitive flexibility. The overall goal is to decrease distress and improve social functioning. Individualized case-based formulation can be helpful in understanding the client's current narrative about the development of their psychotic symptoms, perhaps shifting their narrative to one that decreases blame, guilt, and shame.

A misconception about CBT for psychosis is that it boils down to essential cognitive disputation of delusional beliefs. There are also alternative targets for cognitive restructuring, including an evaluation of the utility of holding a particular belief or persisting in a behavioral pattern. Often, therapists and clients end up "working within the delusion" with the goal of the client living the best possible life despite partial conviction in the delusional belief.

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Mueser KT, Gingerich S. *The complete family guide to schizophrenia: helping your loved one get the most out of life*. New York, NY: Guilford; 2006.

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### CBT for Psychosis: Additional Resources—Websites

<http://eppic.org.au/>

[www.nami.org](http://www.nami.org) (see information on Family to Family program)

<http://www.nimh.nih.gov/health/topics/schizophrenia/index.shtml>

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## 15.1 Cognitive Behavioral Approaches for Substance Use Disorders

### 15.1.1 Etiology, Prevalence, and Clinical Presentation of Substance Use Disorders

Like many complex medical illnesses, substance use disorders (SUDs) are caused by the interaction of multiple variables. These include genetic, biological, and environmental factors, as well as exposure to the specific drug. Addiction has a strong genetic component, accounting for approximately 50 % of the risk [1, 2]. When this predisposition is combined with stress-inducing environmental factors, such as developmental trauma, poverty, unemployment, and psychiatric

illness, along with exposure to substances (especially during teenage years), risk for developing SUD increases [3]. Drug-specific pharmacological effects, as well as the potency, concentration, and speed at which the drug reaches the brain following administration, also independently influence perceived reward and SUD risk. The fastest routes to the brain are via the lungs (smoking), followed by injection (intravenous), nasal (snorting), and oral (drinking/eating).

Cognitive behavioral therapy (CBT) for SUD is strongly influenced by the tenets of social-cognitive learning theory [4]. From this theoretical standpoint, onset and maintenance of SUD is related to observing social modeling of substance use, receiving social encouragement and support for drug use, and possessing positive beliefs about drugs' effects (also known as "expectancies"). In addition, SUD onset risk and relapse following periods of abstinence are believed to be increased by inadequate skills to cope with life stressors and a lack of alternative rewarding activity options. Substance use is believed to act as the predominant coping response to aversive stimuli among individuals with SUD. Consequently, CBT is often based around addressing these presumed cognitive and behavioral deficits (see Table 15.1).

Substance use disorders are pervasive and endemic conditions in most industrialized nations, with substantial increases in lifetime rates among individuals born after 1960 [5].

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**Table 15.1** Cognitive behavioral model of SUD and related interventions

Behavior chain model element	Theoretical deficits/clinical targets	Interventions
Triggers and high-risk situations (HRS)	<ul style="list-style-type: none"> <li>Limited awareness of high-risk situations that precipitate substance use</li> <li>Limited awareness of the maintaining conditions of substance use</li> </ul>	<ul style="list-style-type: none"> <li>Identify triggers and HRS</li> <li>Avoid HRS when possible</li> <li>Change social networks to lessen exposure to HRS</li> <li>Increase skills to cope effectively with HRS that cannot be avoided</li> </ul>
Thoughts	<ul style="list-style-type: none"> <li>Cognitive errors in risk appraisal (e.g., underestimation of risk)</li> <li>Positive outcome expectancies for substance use</li> <li>Abstinence violation effect</li> </ul>	<ul style="list-style-type: none"> <li>Identify patterns of problematic thinking</li> <li>Challenge problematic thinking, alone or with another person</li> <li>Use cognitive distraction</li> <li>Cognitive reframing of “slips”</li> </ul>
Feelings	<ul style="list-style-type: none"> <li>Limited ability to identify and understand feelings</li> <li>Reluctance or inability to tolerate negative emotions</li> </ul>	<ul style="list-style-type: none"> <li>Grounding</li> <li>Breathing exercises</li> <li>Distress tolerance (e.g., distraction, acceptance)</li> <li>Urge surfing</li> <li>Indirect mechanisms (changing thoughts and behaviors)</li> </ul>
Behaviors	<ul style="list-style-type: none"> <li>Insufficient knowledge of effective alternative coping skills</li> <li>Lack of confidence in ability to deploy coping skills</li> </ul>	<ul style="list-style-type: none"> <li>Make a decision to delay use</li> <li>Escape/leave HRS</li> <li>Substitute behaviors that are incompatible with using (e.g., exercise)</li> <li>Drink/drug refusal skills</li> <li>Assertiveness training</li> </ul>
Positive consequences (of substance use)	<ul style="list-style-type: none"> <li>Limited awareness of the short-term benefits of substance use that increase the probability of use</li> <li>Lack of nondrug rewards</li> </ul>	<ul style="list-style-type: none"> <li>Increase pleasant activities</li> <li>Learn/relearn how to have fun without being drunk/high</li> <li>Find alternative ways to relax or feel good</li> <li>Increase awareness of the benefits of sobriety</li> </ul>
Negative consequences (of substance use)	<ul style="list-style-type: none"> <li>Inadequate appraisal of the negative impacts of substance use</li> <li>Limited understanding of how negative consequences can create a feedback loop for further substance use</li> </ul>	<ul style="list-style-type: none"> <li>Increase awareness of the nature and impact of drug-related consequences</li> <li>Problem solving</li> <li>Goal setting</li> </ul>

The prevalence of SUD varies along several dimensions. Some of the most important moderating variables are drug type and availability, gender, life stage, ethnicity, geographic location, and psychiatric comorbidity.

Due to its social acceptance and availability, alcohol is the most commonly misused drug, and alcohol use disorders are the most common SUDs in the United States [3]. In 2011, it was estimated that 20.6 million Americans (8.0 % of the population aged 12 or older) met criteria for SUD in the past year based on the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition* (DSM-IV; [3, 6]). Of these, 2.6 million were classified with dependence or abuse of both

alcohol and illicit drugs, 3.9 million had dependence or abuse of illicit drugs but not alcohol, and 14.1 million had dependence or abuse of alcohol but not illicit drugs. Rates of SUD are approximately two times greater among males than females, although this gender gap has been closing gradually since the 1970s. The highest rates of past-year SUD occur among 18–25-year-olds (approximately 19 %), and the lowest rates are among individuals age 65 and older (<2 %). Rates of alcohol and other drug use disorders vary by ethnicity. The 12-month prevalence of SUD is lower among Asians (3.3 %) as compared to American Indians and Alaska Natives (16.8 %), Native Hawaiian or other Pacific

Islanders (10.6 %), people reporting two or more races (9.0 %), Hispanics (8.7 %), Whites (8.2 %), and African Americans (7.2 %).

Drug availability strongly influences rates of specific SUDs (e.g., methamphetamine use disorders are common in the southwest region of the United States, and opiate use disorders are more common in the northwest region of the United States), but even among licit substances such as alcohol, SUD varies greatly by geographic region based on subcultural differences, such as local proscriptions against intoxication and/or differences in interstate alcohol regulations, enforcement of underage drinking laws, and licensing policies.

Despite a high prevalence of SUD in the United States, only about 10 % of affected individuals will access specialty SUD care in any given year [3]. A large proportion of cases will remit without formal treatment (frequently called “natural recovery”). These cases tend to be less severe, less complex, and have more available recovery resources (“recovery capital”; [7]). The types of cases seen in specialty care are likely to be more severe and have additional psychiatric symptoms or syndromes.

SUD presentation in clinical practice is highly heterogeneous and will differ within and across settings. In fact, the DSM-5 [8] diagnosis of SUD encompasses a broad range of severity. Individuals are diagnosed with *mild* (2–3 symptoms), *moderate* (4–5 symptoms), or *severe* (6 or more symptoms) SUD, depending on how many of the 11 symptoms they endorse. Individuals who use substances, but do not endorse at least two symptoms of SUD, are not classified as having the disorder. Therapists in inpatient settings are likely to see more patients with severe SUD, who have difficulty maintaining their sobriety in the community, whereas therapists in outpatient settings may see less severe cases or patients who present for continuing care following an episode of inpatient/residential treatment. Some therapists may see patients who have been sober for many years and who present to treatment for other reasons. Even in these cases, at least some ongoing monitoring of relapse risk and early

warning signs is important, as relapse can occur even after many years of remission [9–11].

As noted, SUD is more common in males and young adults [3], although therapists are likely to see patients of all ages, as many patients require numerous treatment episodes over many years to reach stable recovery [12]. Comorbid conditions (e.g., mood disorders, PTSD) are common [13], so it is important to determine the relative onset and independence of the diagnoses in order to distinguish whether the comorbid diagnoses are “substance induced.” This provides information about whether comorbid conditions are likely to remit with abstinence or whether these will require additional clinical attention [14].

Many clients present with ambivalence about stopping their use of alcohol or other drugs, as substances may serve important functions, such as helping individuals to cope with life stressors, providing rewards (e.g., euphoria/performance enhancement), and, for those who are physiologically addicted, eliminating the discomfort of withdrawal. Clients will vary widely in their readiness for change, and motivation for change is impacted by many different factors (e.g., external pressures from family or the justice system, the degree of substance-related consequences). The strongest predictor of help seeking for SUD, however, is perceived severity of the alcohol/drug problem [15].

### 15.1.2 Cognitive Behavioral Approaches for Treating Substance Use Disorders

As with other chronic illnesses to which SUD is compared [16], it is not “quitting” substance use that is the challenge, it is maintaining remission over time. SUD tends to be a relapsing/remitting disorder that can last for many years after change attempts are initiated [12]. Approximately 60 % of cases, however, will eventually achieve full sustained remission [17]. Relapse to substance use and related problems following a period of sobriety is common and tends to occur soon after the cessation of treatment. This is why some

form of monitoring and recovery management continuation is recommended to enhance remission rates, which is in keeping with a chronic disease management model of care [18, 19].

Cognitive behavioral approaches teach skills for managing threats to sobriety on an ongoing basis, in order to reduce one's risk for relapse. "Relapse prevention" (RP) is a general term that encompasses cognitive behavioral, skill-based approaches. Based on the cognitive behavioral model, RP focuses on identifying personal predictors of relapse, including contextual factors (e.g., high-risk situations) and tonic (stable) processes (e.g., thought patterns, distal risk factors), and implementing skills to cope with these in order to prevent relapse [20].

CBT/RP can be delivered in groups or individually, and in residential and outpatient settings. Individual CBT/RP allows for a more tailored approach to the client's specific needs, whereas patients in groups can learn from each other and gain further insight into their own situations by hearing how others solve problems and implement coping skills.

It is important to note that at least some client motivation for change is a prerequisite for the successful implementation of CBT/RP skills. If the client is not motivated to learn and implement skills, CBT is unlikely to be effective. As noted above, clients are often ambivalent about changing their substance use and may present with varying levels of motivation. While it is beyond the scope of this chapter to fully describe these strategies, therapists may wish to incorporate motivational enhancement strategies (e.g., Motivational Interviewing; [21]; <http://motivationalinterview.org>) into CBT/RP approaches, as client motivation typically waxes and wanes. It is also important to note that, while some clients may be able to stop using drugs/alcohol safely on an outpatient basis while participating in CBT/RP, others, who are more severely addicted or who have medical issues that could be complicated by withdrawal, will need to undergo detoxification and stabilization under medical supervision before beginning CBT/RP.

Some clients may be unwilling to commit to complete abstinence from all substances, but may

be motivated to cut down on their drinking or drug use in order to reduce negative consequences. The therapist should clearly recommend abstinence for individuals who are dependent on alcohol or drugs, as these individuals are unlikely to be able to use in moderation [22, 23]. However, therapists can work with clients to reduce the harm associated with drinking/drug use when clients are mildly or not physiologically dependent on a substance or are entirely unwilling to abstain. In these cases, the therapist may recommend that the client "sample" sobriety for 7–30 days and then return to moderate drinking/drug use, while using the CBT/RP methods described below to help (see [24], for more information on harm reduction approaches).

#### 15.1.2.1 Assessment Measures

Before beginning treatment, therapists may wish to conduct a comprehensive assessment of patients' substance use and treatment history, mental and physical health, risk behaviors, and social, legal, and vocational needs. The Global Appraisal of Individual Needs (GAIN; [25]) and Addiction Severity Index (ASI; [26]) are excellent examples of such comprehensive, multidimensional assessments. Both require training to administer. Upon intake and throughout treatment, therapists may wish to use additional measures to monitor patients' degree of craving for alcohol and/or other drugs (Craving Questionnaire; [27]), commitment to sobriety (Commitment to Sobriety Scale [CSS]; [28]), and intrinsic and environmental resources that can support patients' recovery (i.e., recovery capital; Assessment of Recovery Capital [ARC]; [29]). Ongoing measurement of symptoms of anxiety (Generalized Anxiety Disorder 7-item scale [GAD-7]; [30]) and depression (Patient Health Questionnaire [PHQ-9]; [31]) is also important, as these are often related to substance use, acute withdrawal, and post-acute withdrawal, and can increase the risk of relapse.

#### 15.1.2.2 Setting the Stage

As CBT for SUD targets an individual's specific relapse risk factors, this type of treatment begins with a thorough exploration of the client's patterns

of substance use, which can reveal a great deal of information about internal and external triggers, beliefs and thought patterns about substance use, what the individual likes about using, and what consequences he/she has experienced as a direct or indirect result of his/her substance use. This can be accomplished using a *behavior chain analysis* (sometimes called a “functional analysis,” as it analyzes the function of drug use in the person’s life; see Additional Resources), wherein the client and therapist collaboratively explore a recent, representative episode of substance use as a chronological sequence (chain) of events. The therapist asks the client to recall a recent, typical episode of substance use. The therapist first asks the client to describe, in as much detail as possible, the situation (Where was he/she? Who was he/she with? What was he/she doing? What prompted the drug or alcohol use?) and related triggers (i.e., the people, places, emotions, times of day, activities, or objects that make him want to use). These details provide information on what situational or contextual factors (called “triggers” or “high-risk situations”) put the client at risk for relapse. The therapist then asks the client to report on what he/she was thinking at the time. Clients may report that they were thinking about how good it would feel to get high, or how they “deserve a drink,” or how they are a “bad person” who does not deserve to recover. Whatever the case, this glimpse into the client’s thought patterns provides valuable information about the nature and impact of his/her cognitive distortions, which informs the clinical approach to challenging these thoughts.

Next, the therapist asks the client to describe how he/she felt at the time, either in emotion labels or physical feelings (note that this is distinct from identifying the emotions or mood states that are triggers in general; this question refers specifically to the feelings that the client experiences directly before using or drinking). Clients may describe feeling a sense of anger, frustration, boredom, excitement, anticipation, relief, or happiness directly before using the substance. It is useful to get as much information as possible about these feelings, as clients are often unaware of the emotional and affective drives that precipi-

tate use, and these feelings can greatly impact the overall experience of getting high/drunken.

The therapist then asks the client what he/she did next in terms of using drugs or alcohol. By now, the therapist has a good sense of the situation, so this is the time to collect information about the method and quantity of drug/alcohol use and any other behaviors that are contemporaneous with using/drinking. Finally, the therapist asks the client about the positive and negative results of using/drinking, both at the time and afterward. In terms of positive results, the therapist may ask, “What was good about using?” “What did you like about it at the time?” or “What did it do for you?” Clients are likely to talk about escape or relief from negative emotions or painful thoughts, having fun, or feeling relaxed. It is crucial to gather information on the specific benefits that the client receives from drinking or using drugs, as these are powerful reinforcers of substance use. Exploring positive results also provides information about the needs that the client has that must be met in other ways if sobriety is to be maintained (e.g., learning to cope with triggers/high-risk situations, having fun without being intoxicated). In terms of negative results, the therapist may ask, “What were the downsides of using?” “What were some of the difficulties that you experienced as a result of using?” Clients are likely to talk about a variety of consequences, including hangovers, breaking a period of abstinence and having to “start all over,” feeling bad about themselves, getting in trouble, or hurting someone else. It is often the case that the benefits of using are time limited (i.e., last only as long as the high), whereas the negative consequences are ongoing or pervasive. It is also often the case that while there are clearly short-term positive consequences of using, most clients who present to treatment will be experiencing more negatives than positives. It can be useful to highlight these points with the client or ask the client to comment on what he/she observes.

The behavior chain assessment sets the stage for further intervention, as it reveals the *function* of the substance use and highlights the difficulties that the client will encounter as he/she enters sobriety and the substance no longer serves those

functions (see Table 15.1). The therapist and client should work collaboratively to identify the areas in which the client most needs to change and the therapist can select interventions as appropriate. It is also important in CBT to have a *written treatment goal* that is determined largely by the client and mutually agreed upon so that the therapist and client will know whether the client is meeting, or progressing toward, his/her treatment goal from week to week. The combination of the treatment goal and the functional analysis helps the therapist and client to identify the steps that must be taken in order for the client to succeed.

### 15.1.2.3 Learning and Implementing Skills

CBT/RP skills generally fall into two related categories: (1) interventions or skills that are implemented in the moment when relapse risk is high (e.g., leaving a high-risk situation, urge surfing) and (2) lifestyle changes that reduce overall risk for relapse (e.g., changing social networks, self-care). It is necessary to attend to both sets of skills when treating SUD. CBT/RP skills can be mapped onto the behavior chain model of SUD (see Table 15.1).

#### Triggers and High-Risk Situations (HRS)

The most basic skill for managing triggers is identifying what they are. Often times, substance use has become so pervasive and automatic that clients are unaware of the factors that trigger their substance use. Triggers can be external (e.g., bars, parties, certain people, time of day, days of the week) or internal (e.g., positive or negative emotions). Many external triggers can be avoided, which is a basic skill for managing them, but this is another area which clients are likely to be ambivalent about changing. Avoiding triggers usually entails making changes to one's social network, in order to lessen exposure to people who use/drink and increase exposure to sober or recovering people. Particularly for young adult and adolescent clients, changing the social network is a major treatment challenge, as drug and alcohol use frequently occurs in a social context [32, 33], and the social network is funneled over time to mainly include fellow drug and alcohol users. Clients of all ages may be very reluctant to

end relationships with friends who drink/use and may try to use a number of other strategies before conceding that this is necessary.

Internal triggers, such as certain emotional states, cannot be avoided and must be tolerated without the use of drugs and alcohol to manage them (often called “distress tolerance”). Ongoing self-care efforts such as getting adequate sleep, eating healthily, exercising regularly, and managing stress can lessen emotionality, and thus decrease the intensity of these internal triggers. Self-care can be a major treatment target, as many clients with SUD experience at least some derailment in their self-care during periods of active use. Some clients with more severe addictions will have completely neglected their self-care and can have a variety of nutritional and medical problems as a result.

#### Thoughts

When examining cognitions, it is important to examine any thought pattern that predisposes the client to substance use. This can include thoughts that are directly about using/drinking (e.g., “I deserve a drink after working all day.” “I can take just one hit.”), as well as thoughts that are indirectly related (e.g., “I can’t stand to feel this way anymore.” “I want to relax.”). Clients may also have distorted viewpoints about sobriety or recovery (“These urges will last forever.” “I haven’t succeeded yet—why should this time be any different?”), which can decrease their self-efficacy for abstinence and predispose them to relapse. As with triggers, the first step toward addressing these problematic thought patterns is to identify what they are and how much the client believes them. Clients may be so used to thinking this way and so unfamiliar with challenging distorted thinking that their initial level of belief in the thoughts may be very high. The therapist can introduce the skill of cognitive reappraisal [34] by stating that oftentimes people become accustomed to thinking in a particular way and neglect other interpretations or ways of thinking about the same information. The therapist can gently challenge the client through Socratic questioning to come up with other interpretations (e.g., “What evidence do you have that that might not be true?” “Have you ever had an urge that didn’t go



away?”). It is also helpful for the therapist to familiarize clients with common “thinking traps” (e.g., “jumping to conclusions,” “emotional reasoning,” “black and white thinking”) and ask them to identify these as they arise in their thinking. For example, many individuals with SUD jump to conclusions about their inability to remain sober over the long term, or romanticize/glorify their substance use, or catastrophize their emotional experience (“This feeling will *never* go away!”). Teaching the client to identify thinking traps and develop a more realistic view of substance use and sobriety can help sustain motivation, build self-efficacy, and decrease the risk for relapse.

**Feelings**

Many types of feelings can put clients at risk for drinking/using. These include positive and negative emotions (which can be triggers, as described above), as well as urges and cravings, which can encompass some of the feelings that the client describes on the initial behavior chain assessment of his/her substance use (e.g., feeling “jittery” right before picking up). As with high-risk situations and thoughts, the therapist should help

the client to identify which feelings put him at greatest risk for using/drinking, while also emphasizing that urges and cravings are a normal part of stopping substance use and do not have to cause the client to drink/use. The therapist and client can then explore the function of substance use in relation to feelings (Fig. 15.1). Some clients report drinking/using to “numb” negative emotions (e.g., shame, sadness) or to enhance positive emotions (e.g., excitement, playfulness). It is often the case that chronic substance misuse changes the client’s relationship to his/her emotions, such that clients must relearn how to feel their feelings without attempting to numb, avoid, enhance, or otherwise interfere with them. Distress tolerance techniques [36] such as acceptance of feelings or temporary distraction can be very helpful, as can grounding [37] and breathing exercises, which help clients bring their focus back to the present. Similarly, clients may be taught “urge surfing,” a mindfulness-based technique where clients visualize their urges as waves and “ride the wave” as it peaks in intensity and then subsides [38]. Over time, this can help to break the association between having an urge and using a drug or taking a drink.

<b>Triggers:</b> What was going on? What put me at risk for drinking/using?	<b>Thoughts:</b> What was going through my mind?	<b>Feelings:</b> How did I feel physically and emotionally?	<b>Behaviors:</b> What did I do next? (Substance use or coping skills)	<b>Positive results:</b> What did I like about drinking/using?	<b>Negative results:</b> What bad things happened after I used/drank?

Adapted from Sampl and Kadden (2001)

**Fig. 15.1** Understanding the function of substance use: behavior chain monitoring form (adapted from Sampl and Kadden [35])

## Behaviors

CBT/RP for SUD ultimately seeks to eliminate drinking/drug use behavior, which involves using “in the moment” skills that prevent or take the place of drinking or using drugs. For instance, if a client is faced with a high-risk situation and/or is experiencing strong urges to use, alternative behaviors may be to leave the situation, to delay the decision to use (coupled with urge surfing), or to do something that is incompatible with using (e.g., exercise, calling a sober support person). Assertive communication skills are also important, as it is not uncommon for people to use/drink in response to a direct offer of drugs or alcohol. The therapist and client can identify alternative behaviors that the client could use in the moment and can role-play drink/drug refusal skills in session in order to prepare the client for real-world encounters.

## Positive Results

As revealed by the behavior chain, there are many positive effects of drug and alcohol use. These include things like relaxation, having fun, being more outgoing, changing one’s emotional state (temporarily), or feeling connected to others. When the substance is given up, individuals need to find new ways to experience these rewards or they may soon find themselves seeking the drug again. This often involves relearning how to have fun while doing things sober (e.g., when socializing, going out to eat, at a party) and increasing pleasant activities in general, in order to build a sense of fulfillment and satisfaction with life. Clients may choose to reengage with hobbies that they have given up as a result of their substance use, or may need to try new things that are not associated with drinking/using. It is important for the therapist and client to identify activities that are rewarding and achievable, in order to help the client rebuild a meaningful, fulfilling life. At its core, this therapeutic area is about identifying the benefits of sobriety (vs. the benefits of using/drinking) and finding ways to experience those benefits in daily life.

## Negative Results

Most clients who seek treatment for SUD have experienced numerous negative consequences as a result of their substance use across multiple domains of life (e.g., psychological, medical, social, financial, occupational, legal). Identifying, highlighting, and reminding the client of these can be an important source of continued motivation for sobriety, particularly when coupled with the identified benefits of sobriety, as described above. Some of these problems will dissipate on their own once the client stops drinking/using, whereas others will need to be actively addressed through goal setting and problem solving, which can be a focus of CBT/RP. For example, a client who has received multiple DUIs may need to set a number of goals and problem solve around saving money for fines and court fees, checking in with a probation officer on a regular basis, attending alcohol education classes, and finding alternative modes of transportation. While many consequences of substance use are complex and not easily resolved (e.g., damaged family relationships), it is important to routinely review the progress that the client *has* made, as this can be very rewarding for the client and help sustain motivation over time.

## Ongoing Monitoring and Between-Session Practice

CBT emphasizes between-session monitoring and practice of skills learned in session. Particularly when treating SUD, the time between sessions is “when the rubber hits the road,” as the client is no longer in the safe refuge of the therapy session. The opportunities for between-session practice when treating SUD are practically limitless, as clients will experience many temptations and obstacles as they attempt to change their substance use. It is helpful to do more monitoring in earlier sessions (e.g., with the behavior chain), as the therapist and client are gathering information about substance use patterns and related relapse risks, which can gradually shift to assignments to practice skills between sessions that are mutually agreed upon by therapist and client. As the client learns skills and

becomes adept at using them, he/she can begin to monitor the impact of using the skills in everyday life. The client may also wish to monitor progress toward the written treatment goal or the goals set around resolving the negative consequences of substance use.

### 15.1.3 Empirical Support for CBT in the Treatment of SUD

Numerous quantitative reviews of CBT and RP for SUD have demonstrated the efficacy of these treatment approaches. One meta-analytic review that included 53 randomized controlled trials of CBT for adults with SUD found a positive treatment effect (e.g., improved abstinence rates, fewer drinking/using days) of a small magnitude (Hedges's  $g=0.14$ ), which diminished by 12 months posttreatment ( $g=0.096$ ; [39]). While the effect size was small, a majority (58 %) of patients who received CBT fared better than patients in active comparison conditions, which included such treatments as discussion groups, interpersonal therapy, 12-step facilitation, communication skills training, support counseling, and medication. The magnitude of the effect of treatment increased when CBT was combined with another psychosocial treatment (e.g., motivational interviewing, contingency management, social support, behavioral therapy) ( $g=0.305$ ), and when compared to no-treatment controls, CBT demonstrated a large effect on substance use outcomes ( $g=0.796$ ). Another meta-analysis comprised of 34 studies found a similar small treatment effect for CBT alone (Cohen's  $d=0.28$ ) and found post-treatment abstinence rates to be 27.1 % [40].

Though relapse prevention is an influential cognitive behavioral approach to the treatment of SUD, a primary distinction between CBT and RP is that CBT is more often used to describe a primary, or stand-alone, treatment based on the cognitive behavioral model, whereas RP is more often utilized to describe a type of aftercare treatment [20]. Meta-analytic reviews specifically examining the effects of RP have demonstrated similar results as general CBT. Irvin and colleagues [41] and Dutra and colleagues [40] both found small overall treatment effects for RP

( $r=0.14$  and  $d=0.32$ , respectively). Importantly, Irvin's review also showed that relapse prevention produced a large change in psychosocial adjustment ( $r=0.48$ ). Dutra and colleagues [40] found that RP produced the largest posttreatment abstinence rates (39.0 %) compared to general CBT alone (27.1 %) and contingency management alone (31.0 %). Irvin and colleagues [41] suggested that one reason why the magnitude of the effect size of RP on substance use outcomes was not larger might have been due to the fact that most studies utilized RP immediately following another primary intervention, or as a supplement to another treatment, and so a true comparison between active treatment and no-treatment controls could not be adequately obtained.

#### 15.1.3.1 Moderators of Treatment Outcomes

*Type of Substance:* Moderator analyses for CBT alone and for RP alone have demonstrated differential effects of treatment on outcome depending on the type of substance. Regarding CBT, stronger treatment effects were found with marijuana ( $g=0.513$ ) than for alcohol or any other drug class [39]. Irvin et al. [41] discovered that RP was more effective for alcohol use and poly-substance use ( $r=0.37$  and  $r=0.27$ , respectively) than for cocaine and cigarette smoking ( $r=-0.03$  and  $r=0.09$ , respectively).

*Treatment Format:* Generally, meta-analyses of CBT/RP have found no differences in effectiveness for either CBT or RP by treatment format (group vs. individual; [39, 41]). As such, group CBT/RP may be the most cost-effective route for clinical delivery, but patient preference should be taken into consideration.

Despite the existence of methodological limitations in the randomized controlled trials that were utilized for the meta-analyses presented here, the most common being a limited number of studies examining the application of CBT/RP across several types of substances, the general findings are that CBT and RP are efficacious in the treatment of SUD. Continued research testing these treatment approaches with a more comprehensive range of substance use types will help elucidate the generalizability of CBT/RP.

### 15.1.4 Case Example

“Adam” is a 42-year-old Caucasian, heterosexual male who presents for individual therapy following a 28-day residential treatment program. He is recently divorced from his wife of 18 years and together they have two teenage sons. Following the divorce, Adam moved into a rented apartment a short distance away and began “isolating and drowning my sorrows in a bottle.” He is behind on paying his rent and in danger of losing the apartment. With limited income from his job as a laborer, Adam risks becoming homeless if he cannot maintain his sobriety and return to work. He also cites estrangement from his sons as a major motivator for his decision to seek treatment, stating “they hate me right now.”

Prior to Adam’s most recent hospitalization, he had been drinking up to 18 beers per day for the past 3 months. Adam reports a 25-year history of problematic drinking, punctuated by several episodes of sobriety (e.g., for 1.5 years after his first son was born). In addition, he has a history of using marijuana, powder cocaine, and, more recently, oral opiates. While each of these drugs has been problematic for him at different times, none has had as widespread of an impact as alcohol. Adam has received detoxification and residential treatment several times before and has some experience with Alcoholics Anonymous (AA). Adam reports that he has difficulty maintaining his sobriety outside of a controlled environment, and while his providers have recommended outpatient treatment and regular AA attendance following residential care, he has never before followed through on these recommendations.

Adam grew up with his parents and three younger siblings (2 sisters and 1 brother). He recalls that his home life had a chaotic feel to it and that he often felt afraid of his father, who would hit and beat his sons with a belt to “keep us in line.” He describes his mother as “verbally abusive.” Both parents had problems with alcohol, although Adam recalls seeing his father drunk more often than his mother. Adam had his first alcoholic drink at the age of 13 and started experiencing drinking-related problems at 17, when he was failing several classes and was sus-

pending from the school hockey team. He reports joining the military at 18 to “turn my life around.” However, he continued to drink while in the service and experienced a demotion in rank as a result. After his discharge, Adam began working in construction and states that alcohol and (to a lesser extent) drugs became part of his daily routine. He has not had permanent employment for the past 10 years, partially as a result of his alcohol use disorder, and has found it more difficult to work as a laborer as he grows older. He cites chronic back pain as a major reason why he began using oral opiates several years ago.

Adam’s intake assessment at the residential treatment program revealed that he met past-year DSM-5 [8] criteria for alcohol use disorder (7 symptoms, severe) and opioid use disorder (5 symptoms, moderate). He also endorsed some symptoms of PTSD related to his history of physical abuse, but did not meet full criteria for the disorder. Upon presentation to the current treatment, Adam’s alcohol and opioid use disorders are classified as being *in full early remission, in a controlled environment*. Adam denied depressed mood and his score on the Beck Depression Inventory-II (BDI-II; [42]) indicated minimal depression. His score on the PTSD checklist for DSM-5 (PCL-5; [43]) was also well below the clinical threshold. The therapist periodically monitored these symptoms throughout treatment to ensure that there were no escalations, while also examining depression- and PTSD-like symptoms in relation to Adam’s risk for relapse. Adam largely denied current medical concerns, aside from lower back pain, and did not exhibit any obvious signs of personality disorder. Adam’s low income, recent divorce, and limited sober social support network are also important to his clinical presentation and must be addressed in therapy in relation to maintenance of sobriety.

Adam presents to individual therapy with a high degree of motivation to sustain his early sobriety, stating “I really want to do it right this time. That’s why I’m finally doing some after-care.” He reports already experiencing several benefits of sobriety, including improved sleep, thinking more clearly, and feeling proud of himself. As Adam is highly motivated, he was

able to articulate his treatment goal in the first session, which is “To abstain completely from alcohol and all drugs.” When asked about the steps he would need to take in order to achieve this, Adam stated, “Go to at least 3 AA meetings a week, attend my therapy sessions, and work on figuring out what has been driving me to drink all these years.”

In order to help Adam begin to identify what is driving him to drink, the therapist presented the behavior chain model of substance use, telling Adam, “Drinking and drug use doesn’t just happen out of nowhere. When we look at the chain of events that leads up to actually picking up that first drink, we can get a lot of information about what’s causing the drinking and also about how to prevent it from happening again.” The therapist and Adam spent most of the session reviewing a representative episode of drinking from Adam’s most recent 3-month period of heavy substance use. The behavior chain worksheet revealed several important points. First, Adam has been greatly impacted emotionally and cognitively by his divorce and reports using alcohol to manage these thoughts and feelings. He reports feeling ashamed, sad, and angry about the divorce and “devastated” by the impact it has had on his relationship with his sons. He notes “feeling like a failure” and “believing I’m a loser.” Second, Adam’s drinking has had a reciprocal, negative influence on these emotions and thoughts, such that the more he drank, the worse he felt about himself. Third, while Adam described being “disgusted” by his drinking and drug use, he acknowledged that there are a number of benefits, including managing physical and emotional pain, “not caring,” and being “the life of the party.”

Adam reported having strong urges to drink and moderate urges to use opiates, which the therapist emphasized are a normal part of the recovery process and need not result in drinking or using. The therapist asked Adam to monitor his urges and how he managed them over the next week. The therapist also suggested that Adam ask his primary care provider about non-opioid pain medications. Finally, the therapist briefly helped Adam to problem solve around when and where he would attend his 3 AA meetings over

the next week and encouraged him to get at least one phone number of a recovering person (so that he could call this person for support when he was struggling with urges) while at a meeting.

Over the next several sessions, Adam and the therapist worked on identifying high-risk situations and triggers for Adam’s substance use and distinguished between those that could be avoided and those that could not. Adam agreed to avoid bars and liquor stores and reported that he currently had no alcohol in his apartment, but expressed some hesitation about avoiding the summertime backyard barbecues that are hosted by his friends. He notes that he has been friends with many of these men since childhood, and even though they have an extensive history of drinking and using drugs together, he would like to be able to maintain the friendships. Adam and the therapist worked together to problem solve around ways to spend time with friends without drinking (e.g., inviting them over to his house to watch a baseball game) and role-played a scenario where Adam explains to them that he cannot drink or be around alcohol or drugs, as he is in early recovery and trying to stay sober.

As Adam reports emotional triggers as primary predictors of his drinking, a major focus of CBT/RP is helping him learn to manage his feelings without the use of alcohol or drugs. The therapist helped Adam to identify the emotions that put him at highest risk for drinking, including shame, sadness, anger, and excitement. The therapist and Adam worked together to understand what precipitates these feelings. Adam noted that his thoughts have a large impact on his experience of negative effect. For example, he reported feeling ashamed when thinking about how his drinking cost him his marriage and damaged his relationships with his sons. He reports having a tendency to be highly self-critical when thinking about past events (e.g., “I’m such an idiot.” “I’ll never be able to make up for this.”), which makes him feel worse. The therapist reviewed several skills for emotion management with Adam, including cognitive reappraisal (e.g., responding to self-critical thoughts with more realistic thoughts; “I have made mistakes in the past and I am working on getting better.”) and acceptance of his feelings as

temporary mood states that can be experienced fully without catastrophic consequences. As it appeared that Adam's anger sometimes masks other feelings (e.g., he reports primarily feeling angry at his father for his past abuse, although at times he seems sad when he talks about it), the therapist encouraged Adam to examine his feelings more closely in order to identify feelings other than anger that may be present. The therapist informed Adam that doing this could help prevent him from getting confused or overwhelmed by his feelings.

Adam did not show up for his ninth therapy session, and the therapist was unable to reach him over the next several days. Since he had been very consistent in his session attendance over the first 2 months of therapy, the therapist suspected that Adam had relapsed and was avoiding therapy out of shame and/or a desire to continue drinking. After he missed his session the following week as well, the therapist left a message for Adam encouraging him to call back, regardless of his sobriety status, so that they could continue their work. Adam did not call back, but did present to his scheduled session the following week. The therapist thanked Adam for coming and expressed concern about the two missed sessions. She asked Adam directly whether he had used alcohol or drugs. Adam stated that he had. He and the therapist then used the behavior chain model to understand what had happened. Adam said that he had gone to a party at a friend's house and that he was the only person there who was not drinking. He noted that he started having thoughts like "I can have a couple beers. It'll be ok." and "A beer would taste so good right now." which led to urges to drink, including a feeling of "being antsy" and a sensation of "almost being able to taste it." He denied thinking about the consequences of drinking in the moment and stated that he attempted to "urge surf," but then "got sick of doing it." He then picked up a drink and proceeded to get drunk for the first time in 3 months. Adam stated that he did not drink the following day, but experienced a great deal of shame and self-directed anger. He reported that he drank again the following day alone in his apartment and continued to do so for the next 3 days.

As Adam has a history of withdrawal when he stops drinking, the therapist assessed his current withdrawal symptoms using the revised Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar; [44]). Adam noted that he experienced some withdrawal symptoms over the past several days at home, including sweating, tremor, and anxiety, but that these symptoms had lessened and were currently minimal. The therapist recommended that Adam follow up with his primary care provider to ensure medical stability.

The therapist noted that a relapse is an excellent opportunity to learn about what didn't work and provides useful information about early warning signs to look out for in the future. The therapist also commended him for stopping when he did and asked how he was able to do that. Adam stated, "I went to a [AA] meeting first thing in the morning on the sixth day, even though I felt awful. I was open about what happened and asked for support. I went to another meeting that night and thought about how I didn't need to throw everything away just because of this." The therapist pointed out that Adam had challenged the "abstinence violation effect" [45] by reminding himself that he did not need to give up because of one setback. She also asked Adam what he learned from this. Adam reported that he now understands that he cannot safely attend parties where alcohol is served, that he should watch out for thoughts that glorify or excuse drinking, and that talking openly about a relapse to people who understand can help break the cycle of shame that keeps him drinking. At the end of the session, Adam acknowledged that he felt proud of himself for getting back on track and for coming back into therapy even though he wanted to avoid it because he felt ashamed.

This incident helped to guide the rest of the therapy, as Adam and the therapist focused more on the influence of Adam's social network on his sobriety and continued to examine the many types of thoughts that put Adam at risk for drinking. Periodically reviewing Adam's written treatment goal and the steps he planned to take to maintain it helped to keep the therapy focused, pragmatic, and goal oriented. Over time, Adam reported increased confidence in his ability to

maintain his sobriety on a daily basis and increased belief that he could effectively use the skills that he had learned.

### 15.1.5 Summary

Substance use and related conditions are frequently encountered in primary care, mental health, and specialty care settings. SUDs are highly prevalent and are considered complex medical conditions that vary considerably in clinical severity, accompanying medical sequelae, and degree of associated functional impairment. CBT is an intuitive, theory-driven, evidence-based approach that has been shown to be effective in reducing the harm associated with substance use as well as increasing the chances of remission. This chapter has highlighted the theoretical basis and rationale for cognitive and behavioral

interventions and described an approach based on a simplified model of human behavior captured in a behavior chain framework. This model forms the basis for cognitive and behavioral analysis and related interventions. Given the potential for periods of relapse along the path to full remission and recovery from SUD, ongoing behavioral management and monitoring using CBT/RP approaches is likely to be helpful.

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#### Additional resources

Websites	National Registry of Evidence-Based Programs and Practices (NREPP); <a href="http://www.nrepp.samhsa.gov">www.nrepp.samhsa.gov</a> Recovery Research Institute; <a href="http://www.recoveryanswers.org">www.recoveryanswers.org</a>
Treatment manuals/therapist resources	Kadden, R., Carroll, K.M., Donovan, D., Cooney, N., Monti, P., Abrams, D., Litt, M. & Hester, R. (1994). <i>Cognitive-behavioral coping skills therapy manual: A clinical research guide for therapists treating individuals with alcohol abuse and dependence.</i> Project MATCH Monograph Series, Vol. 3. DHHS Publication No. 94-3724. Rockville, MD: NIAAA Kelly, J. F., & White, W. L. (Eds.). (2011). <i>Addiction recovery management: Theory, research, and practice.</i> New York: Humana Press Sampl, S., & Kadden, R. (2001). <i>Motivational Enhancement Therapy and Cognitive Behavioral Therapy for adolescent cannabis users: 5 sessions,</i> Cannabis Youth Treatment (CYT) Series, Volume 1. Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration. BKD384
Mutual-help resources	SMART Recovery (CBT-based mutual-help program); <a href="http://www.smartrecovery.org">www.smartrecovery.org</a>

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## 16.1 Case Introduction

Joe was a 32-year-old Army veteran who presented to an outpatient mental health clinic complaining of difficulty sleeping, poor “short-term” memory, increased irritability, and difficulty connecting with his wife and children.

Upon his admission to the clinic, Joe stated that he began noticing things were different when he returned from a combat deployment to Iraq in 2004. He reported that, prior to his deployment, he was an “easy going guy” who had a lot of friends and enjoyed socializing. Since returning from Iraq in 2005, he noticed that it took him a long time to fall and stay asleep, the littlest things bothered him, he had trouble focusing at work, and he had lost his passion for previously enjoyed hobbies. He did not like driving, going to parties, or being in crowds and, if given the choice, preferred to be home. Upon prompting, he also reported feeling anxious and guilty when thinking about things that occurred on his deployment, and these feelings were interfering at home and at work. He was fighting with his wife more frequently and had little desire to engage in sexual intimacy. He also noticed that he was avoiding

his children. At work, he had asked his boss if he could position his desk in a spot where he could observe things going on around him because he “hated” when people came up behind him. In fact, he had started working from home on most days to avoid interacting with people at the office. Overall, he said he had lost his confidence and was feeling increasingly hopeless about his ability to change his situation.

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## 16.2 Definition and Clinical Characteristics

Posttraumatic stress disorder can develop after exposure to a traumatic event involving death, threatened death, and actual or threatened serious injury or sexual violence. Exposure is defined as directly experiencing the event, witnessing the event *in person* as it occurs, learning that the event occurred to a close acquaintance (which must be accidental or violent in the case of actual or threatened death to the acquaintance), or experiencing repeated or extreme exposure to aversive details of the event (e.g., first responders collecting human remains) [1]. Historically, a diagnosis of PTSD was contingent on a fearful, helpless, or horrified response to the trauma. However, recent empirical efforts have led to convincing arguments against this traditional criterion [2, 3], which is no longer required for making a diagnosis of PTSD.

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Individuals with PTSD experience four additional core symptoms including (1) *intrusions* (e.g., intrusive thoughts, nightmares, flashbacks, reactivity to trauma reminders); (2) *avoidance* (e.g., making an effort to avoid trauma-related stimuli including feelings and situations); (3) *negative alterations in cognition or mood* (e.g., inability to recall key aspects of the trauma, persistent negative beliefs about the world, persistent distorted blame, persistent negative trauma-related guilt, shame, fear, or anger, diminished interest/involvement in activities, constricted affect; feelings of alienation); and (4) *arousal and reactivity* (e.g., sleep disruption, irritability, hypervigilance, self-destructive behavior, difficulty concentrating, exaggerated startle response). To be formally diagnosed with PTSD, an individual must experience *at least one* intrusive symptom, *at least one* avoidance symptom, *at least two* cognitive or mood symptoms, and *at least two* hyperarousal symptoms for *more than 1 month following* exposure to the stressor in a way that causes clinically significant distress or impairment [1].

Upon his admission, Joe reported that he had been involved in a firefight while in Iraq that resulted in the death of a child, meeting criteria as an *index event* (A1). Further assessment of Joe revealed that he was experiencing intrusive thoughts of this incident daily and nightmares twice per week (2 *intrusion symptoms*). He attempted to suppress trauma-related memories and was avoiding several trauma-related stimuli (e.g., children, driving), meeting sufficient criteria for the *avoidance symptoms*. He also acknowledged persistent self-blame, loss of interest in sports, feelings of alienation from family and coworkers (3 *cognition and mood symptoms*), hypervigilance, difficulty with sleep onset and maintenance, and irritability (3 *arousal and reactivity symptoms*). Thus, he was given a diagnosis of PTSD.

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### 16.3 Prevalence

Prevalence rates of PTSD vary considerably by country and region because of variable rates of trauma exposure [4]. In the United States, approxi-

mately 50–60 % of individuals will be exposed to a traumatic event in their lifetime [5]. While most adults will experience a psychological reaction to the stressor, it is typical for this to be short-lived and most will return to premorbid functioning. However, a notable subset will fail to recover from the effects of the trauma, with certain trauma-exposed populations being particularly more vulnerable. For instance, rape and combat trauma (in that order) are the two traumatic events most strongly associated with developing PTSD [5]. In the United States, the lifetime prevalence of PTSD is estimated to be roughly 6–9 %, and 12-month prevalence rates are approximately 3.5 % [4–7]. Although men are typically at greater risk for trauma *exposure*, women are more than twice as likely to develop PTSD [5]. Relative to other anxiety disorders, the age of onset of PTSD tends to be later and more variable, reflecting variability in the age at which trauma exposure can occur [4].

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### 16.4 Etiology

Unlike other mental illnesses that are defined solely in terms of their phenomenology (i.e., *phenomena* experienced by human consciousness, such as low mood), PTSD is defined by its *cause* (i.e., an event that precipitates the illness). Several studies have examined factors that incur risk for developing PTSD following exposure to trauma [6, 8, 9], and these include trauma severity, lack of social support, subsequent life stress, adverse childhood experiences, low socioeconomic status, low education, and female gender [8].

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### 16.5 Neurobiology of PTSD

There are a number of hypothesized neurobiological mechanisms of PTSD. The systems that are thought to play a key role in PTSD include the hypothalamic-pituitary-adrenal (HPA) axis and various neurotransmitters and neuropeptides, including corticotropin-releasing factor, norepinephrine, dopamine, serotonin, GABA, glutamate, neuropeptide Y, and endogenous opioids [10]. Additionally, brain imaging studies have elucidated

structural changes among individuals with PTSD including reduced volume of the hippocampus, hyperresponsivity of the amygdala, and reduced volume of the prefrontal cortex [10].

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## 16.6 Psychiatric Comorbidity

Approximately 80 % of women and 88 % of men with a lifetime diagnosis of PTSD will have a history of at least one other psychiatric disorder [7]. Compared to individuals without PTSD, those with PTSD have a roughly 2.6–4 times greater prevalence of major depressive disorder, 1.5–2.0 times greater prevalence of alcohol use disorders, and 2.3–3.5 times greater prevalence of drug use disorders [5]. These data preclude conclusions about which disorder is primary, but Kessler and colleagues [5] estimated that in most (53–84 %) cases, PTSD was primary with respect to comorbid mood and substance use disorders and conduct disorder among women but marginally less likely to be primary in (30–61 %) cases of comorbid anxiety disorders and conduct disorder (among men).

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## 16.7 Impact

PTSD tends to be a chronic condition that rarely remits adequately without intervention. It is associated with impaired quality of life [11]; increased suicidality [12]; increased medical problems, even when controlling for the impact of trauma exposure [13, 14]; and increased health service utilization [12]. Medical comorbidities are also common among individuals with PTSD, and studies suggest that PTSD is associated with higher utilization of medical services [15]. Even after controlling for sociodemographic variables and comorbidities, PTSD is associated with a number of physical health problems including cardiovascular diseases, respiratory illnesses, gastrointestinal problems, and chronic pain [16]. PTSD is not only debilitating to the individual; it has a costly impact on society, both in terms of direct costs (e.g., medical, psychiatric visits) and indirect costs (e.g., impaired workplace functioning; [17]).

## 16.8 Treatments for PTSD

Although posttraumatic reactions resolve for most people who have been exposed to a traumatic event, a significant number will require a psychological or psychiatric intervention to return to their premorbid level of functioning. These interventions can be grouped into one of two general categories: psychological therapies (e.g., cognitive behavioral therapy) and psychopharmacological treatment.

### 16.8.1 Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) is the gold standard intervention for PTSD and the one with the most empirical support [18]. The core components of CBT for PTSD include four primary interventions: (a) psychoeducation, (b) anxiety management, (c) exposure, and (d) cognitive restructuring. The two most-studied CBT treatment packages for PTSD are prolonged exposure (PE) and cognitive processing therapy (CPT).

#### 16.8.1.1 Prolonged Exposure

The first of the two approaches, PE, was developed from emotional processing theory [19, 20, 21]. According to the theoretical underpinnings of PE, individuals develop PTSD because they avoid objectively safe, conditioned stimuli that were associated with the trauma (e.g., loud noises in the case of combat trauma, people who represent the perpetrator in the case of sexual assault, driving in the case of motor vehicle accident). Thus, the individual develops a maladaptive fear structure (i.e., a memory) that is maintained through avoidance, which prevents disconfirming evidence from modifying this memory (e.g., a loud noise does not usually signal danger). Treatment success hinges on the activation of a maladaptive fear structure (through exposure therapy) and the incorporation of corrective information, which alters the fear structure and helps the individual recover from PTSD [22]. In clinical practice, PE involves breathing retraining, psychoeducation about common reactions to trauma, in vivo exposure to feared situations and trauma reminders, and imaginal exposure to the

memory of the trauma (revisiting). Treatment is typically done in 8–15, 90-minute sessions, with exposure comprising the bulk of the intervention. Unlike other CBT approaches, PE de-emphasizes cognitive restructuring as a specific intervention. However, following imaginal exposure, the therapist guides the patient through a processing exercise designed to help the patient organize the memory, make meaning of the experience, and modify maladaptive beliefs that may be contributing to the maintenance of PTSD.

### 16.8.1.2 Cognitive Processing Therapy

Cognitive processing therapy (CPT) is based on a cognitive theory of psychopathology that proposes that PTSD can be treated by modifying distorted thoughts and beliefs that have developed following exposure to a trauma [23, 24]. An assumption of CPT is that most individuals ascribe to a “just worldview”; individuals believe the world works in a fair and predictable manner for individuals who follow the rules. The premise of CPT is that trauma violates this view and forces individuals to accommodate information about the trauma that is inconsistent with previously held “just world” beliefs. In doing so, individuals with PTSD have adopted unhelpful beliefs or developed more extreme versions of pre-trauma cognitions that reflect distortions about the self (e.g., “It’s my fault”), others (e.g., “people cannot be trusted”), or the world (e.g., “the world is an unsafe place”). Treatment begins with psychoeducation about PTSD and the factors thought to maintain it (i.e., unhelpful thoughts and beliefs). Patients are instructed to write about how the primary traumatic event has impacted them (and in some variations of the treatment are asked to write about the traumatic event specifically) to facilitate identification of “stuck points” or maladaptive cognitions. In subsequent sessions, patients learn to identify the relationship between thoughts and feelings and behavior, label maladaptive distortions, challenge unhelpful thoughts, and generate alternate, adaptive appraisals. CPT clinicians also guide patients through five distinct modules to help the individual address unhelpful beliefs as they relate to safety, trust, intimacy, power/control, and esteem. The primary treatment goal of

CPT is to modify maladaptive beliefs that have developed as a result of the trauma and improve functioning in these critical areas.

### 16.8.2 Eye Movement Desensitization and Reprocessing

Eye movement desensitization and reprocessing (EMDR) is an intervention associated with the theory of accelerated information processing that purports that PTSD develops when there is a nervous system imbalance that precludes optimal information processing, rendering information acquired during the trauma “unprocessed” or maintained in its initially disturbing form [25]. EMDR works by asking the patient to visualize the upsetting image or memory and then visually tracking a rhythmical motion that is made by the therapist’s finger. Eye movements are proposed to enhance processing. Before new “sets” or visualizations, the patient is asked to “blank out” the prior image. The therapist gets the patient’s subjective ratings of distress throughout the session.

The American Psychological Association (APA) Division 12 Task Force has identified EMDR as an effective treatment for PTSD because it has demonstrated clinical superiority to nonactive control conditions [26]. Yet considerable controversy surrounds EMDR and many critics have questioned its purported efficacy [27, 28]. The reasons for skepticism and controversy include (a) the intensity with which EMDR has been marketed, (b) the rapidity with which it has been claimed to work, (c) evidence suggesting that the eye movements exert no added benefit, (d) its lack of an empirical tradition, and (e) it being described as a panacea supposedly capable of treating a variety of conditions beyond PTSD including sexual dysfunction, somatoform disorders, phobias, substance use disorders, personality dysfunction, pathological gambling, and grief (see [29] for a review).

### 16.8.3 Research Support

PE has demonstrated efficacy among survivors of a variety of traumas, ranging from sexual assault

[30] to combat trauma [31, 32], and is superior to inactive control conditions [30], present-centered therapy [33], and stress inoculation training [19]. Similarly, CPT has demonstrated efficacy in a variety of traumatized populations and is superior to control conditions [34, 35], and in the only comparative trial, it was as effective as PE [36]. Results from studies comparing CBT to EMDR suggest that EMDR is as effective as CBT [26], but those who receive CBT may be at lower risk for relapse [37, 38].

#### 16.8.4 Other Psychosocial Therapies and Adjunctive Treatments

Other therapies have been developed as interventions for PTSD and are worth brief mention. Seeking safety [39] was developed as a treatment for individuals with PTSD and comorbid substance use disorders. Present-centered therapy [40] is a non-trauma-focused therapy that employs a problem-solving approach to help patients manage current life issues. Stress inoculation therapy (SIT; [41, 42]) is a multicomponent treatment that emphasizes anxiety management by teaching patients various coping strategies including relaxation, thought stopping, cognitive restructuring, and role-play exercises. Adaptive disclosure (AD; [43]) is a newer therapy that was developed as an alternative to traditional CBT for use among combat veterans. AD addresses loss and moral injury (i.e., a syndrome characterized by shame and demoralization that arises when deeply held beliefs about ethical and moral behavior are transgressed), in addition to PTSD, through a series of imaginal exposures (similar to PE) and “experiential breakouts” or imaginal conversations with relevant people from the individual’s past (e.g., a deceased comrade).

Lastly, debriefing interventions have been introduced with the aim of preventing the development of PTSD after trauma exposure [44]. The most widely known debriefing intervention is critical incident stress debriefing (CISD) or critical incident stress management (CISM). CISM implements a series of crisis intervention strategies designed to facilitate normative recovery

from trauma through pre-crisis training, individual crisis counseling, and group debriefing [45]. Results from a meta-analysis found that the effect size of CISD was no different from zero [46], and some results suggest that CISD may actually hinder recovery from trauma [47]. In sum, the aforementioned therapies are not currently recommended as first-line interventions given the relatively modest research support (e.g., seeking safety, SIT), novelty (e.g., AD), and, in some cases, their potentially harmful effects (e.g., CISM).

Finally, there are also adjunctive interventions used to treat PTSD. These include anger management, behavioral activation, and anxiety management (i.e., relaxation therapy). Although research does not support the use of these methods in isolation to treat PTSD, these are common supplementary therapeutic interventions designed to facilitate adaptive coping.

#### 16.8.5 Psychopharmacological Interventions

PTSD is associated with neurobiological changes (e.g., alterations in the hypothalamus-pituitary-adrenal axis) that may be amenable to psychiatric intervention. Selective serotonin reuptake inhibitors (SSRIs) have been the most studied and are considered the first-line pharmacological intervention for PTSD. Sertraline and paroxetine are the only psychotropic medications approved to treat PTSD by the Food and Drug Administration (FDA) in the United States and the European Medicines Agency (EMA). Three controlled studies have supported the efficacy of paroxetine in the short-term treatment of PTSD [48–50]. Seven placebo-controlled studies have been conducted on sertraline for PTSD, and it is approved for the short- and long-term treatment of PTSD [51]. There is insufficient and weak evidence for the use of monoamine oxidase inhibitors (MAOIs) and tricyclic antidepressant medication in the treatment of PTSD [52–55].

In addition to the use of antidepressant medications, some practitioners have attempted to treat PTSD with neuroleptics, anticonvulsants, and benzodiazepines. Research on the efficacy of

these medications is, at best, mixed and, at worst, iatrogenic. It seems to make sense that anticonvulsants may provide benefit for the hyperarousal symptoms of PTSD, but results from several studies have failed to detect an effect [56–58]. Although two small studies offered initial evidence that the antipsychotic risperidone could be efficacious [59, 60], a recent study found that risperidone offered no incremental benefit to ongoing psychosocial or psychiatric treatment for PTSD [61]. Although benzodiazepines offer short-term relief from anxiety and can increase sleep (via increased sedation), they are not considered a viable, stand-alone intervention for PTSD, and updated practice guidelines increasingly discourage their use [62]. Tolerance and/or abuse are not uncommon, and are cautioned against in individuals with a substance abuse history. Although not FDA approved, evidence has been more promising for the use of the alpha-blocker prazosin in reducing nightmares and improving sleep-related symptoms of PTSD [63, 64].

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## 16.9 A Clinical Application of CBT for PTSD Using Prolonged Exposure

### 16.9.1 Initial Evaluation

Prior to beginning CBT for PTSD, it is important for the clinician to first conduct a full assessment of the individual and his/her presenting problem. Collecting a comprehensive history will enable the clinician to create a sophisticated conceptualization and inform what is done in treatment. In the case of PTSD, it is important to collect information about the nature of the trauma (e.g., where it occurred, over what period of time it occurred, the patient's role during the event), the course of the illness (e.g., immediate vs. delayed onset), the patient's trauma history, the nature and frequency of his/her intrusion symptoms, the nature of the patient's avoidance behavior, the kinds of sensory and situational stimuli that trigger anxiety symptoms, the ways in which the patient has tried to cope in the aftermath of the trauma, and the ways in which the patient has tried to make sense of the

trauma, including any negative mood or cognitive changes. Regarding this last point, it is especially important for the CBT therapist to understand if the patient holds anyone responsible for the trauma, any feelings of associated guilt/blame, and why the patient believes she continues to experience psychological symptoms as a result of the trauma. Additionally, the clinician will want to assess for comorbid conditions (e.g., mood disorders, substance use disorders), related medical conditions, and any legal history that could be interacting with the PTSD symptoms and could influence the course of treatment. Finally, it is useful for the CBT clinician to enhance his assessment with the patient's self-report data. The PTSD Checklist (PCL; [65, 66]), Beck Depression Inventory—2nd Edition (BDI-II; [67]), and Quality of Life Enjoyment and Satisfaction Questionnaire (QLESQ; [68]) are well-established, validated measures commonly used by PTSD clinicians. The most commonly used self-report measure of PTSD, the PCL-5, takes a few minutes to complete and assesses each symptom of PTSD. It generates a score ranging from 0 to 80, with current guidelines suggesting a cutoff of 38 [66]. The BDI-II is an extensively used and studied assessment tool designed to assess the severity of cognitive, emotional, and physical symptoms of depression. The QLESQ (short form) is a 16-item self-report measure that assesses life satisfaction in several domains and has been used in many studies of anxiety disorders (see [69]).

### 16.9.2 History of Presenting Problem

In Joe's initial visit, the therapist learned that, like most combat veterans, Joe had been exposed to multiple traumatic events during his tour of duty. However, he reported being most bothered by and experiencing the most intrusion symptoms related to an incident in which he had to shoot and kill a young man who was a possible suicide bomber. He reported daily intrusive thoughts and nightmares three to five nights per week. He was experiencing guilt about this incident because he was not sure if the individual had actually been armed. Despite reporting that he

had been following orders, he said he was unable to forgive himself for his actions. This guilt had become increasingly overwhelming in the past 2 years as his son was approaching the age of the suicide bomber. Joe had begun drinking more heavily and was consuming 2–3 drinks an average of four nights per week, which he reported helped him sleep. He found himself avoiding trauma-related thoughts and situations, including being alone with his son, hugging his children, being in large crowds, and riding public transportation.

### 16.9.3 Assessment and Formulation

Joe's response to a series of self-report measures indicated severe levels of PTSD ( $PCL=72$ ) and moderate levels of depression ( $BDI=23$ ). He was diagnosed with PTSD and major depressive disorder. He did not meet the criteria for a substance use disorder, but his therapist made note of his alcohol use as a treatment target. An assessment of his beliefs identified several problematic trauma-related cognitions: "I am a murderer," "I am a horrible person," "I should not have discharged my weapon unless I was 100 % certain he was armed," "I cannot be trusted to do the right thing," and "The world is not a safe place."

The goal of treatment was to reduce Joe's PTSD symptoms through behavioral and imaginal exposure, to reduce his alcohol use and by introducing healthier methods of coping (e.g., increasing social support, breathing retraining), to reduce his depression symptoms via behavioral activation exercises, and to reduce his guilt by helping him form more realistic beliefs about the traumatic event. Given that Joe met the diagnostic criteria for PTSD, was experiencing distressing and frequent intrusions of a specific index event, and had a clear memory of what happened, his therapist decided to pursue CBT, specifically PE, for PTSD [70].

### 16.9.4 Treatment

The first session of treatment involved explaining the rationale for using prolonged exposure for

PTSD. The therapist explained that avoidance behaviors and unhelpful thoughts had likely maintained Joe's PTSD. The therapist explained that avoidance was going to be addressed through two procedures: imaginal and in vivo exposure. The therapist also explained that in approaching trauma-related memories and situations, unhelpful beliefs would be triggered. The therapist went on to explain that talking about the trauma and putting it in a larger context would help Joe begin to get a more realistic perspective on what had happened. Given Joe's level of avoidance, the therapist also devoted time to increasing motivation for treatment. Together, they came up with a plan for what to do if Joe felt like dropping out of treatment. The therapist ended the session by teaching Joe a breathing exercise to increase his sense of self-control and give him another strategy to use when he felt the urge to consume alcohol. Joe was asked to monitor his alcohol use throughout the week.

During the second session, the therapist provided psychoeducation about PTSD by discussing common reactions to trauma. Joe found it helpful to learn that emotional numbness, substance abuse, and a loss of interest in affection and intimacy were common among trauma survivors. Together, they also created a hierarchy of avoided situations. The therapist began by asking Joe to describe situations that he had been avoiding (e.g., riding public transportation) or found to be more distressing (e.g., going shopping at the mall) since returning from his deployment. The therapist taught Joe to assess his level of distress using the subjective units of distress scale (SUDS), a 0–100 scale used to measure distress or anxiety with 0 indicating no fear (e.g., sitting on the beach) and 100 indicating the most anxiety one has ever felt (e.g., the traumatic experience). It is useful for the therapist to have the patient develop non-trauma-related, past-event anchors for the SUDS. For instance, Joe's 25-point anchor was the time he first met his in-laws, his 50-point anchor was a recent job interview, and his 75-point anchor was the first panic attack he experienced upon return from his deployment. After eliciting a full list of avoided situations, the therapist asked Joe to provide a corresponding

<i><b>Fear Hierarchy</b></i>	
	SUDS Session 2
1. Going to a baseball game (without consuming alcohol)	90
2. Not carrying a weapon when going out to store	85
3. Riding the subway at rush hour	85
4. Not checking the locks before bed	80
5. Going to a place with no clear exits (e.g., Home Depot)	70
6. Driving the same route to work, twice in a row	70
7. Sleeping without lights/television on	65
8. Going to a movie (sitting in the middle of the row)	65
9. Not scanning/scoping out a work room before entering	55
10. Holding my child	55
11. Not checking others' hands for weapons	50
12. Visiting an unfamiliar restaurant, with back to door	50
13. Going for a hike for fun (not taking maps, cell phone)	50
14. Sleeping with bedroom door open	50
15. Watching news coverage of the war	45
16. Watching a war movie	45
17. Listening to the National Anthem	40
18. Going to the grocery store after work	35
19. Going for a bike ride	30
<i><b>Anchor Points</b></i>	
0: Sitting on the beach	
25: Meeting my in-laws for the first time	
50: Job interview	
75: Panic attack after deployment	
100: traumatic event	

**Fig. 16.1** Joe's fear hierarchy as developed in session 2 of prolonged exposure

SUDS rating (see Fig. 16.1). Given Joe's comorbid depression, the therapist also included previously enjoyed activities on his hierarchy. At the end of the session, they identified three between-session exposures for Joe to complete: watching the evening news' coverage of the Iraq War, going to bed without closing the bedroom door, and going for a bike ride. The therapist chose these situations because they were associated with moderate levels of anxiety on Joe's hierarchy and she wanted to ensure that he have a successful experience for his first in vivo exposure.

In the third session, the therapist began by checking in about Joe's in vivo exposure and behavioral activation assignments. Joe had com-

pleted the pleasurable activity, but, like many patients, he struggled to complete the anxiety-provoking in vivo exposure exercises (he had only slept with the bedroom door open on one of the seven nights). Homework noncompliance is not uncommon, particularly given that avoidance is a prominent symptom of PTSD. It is important that therapists use these teaching moments as opportunities to reiterate the rationale and encourage re-commitment to treatment goals.

*Therapist:* Last time we talked about how you were going to complete three activities from the hierarchy of in vivo exercises. How did it go?



*Joe:* Well, I went for the bike ride, which felt good. But, to be honest, I didn't really do the other things...

*Therapist:* I'm really pleased to hear you went for the bike ride! What got in the way of you doing the other exercises?

*Joe:* To be honest, I ended up getting pretty busy.

*Therapist:* I'm really sorry to hear that happened. I know how busy you've been. However, I also know that you are investing a good deal of time in this treatment, and part of that commitment means spending time between sessions on some of these practice exercises.

*Joe:* You're right, doc. It's just really hard to manage everything with work and the kids' schedules.

*Therapist:* Life is happening and it's going to keep happening. But do you remember in our last session when we talked about what maintains PTSD symptoms?

*Joe:* Avoidance...?

*Therapist:* That's exactly right! And sometimes it's easier to focus on the busy parts of everyday life rather than focus on PTSD. But not focusing on PTSD is just the old habit of avoidance. Did you know that there are 168 hours in a week? And if you only spend 1–2 hours thinking about the work we do in here, it won't be enough to get you as well as you want to be.

*Joe:* OK. I am going to try these again this week.

After reviewing the remainder of his homework, the therapist introduced the rationale for imaginal exposure and provided Joe with instructions for the imaginal revisiting procedure (e.g., visualize the memory as vividly as possible, close your eyes, speak aloud, in the present tense, with as much detail as you remember). The therapist guided Joe through 45 minutes of imaginal exposure, asking for his SUDS periodically. As this was his first session with an imaginal exposure, the therapist was careful not to prompt the patient for any additional details while going through the exposure. Although this is a common procedure in later sessions to facilitate greater engagement with the memory, the patient is given the freedom to titrate the experience for himself/herself. Moreover, the therapist does not want to be overly directive; lest this gives the patient the

perception that he/she completed the exercise in the "wrong" way. After the imaginal exposure was complete, the therapist processed the experience with the patient. In processing the exposure, the therapist began by reinforcing the patient's effort and, then, asked open-ended questions to help Joe process his thoughts and feelings about the trauma and the experience of doing the imaginal exposure.

*Therapist:* Let's stop there. Go ahead and open your eyes. You did a very good job. What was that like for you?

*Joe:* It was different. I've never talked about it like that with anyone. I run it through my head all the time, but I've never talked it out like that.

*Therapist:* How was it to talk about it in this way?

*Joe:* There was stuff I didn't even remember that just popped up.

*Therapist:* Tell me more about what you remembered.

*Joe:* I remember what my buddy said to me right before I engaged the enemy. I remember how he sounded. I had forgotten how panicked he sounded.

*Therapist:* When you remember this detail, how does it affect how you think about this event?

*Joe:* It makes me realize how scared we all were, how I thought we were all going to die.

Later in the processing, the therapist shifted focus to discuss Joe's experience of doing the imaginal exposure and emphasized habituation.

*Therapist:* I want to reiterate that you did an excellent job opening up about what happened. How did the experience of doing it compare to what you were expecting before you started?

*Joe:* It was hard to get started, but toward the end it was better.

*Therapist:* What do you make of that change?

*Joe:* I think it was the repetition; it became less and less intense.

*Therapist:* I noticed that too; as I was asking you for your SUDS, the levels were decreasing.

*Joe:* Yeah, even though it was tough at first, the more I went through it, the easier it became. I feel exhausted but also relieved.

*Therapist:* That is a very common feeling, and it's a good sign because it means you worked hard and did not avoid the difficult feelings.

*Joe:* Yeah, it felt good to go through it.

In session 4, the therapist repeated the imaginal exposure with Joe while continuing to assign in vivo exposure exercises between sessions. In the fifth session, the therapist introduced the *hot spots* procedure. The hot spots procedure is designed to encourage further emotional processing and habituation to the trauma memory by focusing on the most distressing part of the memory. Rather than complete an imaginal exposure to the entire memory, the therapist works with the patient to identify the “worst” part of the memory and then complete a series of imaginal exposures to this part of the memory only. In some cases, the therapist will guide the patient through multiple “hot spots.” However, just as conducting PE for the worst trauma memory reduces anxiety related to other memories, conducting imaginal exposure to the worst hot spot will often be sufficient for reducing anxiety related to the memory of other disturbing aspects of the index event.

In session 5, Joe indicated that he was still experiencing a great deal of guilt and blame related to the incident. During the processing, the therapist worked with Joe to help him process these feelings and address the unhelpful beliefs.

*Joe:* I am just angry about the whole situation.

*Therapist:* Who are you angry with?

*Joe:* I’m angry at myself; I should have been paying better attention.

*Therapist:* What were you focusing on at the time?

*Joe:* I was looking at the other end of the compound, but if I had been scanning better, I might have had more time to assess the situation. I killed a child...

*Therapist:* Did you know it was a child when you shot?

*Joe:* No...but I might have had I had more time. And I would have had more time had I been paying attention.

*Therapist:* Let’s say you did have more time. How might the situation have turned out differently?

*Joe:* I would have seen that it was a child, and then I might not have fired...I was careless.

*Therapist:* So you discharged your weapon too quickly because you did not have enough time to assess the situation?

*Joe:* Right.

*Therapist:* OK. What else do you think went into your decision to fire at the time?

*Joe:* I was terrified...I felt like “I’m going to die anyway...this guy is going to kill me.” So, I fired first. Plus, I remember how scared my buddy sounded when he saw the kid moving.

*Therapist:* How did his fear affect your decision making?

*Joe:* I think it made me even more scared. I guess I just reacted...

*Therapist:* You know, our bodies are hardwired to kick into “protective mode” when under that kind of threat. It seems like your body did just what it was supposed to do.

*Joe:* Yeah...but maybe if I had more time...

*Therapist:* Let’s say you had more time and you did not discharge your weapon. What might have happened then?

*Joe:* Well...he could have been armed...he might have shot us.

*Therapist:* And what might have happened then?

*Joe:* My buddy could have been shot...or I could have been shot.

*Therapist:* When you say these things, how does it influence how you think about this event?

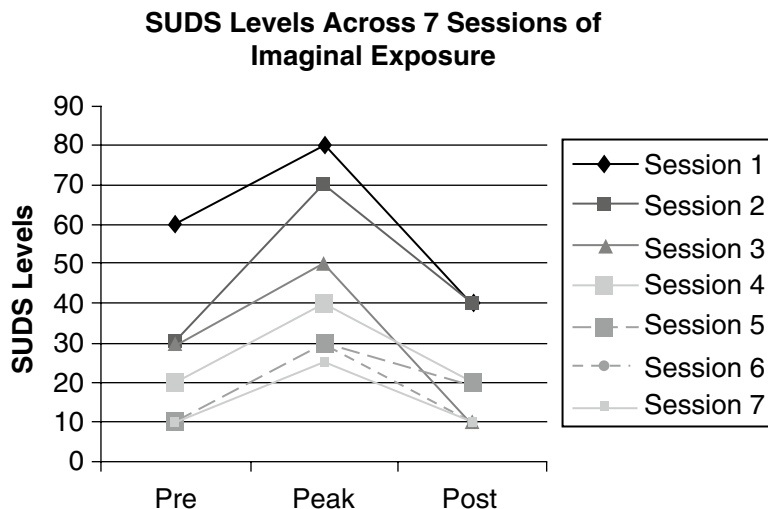
*Joe:* I guess I was doing what I could to protect us.

It is normal for patients to require several sessions of processing before they experience changes in how they see the event. In PE, the therapist should refrain from “telling” patients how to think about their trauma. By asking open-ended questions, the therapist encourages the patient to move away from the often predominant emotions (e.g., anger) and process other emotions (in this case fear). In doing this, patients typically begin to naturally change their understanding of the trauma. In session 8, Joe began to demonstrate these changes:

*Therapist:* How do you notice yourself thinking about the memory now, compared to when we first began?

*Joe:* I don’t feel as guilty. I used to think I would have had all this time, but I realize now I didn’t.

**Fig. 16.2** Joe's preexposure, peak, and postexposure subjective units of distress scale (SUDS) scores across 7 sessions of imaginal exposure



*Therapist:* How does that affect the way you feel about yourself?

*Joe:* Well, the conditions were not ideal at the time and we had to react with the information we had. I think I have a more reasonable expectation of myself and my actions over there.

*Therapist:* Can you elaborate on that?

*Joe:* Things don't always go the way you plan. You can prepare as best you can—like we did that day. But sometimes things happen unexpectedly. You just have to make the best of it and do the best you can. I used to think I let everyone down; now I realize I had no other alternative but to do what I did. Don't get me wrong—I'm sad about what happened. But I think I've let myself off the hook. I was trying to protect us. I just have to move forward now.

reliable decrease in PCL and his peak SUDS in the imaginal exposure was 30).

In the final session, the therapist guided Joe through one final imaginal exposure to the entire memory. In processing, Joe was able to discuss how he had begun to make peace with the decisions he made and was able to notice how his anxiety had dramatically decreased. The therapist shifted this to a discussion of gains Joe had made during the course of therapy, including reduced irritability, a stronger relationship with his wife, deeper connection to his children, and more efficient functioning at work. The therapist had Joe reassign SUDS values to each item on his fear hierarchy, and they compared these to the values he had given in session 2. They ended with a discussion of relapse prevention and talked about his goals for the next year, including a family vacation.

### 16.9.5 Outcome and Termination

After the patient has had a sufficient number of sessions devoted to hot spots, it is time to have the patient retell the memory in its entirety and consider termination. In the case of Joe, the therapist used his self-reported PTSD symptoms and SUDS levels during the imaginal exposure (see Fig. 16.2) to determine the appropriate time to make this transition (i.e., he had demonstrated a

### 16.10 Summary

In summary, PTSD is an exceptional reaction to a stressor. Most individuals exposed to trauma will recover naturally over time. However, for those requiring treatment, cognitive behavioral therapy—specifically prolonged exposure and cognitive processing therapy—demonstrates the most robust short- and long-term outcomes.

### 16.10.1 Future Directions

Given the efficacy of CBT for PTSD, new research has begun to focus on maximizing implementation and dissemination. For instance, virtual reality (VR)-delivered exposure therapy has been shown to be effective in treatment of PTSD. VR is thought to enhance engagement in the trauma memory, thereby facilitating emotional processing [71]. Telemedicine-mediated interventions are becoming increasingly popular for PTSD, particularly in the Veterans Affairs (VA) system. Early research shows that PE and CPT via telehealth are effective for treating PTSD [72, 73]. Finally, efforts are being made to research and develop the use of mobile applications as supplements for treating PTSD [74, 75].

### 16.10.2 Conclusion

PTSD is a debilitating and often chronic disorder responsible for enormous individual and societal costs. Efficacious CBT interventions can dramatically reduce PTSD symptoms, ameliorate the impact of comorbid mental health problems, and improve quality of life. Given the costs of PTSD, continued efforts are needed to ensure that these treatments are disseminated to individuals in need, and to maximize engagement in and minimize attrition from these treatments.

### Additional Resources

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## 17.1 Introduction

Dialectical behavior therapy (DBT; [1]) is a form of cognitive behavioral therapy (CBT) most commonly used to treat patients with borderline personality disorder. Acceptance, validation, mindfulness, and dialectical strategies have been added to standard CBT strategies to form a comprehensive therapeutic approach. Via individual therapy, skills training group, telephone coaching, and a consultation team for therapists, DBT assists patients in learning to decrease impulsive, maladaptive behaviors and teaches new ways to respond more effectively to intense emotions.

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## 17.2 Borderline Personality Disorder

Historically, the term *borderline* was assigned to clinically troubling patients who were neither neurotic nor psychotic [2]. A modern day diagnosis of borderline personality disorder (BPD) refers to

a group of patients who are characterized by chronic emotional turmoil and suicidality [3]. To meet criteria for BPD according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), patients must show a “pervasive pattern of instability of interpersonal relationships, self image, and affects, and marked impulsivity beginning by early adulthood” that is present across multiple contexts (p. 325; [4]). Specifically, patients must manifest a minimum of five criteria out of a possible nine.

Marsha Linehan [1] reorganized the nine BPD symptom criteria into five categories of dysregulation which encompass every domain of personality—emotional, behavioral, interpersonal, cognitive, and self-dysregulation. In the affective domain, patients may experience extreme reactivity of mood, and inappropriate or intense anger. Behavioral dysregulation may be manifested as recurrent suicidal behavior, threats, and attempts, as well as self-destructive acts (also known as parasuicidal behavior) such as cutting, burning, or scratching oneself. Patients may exhibit two or more other potentially self-damaging impulsive behaviors including substance abuse, excessive spending, unsafe sexual behavior, binge eating, or reckless driving. In the interpersonal realm, BPD patients may struggle with efforts to avoid abandonment and loss and/or a tendency to alternate between idealization and devaluation in stormy, intense relationships. The dysregulated

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sense of self can be characterized by a chronic feeling of emptiness—distinct from the sorrow or anhedonia of any comorbid Axis I condition—as well as an unstable, diffuse self-image. Lastly, cognitive symptoms can occur under extreme stress and may be experienced as transient paranoid ideation or dissociative symptoms.

The prevalence of BPD in the general population is estimated to be 2 %, and the majority of patients diagnosed with BPD are women [5]. Patients with BPD tend to be high utilizers of outpatient treatment services, emergency room visits, and psychiatric hospital admissions [2]. Acts of self-injurious behavior are common and completed suicide occurs in approximately 10 % of BPD patients [6,7]. Axis I disorders are frequently comorbid, with the most frequent being mood and substance use disorders. Comorbid Axis I problems complicate recovery from BPD symptoms as well as patients' psychosocial functioning. BPD may go undiagnosed because of overlap with symptoms of other disorders or because of the stigma that has historically been attached to the BPD diagnosis. It is noteworthy that the severity and prevalence of BPD decreases with age [8]. When symptom severity is at its highest, the challenges of managing high-risk behavior and maintaining a positive therapeutic alliance can lead to increased risk of therapeutic errors and recurrent treatment failures [9].

The development of BPD is driven by both biological and psychosocial factors. Evidence from twin studies suggests that genetic factors play a role in the development of BPD, as well as in the core symptoms of affective instability and impulsivity [10]. In addition, family studies have demonstrated higher rates of other disorders characterized by impulsivity among first-degree relatives of patients with BPD. Deficits in serotonergic functioning have been linked with impulsivity, a key feature of the disorder, although no specific biological markers of the overall disorder have been identified [3]. Multiple psychosocial factors may also contribute to the development of BPD including family dysfunction, high frequency of traumatic events during childhood,

invalidating environments, and histories of sexual and physical abuse.

### 17.2.1 The Biosocial Theory

Dialectical behavior therapy (DBT) is a cognitive behavioral treatment approach that was originally developed to treat chronically suicidal patients. It has become the most prominent treatment for patients with BPD. DBT is based upon a theoretical framework known as the biosocial theory, a theory of personality functioning in which BPD is conceptualized as a dysfunction of the emotion regulation system [1]. According to the biosocial theory, an inborn emotional vulnerability plus poor emotion modulation skills interacts with an invalidating environment to drive the development of BPD. Emotional vulnerability is defined by three characteristics: a high sensitivity to emotional stimuli, intense responding, and a slow return to baseline levels of emotionality. In other words, an emotionally vulnerable person reacts readily to emotional cues and then experiences intense levels of emotional response. Once aroused, the emotional reaction is slow to dissipate. This pattern might not be inherently problematic were it not coupled with poor emotional modulation. Emotional modulation is the ability to experience emotions, label them accurately, and reduce stimuli that reactivate or maintain emotions. BPD patients frequently struggle in this domain, failing to notice, understand, and cope effectively with the emotions that they are experiencing. The biosocial theory suggests that the coupling of emotional vulnerability with poor skills for modulating emotion leads to a pervasive pattern of emotion dysregulation.

The theory further proposes that poor emotion modulation can be the result of an invalidating environment: Imagine a child whose emotionally intense responses are a poor fit for the family environment into which she was born.<sup>1</sup> When she attempts to communicate her inner emotional

<sup>1</sup>For simplicity's sake, and in light of the higher prevalence of BPD among women, the pronoun "she" is used throughout this chapter.

experience, this child is more likely to be met with an invalidating response—a response sending the message that her reaction is not acceptable, appropriate, or understandable in the eyes of the other. Invalidating responses may be punishing (“stop being such a baby”), trivializing (“there is nothing to be afraid of”), or oversimplifying (“just calm down”), or may characterize the child in a negative way (“you are being overly sensitive”). Such responses are discordant with the child’s own experience of her feelings and, as they accumulate over time, can impede her ability to develop effective emotion modulation skills. For example, being punished for having strong negative emotions may result in a child feeling afraid of having emotions at all or might lead a child to punish herself when strong emotional reactions occur [11]. Taken together, the results of emotional invalidation are that the child does not learn how to accurately label her emotions, regulate her level of emotional arousal, tolerate distress, or trust her own emotional response as a valid interpretation of events.

In invalidating environments, a child’s behavior can inadvertently be shaped toward even more intense emotional expression. When a child attempts to communicate feelings of anger, frustration, fear, or sadness at a moderate level, but these feelings are ignored or minimized, the child may unconsciously intensify her emotional expression (e.g., screaming, having a tantrum, making threats) in an effort to convince others that her emotional response is indeed valid. Such “high-volume” expressive behaviors can be understandably aversive to caregivers and are often the behaviors that ultimately receive a more helpful or attentive response. Thus, a child’s behavior may be inadvertently shaped over time by basic learning principles: When intense emotional expression accompanied by highly dysregulated behavior is reinforced, while attempts at more skillful communication are either ignored or punished, the likelihood of future intense emotionality and dysregulated behavior increases. The results of such shaping can be seen in adulthood when patients with BPD display an all-or-nothing quality to their emotional responses—feelings are

experienced as either nonexistent or a “four-alarm fire,” with few moderate levels of emotion in between. Another consequence of the invalidating childhood environment can be the development of self-invalidation in adulthood. Individuals perpetuate the characteristics of the invalidating environment by invalidating their own feelings and experiences, oversimplifying the steps necessary to solve problems, or looking for information outside of themselves to explain their internal experiences [1].

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## 17.3 Dialectical Behavior Therapy

### 17.3.1 Efficacy of the Treatment

Designed to address the challenges inherent in treating BPD patients and typically provided by a team of providers, DBT offers a comprehensive, systematic program for outpatient psychotherapy [1]. Research on the complete package of DBT (i.e., individual therapy, skills group, telephone coaching, and therapist consultation team) has demonstrated efficacy for the treatment of BPD and in the reduction of associated symptoms including self-injurious behavior, suicide attempts, suicidal ideation, hopelessness, depression, and bulimic behavior in eight well-controlled randomized clinical trials (RCTs) conducted across several independent research teams [12–19]. DBT has demonstrated significantly better retention rates when compared to community treatment by experts [14]. There also have been many uncontrolled or nonrandomized DBT studies. In a recent meta-analysis of all of these studies, DBT showed a moderate effect size compared to treatment as usual, comprehensive validation plus 12-step therapy, and community therapy by experts [20]. The effect sizes were smaller when DBT was compared to more BPD-specific treatments.

There is a growing trend in the literature and in clinical practice toward adaptations of DBT. This may be due, in part, to the fact that provision of the full DBT package is not always feasible in real-world, resource-limited clinical

settings. When unable to offer all four of the DBT modes described below, it is relatively common for such settings to offer DBT skills groups adjunctively to non-DBT individual therapy. Increasing behavioral skills has been shown to be a mechanism of change for suicidal behavior, depression, and anger control within the full DBT treatment [21]; however, no RCTs have yet been published to evaluate the efficacy of skills group without the rest of the package. There has also been a wide range of promising research on adaptation of DBT to treat populations other than BPD. Examples include patients with depression [22,23], bulimia [24], and comorbid substance abuse [16].

### 17.3.2 Overview of the Treatment

DBT theory asserts that problems with emotion regulation are the core issue in BPD. Thus, many of the maladaptive behaviors so often observed in borderline patients, including suicidal behavior, can be understood as attempts to manage intense emotion. In stage I of the treatment, DBT uses three modes of service delivery—individual psychotherapy, group skills training, and telephone coaching—to teach patients more effective ways to manage these feelings. A fourth mode—the therapists’ consultation team—helps practitioners to maintain fidelity to the treatment, preserve motivation, and prevent burnout.

#### 17.3.2.1 Individual Therapy

It is important to begin any potential DBT therapy with a thorough assessment as well as a pre-treatment orientation to the structure and goals of the treatment. Since DBT asks a lot of both patient and therapist, it is important for both parties to have the memory of a clear and complete initial commitment process to refer back to when difficulties arise.

Assessment should include thorough history-taking and a detailed review of current BPD symptomatology. The Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II; [25]) is a semi-structured interview

that can be used to assess BPD symptoms. A self-report measure that can be helpful in assessing BPD symptoms and commonly co-occurring problems (e.g., low mood, shame, substance use, binge eating) is the Borderline Symptom List (BSL; [26]). The BSL asks the patient to rate the frequency or intensity of each item from the past week; these responses can assist the therapist in identifying areas of concern to be discussed in detail during the assessment. A thorough assessment should also include exploration of a patient’s hopes for what treatment can accomplish and exploration of her motivation for change. With a comprehensive understanding of the patient’s presenting problem as well as her perspective on what she wants to change, therapist and patient can move on to orientation to DBT as a potential treatment.

The therapist should explain that DBT orders potential targets for treatment according to a hierarchy of importance. This allows the therapist/patient pair to have a shared understanding of how time will be spent within any given therapy session as well as across the course of treatment. In stage I of treatment, life-threatening behavior (including parasuicidal behavior) is the first target, followed by therapy-interfering behavior (defined as behaviors of either the patient or the therapist that interfere with the treatment’s capacity to take place and/or to be effective), and then quality-of-life-interfering behavior. Prioritization of targets is particularly useful in treatment of BPD, since it is quite common for patients to present with multiple problems simultaneously and it can be difficult to decide where to focus precious time during session. For example, if a patient presents to a session with a recent instance of self-harm, as well as financial and childcare problems, a flare-up of bulimic behavior, and a recent fight with her boyfriend, but she then refuses to talk in session—the self-harm behavior (life-threatening behavior) and the refusal to talk (therapy-interfering behavior) would be top priority targets. Any potential for financial or childcare problems to impede the patient’s ability to come to the next session would also be briefly targeted,

since these also could be immediately therapy interfering. More longitudinal financial or child-care issues, bulimic symptoms, and fights with significant others are considered quality-of-life-interfering behavior and would be addressed last, if time allowed. Prioritizing targets can also motivate behavior change. Reducing the frequency of life-threatening and therapy-interfering behaviors increases the time in session available for the quality-of-life-interfering issues that patients are often more interested in discussing.

It is useful to assess past experience in therapy (by asking questions like, “What worked? What got in the way?”) with BPD patients, since the interpersonal and affect regulation problems that characterize the disorder are likely to occur in some form within the therapy itself. As part of an orientation to therapy, the therapist should inform the patient that DBT expects and accepts that problems in the therapy will occur. The notion of targeting therapy-interfering behavior can be further elaborated at this point, as therapist and patient begin a conversation about how to effectively navigate and learn from difficulties in the therapy as they arise. The therapist should also review the use of diary cards for self-monitoring and the availability of between-session skills coaching for skills generalization (Fig. 17.1). At this point, the patient and therapist can decide whether to go forward with DBT treatment. The presence of a clear treatment agreement at the end of a thorough assessment and orientation phase ensures that the patient has an understanding of the treatment structure and its alignment with her goals from the outset. Motivation for pursuit of these goals inevitably waivers over time and has the best chance of getting back on course if the foundation upon which the treatment was built is firm.

Once DBT is underway, an individual DBT therapist should work with the patient using standard CBT techniques such as self-monitoring, exposure, and cognitive restructuring. A typical session would involve patient and therapist looking together at the patient’s weekly self-monitoring form, called a “diary card,” where the

patient tracks behaviors that she is working to change. Examples of behaviors that might be tracked on a diary card include suicidal ideation, self-harm behavior or urges, substance use or urges, angry outbursts, failure to take prescribed medication, or avoidance behavior. Review of the diary card sets the agenda for the session. Therapist and patient identify a behavior from the diary card using the hierarchy of targets discussed above and proceed to do a *chain analysis* of that behavior. In chain analysis, therapist and patient look step-by-step at the thoughts, feelings, action urges, and actions that led up to a target instance, then at what happened during the target instance and, finally, at its consequences. They look for points in the chain of events where a more desirable outcome might have been possible. They then brainstorm together (solution analysis) about how the patient could have responded differently at those various points to achieve more desirable outcomes. Importantly, they also troubleshoot factors that might interfere with implementing their chosen solutions in future instances of the target behavior. As part of solution analysis, the therapist might encourage the patient to rehearse new, more skillful behavior in session via imaginal exposure or role-playing. An example of chain analysis is included in the case example below.

Throughout the treatment, the DBT therapist keeps learning principles that influence behavior in mind. For instance, the therapist might be on the lookout for factors in the patient’s environment and/or in the therapist’s own responses that might be reinforcing a patient’s maladaptive behavior. Once identified, therapist and patient can work to remove these reinforcers. Additionally, the DBT therapist is conscious of consistently and frequently offering positive reinforcement (e.g., expressions of interest, pleasure, or praise for a job well done) in response to a patient’s skillful behavior. Even small degrees of improved coping or brief moments of more skillful behavior on the part of the DBT patient would ideally be observed and responded to positively by the DBT therapist in the interest of shaping new learning.

Dialectical Behavior Therapy Diary Card		Initials: mC	Date Started: 6/14	Filled out in session? <input checked="" type="radio"/> Y <input type="radio"/> N	How often did you fill out this side? <input checked="" type="checkbox"/> Daily <input type="checkbox"/> 2-3x <input type="checkbox"/> Once						
Day & Date	Urges to:		Action		Self-care specify	Fear (0-5)	Emotions			Skills (0-7)	
	Suicide (0-5)	Self-Harm (0-5)	Self-Harm Y/N	Work Y/N			Sad (0-5)	Shame (0-5)	Anger (0-5)		Joy (0-5)
Mon 6/17	2	4	N	N	mmc	4	4	4	4	1	5
Tues 6/18	2	3	N	N	1 meal	4	4	3	4	1	5
Wed 6/19	3	5	Y	Y	shower	5	5	5	5	0	0
Thurs 6/20	2	3	N	N	hmc	5	5	5	5	0	1
Fri 6/14	2	3	N	N	shower	2	4	3	4	0	5
Sat 6/15	2	1	N	N	shower	2	3	1	4	2	4
Sun 6/16	2	1	N	N	shower	2	3	1	3	2	4

0 = Not thought about or used	3 = Tried, but couldn't use them	6 = Didn't try, used them, they didn't help
1 = Thought about, not used, didn't want to	4 = Tried, could do them but they didn't help	7 = Didn't try, used them, helped
2 = Thought about, not used, wanted to	5 = Tried, could use them, helped	

Adapted from diary card examples available on [www.behavioraltech.org](http://www.behavioraltech.org)

Fig. 17.1 An example of a diary card for self-monitoring

### 17.3.2.2 Skills Coaching Phone Contact

DBT patients are encouraged to contact their individual therapists between sessions for as-needed coaching by phone. Similar to the way in which a piano student who only practices while at a piano lesson will fail to learn to play well, a patient is unlikely to learn how to have a more satisfying life if she only practices new skills in session. Skills coaching phone calls are meant to help patients use DBT skills instead of engaging in maladaptive target behaviors, so as to generalize skills use from therapy session into everyday life. The contingencies of a coaching phone call are set up carefully and are discussed with the patient at the beginning of treatment. The call is meant to be short in length and focused on skills or, when needed, can be used to repair ruptures in the therapy relationship. DBT therapists are mindful of redirecting topics other than these to be earmarked for the next DBT appointment.

To prevent contact with the therapist from inadvertently reinforcing crisis behavior, DBT patients are encouraged to call their therapists *before* they engage in self-harm behavior. The therapist emphasizes that a coaching phone call is much less useful after a target behavior occurs, given that the opportunity to intervene with more skillful behaviors has been missed. For example, during a coaching call with a patient who is having urges for self-harm but has not acted on them, the DBT therapist would spend 10–15 minutes assessing what skills the patient has already tried, positively noting any attempts at skillful behavior, and brainstorming other skills or skill chains that could be tried next. In contrast, the therapist should communicate clearly that any call within 24 hours *after* a patient engages in self-harm will solely assess safety concerns and then remind the patient that therapist and patient will do a chain analysis of the behavior during the next individual therapy appointment. This policy helps shape the patient's behavior toward noticing target behavior as it arises and then asking for help earlier in the chain of events that precedes a crisis. Any difficulties with the use or misuse of skills coaching phone calls ought to be discussed as therapy-interfering behavior during the next in-person appointment.

### 17.3.2.3 Skills Training Group

DBT, as a treatment model, makes the assumption that the difficulties patients with BPD have are, in part, due to skills deficits, meaning that the skillful response needed to solve a life problem is not in the individual's repertoire of behavior. The goal is to assist the individual in developing effective responses as an alternative to maladaptive, destructive responses to problems. In combination with weekly individual therapy, patients attend weekly skills training groups, focused on the acquisition and strengthening of skills. Patients receive direct instruction in four skills modules: mindfulness, interpersonal effectiveness (IE), emotion regulation (ER), and distress tolerance (DT). These modules target the behavioral, emotional, interpersonal, self-dysregulation, and cognitive dysregulation characteristic of BPD [27].

Groups are designed to be co-led by two DBT therapists and are highly structured. Emphasis is placed on teaching and initiating practice of new skills in a class-like format. It takes approximately 6 months to complete all four skills modules, and most patients attend the group for 1 year. Every group session includes a mindfulness exercise, review of each member's skills practice homework since the last group, and teaching of new material. In addition to reviewing skills used outside of group, the group format allows patients to practice skills in vivo in interactions with group leaders and one another. Linehan's comprehensive group manual is widely available, containing reproducible skills handouts for each module as well as detailed teaching instructions for each skill [27–29]. Many skills taught in DBT group are consistent with standard CBT techniques. For example, pleasurable activities scheduling and mastery-building activities are taught in the ER module and assertiveness skills are taught in the IE module. Informal cognitive restructuring occurs throughout each module.

The core mindfulness skills are the first skills taught and serve as a foundation for all skills use. They serve to address the self- and cognitive dysregulation that borderline individuals experience. Without active awareness, individuals with BPD are often vulnerable to impulsive,

mood-dependent behavior. The development of mindfulness skills provides the opportunity to make intentional choices about how to respond to life's problems instead of being reactive. Given its central position in the practice of DBT as a whole, mindfulness is discussed at further length in the next section.

The IE module includes skills for asking for what one wants or saying no, maintaining a relationship, and maintaining self-respect [27]. In this module, patients are provided with a structured format to guide their interpersonal communications. Additionally, patients learn to challenge beliefs about relationships that interfere with their interpersonal skills as well as factors that might impede their use of skills.

In the ER module, patients learn to identify and label their emotions, develop skills to lessen their vulnerability to negative emotions, avoid mood-dependent behavior, and increase their pleasurable experiences [27]. These skills are essential for BPD patients who often try to manage their emotions by telling themselves not to feel, thus perpetuating the invalidating environment. For example, in this module, patients learn to identify and acknowledge what they are feeling and then “act opposite” to the action urge which accompanies that feeling, rather than engaging in a mood-dependent behavior. This change in behavior can serve to change the emotion as well.

Finally, the DT module addresses the behavioral dysregulation characteristic of patients with BPD who often react impulsively to distressing situations, making the situation worse. This module teaches skills for bearing emotional pain skillfully, which is essential especially in situations for which there is either no solution or no immediate solution. The module helps patients to develop tolerance for distress, accept situations as they are in the moment, and find meaning in painful experiences [27]. For example, patients are encouraged to look at the pros and cons of maladaptive versus more skillful behaviors, so as to realize that turning to drug use, self-harm, impulsive spending, etc., offers avoidance of distress in the short term, but exacerbates distress in the long term. The DT module introduces self-soothing

and impulse control techniques, called “crisis-survival strategies,” for use instead. Another major piece of the DT module, borrowed from Zen philosophy, is the concept of radical acceptance. The premise of radical acceptance is that pain is unavoidable in life, yet people frequently fight the reality of the pain when it arises. Radical acceptance is a process of relating differently to painful experiences in the moment, letting go of fighting reality, and, instead, acknowledging that “what is happening, is happening.” While this skill can be difficult for patients to understand and embrace at first, it has the potential to offer help, and even relief, once practice is begun.

### 17.3.3 How Does DBT Differ from Standard CBT?

A number of challenges quickly emerge in applying standard CBT to treat borderline patients. For example, a cognitive behavioral emphasis on replacing maladaptive behavior with new skills can be experienced by borderline patients as invalidating of their real-life problems and genuine emotional pain. This sense of invalidation can (and often does) lead to therapy-interfering behavior—to name a few of many possible examples, patients might drop out of treatment, verbally attack the therapist, or refuse to complete assigned homework. DBT is unique in that it addresses these potential problems by adding dialectics, mindfulness, validation, and a therapist consultation team into the treatment.

#### 17.3.3.1 Dialectics

A central idea of dialectical philosophy is that contradictory truths can and do exist simultaneously [1]. DBT suggests that BPD patients are dialectically stuck, unable to reconcile these opposing feelings, desires, forces, or points of view. A DBT therapist's task is to help patients toward synthesis such that both opposing sides are allowed to exist in the patients' own thought processes and inside the treatment interactions. To illustrate, consider how dialectics play a role in each of the following cases: A patient struggles to accept qualities inside herself that she

loves and qualities she loathes; A patient wants to live, but also wants to die; A patient feels both pride and shame at having served in a recent war. In each treatment interaction with these patients, the DBT therapist would attempt to maintain a stance that balances acceptance of the individuals as they are in the current moment with one that highlights the need to move toward the patients' treatment goals. Open, simultaneous acknowledgment of the need for acceptance *and* the need for change is the first of many dialectics in DBT that move patients away from the dichotomous, extreme thinking, behavior, and feelings that characterize BPD.

### 17.3.3.2 Emphasis on Validation

As discussed earlier, patients with BPD have often learned to treat their own emotional reactions as invalid. BPD patients can also be exquisitely sensitive to perceived and actual invalidation by the therapist, and if left unrepaired, such moments can put the therapy in jeopardy. For these reasons, validation is a core strategy in DBT. Validation occurs when a therapist acknowledges the patient's point of view and communicates to the patient that her responses make sense [1]. Such communication is essential to balance change-oriented strategies, like chain analysis, and to help patients stay motivated for the hard work of DBT. As Koerner and Dimeff wrote:

In nearly all situations, the DBT therapist may validate that the client's problems are important, that a task is difficult, that emotional pain or a sense of being out of control is understandable, and that there is wisdom in the client's ultimate goals, even if not the particular means he or she might use to achieve them...Unless the client believes that the therapist truly understands..., he or she will not trust that the therapist's solutions are appropriate or adequate...In this way, validation is essential to change: The therapist must simultaneously deeply understand the client's perspective as well as maintain hope and clarity about how to effect change. ([9]; p.10)

Searching for, and speaking to, what is valid in a patient's statements also help the DBT therapist to stay balanced in a dialectical understanding of the patient. This is important, since in challenging clinical moments, therapists can

unintentionally fall into one-sided black/white thinking of their own. Lastly, repeated validation from the DBT therapist allows the patient to begin to validate herself, setting the stage for improved emotion modulation skills and the potential for wise mind, described in the next section.

### 17.3.3.3 Mindfulness

DBT is one of the first CBT therapies to incorporate mindfulness into treatment. Much has now been written about the practice and benefits of mindfulness for mental health [30, 31]. Mindfulness is a particular way of paying attention, "on purpose, in the present moment, and non-judgmentally," which originated in Eastern meditation practices [32]. Taught to DBT patients during skills training group and modeled by DBT therapists whenever possible, mindfulness skills are the core upon which all other skills are built. Mindfulness skills in DBT are divided into three sections [27]: wise mind, the what skills (describing the basic practices of mindfulness—observing, describing, and participating), and the how skills (describing internal stances of nonjudgment, one-mindfulness, and effectiveness). Wise mind is defined as a way of knowing "from deep within" that synthesizes both feelings and logical thinking so that patients can come to know, and be guided by, their own inner truths. With practice, patients learn to consult their own wise minds about the best choices for them in difficult situations. By helping patients to establish a nonjudgmental, observing distance from inner experience, practice of the "what" and "how" skills cultivates a more spacious awareness in which patients can more accurately label feelings, identify action urges, and make effective choices.

DBT therapists practice mindfulness along with their patients. In vivo mindfulness practice is an important element that begins each consultation team meeting. Additionally, the DBT model emphasizes the importance of flexibility and flow in the treatment. If a particular strategy is not working, therapists are encouraged to mindfully recognize this and try something different. If a hypothesis that was formulated to understand the maintenance of behavior does not



seem to be supported, the hypothesis can be abandoned. Linehan has likened the treatment to a dance in which you must respond to the moves of your partner. This adaptable fluidity requires active use of mindfulness. A growing body of research suggests that a therapist's mindfulness practice has a positive impact on both therapist well-being and therapy outcomes [33].

#### 17.3.3.4 Consultation Team

The framework of DBT requires that clinicians using the treatment must meet weekly as a group to discuss cases, offer and receive support, maintain fidelity to the treatment model, and keep each other alert for potential "dialectical failures" [1]. As most practitioners who have worked with BPD patients already know, the work can be challenging and stressful. Without realizing it, therapists can fall into a black/white thinking, let interventions arise from emotional reactivity rather than clinical wisdom (what DBT calls "emotion mind" instead of wise mind), inadvertently reinforce patients' maladaptive behaviors, and/or abruptly or prematurely terminate treatment. The consultation team offers clinicians the chance to help each other be mindful of these pitfalls while receiving validation of the hard work being done. Team members also encourage each other to identify and hold to their own limits, so as not to burn out. Dialectically, the team may also help a team member to consider when to mindfully extend limits in a given clinical situation. In sum, the consultation team encourages clinicians to "practice what they preach" by asking them to use DBT skills in their own professional lives.

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## 17.4 Case Example

Megan is a 25-year-old Caucasian female seeking treatment for problems with depression and anxiety. She reports that difficulties with depression make it difficult for her to attend work consistently and take care of herself. She reports that she thinks sometimes that she would rather be dead, but has never made specific plans for suicide. She also engages in self-harming behavior,

cutting her arms with a razor blade, a few times per week.

Megan's experiences growing up in her family of origin are consistent with Linehan's description of the invalidating environment. After her parents divorced when she was 7, her mother became depressed and was unable to care for her and her younger sister. Megan recalls trying to soothe her mother on several occasions. Her mother refused to accept food stamps and had difficulty paying the bills. She recalls being hungry and cold a lot of the time. Megan was responsible for cooking and taking care of her younger sister. Her mother also had diabetes, which affected her mood. When Megan complained about feeling overwhelmed by caring for her sister, her mother would yell and insult her, dismiss her feelings, and later not recall what she said or did. Megan recalls that her father provided no help in that she did not see him frequently, despite him living a few blocks away.

Megan attended college, but after two semesters, her sister attempted suicide, and she withdrew from school to return home. Her mother blamed Megan for not preventing her sister's suicide attempt and belittled Megan when Megan expressed concern for her sister. While living at the home, Megan enrolled in college courses, but she dropped out after a breakup with the man she was dating. Megan reports that the loss of the relationship was so depressing that she could not attend class. Megan went to work as a waitress to pay off her student debt and was able to maintain employment for 3 years. Megan remembers feeling physically and emotionally healthy during this time. She returned to school, earning a 3.5 grade point average, and resumed the relationship with her former boyfriend. One year later, the relationship became strained again and Megan moved out. She became depressed again and was experiencing frequent panic attacks. She had difficulty getting out of bed, withdrew from her courses, and moved back in with her mother. While Megan was living with her mother, her boyfriend committed suicide. Megan was the first to the scene of his death and subsequently developed symptoms of PTSD. It was at this point that Megan started to engage in frequent self-injurious

behavior, specifically, cutting her wrists and arms with a razor blade.

Therapy begins with a comprehensive assessment and pretreatment orientation in which the structure and assumptions of DBT are explained. Megan agrees to attend weekly therapy and DBT skills group. Megan and her therapist agree upon the following behavioral targets: reducing self-harm, reducing depression and suicidal ideation, increasing self-care (i.e., ADLs, getting out of bed, showering, preparing meals for herself, engaging in pleasurable activities), and maintaining employment.

Megan is in *stage one* of treatment. When present on the diary card, life-threatening behaviors are prioritized in the session. See Fig. 17.1 for an example of Megan's diary card. Megan frequently experiences intense suicidal ideation and has been engaging increasingly in self-injurious behavior. Increases in suicidal ideation reported on the diary card result in assessment to determine if Megan is at high risk for suicide. When self-injurious behavior is recorded, as it is in the example of her diary card, together she and her therapist conduct a chain analysis of the behavior. See Fig. 17.2 for a schematic of the chain.

In reviewing the events leading up to the self-injurious behavior, Megan reports that she started a new position at a restaurant earlier in the week and had been sleeping poorly due to worry about whether or not she would do well there. Megan and her therapist identify poor sleep and worry about the new job as vulnerability factors that influenced how she was feeling when she arrived at work that day. Once at work, Megan had a lot of difficulty working the computer system at the restaurant which led her to think that she was stupid and "not cut out for anything." She began to feel sad and angry at herself. She then got into an argument with a customer who tried to send back his food because the order was incorrect. She left work early, telling the owner that she quit. When she came home and tried to talk with her mother about what had happened, her mother invalidated her experience by stating, "Get over it. You can't live here if you don't do anything with yourself." Megan broke into tears and ran upstairs to her

room. She thought about where she kept her razor blades and went into the bathroom to pull one out. She then cut herself on her left arm four times. She reported feeling relief while cutting, but then thinking to herself afterward, "I'm such a loser, I'll never get anywhere." She felt both guilty and ashamed about her behavior. She cleaned up and bandaged her arm and then fell asleep for several hours. Feeling bad about her performance at work and for engaging in self-harm, Megan did not go to work the next day and received a call from the restaurant asking her not to return.

Together in session, Megan and her therapist identify the function and consequences of her self-harming behavior. While Megan understands and can say that cutting provided tremendous emotional relief for her, it also had significant negative consequences, in this case guilt, shame, and job loss. Megan and her therapist also conduct a solution analysis, looking for different places along the chain where Megan could have used skills to lead her toward a different outcome. Megan identifies that she could have used interpersonal effectiveness skills to ask her manager for help with the computer system. The therapist also suggests the skills of mindfulness and "opposite action"—prior to engaging in the argument with the customer, Megan might have sensed her anger and urge to quit intensifying and then excused herself from the interaction temporarily. She might then have had more awareness of her choices, choosing next to use distress tolerance skills to soothe herself, perhaps ultimately cooling down enough to reengage with the customer in a more effective way. Together, Megan and her therapist explore the pros and cons of cutting versus the pros and cons of using other distress tolerance skills the patient has identified as potentially helpful, like listening to music on her iPod or taking a hot shower. Megan recognizes that although cutting does give her relief in the short term, in the long run, it makes her feel more down on herself for coping poorly with life stress. Wherever possible, the therapist provides Megan with the opportunity to rehearse the skills she is learning, such as role-playing the interaction with the customer or how she might have asked her

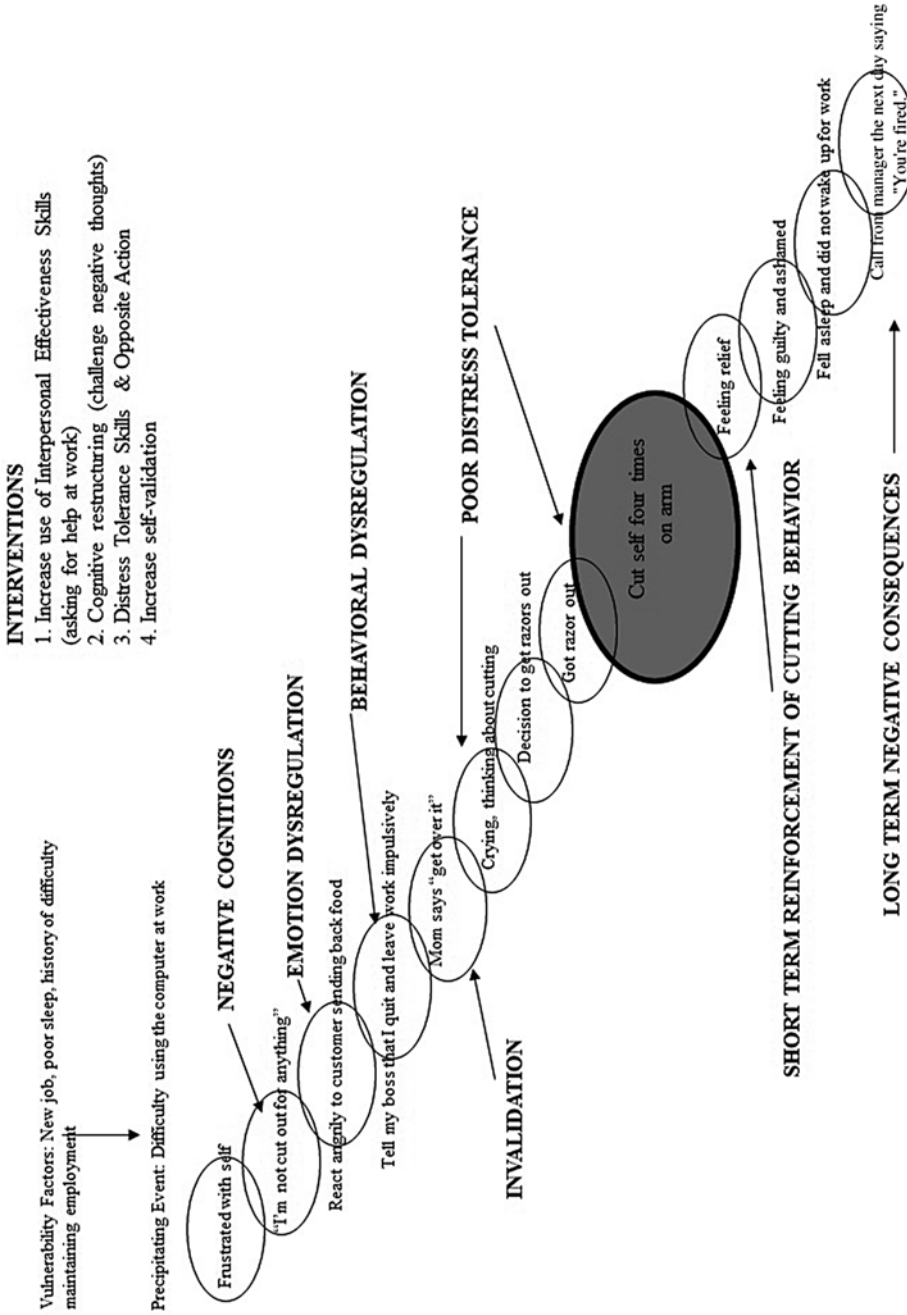


Fig. 17.2 Schematic of a chain analysis of behavior

boss for help. It is also essential to think ahead and troubleshoot any obstacles Megan can identify that might get in the way of the skills use discussed. Additionally, Megan and her therapist discuss the absence of her use of paging for skills coaching by phone prior to engaging in the self-harm behavior.

Once suicidal behaviors and self-injury are adequately addressed in the session, therapy-interfering behaviors become the priority. While Megan attends most group sessions, she has difficulty at times with “shutting down,” and not participating in the group sessions. This is a behavior targeted by both the individual DBT therapist and the group leaders to help her increase participation. First, she works to implement mindfulness techniques—beginning to notice the urge to “shut down” and then coaching herself in the moment to redirect her attention to what was being said at that moment in group. In individual DBT, Megan and her therapist use chain analysis to discover that often Megan makes judgmental interpretations, leading to shame and anger, which in turn decrease her likelihood of participating actively in group. For example, when another group member shared that she had avoided self-harming and used skillful behavior, Megan thought to herself, “I’ll never be able to do that. I’m such a loser.” Both the group leader and the individual therapist work with Megan to help her accept where she is with her cutting behavior and acknowledge that she is working very hard to change this behavior. This proves to be an opportunity where the concept of dialectics is useful: Megan is doing the best that she can and she needs to do better to obtain her goal.

With regard to quality-of-life-interfering behaviors, Megan’s depression is disruptive to her stability and functioning. As exemplified in the chain analysis above, she also experiences significant problems with maintaining employment. She has trouble getting to work consistently. When she does attend, she frequently arrives late or demonstrates impulsive behavior toward customers. She struggles to complete job tasks in a timely manner and frequently becomes highly emotional. To target depression, Megan

and her therapist work together to increase her self-care through the PLEASE Master skills [27]. PLEASE Master is an acronym for emotion regulation skills involving awareness of, and active problem solving around, treating physical illness, healthy eating, avoiding mood altering substances, balancing sleep, and engaging in activities that engender feelings of capability and confidence. Each of these basic facets of life, when dysregulated, can make negative feelings more intense and difficult to regulate when such feelings arise. As such, DBT coaches patients to pay mindful attention to these domains, so as to decrease vulnerability to intense negative mood states. For Megan, this work is initially focused on basic tasks such as setting an alarm to wake up at the same time every day and showering. As she begins to feel a greater sense of mastery, she also begins preparing regular, healthy meals more frequently for herself. Most recently, the therapist and Megan are working on increasing pleasurable activities (another of the skills from the ER module). Megan reports in a session that she used to run cross-country in high school and loved the feeling she would get from running long distances. She decides to start running two mornings a week, and feels pleasure and pride in running again. Although she still has days when she does not get out of bed or shower, she notes that they have decreased significantly since treatment began. The therapist and patient are now turning their attention more toward identifying skills that can help Megan keep a new job. They are targeting getting to work regularly and on time and managing emotions more effectively while at work.

Megan is also experiencing symptoms of PTSD related to coming upon the scene of her ex-boyfriend’s suicide. These include emotional numbing, reimagining of the event, and a sense of foreshortened future. These will be addressed in stage 2 of treatment when Megan has built enough of a skill set to manage the dysregulation that might result from trauma treatment.

Megan’s case illustrates the complexity of the presenting problems and clinical needs so commonly seen in the treatment of patients

with BPD with comorbid diagnoses. With the help of the structure of DBT treatment, the therapist has clear direction as to how to organize the treatment goals and stages, as well as how to prioritize the work within each session. Without this clear structure and the guidance of the consultation team to help the therapist maintain fidelity to the treatment, progress would be difficult to achieve, as sessions would likely be focused on the current crisis as identified by the patient.

## 17.5 Useful DBT Concepts for Any Practice

A number of concepts highlighted by DBT are worth remembering in clinical practice, even if one is not specifically conducting a DBT treatment:

1. Therapists should consider that maladaptive patient behaviors may be attempts to manage intense affect rather than, for example, evidence of manipulation or willful noncompliance with treatment. Looking at behavior from this point of view helps a clinician to remain empathic, to acknowledge the patient's distress, and to preserve the therapeutic relationship.
2. Therapists need to be aware of learning principles: While a patient's problem behaviors are often ineffective ways to manage emotions in the long term, they may be reinforced (i.e., made more likely to recur) in the short term. For example, patients who cut themselves often describe temporary reduction of intense feelings immediately thereafter and often receive attention from significant others or therapists because of the behavior. These and other consequences of self-harm serve to reinforce the likelihood of cutting again. When thinking about a patient's behavior, it may be useful for the therapist to ask, "What is maintaining this behavior? What might I (or others in the patient's life) be doing unknowingly to reinforce it?" Also, therapists should remember that reinforcement and punishment go both ways—a patients' words and actions can reinforce or punish his or

her providers, thereby unwittingly influencing their behavior toward the patient.

3. It is important for therapists to convey validation and acceptance of a patient to balance a frequent emphasis on the need for change. Maintaining a stance that balances these polarities preserves the therapeutic relationship!
4. Clinicians need to remember the value of dialectics—via the words a clinician chooses and the choices he or she makes in session, she/he can teach patients that contradictory truths (e.g., "I accept myself exactly as I am in the current moment" AND "I must change") can exist side by side.
5. It is imperative for clinicians treating patients with BPD to have a "consultation team." It is difficult to overstate the importance of support and peer supervision for practitioners engaged in the treatment of difficult patients.

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- Additional Resources: Online Resources**
34. <http://behavioraltech.org>.
  35. <http://linehaninstitute.org>.
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- Additional Resources: Books—DBT Books**
36. Linda A. Dimeff, Kelly Koerner. *DBT in clinical practice: applications across disorders and settings*. New York, NY: Guilford; 2007.
  37. Kelly Koerner, Marsha M. Linehan. *Doing dialectical behavior therapy: a practical guide*. New York, NY: Guilford; 2012.
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**Additional Resources: Books—  
Mindfulness and Acceptance**

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41. Jon Kabat-Zinn. *Wherever you go, there you are*. New York, NY: Hyperion; 1994.
42. Tara Brach. *Radical acceptance: embracing your life with the heart of a Buddha*. New York, NY: Bantam Dell; 2003.
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Psychological and behavioral factors play a critical role in the management of medical illness. Depression, for example, one of the most common comorbidities to any chronic medical illness [1], has been consistently associated with worse medical adherence across multiple diseases [2], including HIV [3], coronary disease [4], and diabetes [5]. In cancer populations, depression, anxiety, anticipatory nausea, and fear of recurrence are common and can affect the ability to adhere to life-extending or life-saving chemotherapy regimens (e.g., [6–8]).

In addition to negatively impacting adherence, mental health problems are detrimental to overall well-being as well as long-term health outcomes. Specifically, depression and anxiety have been associated with worse physical functioning

(e.g., [9]), diminished quality of life [10], and increased health-care utilization [11]. Depressive symptoms are also linked to higher rates of mortality in a variety of illness populations, including HIV (e.g., [12]), diabetes (e.g., [13]), and coronary heart disease (e.g., [14]). For example, depression is a key predictor of mortality following myocardial infarction [15].

With increased recognition of, and empirical support for, the contribution of psychological and behavioral variables in the development, maintenance, and exacerbation of disease, treatments for medical illness are transitioning from biomedical to biopsychosocial. This shift has encouraged the development of evidence-based behavioral medicine interventions to address the modifiable psychosocial factors in disease management. The current chapter provides an overview of behavioral medicine, including its application in an outpatient general hospital setting. First, we begin with a definition of behavioral medicine, provide empirical support for behavioral medicine interventions, and briefly discuss cost-effectiveness benefits of such interventions. Second, we discuss self-care behaviors and adherence to prescribed treatment regimens, followed by an overview of motivational interviewing strategies for behavioral change. Such strategies are integral to behavioral medicine interventions, as many interventions require patients to change their behaviors in order to enhance their health and well-being and/or

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reduce the behavioral, psychological, or physical effects of illness. Subsequently, we provide an overview of the most frequent types of behavioral medicine interventions, with a focus on interventions that involve cognitive behavioral therapy (CBT). Finally, we end with a brief case example to illustrate and highlight how these skills can be applied to a patient with chronic pain.

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### **18.1 Behavioral Medicine: Definition, Empirical Support, and Cost-Effectiveness**

According to the Society of Behavioral Medicine, “Behavioral medicine is the interdisciplinary field concerned with the development and integration of behavioral, psychosocial, and biomedical science knowledge and techniques relevant to the understanding of health and illness, and the application of this knowledge and these techniques to prevention, diagnosis, treatment and rehabilitation” (<http://www.sbm.org/about>). In outpatient practices, patients who seek care or are referred by primary care doctors or other providers for behavioral medicine interventions typically are (1) patients at risk for developing a medical or mental health problem, (2) patients already diagnosed with a medical condition who need self-care skills to manage the condition, (3) patients already diagnosed with a medical condition who need assistance managing the medical condition as well as comorbid psychiatric disorders or other mental health concerns (see [16]), and (4) patients with idiopathic, nonspecific medical symptoms who have difficulties coping with their symptoms and seek medical treatment for their concerns.

Behavioral medicine interventions are primarily delivered by clinical psychologists or other mental health professionals (including psychiatric nurse specialists) with specialization in health psychology and health behavioral change. These clinicians may utilize a number of measurement tools in developing case conceptualizations and treatment plans for individual patients. Using standardized assessments, they can identify mental health concerns, disruptions in health-related quality of life and physical functioning, and rel-

evant psychosocial factors (e.g., coping strategies, social support). A selection of measures that may be useful to the reader for behavioral medicine relevant variables can be seen in Table 18.1. As behavioral medicine is, by definition, an interdisciplinary field, communication with patients’ primary care providers or medical treatment teams is important as a means of ensuring common goals and helping patients manage their illness and improving their ability to cope.

A large body of quality research demonstrates the efficacy of behavioral medicine interventions across medical illnesses. Although a comprehensive critical review of this literature is beyond the scope of this chapter, a number of excellent reviews are available for the interested reader (e.g., [17–19]). These reviews show that behavioral interventions not only produce positive clinical change but also decrease health service utilization costs.

More recent research efforts have begun to explore the cost-effectiveness of behavioral medicine interventions. The current evidence suggests that the utility of behavioral medicine does not necessarily lie in revenue generation per se, but in offsetting costs associated with inappropriate utilization of services and increasing quality of life. This may be of particular importance in the changing health-care setting, where patient medical homes are emphasized and care for populations of patients in the most cost-effective manner is critical. A meta-analysis of the impact of psychological interventions on medical cost offset found that, on average, psychological interventions reduced length of hospital stay by over 2.5 days and resulted in per-person savings of \$2,205. Behavioral medicine interventions, in particular, were found to produce benefits significantly greater than other forms of psychotherapy [20].

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### **18.2 Behavioral Medicine and the Role of Adherence to Treatment Interventions**

The World Health Organization [21] has stated that adherence to long-term therapy for chronic illnesses (e.g., cancer, diabetes, epilepsy, HIV,

**Table 18.1** Common psychosocial measures in behavioral medicine

Measure	Description
Adherence Rating Scale [52]	1 item assessing self-reported medication adherence in past month on a scale from 1 (very poor) to 6 (excellent). Can be adapted for shorter time span. Has been used in HIV, diabetes, and epilepsy populations
Brief COPE [53]	Self-administered 28-item scale to assess use of diverse coping strategies. Includes 15 subscales (e.g., self-distraction, active coping, denial, venting, planning, acceptance)
Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) [54]	12-item scale assessing four domains of mindfulness (attention, present-focus, awareness, acceptance/nonjudgment)
The Functional Assessment of Chronic Illness Therapy-Fatigue Scale (FACIT-Fatigue) <a href="http://www.facit.org/FACITOrg/Questionnaires">http://www.facit.org/FACITOrg/Questionnaires</a>	40-item self-report questionnaire that measures fatigue and the physical, social, emotional, and functional aspects of quality of life (QOL)
Generalized Anxiety Disorder 7-Item (GAD-7) Scale [55]	7-item scale to assess for generalized anxiety disorder (GAD) among adults
Hospital Anxiety and Depression Scale (HADS)	14-item scale assessing self-reported depression and anxiety. Designed for use in hospital and medical settings
MOS-Social Support Survey [56]	18-item scale yielding four separate social support subscales: emotional/informational, tangible, affectionate, and positive social interaction
NIH Patient-Reported Outcomes Measurement Information System (PROMIS) Instruments <a href="http://www.nihpromis.org/about/overview">http://www.nihpromis.org/about/overview</a>	Measures of self-reported health, including pain, fatigue, physical functioning, cognition, emotional functioning, social functioning, substance use  Assessments available for child and adults. Can be administered via short forms or computerized adaptive testing (CAT)
Pain Anxiety Sensitivity Scale—PASS [51,57]	Four aspects of pain-related anxiety: cognitive anxiety, escape-avoidance behaviors, fear of pain, and physiological symptoms of anxiety  Available in short (PASS-20) and long forms
Patient Health Questionnaire (PHQ)-9 [58]	Nine questions designed to assess for depression in primary care
Pain Catastrophizing Scale [50]	13-item self-report scale measuring pain catastrophizing, including metrics on rumination, magnification, and helplessness
Pittsburgh Sleep Quality Index (PSQI) [59]	19-item self-report measure that assesses sleep quality during the previous month and discriminates between good and poor sleepers
Perceived Stress Scale (PSS-10) [60]	10-item self-report scale assessing perceptions of stress in response to life situations
Resilience Scale (RS) [61]	25-item self-report measure assessing stress coping ability. Two subscales: personal competence and acceptance of self and life
SF-36 [62]	36-question scale that yields eight subscales of functional health and well-being, including limitations in physical activities, social activities, role activities, pain, general mental health, and health perceptions

hypertension) averages only 50 % among adults living in developed countries. Poor adherence to long-term therapies severely compromises the effectiveness of treatment, making this a critical issue in population health, both from the perspective of quality of life and cost-effectiveness of treatment. Models of self-care attempt to account for the complex interplay between the patient and the health-care system (e.g., [22]). Patients fail to

adhere to medical treatments for multiple reasons including (1) complications from the medical illness itself; (2) patients having competing life demands that interfere with behavioral aspects of self-care; (3) stress; (4) psychosocial variables including low perceived self-efficacy, distorted beliefs about adherence, negative emotions, lack of education, a negative balance between the perceived benefits and barriers to engaging in

self-care behavior, motivational issues, and absence of sufficient behavioral skills; (5) impaired risk perception; and (6) psychiatric comorbidity.

The health consequences of nonadherence across various illnesses can be profound (for a review, see [23]). For example, among those living with HIV, nonadherence can lead to viral replication and reduced immune functioning (e.g., [24]). Nonadherence in diabetes patients is associated with negative health outcomes such as hypertension, more frequent hospitalization, and higher rates of all-cause mortality (e.g., [25]). In addition, nonadherence can be further detrimental to patient health in that providers may misattribute the effects of nonadherence to inefficacy of the treatment regimen. Providers may subsequently alter dosages or treatments in ways that can inadvertently and negatively affect health outcomes (e.g., [26]).

In addition to nonadherence to drug therapy, those living with chronic illness often demonstrate poor adherence to adaptive health behaviors such as exercising and improving one's diet (e.g., [27,28]). A recent study found that most older individuals diagnosed with new chronic conditions do not adopt healthier behaviors post-diagnosis, despite treatment recommendations [28]. For example, only 19 % of individuals diagnosed with lung disease quit smoking; moreover, those diagnosed with heart and lung disease decreased exercise behaviors overall, contrary to medical indications. Behavioral medicine specialists thus have a unique opportunity to improve medical outcomes in those living with chronic conditions by assisting patients in adhering to their prescribed regimen (e.g., diet, exercise, medication adherence, monitoring of blood sugar, coping with side effects of medications), both during hospital stays and in outpatient settings.

Patients with medical illness may also experience comorbid psychiatric illness such as depression and/or anxiety (see [29,30]). Depression comorbid with medical illness can be a particular challenge, given that patients diagnosed with depression are three times more likely to be non-compliant with medical treatment than those without depression [2]. A strong body of research

supports the association of depression with nonadherence in specific chronic illness populations, including individuals living with heart disease (e.g., [31]), kidney disease (e.g., [32]), diabetes [5], and HIV [3]. One approach that integrates adherence intervention with the treatment of depression [76] has been successfully tested in diabetes [33] and HIV [34,35]. Many of the specific interventions below can be found, in a more detailed way, in this intervention manual [76], and targeted strategies to increase adherence are presented in Sect. 18.4 below.

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### 18.3 Motivation and Change

Motivation for treatment is a necessary (but not sufficient) factor for behavioral change (e.g., [36]). Because ambivalence, or lack of resolve, is a primary obstacle to behavioral change, assessing and enhancing motivation for treatment is a widely used technique prior to the initiation of a skills-based behavioral medicine intervention. Motivational interviewing (MI) is a client-centered, directive therapeutic strategy to enhance readiness for change by helping clients explore and resolve ambivalence toward treatment and enhance motivation to engage in treatment [37,70]. An evolution of Rogers' person-centered counseling approach, this strategy elicits reasons for, and against, changing. Rather than didactic modules, in which the clinician educates clients on the importance of changing, such "change talk" predominantly consists of responses from patients, such as brainstorming reasons for change that are personally salient. Change talk, like several MI strategies, can be used to address discrepancies between patients' words and actions (e.g., saying that they want to engage in exercise but continuing to be sedentary) in a non-confrontational manner.

Another tool used to conduct MI within behavioral medicine settings involves guiding patients through a verbal and written exercise in which the client and therapist together articulate the pros and cons for changing/engaging in a healthy behavior versus the pros and cons of not changing/not engaging in a healthy behavior.

Allowing patients to consider the cons to changing (e.g., it is effortful, the patient may not know what to expect) can facilitate problem solving of perceived barriers to changing. MI strategies such as the ones described have been found to have a superior long-term effect to providing educational information only, direct persuasion, or advice-giving [38]. Motivational interviewing strategies have been successfully used to promote a wide variety of health behaviors including dietary modification, increasing exercise, and reducing problematic substance use/abuse (for a meta-analysis, see [39]).

Prochaska, DiClemente, and Norcross [40] have matched key motivational interviewing (and CBT) strategies to specific stages of readiness to change. This theory posits that achieving health behavior goals is dependent upon the stages through which people pass in their attempt to bring about successful and maintained behavioral change. Prochaska et al. have identified five stages of change: precontemplation, contemplation, preparation (or determination), action, and maintenance (Table 18.2).

In the precontemplation stage, patients are either unaware that a change is needed or uninterested in making a change at present. Focus of treatment in this stage is to encourage self-

exploration (e.g., personal values, life choices, perception of self-worth, personal problems) rather than to force action.

In the contemplation stage, patients become aware that there is a problem and start thinking about change within the near future (e.g., within the next 6 months) but feel ambivalent about making behavioral changes and harbor no clear commitment to make changes immediately. At this stage, behavioral medicine interventions targeting motivation would examine the pros and cons of change while encouraging behavioral outcome expectations (e.g., helping patients understand what behaviors need to change for a particular outcome to occur).

In the preparation (or determination) stage, patients are taking some action to change but have not fully begun reducing a problematic behavior or initiating a healthy behavior. Behavioral medicine interventions, therefore, would predominantly include facilitating problem solving (e.g., identifying and removing obstacles to behavioral change), validating skills, determining sources of social support, and taking initial steps toward behavioral change.

In the action stage, the person is fully committed to and engaged in making a change. Accordingly, behavioral medicine interventions

**Table 18.2** Motivational interviewing techniques for Prochaska's five stages of change

Stage	Patient example	Technique
Precontemplation	The patient may be unaware that a problem exists or has no plans to make changes for the foreseeable future ("I don't need to monitor my blood sugar levels, nothing bad will happen")	Encourage self-exploration rather than action
Contemplation	The patient recognizes that he/she has a problem but may not yet be ready to make a change ("I guess my blood sugar levels could get out of control if I don't monitor them")	Discuss pros and cons of change Encourage behavioral outcome expectations
Preparation/determination	The patient is considering and may start taking small steps toward behavioral change ("I guess I need to start monitoring my blood sugar, but it has been so hard in the past")	Engage in problem solving, validating skills, identifying social support, taking first steps toward change
Action	Patient begins behavioral change ("I will start monitoring my blood sugar levels")	Build and maintain self-efficacy, social support, overcoming barriers, discussing long-term benefits, CBT skills training
Maintenance	Patient is focused on maintaining behavioral change ("I need to continue monitoring my blood sugar levels")	Plan for follow-up support, reinforce internal rewards, discuss relapse prevention

focus on cognitive behavioral skills, such as increasing self-efficacy, social support, and overcoming barriers, all with an emphasis on long-term changes.

In the maintenance phase, patients are focused on the maintenance of positive health behaviors, prevention of relapse, and extending gains made during the action stage. At this stage, behavioral medicine interventions focus on identifying sources of follow-up support, reinforcing internal rewards, and planning strategies for managing lapse or relapse into previous behaviors.

After patients have achieved the maintenance stage, they may then terminate treatment, unless they relapse to previous behavior. If a lapse or relapse occurs, therapy focuses on evaluating triggers to relapse, reassessing motivation and barriers, and strengthening coping skills.

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#### **18.4 Overview of Additional Behavioral Medicine Strategies**

Patients with a chronic illness and a comorbid psychiatric disorder (e.g., HIV and depression), those with a subclinical psychiatric disorder (e.g., increased anxiety or increased depressive symptoms), those with idiopathic conditions (e.g., idiopathic pain), or those with no psychiatric diagnosis but who may need help with self-care (e.g., diabetes, obesity, smoking cessation, problematic drinking, or substance abuse) may benefit from behavioral medicine interventions delivered in an outpatient setting. Behavioral medicine treatments are generally short term (4–20 sessions), with duration depending on the severity of the presenting condition, length of time for which symptoms/behaviors have existed, and the patients' motivation level. Given that long-term success of the treatment is based on continued practicing of the skills after therapy ends, in many cases, booster sessions (in which skills are reviewed and a plan for reimplementation or practice is implemented) are recommended. Especially complex patients, such as those with negative prognoses, may require more than 20 sessions of treatment, overall.

Behavioral medicine strategies are both didactic (i.e., providing information and psychoeducation) and Socratic (i.e., the therapist asking a set of questions devised to guide the patient toward self-discovery and change). Information alone is not enough to facilitate health-related behavioral change [41]; patients also require sufficient motivation, self-efficacy, and behavioral skills, all of which can be disrupted if comorbid mental health problems exist. Accordingly, behavioral medicine treatment strategies tend to incorporate MI to maximize the motivation for change, and then utilize techniques from CBT. Clinicians often use CBT skills training to promote relevant behavioral skills and self-efficacy and, if needed, to address mental health comorbidity. Several general modules that can be used with patients, regardless of medical condition, are described below.

*Education and socialization to treatment* is a foundation module in which patient and provider first discuss the results of an initial biopsychosocial assessment, including any self-report measures or rating scales. Clinicians then deliver general information on the influence of self-care on the patient's condition, start building the therapeutic alliance, and discuss the general structure of treatment and expectations, such as homework completion and practicing skills outside of treatment sessions. During this module, the therapist and patient weigh the costs and benefits of a behavioral medicine intervention and decide together whether a behavioral medicine intervention would be useful. The therapist also discusses the connection between mood symptoms (gleaned from the initial assessment and interview) such as depression and anxiety when present, and self-care behaviors. Further, the patient and therapist develop realistic and specific goals to be achieved during the course of therapy.

Next, the therapist, if appropriate, typically draws the cognitive behavioral model and explains its components, completing a diagram with specific thoughts, behaviors, feelings, and sensations generated by the patient. This provides a general framework for treatment whereby patients not only see the interrelation among thoughts, behaviors (including self-care), and feelings/sensations, but also learn about opportunities

to improve quality of life by working at the level of each individual component. Based on the patient's symptom presentation, the therapist provides an overview of the main therapy modules to be used with the individual patient and the approximate number of sessions needed.

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### **18.5 Behavioral Modules: Activity Scheduling, Activity Pacing, Self Monitoring, and Adherence/Self-Care**

One of the common behavioral consequences of having a medical illness is a decrease in participation in activities previously considered pleasurable. This may be a function of depression or anxious reactions to illness, fatigue, side effects of treatment (e.g., nausea in chemotherapy), or misconceptions about what the patient should be able or is currently able to do (e.g., a chronic back pain patient who incorrectly believes that low impact activities, such as walking or swimming, will cause damage to his/her back). Avoiding pleasurable activities can lead, to or exacerbate, affective symptoms and perceptions of the severity of medical symptoms.

Activity scheduling and activity pacing are two behavioral medicine techniques that ensure that patients with medical conditions continue to make informed decisions about how and when to maximize their ability to participate in activities that they enjoy. These modules include monitoring activities, mood, and physical symptoms, as this allows for making mood and physical symptoms more predictable and, consequently, more controllable. Monitoring also allows patients to understand that, in many situations, they are able to safely do more than they actually feel they are capable of doing.

Within an *activity scheduling module*, patients list activities that they previously enjoyed but have given up due to the medical illness or depressed mood. Tools such as a "Positive Events Checklist" (e.g., [42,43]) can be used to help the individuals identify pleasurable events and work to increase involvement in these activities. Activity pacing then involves patients learning to

alternate activity with rest, rather than doing too much when they feel good and too little when they do not—thus increasing the overall amount of time they engage in activities. For patients with chronic pain, pacing exercises are also designed to help patients break the association between activity and pain, which has been established through classical conditioning by stopping all activities when in pain due to misconceptions about causing damage and making the problem worse.

*Self-monitoring* is a common technique used to aid behavioral modification. Within this module, patients learn to keep a daily log of the desired action (e.g., number of pills prescribed versus taken for the day, amount of exercise, food intake, sleep patterns). Within this module, patients also monitor the antecedents (event that occurs immediately before the behavior) and consequences (reinforcing outcome of the event) of the behavior. Therapists and patients then work together to better understand a functional analysis of the problems and further shape the behavior with the goal of increasing gradually, the healthy behavior. Self-monitoring is the hallmark of lifestyle interventions, including monitoring sleep, nutrition, physical activity, and medications.

*Adherence training* is an important behavioral module and a key component of behavioral medicine interventions. Adherence training is conducted in conjunction with education and motivational interviewing. Strategies for enhancing adherence include (1) simplifying the patient's regimen, (2) imparting knowledge, (3) tailoring information to patients' education level, (4) modifying patients' beliefs, (5) improving patient and family communication, and (6) evaluating adherence [44]. There are various methods of adherence training. One intervention, called "Life-Steps," developed at Massachusetts General Hospital and Fenway Health, is a protocol designed to help patients increase their adherence to self-care behaviors [45]. The protocol involves a single session which incorporates elements of CBT, problem solving, and motivational interviewing and follows these steps: (1) psychoeducation and enhancing motivation for

adherence, (2) problem solving regarding getting to appointments, (3) problem solving regarding obtaining medication, (4) coping with side effects, (5) communication with treatment providers, (6) formulating a daily medication schedule, (7) discussion of appropriate storage of medication, (8) cues for pill taking (cue control strategies), (9) guided imagery (review of successful adherence in response to daily cues), (10) response to slips in adherence, and (11) review of procedures and phone follow-up. This procedure has successfully been implemented in those living with HIV [46] and is part of a more intensive intervention targeting adherence and depression in HIV [34,35]. It has also been tailored for use with other illnesses, such as cancer, diabetes, and hypertension [43].

## 18.6 Cognitive Modules: Cognitive Restructuring and Problem Solving

Cognitive restructuring is a traditional CBT technique as articulated in Chapter 3. Here, patients become aware of their negative automatic thoughts, fit them into categories called cognitive distortions/errors, and restructure their automatic negative thoughts, replacing them with positive, realistic, and adaptive thoughts. This process first occurs via self-monitoring using a thought record in which patients challenge negative thoughts and beliefs about their illness or disability and/or associated mood symptoms; eventually, patients learn to engage in cognitive restructuring immediately in situations that trigger negative thinking or interfere with engagement in activity scheduling, pacing, or adherence.

Acceptance-based cognitive restructuring occurs in situations where the negative thoughts are actually rational/true, but focusing on them can cause, exacerbate, and/or maintain negative mood states, inactivity, and, consequently, perceptions about physical symptoms. In many situations, patients are bewildered and shocked upon receiving a medical diagnosis. Automatic ruminative thoughts such as “Why me?”, or “I will have to monitor my blood sugar for the rest of my life”, or “This illness will shorten my life” are

common. In this module, patients are given time to grieve the loss/change, process feelings and thoughts about the medical condition, and work toward acceptance so that they can integrate this experience within their lives. In the case of incurable illness, acceptance-based strategies are key. Helping patients cope with severe illness in an adaptive way may include strategies such as recognizing the illness may not have a cure, working to make informed decisions about the pros and cons of palliative treatments or life-extending but aggressive treatments, and/or reviewing positive aspects of one’s life and making sure one is able to maximize quality of life in a different or foreshortened way.

*Problem-solving coping* attempts to intervene directly on the stressors, problem, medical symptom, behavior, or rational negative thought. Often, when confronted with a medical illness, patients experience greater difficulty solving problems than they did previously. In many situations, patients agonize over figuring out what is the best solution to a problem; other times, patients delay engaging in behaviors needed to manage their illness (i.e., procrastination), because thinking about a possible solution can cause anxiety and therefore make decision-making difficult. Hence, this intervention involves working with patients through a process of relearning effective problem solving. Typical steps involve orienting the individual to the problem, generating alternative behavioral responses, reviewing decision-making practices, and determining how to implement the chosen solution(s) [47]. Problem-solving techniques are broken down into five components: (1) articulate the problem, (2) list all possible solutions, (3) list the pros and cons of each solution, (4) rate each solution, and (5) implement the best solution. With respect to the fifth step, therapists assist patients in identifying overwhelming tasks and breaking them down into manageable steps. If any step is deemed too complex, it can be further broken down into smaller steps. It is very important for the therapist to discuss with patients how the decisions they make are often personal, based on the information available at the time and in the specific context of their lives. This may relieve some of the pressure patients feel to pick the “best” solution.

## 18.7 Physiological Module: Relaxation Training

Relaxation strategies are primarily focused on eliciting the relaxation response (RR; [48]), which has been found to counteract the negative effects of various stressors, including those associated with medical illness. The RR is a physiological state characterized by decreased arousal of the sympathetic nervous system and increased parasympathetic activity. The rationale for eliciting the RR among individuals with medical illness is that the changes associated with this response (e.g., decreases in oxygen consumption and carbon dioxide elimination and in heart rate, respiratory rate, and blood pressure [48]) are considered to be the counterpart to the negative changes that occur during the stress response. The RR occurs through a variety of strategies that have the common denominator of a sustained mental focus with an attitude of open receptive awareness. It is normally elicited in a two-step process—to help sustain focus, one can (a) repeat a word, sound, prayer, or phrase and (b) disregard any unrelated thoughts that come to mind. The RR is akin to letting go of stress-activating thoughts and involves muscle relaxation, deeper and fuller breathing, and an attention shift away from negative emotions and worrisome or troublesome thoughts. It can thus be used for a variety of stressful medical concerns, facilitating problem solving, reducing anxiety about medical visits or procedures such as surgery, and possibly helping to speed up recovery, and is a key component of behavioral treatments for insomnia (e.g., [49]).

*Breath awareness/diaphragmatic breathing* is a technique that teaches patients to become aware of how they breathe during times of stress (e.g., shallow, irregularly, with incomplete exhalation) and learn to take deep, slow, and relaxing diaphragmatic breaths. One strategy to help patients learn diaphragmatic breathing is to encourage the patient to imagine that he/she has a balloon in his/her stomach, which inflates with every inhalation. Just as a balloon releases air, the patient is encouraged to allow his/her breath to simply release air with each exhalation. Diaphragmatic breathing elicits the RR, in part, through the mind-body con-

nection. Just as the stress response signals the muscle fibers in the body to contract (shorten), diaphragmatic breathing stretches muscle fibers which then signals relaxation throughout the body and mind. Within this module, patients are encouraged to practice diaphragmatic breathing daily and also in times of high stress, such as when undergoing medical procedures.

*Guided imagery* is an RR strategy where patients are led to imagine all of the details of a particular relaxing image, as vividly as possible. It can be a simple exercise such as visualizing an orange. In this example, the patient first pictures the orange, how it looks, and the details of the peel. The patient would then imagine herself slowly peeling the orange, allowing the juices to flow. Then the patient imagines the details of the orange's skin. While focusing on the smell, the patient imagines herself taking a bite. Most people find that they salivate and may even be able to taste the orange. It can also be more complex, such as the "joyful place" imagery, where patients are guided to remember a special place from their past or present that is associated with peace, safety, and comfort. Patients are encouraged to visualize the details of that place, including imagining the joy they feel when in that place. Patients are encouraged to pay attention to how it feels to be safe, secure, and free of stress and worries, so that they have a memory of feeling peaceful and become able to return to this place in times of stress.

*Biofeedback* is a form of eliciting the RR while getting immediate feedback on physiological signals, thus providing patients with clear evidence of the mind-body connection. Patients are taught to control various physiological signals that are thought to play a role in maintaining symptoms. Heart rate, skeletal muscle activity, blood pressure, surface skin temperature, respiration, and galvanic skin response are the most common physiological signals used in biofeedback training. For example, a patient may learn to reduce facial muscle activity by watching a monitor project a picture of their facial muscle activity. Patients with Raynaud's phenomenon may be taught to reduce the frequency of their attacks, particularly when it is comorbid with anxiety.



*Progressive muscle relaxation (PMR)* is an RR strategy where patients are taught to systematically relax muscle groups throughout their bodies to reduce tension and anxiety. During the process, patients learn to alternate between tensing and relaxing various groups of muscles, which leads to overall reduction in tension throughout the body. PMR is helpful in teaching patients how to relax in situations that may cause stress or pain and works well with patients who have difficulties with, or become hyperaroused during, diaphragmatic breathing.

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## 18.8 Case Example

### 18.8.1 Background

Emma is a woman in her mid 40s who was referred for a behavioral medicine intervention by her orthopedic surgeon. Emma had experienced several episodes of back pain over the past 10 years, all of which were treated successfully with physical therapy and nerve blocks. In all instances, testing revealed no abnormal pathology and pain was considered idiopathic (vague, diffuse, with little or no objective abnormality). However, the most recent episode was the most severe, and she failed to get relief with biomedical treatments. Further, although physical therapy was recommended, Emma reported difficulties adhering to treatment due to intense pain.

Upon the first meeting, a detailed psychosocial assessment was conducted. Emma rated her pain at rest, on a scale of 1–10, as a “7.” With activity, she rated her pain as a “10.” She described her pain as “unbearable” and reported frustration with the fact that no organic pathology was identified by the medical tests and that the treatments that had worked in the past no longer helped her. She was convinced that there was something seriously wrong with her back that had been missed, as her pain was more intense than during previous episodes. She noted that pain interfered with activities of daily living and that her husband was currently doing all the household chores. She also revealed recent high stress at work, with a new boss who was

demanding. When asked how she coped with the pain, Emma noted that she received some relief from ibuprofen but that it upset her stomach and she was concerned about its long-term effects. She noted that her mood was down, and she felt worried about her future. Emma was soft spoken and in obvious distress. Although she was alert, oriented, and well groomed, she appeared disheveled, wearing oversized, baggy clothes, which the therapist discovered later was due to her depressed mood.

### 18.8.2 Case Conceptualization

Emma was faced with another back pain episode at a time where things were going fairly well within her primary relationship. However, Emma found her job stressful, and she disliked her new boss. She worried about losing her job, particularly now that her back was giving her problems and interfered with her ability to fulfill her duties. Because all her previous back pain episodes were treated biomedically, she felt that she needed more medical tests in order to discover why her current back pain episode was more severe than in the past. She was concerned that her pain was a sign of something pathologically wrong that, if not found, would get worse with the passage of time.

Emma had great social support from family and friends. A careful analysis of relationship issues revealed that her husband, albeit well intentioned, was reinforcing her pain and avoidance by taking over her household responsibilities. In describing her feelings of being useless, dependent, and scared, she stated, “I can’t do anything.” She was also worried about the fact that her husband might get tired of doing so much and might leave her. Although previously physically active, Emma had stopped running and going to the gym for fear of injury and worsening her pain. Instead, she spent time at home watching TV and ruminating on her pain condition. Her mood was depressed and anxious. Emma’s symptoms fit well within a cognitive behavioral case conceptualization. She endorsed negative thoughts about pain, such as “My pain will never

get better”; “My pain is awful and overwhelming”; and “There must be something seriously wrong with my back”—and she avoided activities that might cause pain, including physical therapy exercises. This, in turn, negatively influenced her pain sensation and mood.

### 18.8.3 Treatment

After the assessment session, which consisted of interview, self-report measures, and review of records, Emma underwent seven treatment sessions utilizing a cognitive behavioral approach. The first session of the treatment was *psychoeducational* and was focused on normalizing the pain condition and Emma’s diagnosis of idiopathic back pain. Content of the session focused on educational information about the mind-body relationship as it relates to pain and how stress, depression, and anxiety symptoms are common correlates of pain. Emma learned that depression and anxiety symptoms (e.g., low energy, difficulties in concentrating, decreased motivation, psychomotor retardation, decreased appetite, fatigue, fears, increased heartbeat, shortness of breath, avoidance) are correlates of pain that occur in most people, in different degrees. This session was also focused on helping Emma understand how the behavioral medicine intervention could help her, and on increasing her confidence in treatment. In the first session, she also learned the results of the assessment. Emma also learned that her scores on two coping measures, Pain Catastrophizing [50] and Pain Anxiety Sensitivity [51], were high. This meant that, compared to most people, Emma attributed negative and “catastrophic” consequences to the experience of pain and had more anxiety about her pain. This session was also focused on discussing in detail the rationale for psychosocial treatment in the context of an episode of idiopathic pain and how addressing the psychosocial factors related to pain might benefit her pain condition. A motivational interviewing exercise was conducted in which the pros and cons of working on her pain within the behavioral medicine intervention framework vs. not working on her pain

were discussed. Finally, realistic treatment goals were established.

During the following two sessions, Emma learned about the CBT model and the connection between thoughts, feelings, and behaviors. This was done using specific examples pertaining to Emma’s responses to pain. During these two *cognitively* focused sessions, Emma learned how her negative pain-related thoughts, low mood, and avoidance behaviors were interrelated and that these placed her at risk for more disability over time. Emma also learned to identify her negative pain thoughts, fit them into cognitive errors, and cognitively reframe her pain-related negative thoughts. For example, when she noted thoughts like “pain is awful and overwhelming,” she learned to replace that thought with a more adaptive one: “I can do many things in spite of pain.” This helped Emma change the manner in which she construed herself. Instead of thinking of herself as “a victim of her pain,” Emma began to experience herself as someone who was learning and employing strategies to cope with her pain. When she noted thinking that “I feel pain, therefore there must be something seriously wrong,” she learned to tell herself that “my doctor thoroughly checked me out; I have had pain before and eventually it went away; there is no evidence that there is something seriously wrong with my back.” This showed a high level of understanding that one can have pain without a physiological cause, as is the case in most chronic back pain conditions. Emma also learned to reframe negative thoughts associated with her job and her boss.

The next session was focused on relaxation training. Emma learned about the relaxation response and how pain initiates and maintains a stress response. She learned to engage in diaphragmatic breathing during her physical therapy exercises, and the fact that she was in a relaxed state allowed her to progress with her exercises. She also learned to engage in relaxation strategies during times of stress at work.

Next, Emma underwent two *behavioral sessions* focused on pacing and activity scheduling. Within the pacing module, Emma learned to reengage in activities that she previously enjoyed

but was now avoiding. For example, Emma enjoyed going to the gym but had given it up because it caused pain. Through a pacing exercise, she slowly increased the amount of time she was able to use an exercise machine, so that eventually she managed to return to 45-minute sessions several times a week. Activity scheduling was done in conjunction with pacing, to help Emma return to activities she previously enjoyed, such as meeting friends, going to see movies, as well as engaging in household activities that she had previously avoided. Eventually, she and her husband returned to equally sharing household chores. The last session was focused on reinforcing progress and relapse prevention.

### 18.8.4 Treatment Outcome

At the time of termination, Emma's self-reported pain intensity at rest and with repetitive activity had decreased, as had her disability. Her mood and her scores on the pain scales had decreased as well. At the end of treatment, Emma was still bothered by intermittent pain, but the pain no longer consumed her. She accepted that her pain had no organic pathology. She was no longer avoidant of activities that she enjoyed. She had returned to doing her share of household chores, was exercising, and was slowly building up to her past level of physical activity. Emma had not sought medical treatment since the end of therapy several months ago.

## 18.9 Conclusion

Changes in behavior, cognitions, and lifestyle can improve health, reduce symptom burden, and increase quality of life. Clinical practice and research have shown that behavioral medicine interventions can help people feel better physically and emotionally, improve their health status, increase their self-care skills including adherence to medical treatments, and improve their ability to live with chronic illness. Behavioral interventions also can improve the effectiveness of medical interventions and reduce health-care costs.

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## 19.1 Introduction

Cognitive behavioral therapy (CBT) is a highly effective therapy for a number of disorders in children and adolescents. Research studies over the past several decades suggest that CBT can be used to treat anxiety disorders, depression, disruptive behavior disorders, ADHD, elimination disorders, tic and habit disorders, and social skills deficits (for a review, see [1]). The utility of CBT lies in its ability to target symptoms and disorders across the full age range of childhood: It has a problem-focused approach that aims to deliver treatment in an efficient, time-limited manner. It is amenable to empirical evaluations, and its use of standardized, manualized interventions can be implemented systematically and flexibly by practitioners from different backgrounds and training.

In this chapter, we detail the CBT model and techniques that are typically included in CBT protocols for children and adolescents. The application

of some of these techniques is illustrated in a case example, and the empirical support for CBT in youth is briefly described. Whenever possible, we highlight how CBT can be developmentally adapted across different ages.

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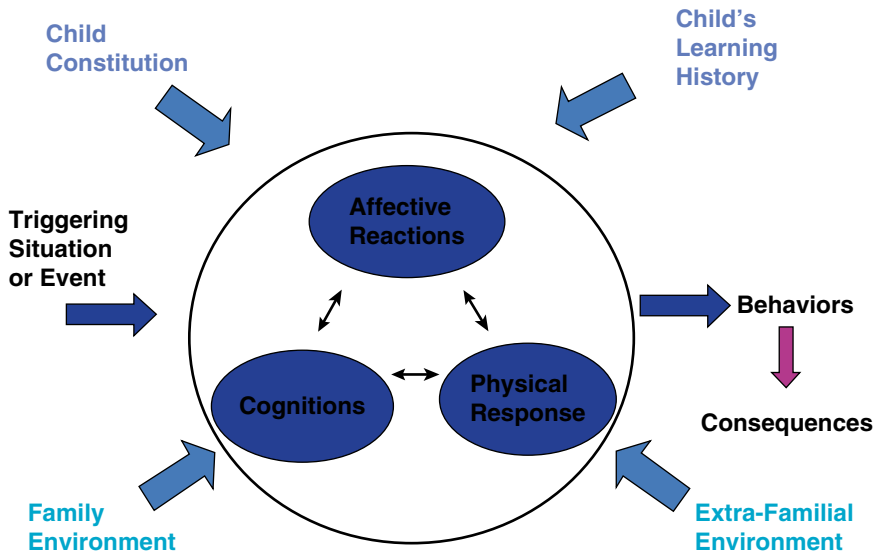
## 19.2 Theoretical Model

As illustrated in Fig. 19.1, CBT considers a range of intra- and extra-personal factors in conceptualizing a case and developing a treatment plan. The goal of the initial assessment is to derive a diagnostic and therapeutic formulation that considers factors that may have led to the development of maladaptive symptoms and may be contributing to their maintenance or exacerbation. With regard to factors that are considered internal to the child, CBT examines the physiological, cognitive, and emotional aspects of the child's symptoms, as well as the behaviors that may result from these factors. In addition, the CBT model examines antecedent events to the child's experiences and the consequences of the child's behaviors. All of these factors can then be targeted in treatment.

CBT considers these individual factors in the context of a broader range of variables that may impact the child; this includes child predispositions (e.g., family-genetic factors, temperament, neuropsychological factors, previous learning history), family factors (e.g., family stress, parent-child conflict, parent disorder, trauma), extra-familial

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**Fig. 19.1** CBT model

factors (e.g., school environment, peer relationships), as well as community and cultural factors. Even when not explicitly targeted in treatment, an understanding of the role these factors play in the child's presentation will inform how and when CBT techniques are implemented.

The therapist works with the family to determine specific, measurable treatment goals, and regularly evaluates progress toward these goals. Whenever possible, objective measures are used to assess initial severity of symptoms and progress in treatment. It is important to develop rapport and forge a strong therapist–patient bond. In CBT, the therapist, child, and family work on skills actively in session, and also between sessions via “homework” exercises. However, it is important to avoid thinking of CBT as a series of cookie-cutter skills to be used rotely; rather, the art of CBT is in implementing skills or protocols that have demonstrated efficacy in a manner that is individualized and sensitive to the needs of each child and family.

### 19.2.1 Assessment

Treatment typically begins with a careful evaluation of the child and his/her family. Initial assessment

typically involves a structured or semi-structured diagnostic evaluation that covers most major psychiatric disorders of childhood and adolescence. These evaluations typically include examination of both current symptoms and lifetime history. Examples of commonly used diagnostic interviews include the Anxiety Disorders Interview Schedule-Child and Parent Versions (ADIS-IV C/P; [2]), and the Kiddie Schedule for Affective Disorders and Schizophrenia, Epidemiologic Version (K-SADS-E; [3]). It is often very helpful to include symptom or disorder-specific measures to obtain a rating of the severity of the child's presenting symptoms; these measures can then be re-administered at regular intervals during treatment to evaluate progress in these symptom domains. There are numerous well-validated measures for use with children and adolescents. These include broader-band measures of child symptoms such as the Child Behavior Checklist and Teacher Report form (CBCL/TRF; [4]), as well as more specific measures of child anxiety (e.g., the Multidimensional Anxiety Scale for Children, 2nd edition [MASC; [5]], the Revised Children's Anxiety and Depression Scale [RCADS; [6]], and the Screen for Child Anxiety Related Disorders [SCARED; [7]]), OCD (e.g., the Child Yale-Brown Obsessive Compulsive Scale [CY-BOCS;



[8]), ADHD and disruptive behavior disorders (e.g., Conners Comprehensive Behavior Rating Scales; [CBRS; 9]; Vanderbilt Parent Rating Scale; [10]; Parent/Teacher Disruptive Behavior Scale [Parent/Teacher DBD; 11]); depression (Children's Depression Rating Scale-Revised [CDRS-R; 12]; Children's Depression Inventory 2 [CDI2; 13]).

The evaluation is typically conducted with the parent (especially with regards to lifetime history), and with the child himself/herself, if the child is deemed to have sufficient insight and cognitive ability to accurately report on his/her symptoms. Additional information to be gathered from family includes the interference of current symptoms across a range of domains (i.e., school, peers, family, extracurricular activities), family history of disorder, family functioning (including family stressors, family conflict, parental stress), other current or lifetime psychosocial stressors, medical history, prior treatment and treatment response, and the child's prior learning history (e.g., factors and experiences that may have contributed to his/her current symptoms). In some instances, it may be beneficial for the child to undergo a cognitive, academic, or neuropsychological evaluation, if the clinician suspects that neurocognitive issues may be impacting presenting symptoms.

Often, a functional analysis of behavior is important to clarify the antecedents and consequences of specific child behaviors and symptoms. In addition, observations of the child, both in session (and if possible, in naturalistic settings such as school) can yield important clinical information. It is important to note, however, that many children may not exhibit any symptoms or problematic behaviors during the evaluation because of social demands, the structure of the session, or reactivity to observation. Whenever possible, the clinician should strive to obtain information from multiple informants and multiple sources. It is also helpful to think of assessment as an ongoing process rather than as a static evaluation at the start of treatment; throughout treatment, the clinician gathers information which shapes diagnostic impressions and informs the case conceptualization and treatment plan.

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### 19.3 Psychoeducation

Treatment begins with presenting an age-appropriate rationale that covers the general cognitive behavioral model of treatment and often includes information about the disorder(s) for which the child is being treated. The therapist typically presents the tripartite model of symptoms, in which reactions to events can be broken down into (1) feelings (physiological and emotional); (2) thoughts; and (3) behaviors. These components interact with one another in a cyclical manner that may lead to intensification of symptoms. For example, if a child is experiencing panicky physical sensations (feeling), he or she is more likely to avoid a feared situation (behavior), which, in turn, reinforces beliefs that the situation is dangerous (thought). The child can interrupt this cycle by learning to calm his or her body, thinking brave or helpful thoughts, and gradually facing feared situations instead of avoiding them. This explanation can be provided with varying levels of detail and sophistication, depending on the child's developmental level, cognitive functioning, and interest. With very young children, the explanation may be presented as a story about a child who overcame a fear, and what steps he or she tried in order to do so. Regardless of age, the aim of psychoeducation is to de-stigmatize symptoms, engage the child and family in treatment, and orient the child toward using negative feelings as a signal to actively implement coping strategies.

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### 19.4 Relaxation

Distressing emotions such as intense anxiety or anger are often associated with activation of the sympathetic nervous system (the "fight-or-flight response"), which can further exacerbate the unpleasant emotion the child is experiencing. Therefore, teaching relaxation techniques to reduce physical arousal and activate the parasympathetic nervous system can decrease the distressing emotion. Once calmer, the child may be able to access better coping skills to address the situation giving rise to the emotion.

The therapist usually demonstrates relaxation techniques in session, and then assigns the child to practice them daily (or as often as is practical) during a time of relatively low stress. Practice may be facilitated by digitally recording the relaxation instructions in session to listen to later, giving the child a “relaxation card” with basic instructions, or, for younger children, giving the parent written scripts or instructions. Once children have mastered relaxation skills, they will be better able to use them (or a shorter version of these techniques) to manage negative emotions.

Four general approaches to relaxation induction are available, and can be used individually or in combination depending on the preferences or personality of the child. In *diaphragmatic breathing*, the child is taught to take slow, deep breaths by placing one hand on the abdomen and one on the chest. While breathing in a relaxed way, without tensing stomach muscles, he/she takes air deeply into the lungs so that the hand on the abdomen rises and the hand on the chest does not. A very young child can be taught this method by having him/her use all his/her breath to “blow bubbles” and then allow his/her lungs to re-fill with air as if he/she were sniffing a flower.

In *progressive muscle relaxation*, older children and adolescents are instructed to sequentially tense and slowly relax major muscle groups. A script that is widely used for children [14] suggests that the child act out imaginative activities in order to tense and relax these muscles (e.g., pretending to be a turtle coming in and out of its shell to tense and relax his/her shoulders). *Imagery* involves having the child close his/her eyes and imagine being in a calm, relaxed place, while focusing on sensory information associated with the scene to intensify the relaxation experience.

*Mindfulness* meditation involves focusing attention on a specific stimulus (e.g., breathing in and out, or the taste of a food eaten slowly), and attending only to that stimulus while developing a neutral attitude to other thoughts, feelings, sensations, or external distractions. We have found this clinically helpful as a tool for children who have trouble tolerating acute distress.

## 19.5 Cognitive Restructuring

Cognitive restructuring begins with the explanation that emotional and behavioral reactions are mediated by thoughts or interpretations (see [15, 16]). Because different thoughts lead to different feelings, modifying thoughts in response to events can change the child’s emotional and behavioral responses.

With older adolescents, cognitive restructuring can be used in the same manner as with adults, as described in Chapter 3 of this volume; these patients are taught to monitor automatic thoughts associated with anxiety or depression, identify possible cognitive errors, and challenge these thoughts by considering evidence for and against the thoughts or by de-catastrophizing (considering the worst and best possible outcomes and how one could effectively cope if they occurred). This process of challenging automatic thoughts requires both good insight into one’s thoughts and the capacity for formal operational thought (the ability to think abstractly about one’s own thinking). Some younger adolescents are also able to engage in this process, and in clinical practice, many CBT therapists adapt some of these ideas for use with this age group. For example, the therapist may teach these patients about “thinking traps,” and ask the child to “be a detective,” looking for clues as to whether these thoughts are accurate or not.

Cognitive restructuring in younger children focuses on substituting more helpful or adaptive thoughts for less adaptive thoughts, without necessarily challenging the less adaptive ones [17, 18]. Even children who cannot initially generate their own alternative helpful thoughts can usually identify whether a thought suggested by the therapist will be helpful or not. CBT therapists treating anxiety in young children could act out situations with puppets and indicate which self-statements would make the puppet feel more brave [19–22]. Another strategy that therapists can use is to invent characters who have the unhelpful and helpful thoughts (e.g., “Scared Sue” and “Brave Bella”) so that the patient may better understand positive self-talk. It is worth

noting that the helpful thoughts generated by very young children may not be as logical as those of older children, but may still be helpful to the child. For example, children may find thoughts such as, “Just do it!” or developmentally appropriate thoughts (e.g., “The monster under my bed hasn’t hurt me yet so maybe he’s a friendly monster”) to be useful in facing their fears.

Cognitive skills are usually reinforced through role-plays in session, and with between-session practice (sometimes with the help of written or pictorial reminders), particularly in situations that elicit distress. With repeated practice, the child will eventually be able to recognize and discount the unhelpful thought without needing to go through formal restructuring.

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## 19.6 Behavioral Activation

Behavioral activation and activity scheduling are used in the treatment of depression. Often, children with depression present with decreased energy, which may cause them to spend less time engaged in activities that used to be enjoyable and meaningful to them. This, in turn, intensifies feelings of loneliness, sadness, and anhedonia [23]. To combat this negative spiral, it is important for the child to take small steps toward reengaging in positive daily activities (that are either enjoyable or associated with a sense of accomplishment). Doing so will eventually help the child feel progressively better, increase the likelihood of less negative thoughts, and reverse the negative spiral.

In activity scheduling, the child is encouraged, through careful self-monitoring, to notice the effect that various activities have on his/her mood and sense of mastery, with an emphasis on activities that may lead to more positive mood states. The child is then instructed to intentionally and regularly schedule a range of pleasurable and mastery-building activities, including physical activities, social activities, hobbies, and entertainment. Emphasis is placed on setting realistic, easily attainable goals, and problem solving in session around impediments to meeting these activity goals (Table 19.1).

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## 19.7 Behavioral Exposure

Exposure-based interventions are some of the most powerful tools in the treatment of anxiety disorders in youth. Although exposure can take several forms, and is individualized to the specific concerns of each child, the principles underlying its application remain the same, regardless of the anxiety disorder being treated. Exposure is based on principles of classical and operant conditioning. It targets avoidance behaviors that serve to maintain anxiety in the feared situation and to negatively reinforce the avoidant behaviors themselves. Exposure treatment works by having the child gradually face feared situations without engaging in avoidance or other safety behaviors, and remaining in the situation until his/her anxiety significantly decreases. Exposure is thought to work by (1) creating new learning by allowing the child to remain in the situation with calm rather than anxious feelings; (2) increasing the child’s sense of mastery over the anxiety-provoking situation; (3) disconfirming any anxious thoughts or beliefs about the situation; and (4) rehearsing skills to cope with anxiety.

Exposure begins with psychoeducation for both the child and the parents. The idea of confronting fears can be counter-intuitive and frightening to children and families, so it is important to provide the rationale behind exposure and details about how this is enacted to engage the child and his/her parents, and allay any fears about how exposure will be conducted. It is also critical to discuss with parents their expected involvement in exposure exercises between sessions, and to address any parental involvement in avoidance behaviors. Next, a fear hierarchy is developed to detail various situations that may elicit anxiety and to rate the difficulty of each of these situations. The complexity of the hierarchy and the rating system will depend on the age and maturity of the child. When creating a fear hierarchy, it is important to obtain information about a range of anxiety triggers, and to gather sufficient detail so as to get a sense of situational differences that may increase or decrease anxiety. Ideally, the child will be able to identify situations across a

**Table 19.1** Examples of manualized CBT protocols for use with youth

Presenting problem	Manualized treatment	Techniques incorporated
Anxiety disorders	Coping Cat (ages 7–13; [24, 25]) C.A.T. Project (ages 14–17; [26]) Being Brave (ages 4–7; [27]) Panic Control Treatment for Adolescents (PCT-A; [28])	Psychoeducation Emotion awareness (CC) Relaxation Cognitive restructuring Exposure Problem-solving (CC) Contingent reinforcement
OCD	OCD in Children and Adolescents: A Cognitive-Behavioral Treatment Manual [29] Family-Based Treatment for Young Children with OCD (ages 5–9; [30])	Psychoeducation Exposure with response prevention
Depression	Coping with Depression (group treatment; [23]) Brief Individual CBT Program for Adolescents with Depression [31]	Psychoeducation Behavioral activation Cognitive restructuring
School refusal	When Children Refuse School: A Cognitive Behavioral Therapy Approach [32]	Functional analysis Relaxation Cognitive restructuring Exposure Contingent reinforcement Behavioral contract
Oppositional behavior (child treatment)	Coping Power (preadolescent and early adolescent; [33]) Problem-solving Skills Training [34]	Emotion awareness Perspective taking Anger management Social problem solving Goal setting
Oppositional behavior (parent management)	Defiant Children: A Clinician's Manual for Assessment and Parent Training (ages 2–12; [35]) Parent-child Interaction Therapy [36]	Psychoeducation Positive parenting (non-directive play, praise) Contingent reinforcement
Emotional dysregulation	Collaborative Problem-Solving [37]	Psychoeducation Problem-solving skills
Tics	Treating Tourette Syndrome and Tic Disorders (ages 9+; [38])	Psychoeducation Self-monitoring Stimulus control Habit reversal

range of difficulty. It is worth noting that exposure is made much more difficult when all of the identified situations are of similar difficulty.

The initial exposures should be relatively easy; the goal is to introduce the child to the experience and to build a sense of mastery and confidence. The child should confront a situation that makes him/her somewhat anxious and remain in the situation until his/her anxiety decreases, without engaging in avoidance or other safety behaviors. The therapist should facilitate and encourage the exposure and provide “cheerleading” statements to motivate the child, but avoid excessive reassurance. Often the

therapist participates in the exposure exercise, to model for the child active coping and to facilitate a sense of collaboration. The therapist also models for the parents, if they are in the room, how exposures are conducted. The therapist may regularly ask the child for his/her level of anxiety and graph the gradual decrease in anxiety over the course of the exposure. If time permits, the same (or similar) exposure exercises can be repeated more than once during the session, ensuring that there is sufficient time for the anxiety to decrease to a minimal level (or by at least 50 %) prior to ending the session. The therapist may also want to review the child's

experience with the in-session exposure to ensure that his/her perception of the exposure is similar to what the therapist anticipated to address any cognitive distortions, difficulties, or problems that may have arisen. The therapist should then assign similar exposures during the coming week to give the child additional, naturalistic exposure experiences. The child should be encouraged to practice the exposure daily or as often as is feasible; the more frequently the child engages in exposures between sessions, the faster he/she will improve and the more satisfied with his/her progress he/she will be. As sessions continue, the exposures become progressively more difficult, with the pace of these sessions determined by whether the child has mastered the previous exposure.

It is often helpful to engage the child by making the exposure “fun,” such as turning it into a game, as well as using rewards for attempts at exposure, or using humor. This is particularly important for younger children who may have limited understanding of the rationale behind exposure treatment, shorter attention spans, or variable levels of motivation. For example, a child with separation anxiety might participate in a treasure hunt that sends him/her progressively farther away from his/her parents; or a child with social anxiety might play a game whereby he/she conducts a survey of others’ favorite colors.

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## 19.8 Problem-Solving Skills Training

Problem solving is perhaps one of the most commonly used skills as it can be applied to the treatment of many different disorders of childhood, including anxiety, depression, aggression, and ADHD. It can be conducted with the child alone, or with the child and parents together.

Problem-solving skills training teaches the child a systematic series of steps that he or she can use when faced with any problem. In the first step, the child is taught to *define* the problem accurately and specifically, and in a manner that lends itself to potential solutions. In the second step, the child *brainstorms several possible solutions* without evaluating or automatically

eliminating them. The aim is to avoid rigidity about which solutions may be possible while also not impulsively jumping to the first solution that comes to mind. If the child is unable to do so independently, the therapist may help to brainstorm ideas, while encouraging the child’s active participation. In the third step, the child and therapist can work together to *evaluate* or generate the “pros” and “cons” of each solution. Once each potential solution is evaluated, the therapist can ask the child whether there are any that he or she would like to eliminate because the negatives outweigh the positives. With the remaining solutions, the therapist and child collaborate on a *plan* for addressing the problem (“what solution would you choose first?...If that one doesn’t work, which one would you like to do next?...”). The child is then instructed to *implement the plan* in the coming weeks and to report back to the therapist on the success (or lack thereof) of the plan. It is particularly useful to pick problems to work on in session that have direct relevance to the child’s daily life; however, if the child cannot identify any relevant problems, the therapist should feel free to suggest ideas garnered from prior sessions or the initial interview.

With younger children, children with developmental disorders, or children with cognitive rigidity, the problem-solving exercise may need to be implemented in a more concrete manner. For example, younger children may develop a plan involving only two or three steps, presented in a catchy, easy-to-remember manner such as a song or brief poem. The therapist and parents may also be more involved in the development and implementation of the plan. With older children and teens, greater independence in generating solutions and implementing the plan is typically expected.

Collaborative problem solving is a variant of problem-solving therapy developed for use with oppositional or emotionally dysregulated children [39]. In this approach, parents are encouraged to take the initiative in solving problems that typically lead to emotional outbursts in their children. First, parents are asked to identify and monitor situations that frequently trigger outbursts, and to become cognizant of the child’s

difficulties that may result in noncompliance. The reasoning is that the child's noncompliance can be attributed to a compromised ability to follow adult directives and to adapt to varying situations, as opposed to willfulness. Underlying issues that may result in noncompliance include impulsivity, cognitive rigidity, anxiety, mood dysregulation, or slowed processing speed. When feasible, parents are also encouraged to work collaboratively with the child to arrive at a mutually acceptable solution, rather than focus on positive or negative consequences for oppositional behavior. The parents are taught a systematic method for approaching the problem-solving effort, which includes (1) demonstrating empathy for the child and understanding of his or her perspective, (2) stating the specific problem, and (3) inviting the child to join the parent in arriving at a satisfactory solution. With repeated practice, both in and between sessions, the problem-solving skill becomes more automatic and implementable across many situations.

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### 19.9 Organizational Skills Training

Organizational skills training has been used for some time in the treatment of ADHD, especially within school-based interventions. However, it was recently formulated for adults via systematic CBT manuals [40, 41], and subsequently adapted downwards for teens and middle school youth. These skills training manuals typically focus on teaching time management, organization of material objects, distraction management, reduction of procrastination, and identification of negative or unhelpful cognitions. The first organizational skill typically taught has to do with keeping track of tasks, assignments, and deadlines via a calendar and task list. To build upon this fundamental skill, the child is taught how to prioritize multiple tasks, use reminders to cue timely completion of tasks, implement self-rewards for meeting goals, break down larger tasks into more manageable chunks, and develop simple organizational systems for important

objects. To manage distractibility, the child is taught the "distractibility delay," which involves breaking tasks down into chunks that match the child's typical attention span, setting a timer for that duration, and avoiding other distractions until the timer rings. Distractibility is also managed by identifying major sources of distraction and problem solving around solutions to reduce them. Cognitive restructuring and problem-solving strategies are woven throughout treatment to enhance implementation of these other skills and to reduce procrastination.

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### 19.10 Parental Involvement in Treatment

Most CBT with children and adolescents requires some parental involvement to keep parents informed about therapy goals and progress, and to discuss how best to support the child. Parents are usually present throughout sessions with younger children so that they can reinforce the use of CBT skills learned outside of therapy. Parents may be less involved with older children and adolescents, and the degree of involvement is typically negotiated early in treatment. For example, some parents may come in at the end of each session, whereas others may be invited into the session more intermittently or on an as-needed basis. Therapists may also conduct parent-only sessions to address any parenting or family issues, and teach parents strategies for managing child behavior. For any age group, if the behaviors addressed are occurring in school, the therapist should also communicate with school personnel to support the child in coping at school.

When treating anxiety in young children, parents are usually taught the CBT model of anxiety, as well as how to model and promote the use of plans for coping with anxiety. Parents are encouraged to support good coping and avoid reinforcing anxiety, and to conduct hierarchical exposure where the child is rewarded for progressively facing situations that provoke anxiety. Also, since parents of anxious children may inadvertently reinforce the anxiety or anxious avoidance

(through well-meaning efforts to reduce the child's distress), it is important to teach strategies for fostering adaptive coping.

Treatments for disruptive behavior disorders generally focus on teaching the parents behavioral management strategies [35, 36, 42]. Parents are taught to monitor their child's behavior with particular attention to the antecedents and consequences of the target behaviors and to recognize and modify triggering situations that are particularly stressful for the child. Parents of children with disruptive behavior are also encouraged to increase positive interactions via short periods of non-directive creative play with the child [35, 36]. They are taught to give clear instructions with an unambiguous tone, to use praise and positive attention (or, in some cases, token reward systems), to encourage desirable child behaviors, and to extinguish undesirable behaviors by actively ignoring these behaviors. For behaviors that are unsafe or cannot be easily ignored, parents are taught procedures for the use of "time-out," where attention is withdrawn from the child as a consequence for an undesired behavior. Using these methods, escalating negative cycles of parent-child interaction can be interrupted or diffused. For older children and adolescents, behavioral contracts laying out expectations, rewards, and consequences may be collaboratively developed in session.

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### 19.11 Research Data

There is significant empirical support for the use of CBT protocols with children and adolescents for a range of presenting problems. Below, we briefly review evidence for the use of CBT with childhood anxiety, depression, ADHD, and disruptive behavior disorders (for a more extensive review of the empirical support for CBT with children, the reader is encouraged to consult James et al. [43] and Silverman et al. [44]).

*Anxiety Disorders:* There is extensive research supporting the use of CBT with youth who present with a range of anxiety disorders, with over 30 randomized controlled trials demonstrating its efficacy [43, 44]. One of the best known manual-

ized interventions is the Coping Cat program [45]. This therapy is designed for children ages 9–13 who have generalized anxiety disorder, social phobia, and/or separation anxiety. It is usually delivered individually, although it has also shown efficacy as a group treatment [46], or as a family intervention [47]. In general, between 50 and 65 % of children who undergo this treatment lose their primary anxiety diagnosis [48–50], with treatment gains largely maintained over long-term follow up. CBT has also been shown to be effective for children and adolescents with social phobia (e.g., [51]), school refusal [52], specific phobias [53, 54], panic disorder [28], OCD [55–57], and generalized anxiety disorder or separation anxiety disorder (e.g., [58, 59]). A recent large-scale study also suggested that, for youth with moderate-to-severe anxiety, the combination of CBT and medication such as sertraline is especially efficacious in reducing anxiety symptoms and promoting remission from childhood anxiety disorders [60, 61].

According to several studies investigating the long-term impact of CBT on the outcomes of children with anxiety, the effects of treatment continue to be sustained after 1 year [62], with beneficial changes shown to last even longer (range 2.5–13 years; [63–65]).

Parental involvement in treatment has also been indicated as a modifier of treatment outcomes in childhood anxiety, with results being comparable to, and often better than, those of individual CBT [47, 66–68]. If one or both parents also has anxiety, family-based CBT is especially efficacious [69].

Although most of the research conducted on CBT for childhood anxiety has focused on children between 7 and 14 years of age, recent studies have also suggested that preschool age children with anxiety benefit from CBT at rates similar to their older counterparts (see [70] for a review). For example, Hirshfeld-Becker et al. [27] reported individual CBT that included both parent and child-parent sessions was successful in treating anxiety disorders (social, specific, separation and generalized anxiety disorder) among 4–7-year-old children [27], with 59 % of treated children versus 18 % of monitoring-only controls

no longer meeting criteria for any anxiety disorder following treatment, with gains largely maintained over 1-year follow-up.

*Depression:* The efficacy of both individual and group CBT for depressed youth is largely supported across studies, including those comparing CBT to alternative treatments (i.e., family therapy or nondirective supportive therapy) [71, 72], as well as to waitlist/no treatment-controlled studies [73–76]. Indeed, a meta-analysis investigating treatment outcomes in depressed youth found a large effect size of 1.02 at post-treatment and a moderate effect size of 0.61 at follow-up (ranging from 1 to 24 months; [77]).

The inclusion of parents in therapy can be a benefit to depressed children and adolescents [75, 78] because it addresses parental depression [71], improves parent–child communication, increases instances of positive interactions at home, and enhances parenting skills.

Psychopharmacological intervention can also enhance the effect of CBT. The Treatment of Adolescents with Depression Study (TADS) examined the impact of fluoxetine and CBT in adolescents aged 12–17 ( $n=439$ ) with major depressive disorder. After 12 weeks of treatment, participants receiving the combined CBT and fluoxetine treatments showed greater improvement (71 %) than those who received CBT (61 %) or fluoxetine alone (43 %) [79]. However, in another study investigating the efficacy of sertraline and CBT in adolescents aged 12–18 with mild-to-moderate depression, CBT alone was found superior to sertraline-only treatment, with the combined treatment showing no significant difference from either of the single treatments [80].

*Disruptive Behavior:* Overall, CBT has only been found to be moderately effective in treating aggression. Forty-one studies were compared in a meta-analysis investigating CBT in aggressive or anti-social children, and, while older children tended to benefit more than younger children, only a small to medium weighted effect size of 0.35 was found for post-treatment symptom improvements, with a small effect size of 0.31 at follow-up assessment (time range of follow-up was not specified; [81]). These results, however,

do not apply to specialized CBT programs. One of these is Lochman and colleagues' Coping Power Program [82], a school-based intervention for elementary-school children with aggressive behavior. This particular intervention has been found to reduce aggressive and disruptive behavior at post-treatment [82, 83], and (when parents are included in the program) at 1-year follow-up [83]. Another example of a treatment program targeting aggression is Kazdin et al.'s Problem-Solving Skills Training (PSST; [84]), an individual CBT protocol for children 7–13 years old. PSST has also been found to significantly reduce aggressive behavior [84], and to be highly efficacious in combination with Parent Management Training (PMT; [85, 86]). These treatments, as well as others, highlight the benefits of teaching parents how to modify their child's behavior at home. They improve parent–child interactions, which appears to increase the usefulness of child-focused CBT for aggressive behavior [37, 87].

*Attention-Deficit/Hyperactivity Disorder (ADHD):* Although earlier studies suggested that the benefits of CBT for treating symptoms of ADHD in children were limited, particularly compared to stimulant medication such as methylphenidate (e.g., [88, 89]), two recent studies have suggested that targeted CBT protocols may be efficacious for addressing some of the core symptoms of ADHD. These protocols include executive functioning skills training, such as time management, planning, and organization. First, Abikoff et al. [90] randomized 158 children in grades 3–5 to receive child-focused skills training, parent and teacher-focused skills training, or no training (waitlist control). Both of the active treatments were superior to the waitlist control on measures of organizational skills, with results maintained at follow-up assessments over the course of the next school year. Second, Antshel, Faraone, and Gordon [91] adapted an organizational-skills training protocol previously found effective for adults with ADHD [40, 41] for adolescents aged 14–18 years. Though this study did not include a control group, compared to pre-treatment, adolescents at post-treatment showed wide-ranging improvements, including school functioning (number of missed classes, number of times late



to class), medication adherence, self-reported self-esteem, parent-reported externalizing symptoms (particularly inattention), and teacher-reported inattention symptoms. Adolescents with comorbid anxiety and depression appeared to do particularly well, while those with comorbid oppositional defiant disorder benefited less.

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## 19.12 Case Study

### 19.12.1 Background and Presenting Problem

“Suzanne” is a 10-year-old girl who presents with diagnoses of OCD, separation anxiety, and major depression. Her OCD symptoms include worries that she will become ill and throw up if she touches “contaminated” surfaces, such as doorknobs and items in public restrooms and school. She is often very anxious during mealtimes and avoids eating certain foods that she worries may make her ill, eating in any places that appear dirty, or eating foods that are almost at their expiration dates. She repetitively checks the expiration dates on foods, examines her food closely for any signs of contamination, and compulsively and excessively washes her hands during the day. She also repetitively asks for reassurance from her parents (i.e., “Am I going to throw up?”) and will avoid any individuals who she fears may have thrown up or may be sick.

In addition, Suzanne reports significant worry that something “bad” will happen to her family—she worries about robbers breaking into the house or her parents getting into car accidents, and becomes very anxious and distressed if they go out without her. She often feels anxious when she has to leave home to go to school, and complains of stomachaches and headaches, which then increase her worry that she may throw up. Her parents report that Suzanne has been very anxious about being separated from them since early childhood, although they report that her anxiety has worsened over the past 2 years. Suzanne often avoids going to friends’ houses and has a lot of anxiety at nighttime. She asks her parents to stay with her until she falls asleep, and

has an extensive bedtime routine that involves numerous checking behaviors, touching and taping rituals, and phrases that her parents must say in a specific manner. She has difficulty falling asleep because she “can’t stop [her] thoughts from going around and around,” however, once she falls asleep, she typically stays asleep.

Finally, Suzanne reports that she has been feeling more down and sad over the past several months. She describes feeling very down on herself and being unhappy with how she looks, how she acts, and how much she worries. She reports that most daily tasks feel like an effort and that she wishes she could just stay home and watch TV because “everything else feels too hard.” She reports that she is not sure whether people like her and, although she reports no active suicidal ideation, suicidal or self-injurious behaviors, or suicidal intent, she acknowledges that she sometimes thinks that it would be easier to be dead because then “I wouldn’t worry anymore.” She describes that she sometimes feels hopeless about her future and is not sure whether she will ever overcome her anxieties. Her parents also report that she has been more sluggish and tired, less enthusiastic about activities, and that she seems more listless and less engaged. Suzanne used to be more involved in activities such as gymnastics and dance, but her parents report that they now have to push her to go. She has also significantly reduced her involvement with friends and will often refuse to go out with them.

Neither Suzanne nor her parents report any symptoms suggestive of mania or hypomania, psychosis, ADHD, behavioral problems, tics/Tourette’s, or autism spectrum disorders. Suzanne is the oldest of two girls, and generally gets along well with her younger sister, except for the times when she is worried that her sister is ill or will make her ill. The family is intact, there is no evidence of significant family stressors or traumatic events. There is a paternal history of OCD and tics, and dad reports that he had a lot of “habits” as a child though these were not particularly interfering. Suzanne typically does quite well at school; she is currently in the 5th grade, although she has recently been struggling with

homework. Suzanne has never been in prior treatment; an SSRI was suggested by her pediatrician at her last visit, but the family has not pursued this option to-date.

### 19.12.2 Course of Treatment

Suzanne's presentation is quite typical of the types of cases that present for CBT. She has moderate-to-severe OCD, comorbid separation anxiety, and recent-onset major depression. At the end of the initial evaluation, the therapist reviewed her diagnostic picture, and discussed treatment options, including CBT and adjunctive medication treatment. The family decided to pursue CBT alone and to evaluate progress with the possibility of seeking a psychopharmacologic consultation if Suzanne did not respond (sufficiently) to CBT. The therapist provided an overview of CBT, including the tripartite model of anxiety (thoughts, feelings, behaviors), and the role of CBT strategies in targeting these three components of anxiety using cognitive restructuring, behavioral exposure, and self-reward strategies. Because relaxation strategies have not been found to be helpful in the treatment of OCD, the therapist did not focus on this aspect of treatment; however, the therapist discussed relaxation and mindfulness as techniques that might help Suzanne at bedtime if she had trouble falling asleep. In addition, parental involvement in treatment sessions was discussed. Because Suzanne actively involved her parents in many of her rituals, and because the family had developed several patterns of accommodation to her anxiety symptoms, the therapist and family agreed that her parents should participate in treatment sessions, especially at the beginning of treatment. This would allow Suzanne's parents to become familiar with the treatment strategies, serve as "coaches" to her between sessions, and address any of their own anxieties or concerns about treatment. Finally, the family discussed their goals for treatment. Together with the therapist, they decided that it would be most important to focus on Suzanne's OCD symptoms first since these were most interfering, and to include a focus on her

symptoms of depression as well. They agreed that her separation anxiety symptoms could be targeted later in treatment, once Suzanne had mastered some of her OCD symptoms.

### 19.12.3 Initial Sessions

The first two sessions of treatment focused on providing psychoeducation about OCD and its treatment (viewing OCD from a biobehavioral framework), developing a fear hierarchy around her OCD and other anxiety symptoms, and beginning to separate Suzanne from her OCD. Throughout these early sessions, the therapist used direct and more subtle techniques to help Suzanne and her family view her OCD as something distinct from her, as an annoying character who was making Suzanne feel bad, and that a team approach was needed to overcome it. Suzanne decided to call her OCD the "Throw-Up Pest," and, with the therapist, began to develop a series of tools that would help her not allow the OCD to boss her around. The therapist worked with the family to come up with some coping thoughts that would help Suzanne resist the urge to ritualize or avoid when she had obsessions about getting sick. For example, Suzanne began to remind herself of how much more anxious she felt when she engaged in the rituals, and of all the things she could do if she did not have OCD (go to school without feeling scared; eat in restaurants; hang out with friends; play with her sister). She also reminded herself that "it's hard at first, but it gets easier and easier," to help her begin exposures. Finally, she used cognitive strategies around her obsessions by noting that these were just thoughts that had no real power over her or her future.

She decided to use this strategy at bedtime when she experienced the most anxiety around her worries and obsessions. The goal was to observe her thoughts as they came and went in a more detached manner, rather than to try to get rid of any thoughts, as this only made them more likely to return. Her parents were instructed to practice reducing the amount of repeated reassurance they provided, since this typically maintains

anxiety and is unhelpful in fostering coping behaviors. Instead, they were told to encourage Suzanne to use her coping strategies and gradually face her fears. They were taught how to use “cheerleading” statements as encouragement (e.g., “I know this feels really scary, but remember all of the times that you’ve faced your Throw-Up Pest and won”), as well as contingent reinforcement for coping behaviors. For example, Suzanne’s parents set up a reward menu in which Suzanne was rewarded for practicing her exposure tasks between sessions with special parental attention and activities (e.g., going for ice cream, playing a game with her dad, going to the movies with her mom). In this way, Suzanne garnered positive attention from her parents for actively managing her anxiety rather than for avoidance behaviors, and parental involvement in rituals could be gradually reduced without her losing their attention and interaction.

#### 19.12.4 Exposure Sessions

The therapist began moving into exposure sessions quite quickly (Session 3 of treatment), given Suzanne’s motivation and understanding of early concepts. Suzanne identified several targets on her hierarchy that they would work on step-by-step: (1) eating food that had been touched by others (e.g., the therapist eating from the same chip bag); (2) not washing her hands before eating; (3) watching movie scenes of vomiting; (4) eating shortly after watching these clips. The therapist and Suzanne also used imaginal exposure by writing a script about Suzanne getting ill and vomiting, which Suzanne repeatedly read until it no longer elicited anxiety. They followed this by making “fake vomit” and pretending to vomit in a toilet. They continued exposures until Suzanne’s emotional reaction to these triggers was no more than mild anxiety. They also targeted some of her other symptoms. One such example was having Suzanne think of a “bad” thought without engaging in her tapping and other rituals.

While they worked on her vomiting fears, the therapist incorporated material related to

Suzanne’s depression into the sessions. For instance, early in treatment, the therapist described the CBT model of depression, with a focus on the role of pleasant activities in managing depressive symptoms. The therapist also asked Suzanne to keep track of the pleasant activities during the week, and to note whether there was any correlation between her engagement in activities and her mood. The therapist then worked with Suzanne to identify additional activities that she could add to her schedule (both pleasant and mastery building activities). It became apparent that, although Suzanne often engaged in pleasant activities over the weekend (e.g., seeing friends, going for walks, playing with her dogs), she often did not participate in many of these activities during the school week, and often felt that she was “just trying to get through the day.” The therapist worked with Suzanne and her family to identify activities that could realistically be incorporated into the school week on a regular basis (e.g., walking her dog, playing a board game with her family; watching her favorite TV show; going to a gymnastics class). They discussed potential impediments to this (e.g., worrying about her homework, the family’s busy schedule), and solutions to address these potential problems. As a solution, the family agreed to schedule these pleasant events into their formal weekly family schedule at the beginning of each week to maximize the likelihood of their occurrence.

Following Suzanne’s work on her OCD concerns, the family expressed a desire to focus on her separation anxiety. The therapist and Suzanne developed a coping plan that she could use at nighttime, in which she would implement relaxation and deep breathing strategies to decrease physiologic arousal and facilitate falling asleep. She also used cognitive restructuring techniques to remind herself that these were “just my worries,” and that she did not need to react to them by checking in with her parents. She developed a self-soothing bedtime routine that included taking a shower, reading a book, and focusing on the pleasant sensations of being in her bed. She was able to implement progressive exposure to being away from her parents at nighttime by having her

parents (1) sit in a chair in her room rather than in her bed while she was falling asleep; (2) stay in their room next door to her; (3) wait on the stairs while she fell asleep, and finally (4) go downstairs. Her family worked on each step until it no longer felt very anxiety provoking (i.e., until it was a 2/10 on her anxiety scale). They also engaged in contingent reinforcement by praising Suzanne for attempts to cope with her anxiety and utilizing the coping plan. Suzanne also earned points toward a reward such as a new toy or ice cream with the family for each night that she followed the exposure plan.

At this point in the treatment, Suzanne, her parents, and the therapist felt that she had made sufficient progress to begin to decrease session frequency. The therapist worked with the family around relapse prevention by identifying potential signs of relapse, anticipating lapses in Suzanne's progress, and discussing how the family could continue to work on Suzanne's symptoms. They gradually decreased session to every other week, and then to monthly visits for 3 months. Because Suzanne continued to improve over this period with no notable return of symptoms, all parties agreed to terminate therapy. The therapist reviewed all of the work that Suzanne had done and the progress that she had made, and offered to meet with her if needed in the future.

### 19.13 Conclusion

CBT is an empirically supported, highly effective form of intervention for children and adolescents with a range of psychiatric difficulties. CBT interventions are rooted in multifaceted conceptual models, and consist of integrative, individualized skills and interventions that target different facets of the child's presenting problem. CBT can be used with children across a range of developmental stages, including those in the preschool years, and can be implemented individually, with families, in groups, or even via Internet-based platforms. A large body of literature over the past 20 years supports the efficacy of this intervention, and, depending on the nature and severity of the presenting problem, CBT can be used alone or in conjunction with other treatment modalities.

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# Cognitive Behavioral Couple Therapy for the Treatment of Relationship Distress

# 20

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## 20.1 Introduction

Intimate relationship distress is relatively common, with 20 % of married couples reporting current distress in their relationship [1]. The effects of untreated relationship distress have negative implications for the individuals in these relationships, as well as society more broadly. Relationship distress is associated with poorer physical health [2], higher mental health services usage [3], and higher absenteeism and less work productivity [4]. Relationship distress can also negatively affect the family system, disrupting parenting [5], parent-child relationships [6], and child emotional and psychological functioning [7].

Cognitive behavioral models of relationship distress posit that interacting thoughts, emotions,

and behaviors within each partner and between the partners contribute to and maintain relationship distress [8]. For example, partners in distressed relationships often make negative attributions for each other's behavior (e.g., one partner's being late to dinner is interpreted by the other partner as a sign of disrespect), and selectively attend to negative behaviors by the other (e.g., focusing on a specific occasion when the other partner was late, while disregarding the many times that she/he was on time; [8]). Individuals in distressed relationships may also hold rigid relationship standards ("My partner should meet all of my emotional needs") or incompatible standards regarding the use of money, frequency of sexual activity, or other couple-level domains that, when discrepant, produce distress on the part of one or both partners (e.g., one person thinks they should invest all of their discretionary income whereas the other person thinks that they should use the money to take several nice vacations per year, or one partner thinks the couple should have sex daily whereas the other thinks they should have sex once per week; [9]).

At the behavioral level, distressed couples often have deficits in communication, problem-solving, and conflict management skills [10], and frequently experience a "demand-withdraw" pattern of interaction in which one partner pursues and the other retreats in response to relationship conflict [11]. Maladaptive interactional behavioral patterns are also manifested in the form of

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negative reciprocity [10, 12], a phenomenon whereby one partner perceives a negative behavior by the other and responds by escalating with another negative behavior, which is, in turn, responded to with increased negativity by the first partner and so on. These maladaptive and negative patterns of behavior reinforce negative thoughts that partners have about one another, with accompanying, and often dysregulated, negative affect experienced by each partner.

Epstein and Baucom [8] have further elaborated on this model by considering individual differences between partners, such as the presence of psychopathology in one member of the couple (e.g., major depression) or differences in temperament or personality that may contribute to conflict (e.g., one partner is high in extraversion, and the other is high in introversion, resulting in differences in preferences for spending time together versus apart). Epstein and Baucom's cognitive behavioral model of couple functioning also considers the larger interpersonal and societal context in which couples are embedded. For example, the presence of children, in-laws, extended family, friends, co-workers, and the broader socio-cultural context in which couples exist can each serve as a source of support or, alternatively, a stressor that can mitigate or exacerbate relationship difficulties, respectively.

Behavioral marital therapy (BMT), which was developed in the 1960s and 1970s, emphasizes the use of behavioral change strategies (e.g., reinforcement of positive behaviors by each partner, improved conflict management and communication skills training, increased engagement in shared rewarding activities) to treat relationship distress. BMT is considered to be an empirically supported therapy for relationship distress [13, 14], and meta-analyses have shown that, compared with no treatment, BMT is associated with significant improvements in relationship satisfaction [15]. Beginning in the 1980s and 1990s, cognitions were included in cognitive behavioral conceptualizations of relationship distress (e.g., [8, 16]) and, cognitive behavioral couple therapy (CBCT) has been successfully applied to the treatment of relationship distress, as well as

adapted for a variety of individual psychopathologies, including obsessive-compulsive disorder [17] and posttraumatic stress disorder [18, 19].

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## 20.2 Overview of Cognitive-Behavioral Couple Therapy for Relationship Distress

### 20.2.1 Assessment

When working with couples, we recommend a three-part assessment strategy comprised of (1) a conjoint meeting in which both partners are present; (2) individual meetings with each partner; and (3) a conjoint feedback session. At the outset, the therapist should explain the usual limits of confidentiality (e.g., imminent suicidality or homicidality in either partner and/or there is concern that a child, elderly person, or disabled individual is being abused or neglected). In addition, the therapist should also inform couples that she/he reserves the right to share information gleaned during the individual assessment meetings or that may be revealed outside of the conjoint sessions once treatment has begun with the other partner. This is important because it helps to maintain the conjoint frame of treatment and to ensure that the therapist is not placed in the untenable position of holding secrets.

In the initial conjoint meeting, the therapist identifies the couple's presenting problems and gathers their relationship history, making note of important transition points in order to obtain a developmental trajectory of the relationship (e.g., what first brought them together, when they began having children, if and when they have been separated, history of infidelity, prior attempts at couple therapy). Asking what drew them together in the first place is likely to remind them of happier times and to elicit positive affect, as well as to counteract selective attention to negative events in their relationship history. It is also helpful to have the couple identify their strengths, which can instill hope by helping the couple recognize specific aspects of their relationship in which they function well (e.g., parenting).

The initial conjoint session is followed by individual meetings with each partner. These meetings should be used to gather each partner's psychosocial and mental health history, to determine if there is ongoing infidelity in a relationship presumed to be monogamous, to assess for the presence of intimate aggression, and to administer self-report measures that supplement the clinical interviews. In our experience, we have found it helpful to assess depressive and anxiety symptoms using the Depression Anxiety and Stress Scale (DASS; [20]) and to assess severity of alcohol misuse with the Alcohol Use Disorders Identification Test (AUDIT; [21]). We typically use the Couples Satisfaction Index (CSI; [22]) to assess relationship satisfaction and the Conflict Tactics Scale-Revised (CTS-2; [23]) to assess for the presence of intimate aggression. The CTS-2 is a behaviorally specific scale that allows clinicians to assess for minor (e.g., pushing, shoving, throwing objects) versus severe aggression (e.g., burning, punching, kicking) and possible related injuries. We strongly recommend screening couples for aggression, as more than 60 % of couples presenting for treatment of relationship distress endorse some degree of physical aggression in the past year if asked (e.g., [24]). Furthermore, physical safety is a prerequisite for emotional safety in a relationship and must be ensured for couples to build trust and intimacy. Inquiring about the presence of physical aggression during the individual meetings helps to decrease the risk of acquiescent responding, and to aid in safety planning in the event that one partner has been perpetrating severe physical aggression against the other and is likely to retaliate in the event that the aggression were disclosed in a conjoint session. When there is physical aggression occurring in the relationship, the therapist should also inquire about the receiving partner's perceived sense of safety and help to develop a safety plan if that individual does not feel safe.

After the individual meetings, the couple returns for a conjoint feedback session. This session can begin by taking a communication sample, which involves asking the couple to turn their chairs so that they are facing each other and to

have an approximately 10-minute discussion on a topic of moderate concern in the relationship while the therapist observes. Taking a communication sample provides the therapist an opportunity to note verbal and non-verbal behaviors that contribute to maladaptive interaction patterns and which will likely serve as targets of intervention during treatment. For example, the therapist should note if the couple engages in hostile behaviors (e.g., eye rolling, name calling), if they frequently interrupt each other, and if they engage in mind reading (i.e., guessing or assuming the other partner's thoughts or intentions). The therapist should observe the tone the partners use when communicating to determine if they are being kind and respectful with one another or are sarcastic and dismissive of each other's opinions. Finally, the therapist should also look for positive behaviors in which the couple may engage (e.g., humor, maintaining eye contact, physical affection) during the conversation. Although some couples may resist initially, stating that they feel self-conscious or that their communication will not be representative because of the therapist's presence, in our clinical experience, the vast majority of couples quickly forget that there is another person present and engage with each other as they normally would.

Following the communication sample, the focus of this session should shift to providing the couple with feedback. The therapist should begin by offering the strengths and areas for improvement that she/he noted during the couple's communication sample. Using the information gleaned from the initial conjoint meeting, individual interviews, and self-report measures, the therapist then provides the couple with a cognitive behavioral formulation to help them understand their relationship distress. Framed from a CBCT perspective, the therapist should explain how each partner's thoughts, feelings, and behaviors interact within themselves, and between one another, to influence one another's thoughts, behaviors, emotions and their relationship, and can illustrate this by asking the couple to consider a recent negative interaction. For example, in the case of Eric and Jill, Eric comes home from

work and finds a pile of dishes in the kitchen sink and a basket of laundry that needs folding. He sits on the couch and begins watching television. Five minutes later, Jill comes home, looks at Eric and says sarcastically, “Thanks for doing the dishes.” In this situation the therapist might elicit from Jill that she had the thought, “Eric never helps out around the house” (*Jill’s cognition*). This, in turn, led her to experience anger (*Jill’s emotion*) and to say something sarcastic (*Jill’s behavior*). In response, Eric had a thought of his own, “Jill never appreciates anything that I do” (*Eric’s cognition*), and felt sad and angry (*Eric’s emotions*). To avoid further conflict, he left the home (*Eric’s behavior*) and, in response to Eric’s leaving, Jill experienced sadness (*Jill’s emotion*). Though Eric eventually returned, they subsequently avoided one another (*Eric and Jill’s behaviors*), which further contributed to their feeling isolated from one another (*impact on relationship*).

This session concludes with the therapist informing the couple about the nature of, and expectations for, engaging in treatment. Specifically, it is important to explain to the couple that CBCT is a structured, active, skills-based approach. It is time-limited, meaning that is designed to take 15–20 sessions and is goal-directed (i.e., the couple is striving to actively make changes toward improving their relationship functioning by working toward specific goals). Consistent with individual CBT, it is important for couples to understand that the process of therapy will involve their active participation at home, as homework. Specific to working with couples, we recommend making it clear to both partners that, in the context of CBCT, the relationship is viewed as the patient; thus, it is critical that they commit to maintaining their current relationship for the duration of treatment and that they both agree to be active participants in the therapy process. Accordingly, a session will not take place if one partner is unable to attend, and, as discussed earlier, any information shared with the therapist by one partner outside of the session may be brought back to the conjoint session. By making the conjoint frame as explicit as possible to the couple and setting these boundar-

ies early on in the therapeutic relationship, the therapist decreases the chances of feeling obligated to hold secrets.

There are couples for whom it is not appropriate to engage in a course of CBCT, such as those in which either partner is imminently suicidal or homicidal, substance-dependent, or acutely manic or psychotic. Additionally, we do not recommend commencing treatment if either partner discloses ongoing infidelity in a relationship presumed to be monogamous and is unwilling to cease the affair. CBCT is also contraindicated if one or both partners endorse current severe physical aggression. Lastly, if either partner expresses an unwillingness to commit to the relationship for at least the duration of treatment (i.e., one partner has already decided that she/he is going to end the relationship), treatment should not be administered.

### 20.2.2 Treatment

CBCT consists of four phases that contain *eight interventions for working with couples*. Below we discuss each phase in turn, highlighting the key interventions contained within them and explaining the specific aspect(s) of relationship functioning that they are designed to address.

*Phase 1: Psychoeducation and rationale (2–3 sessions)*. In the first session, the couple should be oriented to the structure of the conjoint sessions because the degree of structure found in CBCT may be different from their prior experiences with couple therapy. We recommend explaining to the couple that the session will consist of agenda setting, followed by homework review, introduction of a new skill, in-session practice of that skill, assignment of new homework, and a check out. For a 50-minute session, we recommend the following allotment of time. The first 5 minute of the session should be used to set an agenda for the current session. Ten minutes should be allocated to reviewing the couple’s homework assignments and to troubleshooting any difficulty that they had. If the couple did not complete their homework, the therapist should inquire as to any difficulties, spend 5 minutes practicing the skill in

session, and then reassign it for the following week. The majority of the session (25 minutes) should be used to introduce the new topic/skill to be covered that week and have the couple practice it in session. This should be followed by assignment of homework (5 minutes) and a brief “check out” to allow patients to highlight elements of the session that were particularly helpful or that need clarification (5 minutes).

This phase of treatment should provide psychoeducation about relationship distress and a clear rationale for why CBCT will likely improve the relationship. Therapists should use examples of specific behaviors in which the couple engages, and cognitions that each partner holds, that contribute to conflict or distance in the relationship (e.g., “Eric, when Jill asks if you did the dishes, it seems that you interpret her inquiry as a statement that you don’t do enough housework.”). Externalizing relationship problems by framing them as a third party that the couple can join against decreases the likelihood that either partner will feel attacked, or as if she/he is the sole source of the relationship problems. Using examples relevant to the couple, the therapist should highlight how the specific cognitive and behavioral interventions utilized during the course of treatment will target maladaptive behaviors and thinking patterns that have led to the relationship distress (e.g., “Eric, we’re going to work on skills that you and Jill can use to see if your thoughts about what she’s thinking about you are consistent with how she’s actually thinking and to see if you might want to change your mind.”).

The couple is then helped to develop goals that they would like to work toward during treatment. Each goal should have a corresponding concrete, behavioral marker. For example, a couple who has the goal of improving communication should specify how they will know that their communication has improved (e.g., they will speak about family finances at least once a month without yelling). Similarly, a couple who has the goal of increasing intimacy will identify behavioral indicators of increased intimacy such as holding hands more often, kissing each other once per day, or cuddling before bed. Specific, behaviorally identifiable goals help the couple

stay focused throughout treatment, as well as allow the couple to reflect on how they have been progressing toward their goals. Progress toward stated goals should be evaluated and monitored regularly throughout treatment.

The first phase of treatment also includes an introduction to two key interventions: *increasing positivity* and *conflict management*. Though decreasing negative behaviors in the relationship will be an important focus of treatment, *increasing positivity* is equally important. Techniques aimed at increasing positivity should be introduced early on in treatment (session 1) because they can combat selective attention to negative relationship behaviors, shift the emotional tone of the relationship, and allow the couple to observe how making small behavioral changes can alter the thoughts and feelings they have about each other. A low intensity but high yield technique designed to increase satisfaction involves catching one’s partner doing something nice. The couple should be encouraged to notice and acknowledge small, positive behaviors that the other partner did each day (e.g., taking out the garbage, picking up the kids, making dinner). In addition to thanking each other when “caught,” the couple should document what they noticed each other doing to be able to discuss it at the next session. Another strategy to increase positivity is to schedule pleasant activities together (e.g., going for walks, going out for dinner). Similar to noticing positive behaviors, this can help increase positive exchanges between the partners by encouraging engagement in mutually satisfying and reinforcing activities that, in turn, reduce individual and relational distress.

Given the high level of conflict that may exist between relationally distressed partners, *conflict management* strategies should also be introduced during this phase of treatment. For example, commitment to eliminating any physical and verbal aggression (e.g., name calling, threats to leave the relationship) increases a sense of safety in the relationship and facilitates the disclosure of thoughts and feelings needed to improve emotional and physical intimacy. Conflict management skills also provide the couple with specific techniques that can ensure that disagreements or

arguments do not escalate. These can be introduced to the couple by explaining that, when they are in the heat of an argument, it is difficult to articulate one's own point of view and even more difficult to understand the point of view of one's partner. Accordingly, we teach couples to recognize early warning signs of anger (e.g., sweating, rapid breathing, a rating of 3 or 4 on a 10-point anger scale in which 0=no anger and 10=enraged), and to use slowed breathing as a way of decreasing physiological arousal.

Couples are also taught negotiated time-outs in the event that conflict is escalating and could result in verbal or physical aggression. This consists of partners catching themselves before their anger escalates (e.g., observing oneself at a 5–7 on the anger scale), taking a temporary (i.e., 30 minutes or less) break from the situation by giving both a verbal (e.g., "I need a break") and non-verbal indication (e.g., putting hands together in a "T," like a referee calling a timeout at a sporting event), and then returning to it when their anger has decreased. The most important aspect of the time-out is the "time in," which consists of the couple returning at a predetermined time and place to address the issue that led to the argument. This helps ensure that the time-out is not used as an avoidance strategy but rather a way to address conflict more effectively.

#### *Phase 2: Behavioral Interventions (4–7 sessions).*

The second phase of treatment introduces behavioral strategies to improve the couple's communication skills and to teach partners how to approach and solve problems in a more effective manner. Improving these skills is critical to their success in tackling specific relationship problems as well as conducting dyadic cognitive work later in treatment. In addition, the couple should continue with the interventions designed to increase positivity that were introduced in phase one (i.e., catching each other doing something nice and pleasant events scheduling) in order to maintain positive affect in the relationship.

Phase two begins with the introduction of *listening and paraphrasing* skills. These skills are designed to help partners listen and understand what they have told one another. Individuals are taught to speak in short sentences and to

have their partner reflect or paraphrase back the information to ensure that the message was received accurately. This also helps to slow down the conversation and decrease the likelihood that historically contentious or sensitive topics do not escalate into arguments due to misunderstandings.

The notion of two channels of communication is also introduced during this phase of treatment: (1) sharing thoughts and feelings and (2) problem solving (i.e., "sharing vs. solving"). Being on different "channels" can contribute to relationship conflict when one partner expresses a thought or feeling and the other responds with a solution because the first partner may experience this attempt to solve a problem as invalidating (e.g., Partner 1 says, "My boss gave me so much extra work to do today and now I feel really stressed out." Partner 2 responds, "You should tell him that this is unreasonable and that you can't do it," rather than, "It sounds like you're feeling anxious about how you're going to get all your work done."). Teaching the couple to check in with one another to determine if a partner wants to share thoughts and feelings versus wants help solving a specific problem can be beneficial in cuing each individual to the other partner's needs in that moment.

Following instruction in the distinction between sharing and solving, the couple is then taught to use reflective listening to *share their feelings*. Basic psychoeducation about primary emotions (e.g., sadness, anger, fear, shame, disgust, happiness) and their intensities (e.g., anger exists on a spectrum from annoyed to enraged) helps partners identify their feelings, label them, and share them with each other. The therapist can then transition to the *sharing of thoughts* by explaining that thoughts precede feelings, and that understanding the connection between thoughts and emotions can help us understand our own, and our partner's, experiences. In addition to improving communication between the partners via the practice of *sharing thoughts and feelings*, these interventions have the added benefit of allowing partners to get a glimpse into how each one interprets and reacts to different situations. It also provides another opportunity for the couple to recognize the connection between

thoughts and feelings, which will be helpful when working through the third phase of treatment (dyadic cognitive interventions). The couple is encouraged to practice the sharing of thoughts and feelings daily, and to keep a log documenting what they shared and the connection between their thoughts and feelings.

The second phase of treatment ends with the introduction of *problem-solving* skills. The couple is taught to use their listening, paraphrasing, and sharing skills to pinpoint the specific problem that needs solving or decision that needs to be made, and to clarify why it is important to each partner. They then brainstorm possible solutions, decide on one that is agreeable to both of them, and implement it for a trial period.

*Phase 3: Cognitive Interventions (5–8 sessions).* Conducting *cognitive interventions* in a couple format aims to bring the couple together to identify and challenge specific thoughts that either partner may hold that can contribute to relationship distress and to increase cognitive flexibility as a way of promoting a shift in emotions experienced in response to thoughts. Through continued use of the behavioral communication skills, and reminding the couple that they are joining together to address relationship problems, we have found that partners can successfully help one another to identify and modify thoughts in a collaborative manner.

Monson and Fredman [18] have described an intervention that approaches cognitive change from a dyadic perspective. Specifically, the couple is asked to view their cognitions as possible realities that need to be tested. United, they work as a team to help each other examine and test out their thoughts. First, they are asked to identify a specific thought that one of them would like to test. For example, a husband forgets about dinner plans that he had made with his wife. In this scenario, his wife may have noticed the thought, “My husband didn’t show up for dinner because he doesn’t respect me.” This, in turn, may cause her to feel anger or sadness and to withdraw behaviorally. Together, the couple brainstorm alternative thoughts that may be reasonable in this situation (e.g., “He had busy day, and it slipped his mind,” “My husband shows me

respect in other ways,” “There have been times that I have forgotten about plans but that doesn’t mean I don’t respect people.”). The couple then discusses each alternative thought and determines if it is plausible or not. They subsequently decide upon the most balanced or reasonable thoughts, given the available information, and notice how “trying on” that new, alternative thought relates to how they feel and would behave. In this case, if the couple chose the new, alternative thought, “My husband forgot about dinner that night because he had been working overtime to finish a big project at work, and everyone makes mistakes and forgets things sometimes”, the wife may be more willing to approach her husband in a curious manner when inquiring about his absence and will likely feel less angry and sad. Finally, the couple generates strategies to keep practicing the alternative thought, such as reminding each other that everyone forgets some plans despite good intentions.

Helping couples practice generating alternative, balanced thoughts facilitates their taking different perspectives when dealing with difficult or high-conflict situations. With further practice, the couple learns to more quickly identify and test their thoughts which increases their cognitive flexibility. As they adopt increasingly balanced thoughts, they will observe corresponding shifts in their individual and relationship-oriented behaviors, as well as in their emotions and relationship satisfaction.

*Phase 4: Maintenance, Relapse Prevention, and Ending Therapy (1–2 sessions).* The final phase of treatment is designed to consolidate treatment gains and make plans for continued progress. During the final sessions of treatment, the couple is provided the opportunity to discuss the ways that they have changed individually, and as a couple, over the course of treatment. They make note of specific skills that they have found most useful and discuss how they plan to continue using them. The specific goals articulated by the couple in session 1, and their corresponding behavioral indicators, should be reviewed to provide an opportunity for the couple to reflect on progress made over the course of treatment. To encourage ongoing skill use and inoculate

against inevitable revisiting of old patterns, the therapist assists the couple in designing a *relapse prevention* plan. This includes having the couple identify behavioral signs that indicate that their relationship distress is increasing (e.g., decrease in frequency of date nights, name calling, yelling while discussing finances and child care), as well as a clear plan for how to intervene should that happen (e.g., schedule more couple or family outings, use the time-out technique, practice communications skills, use the dyadic cognitive process, or recontract with the therapist for a 3-session skills refresher). Finally, it is important to emphasize that the end of treatment should be viewed as the beginning of their journey toward continuing to improve their relationship. That is, the couple now has a repertoire of skills that they can use to maintain the gains made thus far and to continue to grow in their relationship. To that end, it can be helpful to schedule a check-in or booster session 6–8 weeks after the final treatment session, with the couple agreeing to specific plans for continued practice of their relationship skills in the interim.

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### 20.3 Case Example: Jill and Eric

Jill and Eric met in college and began dating shortly after they graduated. At the time that they presented for treatment, they were in their late thirties and had been married for 10 years, with two young children. When they first married, they had an active social life and enjoyed going out several times a week together. They frequently went out on dates, socialized with friends, and engaged in physical activities together (e.g., hiking, biking, running). In the 2–3 years prior to presenting for treatment, they found themselves feeling increasingly distant and easily annoyed with one another. With both of them investing in their careers and caring for two young children, little attention had been devoted to their relationship. They found that small disagreements quickly escalated into major arguments, resulting in Eric withdrawing and sometimes leaving the house for hours. Although Jill often attempted to engage Eric in a

dialog regarding their relationship, she reported feeling emotionally drained by his withdrawal and would then withdraw as well. Their physical and emotional intimacy had also suffered, with the couple reporting that they had not engaged in any sexually intimate behaviors in over 6 months and that they slept in separate beds. Neither partner reported ever having participated in an extra-marital affair. Their individual assessments revealed that both were in the clinically distressed range for relationship adjustment, Jill was experiencing mild to moderate anxiety and depressive symptoms, and Eric was misusing alcohol (4–5 beers per night, despite Jill's concerns) to cope with stress at home and at work. Though both reported being unhappy in the relationship, they were committed to working on their relationship. An assessment of intimate aggression revealed that they regularly engaged in yelling and name-calling and occasionally engaged in mild physical aggression (i.e., throwing things and pushing), but no severe physical aggression. During their pretreatment communication sample, their behavior was consistent with information provided during the conjoint and individual meetings and was characterized by frequent interruptions and name calling.

#### 20.3.1 Case Conceptualization

After a thorough assessment, the therapist determined that both Jill and Eric held negative thoughts and were engaging in maladaptive behaviors with associated anxiety, anger, and sadness that were contributing to their relationship, and individual, distress. Jill endorsed the belief that Eric did not care about her or their children and that work was more important to him than the family was. She believed that reminding him about his shortcomings as a father and husband would lead him to apologize and try harder. Thus, she often criticized him to indicate that she was upset and to increase the likelihood that he would respond to her in a contrite manner, but this contributed to her feeling anxious, depressed, and angry. For his part, Eric believed that Jill did not value what he did to provide for

the family and that Jill never thought anything that he did was good enough. In response, he felt anxious and ashamed and withdrew from her. In addition to withdrawing by leaving the house and sleeping in a different room, Eric often turned to alcohol to cope with his negative emotions. Jill and Eric's interacting cognitions, behaviors, and emotions worked to maintain an ineffective pattern of communication, hostility, and disengagement in the relationship. Over the years, busy with the demands of work and caring for young children, they ceased participating in many of the activities they used to engage in together and found that their conversations were strained and limited to the logistics of running a household with two small children.

### 20.3.2 Course of Treatment

Eric and Jill resonated with the formulation provided by the therapist and the rationale for treatment. They quickly began catching each other doing nice things. Eric found this intervention to be particularly helpful because it made him realize the many things Jill did around the house that he often took for granted and ensured that Jill noticed that he was contributing to the household tasks as well. In addition, they both acknowledged that having their partner acknowledge these behaviors increased their desire to perform these behaviors again. Specifically, Eric noticed that Jill always made dinner even if she had a busy day, and Jill began thanking Eric for cleaning up after dinner, mowing the lawn, and taking out the garbage.

Though the couple noticed improvements in the relationship early on as they caught each other doing nice things, they had difficulty scheduling pleasant events together as a result of the demands of childcare. With the therapist's assistance, they problem-solved how they could complete scheduled pleasant activities. They decided that they would alternate each week between a pleasant family activity and a date night for which they would hire a babysitter. Within a month, they were regularly participating in family picnics, walks, and bike rides, as well as couple

date nights in which they went to restaurants or movies. The couple reported that, as they were catching each other doing nice things and spending more time doing mutually rewarding activities, they felt less distressed in the relationship.

As the couple moved into phase two of treatment, with its emphasis on communication skills, they found channel checking to be a useful intervention. Jill noticed that she often became angry with Eric because he frequently offered solutions to problems she was having at work when she really just wanted him to listen. By using the channel checking skill, the couple learned to determine whether the other partner wanted to "share" or "solve," and decreased the frequency of arguments resulting from being on different "channels." They also profited from the reflective listening skills. Though the skills felt awkward at first, they found that by paraphrasing or reflecting back what they had each heard the other say, they were able to quickly address misunderstandings by slowing down the conversation and providing clarification.

Once they each felt better understood, the couple was more united and willing to engage in problem-solving around historically difficult topics. One concern that Jill raised was the topic of household chores. Jill explained that, when Eric came home from work and sat on the couch, rather than immediately helping with the kids and chores, she became upset because she believed that Eric did not care about the family enough to help. By using the paraphrasing skills, Eric was able to reflect back what Jill had said and then explain that he felt exhausted and irritable after work and needed a few minutes to decompress from the day's stresses. He added that he did want to help, but would be in a better position to do the hard work of parenting and household management after a brief rest to transition from work to family tasks. Together, they used the problem-solving skills to negotiate how Eric could have some time to unwind yet still contribute to the household tasks that needed to be done. They decided that Eric would have 15 minutes of time to himself after coming home from work and that he would then help with dinner and getting the kids ready for bed. In exchange



for his 15 minutes of transition time, Eric would also take responsibility for doing the dishes. After a week of trying out this solution, Eric and Jill both realized that they were happier with each other's contributions to the household chores in the evening and that Eric was in a better mood because he was given time to unwind.

As the couple transitioned into doing dyadic cognitive work, they identified cognitions that contributed to their relationship distress. For example, Eric believed that when Jill asked him to do things around the house, she was really telling him that he was lazy and sloppy. The couple worked together to consider alternative attributions for Jill's behavior, such as Jill just wanted to ensure that all the household tasks that needed to be done were getting completed, rather than trying to send a coded message or insult. Similarly, Jill struggled with the thought that, because she and Eric did not spend as much time together as they used to, it meant that he no longer found her fun or interesting. As they challenged this thought, Jill acknowledged that a more realistic attribution for the decrease in time spent together was that their busy lifestyle made it harder to spend time together now, compared with the early years of their marriage. However, with effort, they could carve out mutually enjoyable time together. Jill noticed that when she considered the alternative thought, she felt less angry and sad and felt more hopeful. The couple agreed that Jill would keep practicing the new thought by reminding herself that putting effort into spending quality time together did not mean that Eric did not enjoy her company.

By the end of treatment, both partners were in the satisfied range of relationship adjustment, Jill's anxiety and depressive symptoms were in the normal range on objective measures, and Eric was no longer misusing alcohol. The couple reported finding the catching each other doing nice things and reflective listening skills particularly useful and committed to using them regularly outside of session. They also agreed that they would use the time-out technique, followed by the dyadic cognitive process, if they observed an increase in yelling or feeling criticized by each other.

## 20.4 Conclusions

CBCT is a time-limited and structured treatment for relationship distress that helps couples learn to apply concrete skills designed to promote balanced thinking and more adaptive behavioral responses in the context of relationship conflict. In turn, couples are able to experience less emotional distress, increased satisfaction, and greater intimacy. By joining together to apply these skills, couples are afforded the opportunity to experience a sense of mastery as they apply the skills outside of the therapy setting and continue to use the skills following the formal conclusion of treatment.

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# Evaluating Strategies for Combining Pharmacotherapy with Cognitive Behavioral Therapy

# 21

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Cognitive-behavioral therapy (CBT) and pharmacologic treatments have repeatedly demonstrated their efficacy as stand alone interventions for the treatment of psychiatric disorders. The primary aim of combining these treatments has been to boost the known effects of each modality. Overall, the success of this combination approach has been disappointing as the additive, or multiplicative, effects hoped for have not been consistently demonstrated, and the effect has varied depending on factors such as the specific disorder, the presence of comorbid conditions, and the severity of symptoms. In this chapter, we provide an overview of the combination treatment literature for anxiety

and mood disorders, schizophrenia, eating disorders, and substance abuse. We will also discuss considerations for various strategies for combining treatments. Finally, we will discuss novel approaches to combination treatment derived from scientific principles and research that offers promise for specifically enhancing CBT outcomes.

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## 21.1 Overview of Combination Treatment Literature

### 21.1.1 Anxiety and Related Disorders

Across the anxiety disorders, evidence supporting the combination of CBT and pharmacotherapy (typically serotonin selective reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs), and tricyclic antidepressants) is mixed. Although some studies suggest a possible benefit of combining treatment, these benefits generally do not persist beyond the acute phase of treatment and are often sufficiently small to be of questionable clinical significance (see [1, 2] for reviews). In social anxiety disorder (SAD), a recent meta-analysis based on four studies that compared CBT alone to CBT+pharmacotherapy [3], found a significant but small advantage of CBT+MAOIs (though MAOIs are rarely used in clinical practice now except for very treatment refractory patients) and a nonsignificant advantage of CBT+ SSRIs versus CBT alone in

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reducing SAD symptom severity and in overall improvement. For example, a 14-week treatment study of combined fluoxetine plus group CBT for SAD found very minimal (3 %) benefit for combined treatment over CBT alone [4]. Additionally, the advantage of combined treatment for social anxiety may not persist beyond the acute phase of treatment [5].

For panic disorder, there appears to be a small short-term advantage of combined treatment, qualified by a potential long-term disadvantage once medication is discontinued (see [1, 6] for a review). A meta-analysis of combined treatment for panic disorder [7] found a significant but small advantage of combined treatment; response rates were higher for combined psychotherapy (primarily behavior therapy) and pharmacotherapy (primarily SSRIs and tricyclic antidepressants) compared to psychotherapy alone. Once medications were discontinued, response rates in the two conditions were comparable for participants who had versus had not received pharmacotherapy in addition to psychotherapy. How medications are discontinued in panic disorder is critical. Though rapid discontinuation of agents such as antidepressants has now been recognized to induce a withdrawal syndrome with somatic symptoms that may replicate panic symptoms, earlier studies may have discontinued antidepressants too rapidly than is now currently recommended for panic disorder, thus potentially heightening relapse rates. Discontinuation of benzodiazepines, in general, is associated with the potential for relapse in panic disorder, and a number of studies have demonstrated that adding CBT at the time of benzodiazepine discontinuation in panic disorder may reduce relapse (e.g., [8, 9]). Combined treatments may have a role for treatment refractory patients as well. One study found that patients with panic disorder who remained symptomatic after an initial 12 weeks of SSRI treatment had comparable benefit from the addition of CBT as with clonazepam augmentation of the SSRI for an additional 12 weeks [10].

For generalized anxiety disorder, there is little empirical support for combination treatment (e.g., [1, 11, 12]). In one of the few controlled trials of combined CBT and pharmacotherapy for GAD [11], acute response rates did not differ between

participants who received CBT+ diazepam versus CBT+ placebo or CBT alone, nor did rates differ at 6-months follow-up. In addition, CBT did not add benefit compared to continued venlafaxine XR [12].

Evidence is mixed for the combination of pharmacotherapy and CBT for PTSD. One study [13] found a higher remission rate after 10 weeks of prolonged exposure therapy (PE)+ paroxetine (62 % remitted) versus prolonged exposure+ placebo (23 % remitted). For next step interventions, one study found no greater benefit for the addition of prolonged exposure therapy (PE) to sertraline compared to continued sertraline alone except for those with a lower initial response to medication [14], while another study found no added benefit for the addition of paroxetine versus placebo combined with an additional five sessions of PE for participants who remained symptomatic after the first eight sessions of PE [15]. Finally, one study found that self-reported use of benzodiazepines predicted poorer outcomes for PE [16], which may reflect similar issues related to benzodiazepines and interference with extinction learning in PTSD as in panic. Currently, benzodiazepines are not recommended as a treatment for PTSD even without CBT [17]. It is also worth noting that next step studies that add or switch interventions for those who do not achieve remission with the first are challenging to perform, limited in randomized sample size, and have not formally addressed commonly comorbid conditions such as major depressive disorder; it is possible that larger studies would find an effect.

Evidence is also mixed for the combination of pharmacotherapy and exposure and response prevention (ERP) for OCD. A meta-analysis of four studies suggests that pharmacotherapy does not improve symptoms of OCD over and above the benefits obtained from ERP [6]. However, patients with OCD and comorbid mood symptoms may benefit from augmentation with pharmacotherapy, particularly SSRIs [1].

Thus, across the anxiety disorders, OCD, and PTSD, the acute benefits for anxiety of initiating treatment with combined CBT and pharmacotherapy are small at best, with particular concerns with benzodiazepines; long-term benefits generally are not observed. The small effects

observed here should be weighed carefully against the potential for medication side effects and the high costs of providing combined treatment that may not provide significant benefit over one treatment alone. However, there is emerging evidence that sequencing therapies (i.e., having a monotherapy as the initial treatment and then adding further treatments if that therapy is insufficient) is efficacious in an acute time frame [1]. These strategies have shown most promise when psychotherapy is added to pharmacotherapy [18]. Issues regarding benzodiazepines and CBT need to be considered, as well as the potential role of antidepressants to support patients with comorbid depression to be able to fully engage in CBT for anxiety. Further, the risk of relapse with medication discontinuation should be attended to with close monitoring or the possible addition of CBT sessions around the time of medication discontinuation.

### 21.1.2 Mood Disorders

For major depressive disorder, large-scale studies and meta-analyses have generally suggested a small advantage for combined treatment over CBT alone, with a unique advantage of CBT over medication in preventing relapse (see [1] for a review). In one of the largest depression treatment studies to date [19], participants who received combined treatment with cognitive-behavioral analysis system of psychotherapy (CBASP; a form of CBT)+nefazodone showed a higher response rate (73 %) than did participants who received this type of CBT alone (48 %). Combined treatment also produced faster remission [20]. There is also some evidence to support a switching approach to depression treatment, wherein nonresponders to medication, for example, are switched to receiving psychotherapy (e.g., [21]). In a large multisite study, nonresponders to citalopram who were switched to CBT had a comparable remission rate compared to those who were switched to another medication [22]; nonresponders who were switched to CBT also reported fewer side effects than those switched to another medication.

Although medication treatment with mood stabilizers is the gold standard treatment for bipolar disorder [23], evidence suggests an added benefit from augmentation with psychotherapy, although this effect may not be specific to CBT. A large, multisite study found that patients who received intensive psychotherapy (family-focused treatment, interpersonal and social rhythm therapy, or CBT) in addition to medication showed higher year-end recovery rates and shorter time to recovery than did patients receiving collaborative care; rates did not differ between the psychotherapy groups [24]. Some studies have suggested that CBT decreases rates of relapse when compared to a wait-list control group [25] or treatment as usual (TAU), which included medications but no systematic psychotherapy [26]. However, a large-scale trial [27] found no advantage in terms of relapse prevention for CBT over and above TAU over 18 months.

### 21.1.3 Schizophrenia

CBT has been classified as a recommended adjunctive treatment to antipsychotic medication for the treatment of schizophrenia [28, 29]. One meta-analysis [30] suggests that CBT+TAU provides a medium advantage over TAU alone for improving targeted symptoms and general functioning. Some studies also suggest a unique advantage of CBT over supportive counseling and other nondirective therapies for reducing schizophrenia symptoms when combined with standard care, both acutely and at 12-month follow-up [31]. However, other studies have not shown an acute advantage of CBT over nondirective interventions [32].

### 21.1.4 Eating Disorders

A systematic review of the Cochrane Database [33] and one meta-analysis [34] suggest a slight advantage for combined pharmacotherapy and CBT over CBT alone in producing full remission from bulimia nervosa. For example, a study evaluating CBT, desipramine, and their combination

found that CBT+desipramine and CBT alone were superior to medication after 16 weeks [35]. However, only the CBT+desipramine group was superior to the medication alone group at 32-week follow-up. These findings are tempered by the finding that patients preferred CBT alone to combined treatment.

Conversely, a meta-analysis of combined treatment for binge eating disorder suggests that CBT+medication is no more effective than CBT alone [36]. For example, one study found that combined fluoxetine and CBT treatment did not differ from CBT+placebo; both treatments were superior to fluoxetine alone [37].

To date, few randomized trials have investigated the effectiveness of combined treatments for anorexia nervosa, so it is not possible to provide a representative synthesis. Existing trials have been characterized by strikingly high dropout rates (e.g., 46 % dropout [38]), preventing an adequate comparison of combined treatment versus CBT alone and underscoring the treatment-related difficulties that characterize this population.

### 21.1.5 Substance Use Disorders

A meta-analysis of the efficacy of CBT and pharmacotherapy for substance use disorders [39] found no advantage for studies that combined CBT with pharmacotherapy (e.g., naltrexone) compared to those that provided CBT alone. There was, however, a significant advantage for CBT combined with another psychosocial treatment, such as a social support group. Similarly, a meta-analysis of combined treatment for alcohol dependence [40] found comparable relapse rates among participants who received manualized psychotherapy plus naltrexone compared to those who received psychotherapy plus placebo.

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## 21.2 Practical Applications for Combination Treatment

In general, although the above referenced literature provides mixed results for the use of combination treatment across psychiatric disorders,

there are circumstances in which providing combined treatment or using one modality to enhance the use of the other is clinically warranted. There are also, however, circumstances in which the use of certain medications (i.e., benzodiazepines) can interfere with the benefits of psychotherapy and long-term symptom improvement. Below are practical considerations for the clinical use of a combined treatment approach.

### 21.2.1 Utilization of Medication Treatment Prior to CBT

Providing medication treatment prior to the start of CBT can be beneficial in several situations. For example, the first-line treatment for bipolar disorder is pharmacotherapy, in particular mood stabilizers; medication treatment is considered a necessary first step for symptom reduction. However, the course of bipolar disorder is often characterized by relapses in mood symptoms and medication noncompliance. There is growing evidence supporting a role for psychotherapy, including CBT, as an adjunct to pharmacotherapy for bipolar disorder [2]. Psychotherapy works best after pharmacotherapy is established and there is some mood stability. CBT protocols in this patient population target areas such as psychoeducation, medication adherence, sleep/ routine management, and problem solving. Studies have shown that the addition of CBT is associated with better medication compliance, fewer hospitalizations, fewer days hospitalized, and fewer manic, hypomanic, or depressed episodes or days spent in an episode [41, 42].

In addition, for patients with unipolar depression, the evidence suggests that for those with chronic or severe depression, combination treatment may offer an advantage over a monotherapy approach [2]. Keller et al. [19] compared pharmacotherapy (i.e., nefazodone) alone, CBASP alone, and the combination of the two in a large sample of depressed patients. Results indicated that the combined treatment group responded better to treatment and were more likely to meet remission criteria. The results also pointed to the antidepressant providing early benefits in

improving symptoms of depression, with the psychotherapy providing additive benefits later on in treatment. From a practical standpoint, a patient with severe depression presenting with low mood, poor concentration, and poor sleep would benefit from an antidepressant to help stabilize his/her mood in order to reap the full range of benefits from the active process of CBT.

Furthermore, the use of medication prior to CBT may be beneficial when an individual is unable to tolerate CBT at the outset of treatment. CBT is an active treatment focusing on changing a person's thinking and actions to be more adaptive and healthy in addition to requiring attending regular appointments and engaging in regular homework assignments outside of therapy. For patients presenting with issues including untreated bipolar disorder, severe depression, active psychosis, or, in some cases, severe anxiety, they may be unable to engage in CBT and tolerate its requirements before they are properly treated with medication.

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### 21.3 Medication Interference in CBT

In contrast to pharmacotherapy, which generally aims to attenuate acute discomfort or anxiety, CBT is designed to reduce unrealistic fears and avoidance responses by encouraging patients to approach situations that cause discomfort, getting comfortable with those situations or sensations over time, or addressing impairing thought patterns. This distinction is most evident in the cognitive-behavioral treatment of the anxiety disorders; patients are repeatedly exposed to feared stimuli under controlled conditions. This allows fears to diminish or extinguish as patients learn new information and acquire a sense of safety in response to the previously feared situation. For example, a patient with social anxiety would engage in social exposures such as giving a speech in front of a group or talking to a stranger in a public place. Exposures are combined with informational and cognitive interventions in CBT to maximize the disconfirmation of the specific unrealistic fears of that particular patient.

A potential issue for combination treatment in anxiety disorders is whether the anxiety-attenuating aims of medication aid or hinder exposure-based CBT [2, 43]. As discussed for PTSD and panic disorder above, this may be most relevant for the anxiolytic or benzodiazepine classes of medications. Although prescription rates of benzodiazepine medications may be declining in favor of prescribing medications with fewer side effects (e.g., cognitive problems, addiction potential, withdrawal symptoms), benzodiazepines are still commonly used in the treatment of anxiety disorders [44]. The "as-needed" use or "prn" dosages of benzodiazepine medications may be particularly detrimental to CBT outcomes as compared to taking a daily fixed dose. The as-needed dosage serves a similar purpose to the "safety behaviors" or subtle avoidances in CBT, which are targeted for elimination in therapy. In general, safety behaviors are believed to interfere with extinction learning, and during CBT, taking a benzodiazepine when anxiety increases, directly interferes with patients' learning that they can tolerate their anxiety and that it will diminish over time with exposures. An additional complicating factor of the benzodiazepine class of medication is that benzodiazepine withdrawal symptoms closely resemble the same anxiety symptoms that patients are trying to mask by taking the medication to begin with (e.g., shakiness, agitation, physical tension [8, 9]). Patients with anxiety are particularly attentive to and fearful of these sensations, and this vigilance to such sensations may worsen the benzodiazepine withdrawal symptoms further and increase fears that the anxiety disorder is also worsening and/or returning. While not recommended as a long-term treatment, many patients take benzodiazepines for prolonged periods of time. Chronic benzodiazepine users have typically had one or more unsuccessful attempts to stop taking their medication, and it is estimated that between 40 and 100 % of patients experience withdrawal symptoms [44]. Due to the complicating factors discussed in this chapter of combining CBT with benzodiazepine medications, it is likely that this class of medications could interfere with progress in CBT treatment and progress in overall

symptom reduction, and thus special consideration of a potential recurrence with medication discontinuation is needed if utilized.

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## 21.4 CBT as a Medication Discontinuation Strategy

One of the core strengths of CBT is its ability to protect against relapse [2]. Studies in depression and anxiety have shown that CBT has protective effects when added during, as well as following, the acute phase of pharmacotherapy. For instance, Fava and colleagues [45, 46] examined the long-term protective effects of CBT in depressed patients who were pharmacotherapy responders. Following response, patients were tapered from the antidepressant and randomized to CBT or a clinical management control condition. Results indicated that, at 4-year follow-up, the CBT group had relapsed at a rate of 35 % compared to a relapse rate of 70 % in the other group. At 6-year follow-up, rates of relapse were no different among groups; however, the CBT group tended to have a single relapse versus multiple relapses in the other group suggesting that CBT offered some protection from more frequent depressive episodes.

In addition, CBT has been shown to have beneficial effects on benzodiazepine discontinuation in patients with anxiety disorders, particularly panic disorder [2]. In panic disorder, discontinuing benzodiazepines can lead to a full relapse of symptoms, or even worse symptoms than patients initially presented with at pretreatment. Brief CBT conducted during and after discontinuation is effective in tapering off benzodiazepines, reducing panic symptoms, and leading to long-term maintenance of treatment gains [47]. Furthermore, there is evidence that antidepressant discontinuation in patients with panic disorder can be positively assisted by CBT [48].

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## 21.5 Case Example

John is a 45-year-old married man with young children presenting with a longstanding history of generalized anxiety disorder that was

successfully treated in the past with medication management. John is returning for care as he stopped his medications abruptly when he was feeling better without consulting his psychiatrist, but has started to feel worse again in the context of significant stressors at work. He reports feeling anxious all of the time, worrying about a variety of issues related to work performance, home life, and finances, and experiences tightness in his chest and shortness of breath during periods of heightened anxiety. He first returned to see his psychiatrist who then restarted his SSRI and referred him for CBT to find other ways to address his symptoms and reduce risk of relapse in the future. He engaged in 12 sessions of CBT and continued to take his psychiatric medications even once he started to feel better. His anxiety significantly improved with engaging in both CBT and taking his medications as prescribed. He also worked in therapy to generate a sound relapse prevention plan to reduce risk of significant distress in the future. This included continued practice of CBT skills and taking medication as prescribed with regular follow-up appointments with his psychiatrist. He also committed to speaking with his psychiatrist prior to making any medication changes (such as stopping his medications) to be more thoughtful and purposeful in how he cared for his mental health needs.

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## 21.6 Novel Approaches to Combination Treatment

As previously discussed, reviews and meta-analyses of combination therapy generally suggest that combining these treatment modalities may have some acute benefit, but rarely show a long-term benefit after medication is discontinued (e.g., [49–52]). Given these mixed results with combining treatments, efforts have therefore turned to a different model, in which CBT is enhanced by pharmacologic agents that have been shown to impact extinction learning, which is a core component of CBT for anxiety. This novel approach uses agents such as D-cycloserine (DCS), catecholamines, yohimbine, cortisol, oxytocin, modafinil, as well as nutrients and



botanicals such as nicotine, caffeine, folic acid, and omega-3 fatty acids as supplemental medications to CBT [49–52]. To date, DCS shows the greatest empirical support as an augmenting medication to CBT.

DCS has been increasingly studied over the last decade due to its potential to affect fear conditioning (the process by which fear towards a situation or object is extinguished; e.g., a fear of dogs is extinguished by gradual exposure to dogs). DCS is a partial agonist of the *N-methyl-D-aspartate* (NMDA) receptor, which plays a mediating role in fear extinction, which is likely mediated in part by *N-methyl-D-aspartate* (NMDA) receptor activity in the basolateral amygdala (a major limbic-related area of the brain) [53]. DCS has been introduced as a novel pharmacologic intervention that is not thought to have primary anxiolytic effects as a monotherapy (such as benzodiazepines or SSRIs), but rather serves as a cognitive enhancer to improve extinction learning and retention in exposure-based treatments for psychiatric disorders.

Considerable research with DCS and fear conditioning has been done in rats and has shown to improve learning in extinction paradigms. The first study of DCS use in humans was done with 28 patients with acrophobia (fear of heights) in a randomized double blind, placebo-controlled trial with a virtual-reality exposure paradigm [54]. DCS was taken 2–4 hours prior to two virtual reality exposure sessions to heights within a virtual glass elevator. Participants who received DCS in addition to exposure therapy showed significantly reduced levels of acrophobia within the virtual environment, in the real world (avoidance, anxiety, and attitudes towards heights), and in general measures of an overall improvement. Patients receiving DCS also had significantly greater reduction in anxiety within the virtual environment at 1-week and 3-month follow-up visits [54].

Since the initial study of DCS in acrophobia, subsequent studies of DCS in combination with exposure therapy have also found mostly positive results for panic disorder and mixed results for social anxiety disorder [8, 9, 51, 52, 55], specific phobias [56], OCD [57], and PTSD [58]. For example, two smaller trials found positive effects with DCS added to CBT for SAD [59]. A follow-

up larger randomized study utilizing a full 12 weeks of group CBT plus DCS found more rapid effects but did not, however, find a significant difference for DCS augmentation at endpoint [51, 52]. Of interest, the effect of DCS appeared to be linked to the success of exposure in the extinction sessions, with those with lower distress at the end of exposure faring better [55].

Initial positive findings for DCS augmentation of exposure therapy have been found in panic disorder [8, 9]. For example, Otto and colleagues randomized 31 patients with panic disorder to receive either DCS or placebo during three interoceptive exposure sessions (i.e., repeated exposure to physical sensations of panic to reduce conditioned response that these sensations will cause a panic attack). Results showed a significant benefit of DCS relative to placebo on panic symptoms [8, 9]. A larger randomized trial is underway.

The DCS findings to date in OCD show an early DCS benefit over placebo when paired with exposure and response prevention (ERP); however, in both studies, the placebo group caught up to the DCS group after six sessions, with no significant difference between groups at the end of treatment [57]. However, DCS has been found to reduce the number of exposure sessions required to achieve clinical milestones, and decreased therapy dropout.

Although there are a number of animal studies suggesting a beneficial effect of DCS for the treatment of posttraumatic stress symptoms, more limited information about the use of DCS in PTSD is available and with mixed outcomes. In a pilot study by Heresco-Levy and colleagues, the authors found a significant effect of DCS in reducing numbing, avoidance, and anxiety symptoms of PTSD [60]. However, several studies have shown little or no benefit of DCS over placebo in PTSD [58].

Although the focus of research on DCS augmenting CBT has been on fear extinction in the anxiety and fear-related disorders, additional studies are beginning to show success using DCS in other populations such as in conjunction with CBT for schizophrenia [61]. For example, 21 outpatients with schizophrenia or schizoaffective disorder with delusions were randomized in a

double-blind, cross-over design to receive a single-dose DCS or placebo in a counterbalanced order on two consecutive weeks, 1 hour prior to a cognitively focused CBT intervention. The authors did not find a significant treatment effect on delusional distress or severity; however, they did find an order effect, whereby subjects who received DCS first had significantly reduced delusional severity, distress, and belief conviction as compared to subjects who received placebo first [61]. DCS as an adjunctive treatment to CBT for substance use disorders has also begun to be an area of research attention; however, findings thus far have not been positive [62]. For instance, in a randomized clinical trial of DCS versus placebo as an add-on to CBT for cocaine dependence, there were no differences between DCS and placebo groups [62]. Additionally, in a 3-session alcohol cue-exposure study in a non-treatment seeking group of problematic drinkers, participants who were randomized to receive DCS showed increased craving to alcohol during the first session and showed no group differences in urge to drink or craving following the first session [49, 50].

Across disorders, several studies previously discussed have found no significant improvement in primary symptoms in patients receiving DCS versus placebo; however, secondary analyses revealed acceleration in symptom reduction (more than double the speed) in DCS groups in OCD and panic disorder [63]. Evidence from several studies also points to successful exposures being requisite to improvements in anxiety when DCS is being used as an augmentor [55]. In addition, DCS may exhaust its maximum utility after effectively jump-starting exposure-based treatments. Ultimately, DCS has the greatest amount of empirical support of the cognitive enhancing adjunctive treatments and provides a proof-of-principle change in the approach to the use of pharmacotherapy to specifically enhance learning with CBT that has led to growing basic and clinical research with other agents. Such an approach will likely provide a means for reducing treatment costs, decreasing treatment dropout and refusal rates, and enhancing access to care.

In summary, pharmacotherapy and CBT are both effective monotherapies for treating a range of psychiatric disorders. It would seem intuitive that there would be an additive benefit of combining these two evidenced-based treatments. However, the findings of combined treatment approaches have been mixed and vary by the specific disorder, the severity and the chronicity of disorder, as well as the stage of treatment. It is important to consider these various factors, as well as the presence of comorbid conditions and prior treatment history when deciding what treatments to recommend for a patient, and in which order to recommend them. Regardless of which approach is selected initially, it is important to provide the patient with the range of treatments options and help them understand that there is frequently more than one effective treatment available. In addition, novel treatment approaches such as the use of DCS to enhance CBT approaches are in relative infancy and are not yet recommended in clinical practice; however, they offer a promising new perspective on how to think about combining treatment. There will certainly be new combination strategies continuing to come to the field.

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## Additional Resources

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## 22.1 Introduction

Chronic depression is defined by complex, unremitting, and deeply entrenched psychological impairments, resulting in a high severity of symptoms that are often refractory to treatment [1]. Depressive symptoms are often defined as “chronic” after they have persisted for 2 years or more, although symptoms may remain present well beyond the 2-year mark [2]. Chronic depression is thought to manifest as one of the following subtypes: chronic major depressive disorder, dysthymic disorder, dysthymic disorder with major depressive disorder (MDD) (“double depression”), and MDD with incomplete remission [3]. The prevalence of chronic depression, based on these delineations, has been estimated to comprise approximately 3–6 % of the general population and about 30 % of depressed patients following acute treatment [4, 5].

Compared with acute forms of depression, chronic depression is associated with more marked impairments in psychosocial functioning and work performance along with increases in health-care utilization, societal costs, family burden, lost productivity, risk of suicide attempts, and hospitalization [6]. Furthermore, those with an early age of onset (before age 21) are often impaired even more severely and tend to display higher recurrence rates, comorbid personality disorders, psychiatric hospitalizations, and, among women, lower educational achievement and income [2].

Given these elevated risk factors, significant psychosocial impairments, and severe symptom profiles associated with chronic depression, traditional CBT interventions are often inadequate in helping patients achieve remission. While numerous studies and meta-analyses have demonstrated the efficacy of CBT in treating acute major depression [7–14], no substantive evidence has emerged to suggest that traditional CBT alone should be used to treat chronic depression. Instead, the literature points to the utility of a combined approach with CBT and antidepressant medications [15, 16], with combined treatment generally outperforming either treatment alone and medication alone performing significantly better than psychotherapy alone in most cases [2]. Based on these findings, there is a clear need for psychotherapeutic interventions that can effectively address the specific needs of chronically depressed patients. Over the past several

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years, data have emerged for several therapies that may address these needs. Of particular note are the so-called “third-wave therapies” and modified forms of standard CBT.

Preliminary data have suggested that a number of third-wave therapies may be effective in treating patients with chronic and/or treatment-resistant depression. The Cognitive Behavioral Analysis System of Psychotherapy (CBASP) was specifically developed for this population [17]. Several authors [18, 19] argue that Acceptance and Commitment Therapy (ACT) is particularly effective for patients with severe, chronic, and treatment-resistant conditions. In addition, several modifications to traditional CBT have been suggested to facilitate the treatment of specific subpopulations suffering from depression including those with residual depressive symptoms [20]; patients with Parkinson’s disease and comorbid depression [21]; lesbian, gay, bisexual, and transgender individuals with depression [22]; and, of most relevance, patients with chronic depression [1, 23]. While more high-quality randomized controlled trials (RCTs) are needed to determine the efficacy of these therapies for chronically depressed individuals (ACT and CBASP in particular), a small body of literature has surfaced in recent years pointing to their potential utility for this population.

### 22.1.1 CBASP

The Cognitive Behavioral Analysis System of Psychotherapy (CBASP) is the first empirically supported psychotherapy designed specifically to treat adults with chronic depression [24]. The primary goal of CBASP is to help chronically depressed adults acknowledge and appreciate the consequences of their behaviors and incorporate an algorithmic approach to solving interpersonal issues [24]. While this approach draws upon the orientations of cognitive, behavioral, and interpersonal therapies [25, 27], it is also noticeably distinct from each. CBASP takes a more structured and direct approach than interpersonal therapy [27], and focuses more on the interpersonal realm than cognitive therapy [25], including discussions about patients’ relationships with their therapists [24].

#### 22.1.1.1 Conceptualization of Chronic Depression

Chronically depressed patients tend to think about and relate to their circumstances in ways that are especially rigid and maladaptive. These patients feel a complete lack of control over their condition; make global, negative assumptions about their personal worth; and lack the needed motivation to change as a result of gross catastrophizations and false assumptions about their role in the world. To make matters worse, they are often perpetually unaware of these dysfunctional thoughts and actions and, therefore, become increasingly disconnected from their social environments. Thus, the primary goals of CBASP are to reverse these cognitive distortions, promote behavioral change, and facilitate healthy social interactions by instilling “a perceived-functionality expectancy set [17].” This is done by guiding the patient to understand the contingency relationship between their behavior and its consequences. They are made aware of different possibilities for their future and new ways in which they can dynamically interact with, and derive meaning from, their world.

These rigid thought patterns most commonly exist within the context of chronically depressed patients social sphere and the inferences about themselves that are extracted from it. According to McCullough [17], the thought structure and language usage of chronically depressed adults tend to be less adaptive and in line with what one might expect from young children. CBASP draws a parallel between these patients and children in the preoperational stage of cognitive development [28, 29]. As defined by Piaget [30], thought in the preoperational stage is limited only to children’s immediate perceptual experiences. For chronically depressed adult patients, these immediate perceptual experiences are almost invariably negative, along with any inferences about the future that are extrapolated from them.

Both preoperational children and chronically depressed adults are effectively trapped in their current perceptual experiences [17]. They are unable to extract themselves from the present moment or consider any other explanations for their circumstances other than the negative and destructive ones that are immediately salient.

This view has been found to be quite intractable, particularly in the early stages of treatment when traditional cognitive-behavioral methods are implemented [24]. As a result, these patients develop a worldview that is fixed and intractable, rather than one that is dynamic and reactive to the changing environment [17]. The subsequent worldview that is created by this maladaptive cognitive style does not allow for logical “if-then” reasoning. For these individuals, the future will be just the same as the present and the past, which are both, as a whole, negative.

### 22.1.1.2 Principles of Treatment

Clearly, there are several unique obstacles the psychotherapist must face in treating a chronically depressed adult. One of the primary goals early on in treatment should be to help the patient better understand the causal relationship between his/her behavior and its consequences [17]. As the patient learns that his/her behaviors do indeed have consequences, his/her can begin to develop the autonomy and motivation required to change these behaviors and the subsequent consequences [24].

The chronically depressed adult tends to speak about his/her problems in global terms (e.g., “nobody will ever love me,” “I always fail at everything I try, no matter what”) and is unable to pinpoint specific problematic situations in his/her life. This presents a large issue in treatment, as the capacity to identify particular problems with a particular individual is the first step in resolving such issues. An even larger barrier is the motivation to change the patient’s behaviors and thus change the outcome of his/her problematic situations. The chronically depressed patient often firmly holds the belief that “no matter what he/she does, he/she will always be depressed,” which unfortunately is a valid synopsis based on his/her prior history. In order to increase motivation, the therapist must continually show the patient, in-session, that he/she plays an active role in causing and perpetuating his/her own depression [17]. As a by-product of this realization, the patient will learn that he/she is capable of terminating these self-driven feelings of misery by changing his/her behaviors. This can be done during the visit by setting up a series of behavioral contingencies, primarily utilizing negative

reinforcement strategies. In particular, it is critical to demonstrate that a patient’s sadness and distress is mitigated when he/she engages in more adaptive behaviors [17, 31]. In order to best facilitate this process, the therapists must actively inhibit the natural tendency to talk about his/her patient’s thoughts and feelings, as this puts him/her in a more observing role. Instead, the patient should be in a position in which he/she is forced to confront his/her behaviors head-on, rather than think about them abstractly. In this way, the patient may better understand the linear, causal relationship between his/her behaviors and the subsequent consequences.

For example, a patient who was terminated from a job that was “her life” insisted that she would never get another job as rewarding as the one she lost and that she was going to give up even trying to find another job. She stated that she did not have the interest or motivation to even try. In addition, she became preoccupied with the unfairness of life in general. During the therapy session, she only wanted to talk about her anger and hopelessness about not having a life. The therapist addressed the negative impact of her avoidant behavior and set limits on discussing her sense of hopelessness. The therapist queried about the impact of her negativity on her emotions and behaviors. Experiencing and realizing the cost of her negativity helped motivate her to initiate a plan to start exploring job opportunities on the Internet. Refocusing her attention on productive behaviors started to give her renewed hope and that she was responsible for her level of distress.

Another inherent difficulty in treating this population pertains to the patient-therapist relationship. Simply being in the presence of a chronically depressed patient can be a fairly challenging experience, especially early on in treatment. The patient tends to show detachment from his/her therapist and seems unwilling to contribute to the therapeutic process. The therapist must be particularly careful not to respond with frustration or anger in these circumstances and must also not respond in a reciprocal fashion by being overly controlling [17]. This lack of contribution on the patient’s behalf often brings about this complimentary response from the therapist and results in the therapist assuming too



much responsibility in the change process. However, it is important (especially for this particular population) for the patient to assume this responsibility himself/herself. The therapist can facilitate this behavioral change by asking the question, "How does blaming others on your situation help you in reaching your goals."

In the interpersonal realm, the chronically depressed adult often carries with him/her an extensive history of failed relationships. The residual cognitive and emotional painful effects from the past are often recreated in the patient's relationship with the therapist. The therapist is viewed as being no different than persons from the past who contributed to the patient's distress. This can present a barrier in creating a working alliance founded upon trust and reciprocity. To counteract this dynamic, the therapist should work to create new corrective interpersonal experiences for the patient. As treatment continues, the patient needs to realize that he/she will not be punished or abandoned by someone close to him/her as previously experienced. The therapist must strive to repeatedly create these experiences and consistently point them out to the patient, remarking on the fact that no negative consequences have taken place [17].

### **22.1.1.3 Therapeutic Techniques**

CBASP incorporates three main therapeutic techniques designed to construct in-session negative reinforcement contingencies (the Interpersonal Discrimination Exercise and Situational Analysis) and rehearse and reinforce skills learned in-session (Behavioral Skill Training/Rehearsal) [17].

#### **22.1.1.4 Interpersonal Discrimination Exercise (IDE)**

The chronically depressed patient has a propensity for viewing the therapist as a hurtful significant figure from his/her past. Thus, the patient expects to be hurt, rejected, and punished by the therapist, which is clearly an inhibitory factor in the change process. In an effort to prevent this counterproductive transference early on, the therapist implements the Interpersonal Discrimination Exercise (IDE) in the second session of CBASP.

At this time, the therapist administers the Significant Other History procedure [24] and develops several transference hypotheses based on his/her perceptions of the patient's interpersonal issues [17]. During this procedure, the patient provides a brief list of significant individuals from his/her past and is asked to explain how each person influenced his/her life and who he/she became. It comes as no surprise that these influential figures have often had highly destructive effects on the life of the patient. This exercise is particularly useful in catalyzing a cause and effect thought process in the patient, as it requires him/her to draw connections between the actions of the chosen significant other and the way the patient currently behaves. From these realizations, a Causal Theory Conclusion [24] is derived. These conclusions clearly state the relationship each significant other has had on the patient and, subsequently, gives him/her the tools to contrast old and new interpersonal scenarios, thus opening the door for corrective emotional experiences throughout treatment.

#### **22.1.1.5 Situational Analysis (SA)**

Situational Analysis [17, 24, 32] is a highly structured social problem-solving exercise, which is introduced in the third session of CBASP. The main goals of Situational Analysis are to eradicate preoperational functioning, expose maladaptive behaviors so they can be modified, and demonstrate the consequences of the patient's behaviors in-session [17]. In SA, the patient is asked to select a specific interpersonal event that occurred recently and was problematic. He/she is then asked to describe the event in a narrative format, including all the details from beginning to end. The patient is strictly urged to stay within the time frame of the given event and not to form generalizations from it, as the patient is likely to do automatically. As the clinician leads the patient through an evaluation of the event, the particular problematic features of the event become clear and are often a microcosm of the more global interpersonal issues that the patient experiences [17]. In this way, the lessons learned from SA are highly translatable to other interpersonal problems in the patient's life.

The goal of SA has been achieved when the patient is able to identify the desired outcome of the event and contrast it from the actual outcome, discuss what could have been done differently to achieve the desired outcome, and begin to implement the process of SA independently to other problematic events.

### **22.1.1.6 Behavioral Skill Training/ Rehearsal (BST/R)**

This third CBASP technique involves direct observation of the patient's maladaptive behaviors, the use of skill training to change these behaviors, and, ideally, the creation of more desired outcomes. Once maladaptive behaviors are identified via SA exercises, they are addressed in a variety of ways by the therapist, depending on the specific needs of the patient [33]. Since the patient tends to lack the necessary motivation to change, assertiveness training is often a key aspect of the skill training. Assertiveness training skills help the client achieve the appropriate balance between not being manipulated by others and not overreacting when one's needs are not met. These skills lead to an increase in self-confidence and self-efficacy. Automatic thoughts and emotional outbursts are often targeted as well [17]. It is during BST/R that the bulk of the actual change process takes place.

### **22.1.1.7 Outcome Studies**

A small number of randomized clinical trials (RCTs) have been published on CBASP for chronic depression. Most of the early studies examined the efficacy of CBASP in comparison to antidepressant medications, primarily nefazodone. In a large, 12-site, multicenter clinical trial, Keller et al. [16] randomized 681 chronically depressed patients (illness duration of 2 or more years) to 12 weeks of CBASP or nefazodone or combined CBASP and nefazodone treatment. At the end of the acute-phase 12-week treatment, the overall rate of response (both satisfactory response and remission) was 48 % for both the CBASP and nefazodone groups compared to 73 % for the combination treatment group ( $p < 0.001$  for both comparisons). Nonresponders from the nefazodone and CBASP groups were

given an opportunity to participate in a crossover study for an additional 12-week trial; 140 agreed to participate (73 from the nefazodone nonresponders and 83 from the CBASP nonresponders). By week 12, the response rate for those crossed over to CBASP was 57 % versus 42 % for those crossed over to nefazodone. The switch to CBASP was associated with significantly less attrition due to adverse events, which was thought to explain the higher intent-to-treat response rate among those crossed over to CBASP. The authors concluded that nonresponders to either CBASP or nefazodone treatments may benefit from switching to the alternative treatment [34].

Only a few studies have compared CBASP with other forms of psychotherapy. Kocsis et al. [35] studied the impact of adjunctive psychotherapy in the treatment of chronically depressed patients who had an incomplete response to an initial antidepressant trial. In Phase 1 of the study, an open-labeled, algorithm-guided, 12-week antidepressant treatment plan was instituted based on a subject's history of antidepressant response; 491 of 808 subjects did not respond or had a partial response to antidepressants. In Phase 2 of the study, 200 subjects received CBASP, 195 received Brief Supportive Psychotherapy (BSP), and 96 received only medications for an additional 12 weeks of treatment. Thirty-seven percent of the subjects experienced remission or partial response in Phase 2, but neither CBASP nor BSP significantly improved outcomes over flexible dosing antidepressant monotherapy.

Schramm et al. [36] randomized 30 subjects, with early-onset chronic depression, to 22 sessions of either CBASP or Interpersonal Psychotherapy (IPT) over 16 weeks. The primary outcome measure was the change in the 24-item Hamilton Rating Scale for Depression posttreatment; a blinded, independent rater made the assessments. The Beck Depression Inventory (BDI) was a secondary outcome measure. Intent-to-treat analyses of covariance showed no significant difference in posttreatment HRSD scores between CBASP and IPT. However, BDI scores showed significantly higher remission rates in CBASP (57 %) versus IPT (20 %). Wiersma et al. [37] carried out a multisite randomized controlled

trial comparing CBASP ( $n=67$ ) with care as usual (CAU) ( $n=72$ ) over a period of 52 weeks. Psychopharmacological interventions were included in both groups since combined treatment is the standard of practice in the Netherlands, where the study was conducted. The primary outcome measure was the Inventory for Depressive Symptomatology (IDS) Self-Report; the IDS was administered at weeks 8, 16, 32, and 52. The CBASP group showed a significantly greater reduction on the IDS compared to CAU treatment only at week 52 ( $t=-2.00, p=0.05$ ); there were no significant differences on the IDS between CBASP and CAU at weeks 8, 16, and 32. The authors concluded that CBASP was at least as effective as standard treatment for chronic depression; however, over time, CBASP may have added benefit.

Klein and colleagues [38] examined the efficacy of CBASP alone as a maintenance treatment for chronic depression in a sample of 82 patients who had responded to the acute and continuation phases of CBASP treatment [38]. These patients were assigned to either monthly CBASP sessions or assessment only for 1 year. Recurrence rates for patients in the CBASP condition were significantly lower than those in the assessment only condition, and the two groups differed significantly in terms of decrease in depressive symptoms over time, indicating that CBASP may be particularly effective as a maintenance treatment for chronic depression [38].

Although these results in both the acute and maintenance phases of treatment are promising, larger randomized, controlled studies comparing CBASP with other psychotherapy approaches are needed.

### 22.1.2 ACT

Acceptance and Commitment Therapy (ACT) is one of the most recent developments among the cognitive-behavioral therapies. Behavioral therapy (BT) was the first wave of cognitive-behavioral therapies and was derived from classical and operant conditioning. Treatment with BT focuses on exposure to help patients

learn to tolerate and ultimately reduce disturbing emotions and maladaptive behaviors, as well as identifying positive and negative reinforcers of maladaptive behaviors. Cognitive therapy (CT) was the second wave of cognitive-behavioral therapies and developed from an information-processing perspective. Clinicians and researchers soon recognized that cognitions also impact emotions and behavior. Treatment with CT focuses on identifying irrational and dysfunctional beliefs and replacing them with more realistic and more adaptive interpretations of internal and external experiences. ACT developed coincidentally with mindfulness-based cognitive therapy and dialectic behavioral therapy; together, they make up the third wave of cognitive and behavioral therapies [39]. Historically, ACT developed from relational frame theory (RFT) which argues that context and experience determine our responses to language and cognition. In ACT, treatment focuses on learning to respond to internal experiences (thoughts, feelings, sensations, images, and memories) based on context rather than content; it essentially addresses the functionality of our internal experiences. Thus the goal of treatment is not to change the content of our negative thoughts, but to change our relationships to our negative thoughts. According to ACT, language is a significant contributor to psychopathology [40]. Summarized the impact of language on our experiences. Language processes can dominate over experience, thus allowing individuals to become insensitive to environmental contingencies and to persist in unproductive behaviors (e.g., carry grudges). Language has the power to change experiences. With our words, we can generate distressing experiences without actually having the experiences (i.e., the word disaster can generate a fear response without experiencing the disaster). Language provides targets of avoidance, including thoughts, feelings, sensations, images, and memories; language allows us to conclude that we cannot tolerate rejection, before actually experiencing rejection. And finally, language processes are controlled by context; external sources of reinforcement can lead to relational or functional interventions. In a

given situation, having the thought, “I am a loser,” can be responded to by identifying multiple examples of being a loser (relational response), or the thought, “I am a loser,” can be responded to based on how the thought assists in engaging in activities that have meaning and purpose (functional response).

ACT differs from traditional BT in that it uses exposure in the service of realizing an individual’s values rather than reducing one’s painful emotions or maladaptive behaviors. ACT acknowledges that with engagement in value-based activities, exposure to pain and distressing internal experiences is inevitable; pain and distress are very much a part of value-based activities. CBT uses relational interventions to undermine negative thoughts by challenging their validity (cognitive restructuring). ACT uses functional interventions to undermine the power of negative thoughts by responding to them based on their functional utility. ACT is not about insight, figuring out what went wrong, challenging beliefs, or stopping pain. The aim of ACT is to encourage the pursuit of actions that contribute to a life with meaning, purpose, and vitality, while accepting associated painful internal experiences.

The individuals that benefit from ACT are those whose behaviors are controlled by their internal experiences. Typical beliefs include: “I’ll never accomplish anything”; “I can’t get rid of my anger”; “I’m a victim of my past”; “I can’t take this anymore”; “I can’t tolerate rejection”; and “I can never be close to a woman.” Giving these beliefs attention gives them power and leads to being “stuck” and, thus, living stops.

ACT recognizes two states of mind: the “thinking mind” or “conceptualized self,” and the “observing mind” or “self as context.” The thinking mind is always active and is a “thought generator” based on past experiences [41, 42]. The thinking mind is important in communicating with others, solving problems, making judgments, creating, planning for the future, and making decisions. These are very important attributes of the thinking mind. However, the thinking mind, through the use of language, can also create negative constructs about self, others, environment, past, and/or future. The thinking mind contributes

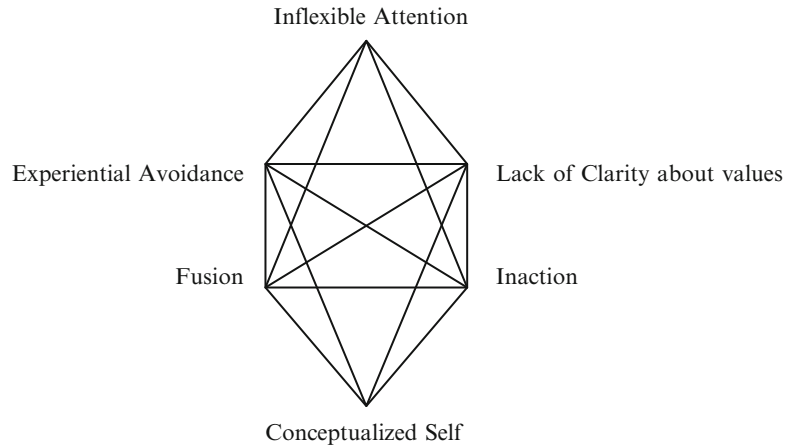
to harsh judgments, self-criticism, painful comparisons, self-hatred, ruminations about painful past events, and worries about the future. In addition, the thinking mind constructs painful “stories” about self, others, and future. The degree of distress experienced is determined by how tight the attachment or “fusion” with the stories is. When we give these negative constructs too much attention, they add to our distress and we become creators of our suffering:

“As a human species, we encounter many of the same painful events as do other species; humans and nonhuman animals alike are faced with loss, unexpected upsets, and physically painful experiences. Yet we do something with these encounters that they do not; we ‘mind’ about them, and through this process we amplify our suffering and we bring it with us” [43].

What separates us from nonhumans is our ability to observe our thinking; here resides our true self that transcends time and place. The thinking mind continues to generate positive and negative constructs, and we cannot prevent this from occurring. However, our true self enables us to observe and choose whether attending to the constructs of the thinking mind interferes or assists with the engagement in behaviors that give us a life with purpose and meaning.

According to ACT, psychopathology is determined by “psychological inflexibility” [42]. The resulting distress from fusion with painful thoughts or stories leads to avoidance, escape, or attempts to get rid of the associated negative thoughts, feelings, sensations, and/or memories; this process of avoidance is referred to as “experiential avoidance” [42]. The combination of fusion and experiential avoidance leads to a life that is narrow and constricted, thus resulting in psychological inflexibility, and a response repertoire that is limited. Other processes that contribute to psychological inflexibility include: inflexible attention or ruminations about the past and/or worries about the future (not being present in the moment), attachment to the conceptualized self (product of the thinking mind), lack of clarity about or contact with one’s values (what matters, what one wants his or her life to be about), and inaction or acting inconsistently with one’s

**Fig. 22.1** Six processes that contribute to psychological inflexibility (modified from [42])



### PSYCHOLOGICAL INFLEXIBILITY

(Modified from Hayes et al., 2012)

values. With psychological inflexibility, living a life with purpose and meaning “stops.” Figure 22.1 depicts the six processes that contribute to psychological inflexibility. These six processes are interactive and depend on the other.

The focus of ACT treatment is on opening experience in the moment by: defusion from self-constructs that interfere with valued living, allowing room in our conscious awareness for painful experiences as an opportunity to observe and therefore learn, focusing on the present moment with flexible attention to enhance defusion, acceptance of self and external experiences to clarify one’s values, and engaging in value-based actions in the present moment. These six processes contribute to psychological flexibility:

“Psychological flexibility is contacting the present moment more fully as a conscious human being, as it is, not as what our mind says it is, and based on what the situation affords, changing or persisting in behavior in the service of chosen values.” [43]

In other words, psychological flexibility is being aware and willing to experience, in the moment, distressing thoughts, feelings, sensations, images, and/or memories, while engaging in actions that matter.

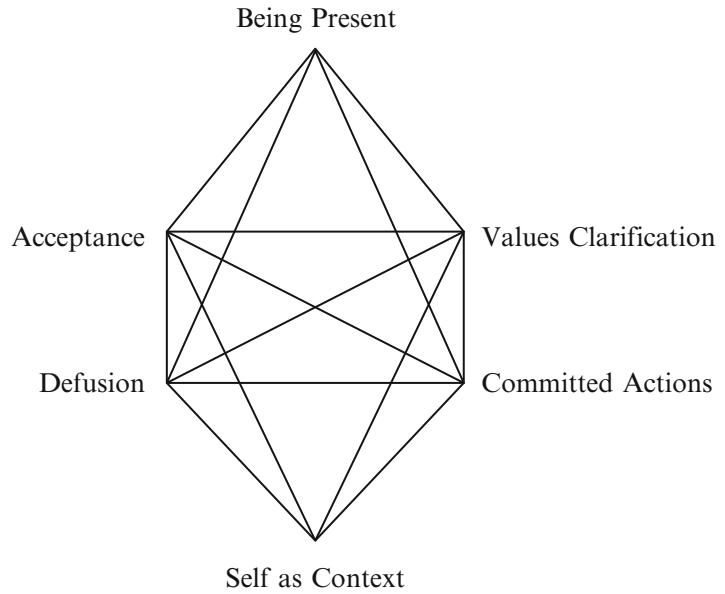
Harris [44] describes psychological flexibility as: being more psychologically present in the moment; more in touch with one’s values; more able to make room for inevitable pain; more

able to defuse from unhelpful thoughts, feelings, sensations, and memories; more able to take effective action in the face of emotional discomfort; more able to engage fully in what one is doing; and more able to appreciate each moment of one’s life, no matter how he or she is feeling. Figure 22.2 depicts the interaction of the six processes that contribute to the development of psychological flexibility. These processes interact and depend on the other.

#### 22.1.2.1 Case of Jack

The case of Jack is a composite of cases in our clinic and is used to demonstrate the ACT model in clinical practice. Historical content and clinical content have been changed in order to protect confidentiality. Jack came to therapy at the age of 45 and reported feeling chronically depressed over the past 20 years. He attributed his depression to being alone. For years he desperately wanted to have a relationship with a woman and eventually get married, but he was extremely fearful of rejection. He believed that he would “fall apart” and be unable to tolerate the pain if he was rejected by a woman. Jack grew up in a conservative religious home with both parents and two siblings. His father made it clear that he did not want any children, and as a result, Jack never felt accepted by him. His mother was unavailable for Jack and his siblings due to her preoccupation

**Fig. 22.2** The interaction of the six processes that contribute to the development of psychological flexibility (modified from [42])



**PSYCHOLOGICAL FLEXIBILITY**  
(Modified from Hayes et al., 2012)

with becoming a minister and spending most of her time taking classes at a nearby seminary. Jack learned from an early age that self-sacrifice was a virtue and having bad thoughts was equivalent to acting on them. He recalled the many times that he would run home from school, petrified that he would burn in hell for having bad thoughts. His fears of eternal damnation went unchallenged because there was no one available to give him comfort or help him get perspective. His father was very disrespectful towards women, and so Jack never felt he learned how to relate to them. Jack was not allowed to date girls throughout his teens which added to his insecurity in being with women. Throughout his adulthood, Jack felt inadequate with women, and when he made attempts at dating, he feared disappointing them and worried that his desires for closeness and intimacy would be perceived as being selfish and self-centered. At these times, he would experience intense guilt and punish himself with harsh self-deprecating statements; his only solution was to distance himself from women to avoid hurting them and to avoid feelings of guilt. Over the recent past, Jack's "thinking mind" constructed the following stories about his

current situation: "I have no life because I have no one with whom to share it"; "If I have any pleasure with a woman, I feel that I am taking advantage of her"; "My past history renders me defective and inadequate to be able to have a meaningful relationship with a woman"; "The pain will be too great if a woman rejects me"; "I have not been successful in changing who I am through years of psychotherapy and medications; thus, I am damaged beyond repair"; "I'm 45 years old without a close relationship and I have no future." Jack often turned to recreational drugs to numb the pain of his suffering. The abuse of drugs complicated his life further by interfering with work as a software consultant, participating in his love of playing classical guitar, and taking adult education classes to address his intellectual curiosities in astronomy.

Early in ACT treatment, the therapist develops a case conceptualization by asking the following questions: What is the client's understanding of the problem(s)? What thoughts, feelings, sensations, images, and/or memories is the client avoiding? What approaches have been used to address negative internal experiences? How have these approaches worked? What has been the

cost of continuing with these failed approaches? And what would life be about if the problem(s) did not exist? By asking the question, "What internal experiences need fixing or need to be changed," the therapist gains insight into the degree that the client fuses with his or her negative thoughts, feelings, and memories. Acknowledging the cost of continued engagement in failed approaches helps motivate the client to consider an alternative psychotherapy approach that does not focus on insight, challenging beliefs, or avoiding pain. Asking the question, "What would life be about if the problem did not exist," is used by the therapist to open the door to values clarification. When one is fused with negative internal experiences and the conceptualized self, unwilling to accept his or her present situation, and not present in the moment due to ruminating about the past and worrying about the future, awareness of one's values is often absent. In developing Jack's case conceptualization, the therapist elicited the following responses from Jack to these questions:

1. Jack's understanding of the problem: "My past has rendered me defective in being able to have a relationship with a woman"; "I was never given the skills necessary to have a meaningful relationship."
2. Jack's thoughts, feelings, sensations, images, or memories that he avoided: "I'll fail at having a relationship"; "I will end up hurting a woman because of my own selfish desires"; "I'm depressed, anxious, and fearful all the time"; "I have a history of being unloved"; "My history is one of failure in being able to have a meaningful relationship with a woman."
3. Jack's approaches to address negative internal experiences: "psychotherapy to review how my past caused my problem," "medications to help me feel less depressed," "use of recreational drugs to numb my pain," and "periods of not trying treatment because of demoralization and hopelessness."
4. The cost to Jack for his engagement in these approaches: "I have felt like a failure since nothing has worked"; "I am still extremely lonely"; "My avoidance and fear of rejection have resulted in me not experiencing love";

"My heavy use of drugs to numb my pain has complicated my life in multiple ways."

5. What would Jack's life be about if the problem did not exist: "I would feel valued and a part of someone's life"; "I would be sharing my interests and pleasures"; "I would be there for someone"; "I would be experiencing love."

The therapist also assessed Jack's current behavior along the six processes (acceptance, defusion, present moment, self as context, values, and committed action) for psychological flexibility. Using the Flexibility Rating Sheet [42], each process was scored along a 10-point scale from 0 to 10; a rating of 0 means none or very rarely, 5 means at times or with encouragement, and 10 means fluent and flexible. On "acceptance," Jack scored a 2 because he believed that since he was not accepted by his father, he would be unacceptable to anyone; he was extremely fearful and avoidant of situations where there was any risk of being rejected. Jack scored a 1 on "defusion"; he was totally fused with his story that he was a victim of his past and therefore "damaged goods." On "being present," Jack scored a 1; throughout the assessment period, he ruminated about his past and his anger over not being loved. He reported that while alone in his apartment, he would have the image of yelling at his father for not being there for him and ruining his life. Jack reported that he could never get over his rage at his father. He also was preoccupied with being convinced that he has no future and he will live a life of loneliness and despair. Jack's score on "self as context" was a 1 since he was totally fused with the self-construct of being damaged beyond repair. He focused on being a victim of his past, and he could not see how the damage could be corrected; he also strongly believed that the damage had to be corrected in order to have a life. With regard to "values," the therapist gave Jack a score of 5. Jack was clear about the importance of having a relationship that was reciprocal and giving. But there were times that he would allow avoidance to intervene, and he would retreat into believing that having the value of an intimate relationship was meaningless since it was unattainable. On "committed action," the therapist gave Jack a

score of 3. Jack's willingness to engage in working on having a relationship was minimal. In the recent past, he made a few attempts to date, but he would not pursue relationships beyond a few encounters. His fear of rejection and his construct that he would "fall apart" if he was rejected prevented him from any willingness to expose himself to pursuing a relationship with a woman.

Throughout Jack's previous treatments, he struggled with trying to figure out and understand his history and why he ended up in his present situation. In his past treatments, Jack believed that insight would eventually resolve his problem. However, reliving the past kept him in the past and perpetuated his emotional distress. He also focused on trying to control his distress with avoidance out of fear of failure and trying to control his pain with drugs. He was consumed with experiential avoidance. His history was one of never feeling accepted by important people in his life; thus, he concluded that acceptance by anyone was unattainable. Therefore, his attachment to his negative internal experiences controlled his behaviors rather than his values or what he wanted his life to be about. When Jack was asked to identify his values, he stated that he was embarrassed to say that he had never thought about what mattered to him, because much of his attention was focused on being damaged and defective due to his past. He also said that his experiences were limited to avoidance of pain. Thus, Jack's behavior was not determined by values and experience but by avoidance of negative internal experiences.

ACT offered Jack an alternative approach to his struggles. Rather than reliving the past in order to gain insight as a means to resolve his problem, the approach using ACT was to be willing to have one's history and hold on to it lightly, while engaging in behaviors that were based on his values. It was the engagement in value-based behaviors that would give Jack a sense that he was living a life with meaning and purpose.

The elements of Jack's treatment included the following:

1. The therapist provided psychoeducation about the "thinking mind" and the "observing mind" in order to help Jack understand that "being a

victim of his past" was a construct of the thinking mind and that his attachment to "being a victim" kept him stuck in the past and prolonged his suffering. With this awareness, it became clear to Jack that he had a choice with regard to his focus of attention. Learning mindfulness meditation skills and getting access to the observing mind enabled Jack to defuse from "being a victim of his past."

2. Acceptance of self and his history was also introduced early in order to free Jack from ruminations about his past and worries about the future. Acceptance allowed him to be present and engage in value-based activities that were available to him in the moment.
3. Learning to be present with his negative internal experiences enabled Jack to see that his distressing thoughts, feelings, and memories disappear or go to the background of conscious awareness when not trying to control them. His experience taught him that the more he tried to control his negative internal experiences, the more he had them.
4. Mindfulness practice not only enabled Jack to defuse from ruminations about the past and worries about the future, but he became cognizant that his only reality was in the present moment. And by being present, his awareness was broadened to what was available in that moment, which provided him more opportunities to engage in value-based activities.
5. Work on values clarification included not only Jack's values in the context of having a loving relationship but values in the domains of other relationships (e.g., friends, family, coworkers), intellectual pursuits (e.g., adult education classes), healthy lifestyle (e.g., nutrition, abstinence from drugs, exercise), recreation (e.g., music), and work (e.g., improve work skills). Values clarification helped him develop a repertoire of values in which to engage with committed actions, when needed in the present moment. These value-based actions also helped keep Jack present and defused from ruminations about the past and worries about the future. Values provided Jack with directions to take in life, whereas his value-based goals became targets for achievement.



6. While engaged in the experience of value-based behaviors (e.g., dating), Jack realized the cost of fusion with his negative constructs of the “thinking mind” and the resulting experiential avoidance.
7. During the course of his treatment, Jack discovered that engagement in value-based behaviors included painful experiences as well (e.g., fear of rejection while still engaged in dating). However, he became more willing to accept painful experiences because he was on his path of living a life with meaning and purpose.

In teaching the six processes that lead to psychological flexibility, the therapist used metaphors and Jack’s past experiences as contexts for learning. For example, the therapist introduced the metaphor of having a tug-of-war with a monster to address his conceptualized self of “being damaged beyond repair.” The more one pulls on the rope, the more the monster pulls and, therefore, the more one is engaged with the monster. Jack learned that the solution was to stop pulling and drop the rope. Ultimately, his degree of suffering and the cost of his experiential avoidance were the motivating factors that lead Jack to “drop the rope” and to start committing to value-based actions (e.g., working on relationships). Before committing to behaviors towards having a relationship with a woman, Jack pursued less challenging value-based actions. These included abstinence from drugs, committing to a more healthy lifestyle (e.g., going to the gym and improving nutrition), and getting back to playing the guitar. Eventually, he was open and willing to experience the possibility of rejections as a part of the process of engaging in his value-based pursuit of having a loving relationship with a woman. He learned from his experience that when a relationship did not work out, although it was painful, it was because there was not a good fit, rather than a confirmation of his thinking mind construct, that his past had rendered him defective in being capable of having an intimate relationship. The more engaged in committed actions towards his valued-based goal to eventually marry, the more open he became to learn from his experience, which enhanced his social skills and confidence in relating to women.

### 22.1.2.2 Outcome Studies

There are very few studies comparing ACT with CT in patients with depression in general and even fewer in patients with chronic depression. The following outcome studies represent the available studies for both the acute and long-term effectiveness of ACT versus CT. Theoretically, the ACT approach of disengagement from one’s prolonged history of distress, while engaging in value-based actions, might have added benefit over cognitive restructuring for patients with chronic depression; however, there are no studies that definitively address this query.

In a randomized controlled effectiveness trial of ACT versus CT for outpatients ( $n=101$  randomized; 57 completers; 80.2 % women) presenting with a mixture of depression and anxiety, Forman et al. [45] found large and equivalent improvements in depression (Beck Depression Inventory) and anxiety (Beck Anxiety Inventory), functioning (Outcome Questionnaire), quality of life (Quality of Life Index), life satisfaction (Satisfaction with life Scale), and clinician-rated functioning (Global Assessment of Functioning Scale) in both treatment groups. The authors also examined hypothesized differences in mechanism of action of the two treatment groups by conducting exploratory analyses of mediation. Formal mediational analyses could not be performed because there was no control group and because mediator variables were assessed simultaneously with outcome variables. The clinical practice of CT focuses on changing the content of dysfunctional thoughts using cognitive restructuring, whereas ACT focuses on changing one’s relationship to his or her negative thoughts by defusion and engaging in value-based activities. The authors found that “observing” and “describing” one’s experience were closely associated with outcomes in the CT group, while measures of experiential avoidance, acting with awareness, and acceptance were more closely associated with outcomes with the ACT group. These results suggest functionally distinct mechanisms for CT and ACT outcomes.

Forman et al. [46] also reported on one of the first long-term follow-up randomized controlled trials comparing ACT with CT. One hundred

thirty-two anxious or depressed patients were randomized to either ACT or CT. Assessments were performed posttreatment ( $n=90$ ) and at 18 months posttreatment ( $n=91$ ). There were no differences between the two groups immediately posttreatment on the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Outcome Questionnaire (OQ), and Quality of Life Index (QOLI). However, assessments at 18 months showed that one-third more CT patients were in the normative range for depression and more than twice as many CT patients were in the normative range for level of functioning compared to ACT patients. CT showed more durability on these two measures. The authors offered three explanations for the differences in outcome: CT is more intuitive and easier to apply once treatment has terminated, whereas ACT runs counter to social norms and customs; the ACT therapists were less experienced since they were trainees; and most patients in the study were high functioning with modest symptoms, and according to some authors, ACT is more effective for patients with severe, chronic, treatment-resistant conditions [19, 19].

Carlbring et al. [47] reported on a randomized, 8-week, controlled trial using an Internet-based behavioral activation and acceptance-based treatment for depression. Behavioral activation was combined with elements from ACT; the components added from ACT included defusion, acceptance and mindfulness skills, and values clarification to determine the content of behavioral activation. Eighty subjects were randomized to treatment versus a wait list. The primary outcome measure posttreatment was the BDI-II; the between group effect size on the BDI-II was  $d=0.98$  (95 %CI=0.51–1.44). The treatment gains persisted over the following 3-month period without further significant improvement. The remission rate was 25 %, which was low compared to 44.3 % in a tailored CBT treatment versus 26.5 % in a standard CBT Internet treatment [48]. The authors concluded that their Internet-based behavioral activation and acceptance-based treatment can be effective in reducing symptoms of depression.

A recent Dutch study suggests that early intervention using ACT for adults with some

depressive symptomatology may reduce the risk of the development of a full clinical episode of depression [49]. The authors randomized 93 subjects with symptoms of depression to either 8 weekly two-hour group sessions of ACT ( $n=49$ ) versus a wait list ( $n=44$ ). The primary outcome measure was the Center for Epidemiologic Studies Depression Scale (CES-D), which is a 20-item questionnaire that measures depressive symptoms in the general population. Subjects rate on a 4-point scale ranging from hardly ever (less than 1 day; score of zero) to predominantly (5–7 days; score of three) with regard to depressive symptoms in the previous week. The ACT group compared to the wait-list showed a significant reduction in symptoms of depression on the CES-D. The CES-D effect sizes for ACT posttreatment and at 3-month follow-up were Cohen's  $d=0.60$  and 0.63, respectively. The authors also performed mediational analyses. In the mediational analyses, they used the Acceptance and Action Questionnaire-II as a measure of experiential avoidance. Controlling for CES-D and AAQ-II at baseline, treatment with ACT significantly reduced symptoms of depression at follow-up. Improvement in AAQ-II scores from baseline with ACT significantly predicted changes in CES-D scores at follow-up. The mediating effect of AAQ-II was significant at  $p<0.05$  with bootstrapping values between  $-4.10$  and  $-0.67$ .

To further address the uniqueness of the processes of change between ACT and CT, Zettle et al. [50] performed a mediation reanalysis on an earlier study by his group [51]. Their mediational reanalysis study is a response to recent critics that ACT is no different than CBT [52, 53]. Mediational analysis assists in addressing the question of what is the mechanism for change with a given treatment. Zettle et al. [50] point out that Hayes et al. [54] performed a reanalysis of their early small study [55] and showed that the differences between ACT and CT were mediated by reductions in believability (measure of cognitive fusion) of depressive thoughts rather than their occurrence. Zettle and Rains' [51] original early study compared ACT and CT in depression. Patients were randomized to ACT ( $n=12$ ), CT ( $n=13$ ), and CT ( $n=12$ ) without cognitive dis-

tancing elements. The authors hypothesized that if ACT was nothing more than an extreme form of cognitive distancing applied in CT, then ACT should have the best outcome followed by CT and CT without cognitive distancing. However, ACT had the best outcome followed by CT without cognitive distancing and CT; however, the differences were minimally statistically different. Zettle and Rains concluded that ACT was not just distancing as conducted in CT. In their recent mediational analysis comparing ACT with CT, the ACT group showed greater reductions in the Beck Depression Inventory (BDI) using an intent-to-treat analysis. Posttreatment measures of defusion, using the Automatic Thought Questionnaire-B (ATQ-B), mediated this reduction in the BDI. Interestingly, the occurrence of automatic thoughts and the degree of dysfunctional attitudes, as measured by the Automatic Thoughts Questionnaire and Dysfunctional Attitudes Scale, respectively, were not mediators of outcome. Thus, this study supports earlier studies demonstrating that the mechanism of change in ACT is distinct from CT.

### 22.1.2.3 Assessment

In the chronically depressed patient, symptoms as well as functioning can be assessed utilizing the same validated instruments presented in Chapter 6 of this handbook. The aforementioned scales associated with ACT are utilized within delivery of that treatment.

### 22.1.2.4 Summary

CBASP is the first psychotherapy that specifically targets clients who are chronically depressed. According to CBASP, chronically depressed patients feel they have no control over their condition; make global, negative assumptions about their personal worth; and lack motivation to change as a result of false assumptions about their role in the world. In addition, they lack awareness of these dysfunctional thoughts and actions and, as a result, become increasingly disconnected from their social environments. Thus, the aim of CBASP is to reverse these cognitive distortions, promote behavioral change, and facilitate healthy social interactions. This is

accomplished by helping clients understand the relationships between their behaviors and their consequences. As the clients learn that their behaviors do indeed have consequences, they can begin to develop the autonomy and motivation required to change these behaviors and the subsequent consequences. CBASP incorporates three main therapeutic techniques to assist clients in achieving more adaptive behavioral changes including: Interpersonal Discrimination Exercise, Situational Analysis, and Behavioral Skill Training/Rehearsal. There are a limited number of studies showing the efficacy of CBASP in chronically depressed patients.

However, CBASP has been shown to be:

- As effective as the antidepressant, nefazodone
- Combined treatment with CBASP plus nefazodone is most effective
- Treatment with CBASP through the continuation and maintenance phases results in low relapse rates
- Clients who fail to respond to an antidepressant may benefit from CBASP
- CBASP is as effective as other psychotherapy approaches and may have added benefit in the long term

However, large, randomized, control studies are needed to confirm these findings.

ACT stresses the importance of living a life that has meaning and purpose, while being aware and allowing negative internal experiences that are creators of our suffering. ACT also teaches that experience and values should be the determinants of behavior rather than unwanted thoughts, feelings, and memories. Fusing with negative internal experiences leads to experiential avoidance and a life that is narrow, limited, and absent of vitality. Although clients are unable to control the “showing up” in conscious awareness of negative internal experiences, they do have a choice, whether to engage or pay attention to those internal experiences based on their value-based functionality. ACT has been shown to be an effective treatment for depression acutely and in the long term. However, there is no clear evidence that ACT is superior to CT; the results are mixed and there is a need for adequately powered, randomized, controlled trials of ACT versus

CT in not only acute, but chronic, depression as well. Mediation analysis suggests that ACT has a distinct mechanism of action compared to CT.

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66. Beck. Cognitive therapy: basics and beyond. 1995.
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  73. The UK based National Institute for Health and Care Excellence has information on evidence-based treatments for psychiatric disorders. <http://www.nice.org.uk>.
  74. TED talk on depression. [www.ted.com/talks/andrew\\_solomon\\_depression\\_the\\_secret\\_we\\_share.html](http://www.ted.com/talks/andrew_solomon_depression_the_secret_we_share.html).

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### **Additional Resources: On-line Resources**

69. BluePages: provides psychoeducation on depression and its treatment.
70. MoodGYM: an online CBT package.
71. University of Michigan. Self-management of depression resources. <http://depressiontoolkit.org/>.
72. The American Psychiatric Association has guidelines for evidence-based treatments (<http://psychiatryonline.org/guidelines.aspx>).

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### **Additional Resources: Phone Applications**

75. Life charge. J Your Ups Downs. <https://itunes.apple.com/us/app/life-charge-journal-your-ups/id648567759?mt=8>.
76. The Cognitive Behavioral Institute of Albuquerque's CBT app: <https://itunes.apple.com/us/app/ipromptu/id717391862?mt=8>.
77. MoodKit. [www.moodkitapp.com](http://www.moodkitapp.com).

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