
HANDBOOK OF
**VOCATIONAL
PSYCHOLOGY**
THIRD EDITION

Edited by

W. Bruce Walsh · Mark L. Savickas

**Handbook of Vocational
Psychology**

Theory, Research, and Practice

Contemporary Topics in Vocational Psychology

W. Bruce Walsh, Ohio State University

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Preface

The objectives for this third edition of the *Handbook of Vocational Psychology* are very similar to those of the earlier editions:

1. To make readers aware of the practical and applied aspects of the field and to prepare them to maintain an academically based objectivity about the field
2. To familiarize readers with a variety of techniques, procedures, and theories available for vocational assessment
3. To realistically assess the significance of vocational psychology for professional functioning and for societal development
4. To stimulate colleagues and students to make a commitment to continued professional growth in theory, practice, and research in the field of vocational psychology

We also attempt to chart new directions toward which vocational psychologists may direct their efforts. In addition, we hope to reinforce already existing positive trends in the field. Vocational Psychology is a field that has now clearly emerged. It cuts across a variety of fields including Counseling Psychology, Industrial and Organizational Psychology, Rehabilitation Psychology, the Psychology of Women, the Psychology of Minority Groups, Research Methodologies, and Basic Psychological Theory.

In this third edition of the handbook, as in the earlier editions, the chapter authors were encouraged not only to review the salient research and theoretical literature in their chapter topic area but also to analyze and synthesize the current work. The quality of their contributions is clearly a credit to them and to the field of Vocational Psychology. We wish to acknowledge and congratulate the authors for their hard work and diligence in approaching the task.

The third edition of the handbook is made up of four parts: The Field of Vocational Psychology, Research on Vocational Choice, Research on Work Adjustment, and Career Counseling. The three chapters in the first section (The Field of Vocational Psychology) of the handbook address the current status and future prospects for vocational psychology and its theories of career

development. The four chapters in the second section (Research on Vocational Choice) focus on the career counseling process, career interventions, and the outcomes of career counseling. The third section (Research on Work Adjustment) consists of four chapters addressing personality, work adjustment, career development in organizations, and vocational rehabilitation. The three chapters in the final section (Career Counseling) examine the practice of vocational psychology with an emphasis on career counseling. These chapters address career assessment and counseling, career assessment with culturally diverse individuals, and professional issues. Thus, this third edition of the handbook attempts to keep pace with the field's change, addressing key developments since the earlier editions, but with an eye on the future and potential new directions in the field. Overall, we believe this volume reveals yet again the continuing dynamic growth and vigor in vocational psychology.

—*W. Bruce Walsh*

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**Handbook of Vocational
Psychology**

Theory, Research, and Practice

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INTRODUCTION

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Current Issues and Innovations in Vocational Psychology

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Vocational psychology, a specialty within applied psychology, is the scientific enterprise that conducts research to advance knowledge about vocational behavior, improve career interventions, and inform social policy about work issues (Savickas, 2001). In this third edition of the *Handbook of Vocational Psychology*, we once again survey the current status of the discipline and seek to chart its future advances by presenting the research and reflection of leading scholars in the field. The authors in this volume address the central topics that comprise the cutting edge of the discipline, with regard to both innovations in career theory and research and improvement in counseling practice. Their chapters are organized into four sections to ensure that this survey of the discipline is broad in scope and comprehensive in content. The three chapters in the first section of the *Handbook* consider the current status and future possibilities for vocational psychology and its theories of career development. The authors, in turn, examine the field and its theories from the perspectives of historical processes, cultural studies, and women's studies. Following the opening section, which deals with vocational psychology as a field, are two sections that address in turn the two major domains of vocational psychology. These two subject matters are constituted by using occupational entry as a criterion for differentiating the two broad classes of vocational behavior: choice and adjustment (Crites, 1969). The four chapters in the second section of the *Handbook* deal with research on vocational choice, whereas the four chapters in the third section deal with research on work

adjustment. The three chapters in the final section of the *Handbook* examine the practice of vocational psychology, emphasizing career counseling.

THE FIELD OF VOCATIONAL PSYCHOLOGY

The three chapters in this section address vocational psychology as a field and examine its past successes, present status, and future directions. The chapter by Mark Savickas and David Baker presents a historical analysis of vocational psychology as a field in applied psychology in the United States and tells the story of how vocational psychology became an identifiable discipline in the social sciences. The authors highlight the antecedents that formed vocational psychology's foundation, the origin and emergence of vocational psychology as a distinct discipline within applied psychology, and the rise of vocational psychology as a psychological science. As the scientific discipline of vocational psychology faces issues of stagnation and decline, this story of its origin and early development sheds light on both the current situation and the future options for reinvigorating the discipline. Especially relevant are the occupational context and social concerns that prompted the "birth" of vocational psychology, because in many ways they resemble the context and concerns that the discipline must address today. However, before vocational psychology can effectively address these concerns, it must address its own decline, possibly with a revitalization and maybe a "rebirth." The future of vocational psychology may rest on its ability to again respond to societal changes by providing useful models, methods, and materials to help workers adapt to transformations wrought by globalization and information technology. Ideas about how vocational psychology might reinvent itself to help individuals cope with the emerging occupational structure, information society, and global economy unfold in the following two chapters.

The chapter by Mary Sue Richardson, Kesia Constantine, and Mara Washburn analyzes how contemporary society is experiencing a significant and far-reaching disruption and reorganization that is altering the entire fabric of the social structure. During the 20th century, options for living were more tightly scripted and circumscribed by norms and social expectation. Self-concepts and identities were developed in a stable social order that provided prompts and punishments to locate an individual in the social order and then guide that individual's choices. Today, globalization and technological change are reshaping views of the self and of identity, seeing them as constructed and co-constructed rather than as developed. Career, which was once thought of as the sum total of a person's work experiences, is now being reconceptualized as a reflexive process that is critical to the ability to sustain the coherent sense of identity required to negotiate life paths without the guidance of norms and traditions. In the absence of these maps, individuals are in

constant need for self-conscious processing of their life experiences to construct and reconstruct their life paths. In this milieu, Richardson, Constantine, and Washburn persuasively assert that vocational psychology needs to reinvent itself to remain useful to society and its citizens. With this goal in mind, they recommend how vocational psychology could be redefined to shift its theoretical lens from developmental to cultural psychology while emphasizing intervention-relevant theory and action research. This transformation in the field of vocational psychology will be as significant as the field's inception as a means to help match individuals to the new occupations that were created at the beginning of the 20th century and its refocus at midcentury from occupations to careers as a means of helping individuals develop their work lives in the hierarchical bureaucracies of corporate culture.

The chapter by Ruth Fassinger enables readers to look at this brave new world of work with an unflinching eye and penetrating insight. She continues her seminal contributions to vocational psychology by first distilling the recent scholarly literature on women's careers to its critical essence and then identifying an ambitious yet realistic agenda of research and reflection that, if implemented, would advance vocational psychology into the 21st century. Fassinger considers, in turn, what is useful and what is missing in four distinct groups of career theories: person-environment, developmental, cognitive, and gendered. Most importantly, Fassinger articulates a vision and explains strategies for advancing each class of theory by tying them to specific vocational problems of contemporary women and then making suggestions to prompt more theory-driven research. She succeeds in envisioning new heuristic paths for vocational psychology, and ends by reminding readers of the need for vocational psychologists to engage in advocating public policy and social justice—activities that were central when the field of vocational guidance was created by social workers who sought to reform the prejudices and ills of urban living.

Vocational Choice

The second section of this handbook deals with the class of vocational behaviors that occur prior to occupational entry, in this case emphasizing the subject matter of vocational choice. In the first chapter of this section, Susan Phillips and LaRae M. Jome ask what vocational psychologists know about vocational decision making that would be useful to career counselors as they work with clients who are trying to make the best possible career choice. The short answer is "quite a bit," but the long answer adds the fact that we need to know quite a bit more. As Phillips and Jome address the important question they pose in the introduction to the chapter, they scan the extant empirical research and theoretical frameworks to identify the most useful models, methods, and materials for easing vocational decision making. They

astutely divide that literature into two parts: one that addresses the *content* of choice and another that addresses the *process* of decision making. After gleaning from these two literatures the best facts and formulas that we currently know, they then turn their attention to what we still need to know. In considering gaps in the literature on and in our understanding of the developing and deciding person, they draw a road map for future research that traces three perspectives on decision making. First is the developmental perspective that focuses on how life-cycle patterns and sequences influence decision making. The second perspective examines the context that surrounds a client and shapes her or his lived experience. The third, and final perspective, focuses on interpersonal relationships and the roles that significant others play in a client's decisional process and eventual choices. Phillips and Jome conclude their chapter by reexamining the usefulness of rationality as the "holy grail" of modern career theory and consider the advantages of postmodern *good-enough choices*, *planned happenstance*, and *positive uncertainty*. Having read this chapter, the careful reader will indeed understand what vocational psychologists know and need to know about vocational decision making and career choice. How to apply this knowledge in career interventions is the topic of the next three chapters in Part 2.

In their chapter, Susan Whiston and Laurel Oliver bridge the science of vocational psychology and the profession of career counseling by addressing research on how counseling fosters vocational development and the need for better conceptualization and investigation of this process. This chapter provides a thorough accounting of what we know and what we need to know about career counseling, especially its outcomes and processes for different types of clients in manifold settings. After defining career counseling and distinguishing it from other career interventions and from personal counseling, Whiston and Oliver closely examine six major aspects of career counseling research. First, they consider the accumulated research on the outcomes and effectiveness of career counseling. Next, they examine the process of career counseling and identify those factors that contribute to effective outcomes. The third section of the chapter addresses the interaction between process and outcome in career counseling, whereas the fourth section considers characteristics of the client and counselor and the setting in which the career counseling is provided. In the fifth section, the authors discuss the role of theory in the practice of career counseling. And looking ahead, the sixth and final topic addresses how career counseling might change and evolve, with specific attention to the influences of technology and the Internet. The authors conclude the chapter by identifying areas where additional research related to career counseling is particularly needed.

This topic is taken up in the chapter by Seven Brown and Eileen McPartland, who examine the research on how career interventions make a difference. Moving beyond the general question of the effectiveness of these

interventions and the specific issue of identifying the critical ingredients that produce these effects, Brown and McPartland consider the issue of “how” these interventions and ingredients achieve their effects and how they can be improved. Brown and McPartland emphasize the need to approach this issue by moving beyond the uniformity myth: that is, the belief that clients are similar to one another and interventions are applied uniformly. To examine how interventions work, they suggest that researchers (a) distinguish among different choice problems and their underlying causes; (b) consider client goals and events that trigger help seeking; and (c) recognize the status identities of clients along dimensions including gender, race and ethnicity, sexual orientation, and socioeconomic resources. To examine differential treatment effects along these three lines, Brown and McPartland recommend strategies such as comparative outcome research, applying the best available method, and ideographic data analysis. They hope that, taken together, their ideas and suggestions will promote an applied science of career intervention.

Such an applied science of career intervention must pay particular attention to the usefulness of different interventions with diverse groups in manifold contexts. In their chapter, Michael T. Brown, Yasmeeen Yamini-Diouf, and Christopher Ruiz de Esparza review the literature on this topic addressing its current shortcomings and concluding that the accumulated findings are sparse at best. They then present a rationale for and a detailed description of a strategic and programmatic research agenda for studying the effectiveness of career interventions with diverse groups. They astutely suggest that this research program should begin by investigating whether the five critical ingredients of effective career intervention identified by Brown and his colleagues (2003) vary as a function of racial and ethnic group membership of the clients. Brown et al. also suggest the possibility that there may be additional critical ingredients in effective interventions with diverse clients in manifold settings. For example, they suggest the possibility that models, methods, and materials for both elevating career aspirations and coping with barriers, constraints, and hindrances may be important ingredients in effective work with minority persons. We hope that the next rendering of this handbook will include a more complete and better understanding about what career interventions work best with which clients.

Work Adjustment

The third part of this handbook deals with the class of vocational behaviors that occur after occupational entry, in this case emphasizing the subject matter of work adjustment. In their chapter, Beryl Hesketh and Barbara Griffin concentrate on the Minnesota Theory of Work Adjustment (TWA) and its evolution since 1957. They purposely take an historical perspective in tracing the origins of TWA in order to demonstrate how the rich background of the

concepts remains relevant to today's world of work as well as to highlight how these concepts have parallels with many avenues of recent research in industrial and organization psychology. In outlining the development of the theory, Hesketh and Griffin demonstrate how the heuristic concepts in the theory remain relevant to today's world of work. Beyond explaining the core concepts of TWA, they focus attention on the dynamic components in the theory and their utility for comprehending the fluid, changing work environment individuals face today. In addition to explaining how people maintain adjustment to their work situations, Hesketh and Griffin explore the construct of adaptability and its nomological network. In the end, they provide a contemporary statement of TWA, one that highlights its usefulness in guiding future research and in assisting counselors and coaches to equip people to cope with the adaptive requirements of the modern workplace. The topic of person-environment fit is further developed in the next chapter.

The role of personality in work adjustment has long been ignored because of the initial reports of low to modest correlations between personality inventory scores and job performance. Prompted by the Five-Factor Model of personality, recently there has been renewed interest in the role that personality plays in job-related performance, satisfaction, attitudes, and behaviors. W. Bruce Walsh and Donald E. Eggerth examine these key aspects in their chapter, and use the Five-Factor Model for organizing personality traits to consider how personality relates to work performance, job satisfaction, and subjective well-being. In considering how personality relates to work adjustment variables, they concentrate on the outcomes of satisfaction and satisfactoriness, not on the processes that lead to these outcomes. They report that self-evaluations by workers and supervisors' evaluation of their work show a small relation to dimensions in the "big five," especially conscientiousness. Walsh and Eggerth acknowledge that these relationships are small; yet, they suggest that personality variables can be used additively with other variables to increase predictive validity in selection decisions. However, at this time, the relation between dimensions in the Five-Factor Model and work outcomes appears to be too small and too general to add much incremental validity to the assessments made for career counseling interventions. In fact, after reading this review, it seems that the dimensions in the Five-Factor Model may relate more to the style with which individuals engage in work rather than to the work they choose to do or how well they do it. This style, or what Walsh and Eggerth refer to as "happy personality," seems to relate broadly and generally to affective outcomes such as satisfaction and subjective well-being. The most intriguing insight offered by Walsh and Eggerth is the idea that researchers examine how congruence (either between person and environment or within a person's short- and long-term goals) may moderate or mediate the relation between happy personality and happiness. Of course,

employers want happy workers, so many organizations engage in activities that ease work adjustment.

The broad range of activities that organizations use to develop their workforce as well as to assist individual workers to manage their own careers is astutely described by Gary D. Gottfredson in his chapter. Using a succinct style, he clearly outlines and discusses the organization's major reasons for engaging in these activities: meeting future personnel needs, fostering attachment to the organization, improving worker performance, and identifying and handling human resource problems. To accomplish these four major objectives, organizations enact several core strategies. The first strategy of planning and analysis serves functions such as succession planning, workforce assessment, and job analysis. The second strategy of assessment functions to increase worker self-knowledge through psychological testing, assessment centers, and 360-degree feedback. The third strategy of learning and development functions to foster employee growth through performance management, developmental assignments, coaching, and training. Gottfredson concludes the chapter by identifying the complex challenges encountered by career management professionals who work in organizations and then describes how particular types of research and certain forms of training can assist them to meet these challenges.

Of course, some challenges to work adjustment require more attention and assistance than an employer can provide. For example, the work adjustment of individuals who have disabling physical and psychiatric conditions can present challenges to which employers are ill-equipped to respond. Vocational rehabilitation services directly address these challenges and, as such, vocational rehabilitation should be an important topic in vocational psychology. Although vocational psychologists have been involved in vocational rehabilitation for almost a century, vocational rehabilitation is essentially a multidisciplinary effort that also includes important contributions from education, counseling, medicine, and allied health disciplines. In their chapter, Timothy Elliott and Paul Leung provide a precis of the history of vocational rehabilitation in the United States, emphasizing how public policy has shaped its evolution. They then turn to outlining vocational psychology's major contributions to vocational rehabilitation, typically consisting of theoretical perspectives and empirical research. The emphasis of current legislation, emergence of employment specialists, a strong consumer rights movement, and inadequate coverage in counseling psychology and counselor education training programs may combine to make vocational psychology play an even smaller role in the future of vocational rehabilitation. To avert this possibility requires that vocational psychologists renew their commitment to vocational rehabilitation theory, research, and practice, a commitment deeply engrained in the Minnesota Theory of Work Adjustment (Dawis, England, & Lofquist, 1964).

Career Counseling

The final part of this handbook deals with the practice of vocational psychology, in this case emphasizing career counseling. John Krumboltz and Anne Chan concentrate on one major question: namely, "How should vocational psychology frame the activity of career counseling?" The goals of and paradigm for career counseling have remained largely unchanged since they were first articulated by Frank Parsons in 1909. Krumboltz and Chan directly interrogate these goals and the paradigm used to achieve them and, in so doing, find the current practice of career counseling wanting. Fortunately, they do not stop at deconstructing current practices. They offer a possible remedy in arguing that the goals of career counseling should be broadened, the scope of career counseling should be extended to include all major life transitions, and that transition counselors should focus more attention on helping people who encounter chaos in postmodern society make meaning for their lives, especially through spiritual, religious, and other healing practices. It is meaning that bridges transitions by enabling individuals to maintain a sense of personal continuity and coherence as they move through a series of career discontinuities.

In this regard, Paul Hartung's chapter offers a fresh look at the intersection of vocational appraisal and career counseling. After reviewing traditional models, he suggests a more integrative approach that uses contemporary viewpoints to build on established models and perspectives. Hartung explains how to establish tighter linkages between assessment and counseling by supplementing the positivist match-making approach with a constructivist meaning-making perspective. He also advises that these linkages would be further strengthened by systematic assessment of the myriad factors in career development that are shaped by social contexts and opportunity structures. In the end, Hartung explicates a model that truly uses interpretation of both quantitative measures and qualitative assessments within counseling, rather than the traditional model in which test interpretation was thought to be career counseling.

Before adopting an integrated model of career assessment and counseling such as the one proposed by Hartung, practitioners must examine its effectiveness with diverse groups. Linda Subich, in the final chapter of this work, reviews the research literature for the last 10 years. She concentrates on extracting information about the characteristics of scores from measures of interests, values, self-efficacy, and career adaptability with populations other than the reference populations presented in the instruments' manuals. Unfortunately for the field of vocational psychology, she reports that the existing research concentrates on the instruments themselves, rather than on their use with diverse populations. The majority of the research deals with issues such as internal consistency, construct validity, and differences in group means.

Only three studies examined the concurrent validity of these career assessment instruments. None of the studies that she identified addressed directly the issue of predictive validity. This gap in research leaves open the question of validity for use. Before having confidence in administering these career assessment instruments to diverse populations, practitioners need evidence of their usefulness in predicting choices, pushing exploration, promoting self-knowledge, and prompting new possibilities. Although evidence of mean score differences in the measured variables and distinctions in how different groups may perceive the structure of the work world is valuable, it does not address the question of which instruments to use with which clients.

As a group, the chapters on the field of vocational psychology and its theories (Part One), research on vocational choice (Part Two), research on work adjustment (Part Three), and the practice of career counseling (Part Four) provide not only a thorough update on the status of the field but also penetrating insights about and previews of its forthcoming developments. In so doing, the authors confirm that, as a scientific enterprise, vocational psychology during the last decade continued to advance knowledge about vocational behavior, improve career interventions, and inform social policy about work issues. Furthermore, the authors' evaluations of the current status and future potential of vocational psychology serve to encourage its practitioners to continue to address complex issues with innovative models, methods, and materials.

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PART ONE

**THE FIELD OF VOCATIONAL
PSYCHOLOGY**

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The History of Vocational Psychology: Antecedents, Origin, and Early Development

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Vocational psychology, a specialty within applied psychology, is the scientific enterprise that conducts research to advance knowledge about vocational behavior, improve career interventions, and inform-social policy about work issues (Savickas, 2001). Its goal of advancing the scientific understanding of vocational behavior distinguishes the discipline of vocational psychology from the professions of counseling psychology and career counseling.

By most accounts, the field of vocational psychology is at low ebb. Its contributions go unnoticed by most psychologists and few recruits enter the field. One of the more sobering examples of the current low status of vocational psychology appeared in the *Chronicle of Higher Education* (February 22, 2002) in an article entitled “Good Work, Well Done: A Psychological Study.” The author of the article, Howard Gardner, a developmental psychologist at Harvard University, asserted that “the actual experience of work has been strangely neglected” by academic psychology. Furthermore, he observed that “influential psychologists have had relatively little to say about the ways in which workers conceptualize their daily experiences—the goals and concerns that they bring to the workplace, the human and technical opportunities and obstacles that they encounter, the strategies that they develop to make the most of their experiences . . .” He reported finding few references to work as he scanned the indices of the psychology volumes on his bookshelf. Gardner then speculated as to why psychologists have avoided studying work. He concluded that it is high time that psychologists investigate “the place that work occupies in the overall life experiences of the individual.”

It is ironic that Gardner's own university played a central role in founding the scientific discipline of vocational psychology and the profession of career counseling. Nevertheless, Gardner accurately recognized that in recent decades vocational psychologists have not contributed much to the mainstream of psychological discourse. Even vocational psychology's unique and most important contributions, the psychology of vocational interests and the development of careers, rarely appear in books on adolescent and adult development where they could play a prominent role.

Despite not having its own place on the contemporary psychologist's bookshelf, vocational psychology has a history of important contributions to applied psychology and American life. This chapter presents a historical analysis of vocational psychology as a field of applied psychology in the United States. The chapter tells the story of how vocational psychology became an identifiable discipline in the social sciences. Although the history of industrial psychology (Ferguson, 1965; Society for Industrial and Organizational Psychology, 2004) and that of vocational guidance (e.g., Borow, 1964; Brewer, 1942; Williamson, 1965) are well documented, we could find only a few scanty accounts of the history of vocational psychology, such as the list of landmarks in vocational psychology that appear in Fryer and Henry's (1950) *Handbook of Applied Psychology* and the sketch of important events in vocational psychology from 1909 to 1951 in Crites' (1969) *Vocational Psychology*. The most complete accounts that we could identify were prepared as eyewitness narratives from a personal perspective, the first written by Harry Dexter Kitson (1958) and the second written by his protégé, Donald Super (1983). Thus, we believe that the present chapter is unique in dealing specifically and systematically, yet not comprehensively, with the history of vocational psychology.

In this chapter, we concentrate on three topics: the antecedents that formed vocational psychology's foundation, the origin and emergence of vocational psychology as a distinct discipline within applied psychology, and the rise of vocational psychology as a psychological science. We end the story of vocational psychology's history at the middle of the 20th century, because the theoretical models (e.g., Holland, 1959; Roe, 1956; Super, 1953), research methods (e.g., Edwards, 1950), and statistical techniques (e.g., Guilford, 1948, 1954) that emerged during that period remain in widespread use today and are still presented as foundational material in the discipline's major textbooks and handbooks.

Because the scientific discipline of vocational psychology currently faces issues of stagnation and decline, we believe that the story of its origin and early development sheds light on both the current situation and the future options for reinvigorating the discipline. Especially relevant are the occupational context and social concerns that prompted the "birth" of vocational psychology, because in many ways they resemble the context and concerns

that the discipline must address today. However, before vocational psychology can effectively address these concerns, it must address its own decline, possibly with a revitalization and maybe a “rebirth.” The issues involved in the early development and stabilization of vocational psychology as a distinct discipline bear on this reinvigoration in explaining the discipline’s fracture into two disconnected halves. Accordingly, the present chapter begins with a discussion of the current status of vocational psychology as a distinct specialty and then recounts in turn the discipline’s antecedents in the 19th century, its origins early in the 20th century, and its rise into a psychological science between the two world wars. The chapter concludes by briefly considering vocational psychology’s current viability as a specialty within applied psychology.

ANTECEDENTS OF VOCATIONAL PSYCHOLOGY

Vocational psychology’s prehistory, which is essentially the story of vocational guidance from 1850 to 1908, is intimately linked to the emergence of large commercial cities in which the factory system changed the keystone of the economy from agriculture to manufacturing. From 1880 to 1920, the forces of industrialization, urbanization, and immigration propelled American cities into modernity. The factory system of production was, more than anything else, responsible for the emergence of vocational psychology. The factory system emanated from revolutionary innovations in energy production and technology. Using steam power to fuel machines freed plant location from needing to be next to a river that produced water power. In turn, the increasing number of distinct machines required tending by different specialists. High-energy machines forced a specialization and division of labor because machines performed specific functions, not the general functions that human laborers could perform. A specific machine needs a particular operator as well as a specialist capable of repairing it. As the factory system grew, scientific management called for routinization and simplification of tasks and, in turn, required that workers apply more complex and specialized skills (Miller & Form, 1964). Thus, employers sought to hire individuals to perform a circumscribed cluster of tasks. Applying a rational mentality to this increasing specialization in manufacturing led to the invention of jobs and to the division of jobs into occupations such as administration, research, sales, accounting, and numerous others. In contrast to a farmer who performed all the tasks required to produce a crop, a factory worker performed only a few of the tasks required to produce something. The model of circumscribed tasks transformed work into jobs and groups of jobs into occupations. Rather than a stable commitment to the land and the tasks needed to cultivate it, city workers were free to find jobs and to change occupations. Given this system,

employers determined that they had no responsibility for workers beyond paying them a wage for doing a job.

A Helping Hand

The change in population distribution caused by commercial cities led to problems such as unemployment, vice, alcoholism, delinquency, and crime. In 1844, 12 salesmen in a London dry goods store founded the Young Men's Christian Association (YMCA) to improve the spiritual condition and mental culture of young men engaged in drapery and other trades. They opened a library and offered classes toward this end. In 1851, the citizens of Boston opened the first YMCA branch in the United States in order to serve the white-collar workers of the economic class. The founders of the Boston YMCA conceived it as an evangelical reaction to the modern city's urban ills. The New York YMCA's 23rd Street branch formed the earliest committee on occupations "to aid members in selecting places of employment" (Fryer, 1931, p. 24). The YMCA movement in the United States soon grew from its British roots in evangelical Protestantism into a community welfare organization that sought to improve social conditions. YMCAs followed the well-established routes of transportation as they spread quickly from Boston to other urban centers. In expanding its evangelical origins, the first secular work performed in YMCAs involved opening libraries and reading rooms. To supplement the reading room, YMCAs next added public lecture courses. Then, to assist young men, working youth, and apprentices, the YMCAs began to offer courses in reading, spelling, grammar, history, geography, the Bible, writing, and arithmetic.

As part of its relief work, YMCAs opened employment bureaus in response to Civil War veterans' need to find peacetime jobs. The need intensified with the recurrent depressions that followed the Civil War. For example, in 1866 the Chicago YMCA hired a man to start an employment bureau and he did placement work there for the next 16 years (Hopkins, 1951). Records of the Chicago bureau indicate that in 1875 alone it found employment for 4,000 people. The Boston association hired an employment officer in 1872, and he placed 700 people during his first year. The individuals who staffed the YMCA employment bureaus soon saw guidance possibilities in the employment program and began to do some counseling in connection with their placement work, but "these potentials were not explored seriously until the twentieth century" (Hopkins, p. 192).

By 1890, the YMCAs firmly focused on prevention. This shift in mission from remediation to prevention had begun 20 years earlier as YMCAs became more interested in character-building activities with middle-class youth, rather than in rescue work with alcoholics and discharged convicts. When public libraries became more common, the YMCAs closed their libraries, yet retained their reading rooms and concentrated on offering educational and

social programs. Paralleling this transformation in purpose and program was the shift from lecture courses for enjoyment to evening classes for study and vocational improvement. Around 1890 there was an explosion of industrial education classes in American YMCAs, prompted by the great success of the YMCAs in Detroit and Dayton. In 1885, the Boston YMCA offered 17 courses, which were taken by 1,014 men and 143 women (Hopkins, 1951). By 1890, classes were clearly more important than were libraries or lectures. The YMCA vocational evening classes became the university of the clerk and the mechanic. During this period, the YMCA movement added a new mission to its goal of helping young workers. It began to concentrate on helping boys, accelerating a trend that had started in the 1870s when the YMCAs tried to improve conditions for poor urban children.

With the crystallization of a new purpose, the YMCA, in about 1890, added "boys' work" to its focus on character building with youth. This meant leaving the care of poor and neglected boys to rescue missions and refocusing YMCA programming on helping boys from better homes. As a result, YMCAs added programs to serve younger age groups (using 14 years of age as the boundary between boys and working youth), until in the first quarter of the 20th century boys' work and the "junior department" became the dominant mission of the urban YMCA, overshadowing its work with youthful workers. The concentration on boys' work soon spread to helping immigrants, rural youth who had moved to the city, and even college students.

Around 1901, the YMCA formally committed to boys' work on a large scale, profoundly influenced by the newly emerging field of child development (Hall, 1904), as well as by sociological treatises on street boys, newsboys, delinquents, and boys working in coal mines (Baker, 2001; Davidson & Benjamin, 1987; Levine & Levine, 1992). The YMCA lowered the age limit for entry to 12 years and in New York City, for example, devoted 20% of their new building to boys' work. They engaged as consultants professors from the Teachers College, Columbia University, including E. L. Thorndike and William Kilpatrick. By 1913, boys' work was so predominant, that the YMCA formed a new division to enroll men ages 18 to 24, with the goal of making 35% of their membership in this division (Super, 1929). The YMCA educated the youth that public education had not yet noticed by offering trade schools, evening classes, manual training, and correspondence courses to young men who wished to improve themselves. Some of the YMCAs formed their own colleges in cities such as Boston, Chicago, Cleveland, Columbus, Detroit, Portland, St. Louis, Seattle, and Youngstown. Several of these YMCA colleges evolved into modern universities that today are known as, for example, Northeastern University, Cleveland State University, and Youngstown State University.

Based on its new philosophy and educational psychology, YMCAs pioneered offering vocational guidance to youth. The YMCAs of this period considered guidance an important adjunct to their educational programs because

they realized that they were in a strategic position to provide counseling services. Of course the bulk of this counseling was placement work performed in conjunction with vocational training programs and other educational programs. The early informal guidance programs became systematized with the emergence of C. C. Robinson's (1912, 1922) *Find Yourself* program. Robinson called his approach to vocational guidance a friendly method because guidance was provided as a friend, not as an expert, would do it. This sympathetic approach was offered to every boy who entered a YMCA program. Vocational guidance services in the YMCAs reached their zenith in the 1920s and 1930s. A good sample of the materials and methods used by YMCA employment secretaries was reported by psychologist Douglas Fryer. In 1925 he wrote *Vocational Self-Guidance* to compile the methods and materials he used as director of vocational counseling at the central YMCA branch in Brooklyn, New York. Fryer dedicated the book, which is a precursor of tools such as the *Self-Directed Search* (Holland, 1997), "to the Young Men's Christian Association, among the first to introduce vocational counsel as a service to young men" (p. v).

When educators and social workers, including the YMCA, promoted character education, they meant building self-discipline and habits of responsibility and morality (Super, 1929). The "science" of characterology—the use of phrenology, physiognomy, and palmistry to assess character—was applied to vocational choice and selection by leading exponents, including Lysander Salmon Richards (1881), Joseph Ralph (1923), and, particularly successfully, by the physician Katherine Blackford (Blackford & Newcomb, 1914, 1916). This pseudoscience recognized individual differences but assessed their meaning for character by measuring crania, facial features, and body shapes. Although the practitioners of characterology recognized the principle of matching people to positions, their bases for matching were character readings done by judging bodily appearance—a procedure analogous to "judging a book by its cover." The helping hand offered by friendly volunteers, even with the assistance of characterology, soon proved ineffective in combating the ills of city living.

The Science of Self

The problems of the city overwhelmed amateurs and required the attention of experts, individuals who would quickly professionalize the practice of benevolence by constructing new models and methods based in science. Science was viewed as the panacea for society's ills and soon would be used by the Progressive movement as an ally of social and political reform. Because physical science had revealed natural laws, leading thinkers believed that social science could reveal the laws of human nature, which in turn could be used to direct society. Science promised to run things more efficiently; indeed

scientific management (Taylor, 1911) and time and motion studies (Gilbreth, 1911) became popular motifs. Around the turn of the century, the efficiency motif appealed to business owners who wanted to increase productivity and to schoolteachers who had to deal with the influx of rural and immigrant students to city schools.

As scientific procedures gained in authority, the construal of problems shifted from morality to science. Instead of viewing social problems as moral failures caused by illegitimacy and alcoholism, the new view was that the origin of a person's problems needed scientific diagnoses and treatment. The cure for people's problems was to be found in applying the casework model, not the kindness of strangers and evangelicalism. This new idea stated that benevolent social work had ignored the nuances of each case. Professional social workers became convinced that an important part of the new industrial city was the diversity of its inhabitants and their problems, each requiring individualized diagnosis and treatment. Starting in 1897, the social work theorist Mary Ellen Richmond advocated the establishment of professional schools for the study of casework and for formal education in social work. Richmond (1917) wrote: "Treat unequal things unequally . . . social workers have the great fact of ineradicable individual difference in human beings to face" (p. 370). She called for diagnosis followed by variation in process: "Do different things for and with different people, and study their differences" (p. 370). She called attention to the situation and personality of the individual in social need. The tool for recognizing individual differences became science, not friendly visits from charity workers. Thus, social work moved from sentimentality to science, or balanced the two by adding science to sentimentality in constructing professional benevolence. Social workers looked to science for "comfort and relief from loose thinking, looser talk, and the wasting of great reservoirs of valuable energy" (Todd, 1919, p. 62). In the beginning, science was viewed as both an attitude and a technique. To start with, social work, and its progeny vocational guidance, relied on that attitude, lacking techniques devised by the scientific method. A scientific attitude of mind—an organized mind that seeks facts and wants to rid the world of chance and luck—could be cultivated by training; yet, science itself would have to be called on to devise the techniques (Todd).

Differences among individuals, which seem so obvious to us now, were generally ignored or substantially denied by the first generation of psychologists. The construct of individual differences, which would become the touchstone principle for 20th-century vocational psychology, then emerged in England and Europe during the last decade of the 19th century, grounded in the pioneering work of Frances Galton (1883) on statistical correlation and in that of William Stern (1911) on differential psychology. It was brought to America by James McKeen Cattell, whose study of individual differences led him to coin the term "mental test." Cattell (1890) advocated three principles: (a) describe

a quantity by its relative position on a scale of measurement, not by a classificatory adjective; (b) keep in mind the variable error in every measurement used; and (c) study the quantities by their relation to each other. According to Thorndike (1914), Cattell's psychology of individual differences and mental testing was advanced by students and colleagues at Columbia University and quickly absorbed by "education, philanthropy, psychiatry, and other varieties of human engineering" (p. 97).

Educators working in growing cities observed great diversity among their pupils, and quickly began to view individual variation as a cardinal characteristic of human nature (Suzzallo, 1911). The city school system provided an opportunity to divide its heterogeneous students into special classes that could better address their individuality, thus diversifying the uniform methods of the traditional school. Thorndike (1911), in his educational monograph entitled *Individuality*, explained that psychology could study human beings with respect to common humanity or with respect to individuality. He asserted that the study of common humanity provides facts and laws for educators, yet the study of individual differences enables educators to apply these principles economically in teaching each individual.

Sustained by the discovery of individual differences, the science of personality replaced the culture of character (Nicholson, 2003). Industry's new occupations called for a new way of matching people to positions, one based on a new view of human nature and a revised conceptualization of "self." Self, of course, is in part a cultural product; it is not a product of brain chemistry nor is it invariant across cultures. Self arises when individuals attune their biological potentials to the meaning system of the culture in which they develop (Heine, 2001). Thus, individuals construct a "self" by living in and adapting to their culture. When American culture shifted its meaning-making system from agrarian and rural constructs to industrial and urban constructs, it soon constructed a new type of "self" for the modern age. Nicholson (2003) asserted that the "new human nature" involved a shift from the construct of character to the concept of personality. He traced how character with its concern about ideals, morality, and duty was replaced by personality with its concern for self-expression and self-fulfillment. Character was a Victorian notion of "self" based in the community and focused on duty, honor, and a shared moral code. The goal of character formation was cultivating selfhood through self-abnegation and by following moral standards. In contrast, the goal of personality development was achieving selfhood through self-expression and by realizing one's potential. Thus, personality emerged as a modern notion of an expressive and adaptive self, one suited for the industrial age.

The cultural transformation from character to personality swept away traditional faculty psychology, epitomized by social scientists such as Herbert Spencer. The attention of psychologists shifted from essences to actions and from what individuals did to how they did it (Wiebe, 1967). Functionalism

replaced faculty psychology, especially at the University of Chicago under the leadership of James Rowland Angell (Backe, 2004), whose students—Helen Thompson Woolley, Mabel Ruth Fernald, Walter VanDyke Bingham, Clarence Stone Yoakum, and Harry Dexter Kitson—would become pioneer vocational psychologists. As part of this shift from character to personality, education transformed its concern with mental discipline and training the faculties to “the guidance of behavior in harmony with social processes” (Wiebe, p. 149).

Vocational Guidance

The personality ideal emerged in the 1910s and fostered the growth of professional vocational guidance because specialists were needed to understand individual differences in people and the diverse requirements and routines of new occupations. Urbanization placed a premium on different traits, especially willingness to change over stability, intelligence over moral conviction, and self-promotion over self-sacrifice. A new middle class emerged as the industrial system of the cities promised occupational outlets for their talents. The new middle class consisted of two types. The first group worked in medicine, law, economics, administration, social work, and architecture. The second group included specialists in business, labor, and agriculture. Members of both groups emphasized their own distinctive skills and functions. These qualities came to characterize their very lives as they proudly identified with their occupations. Prizing their relationship to others in the same occupation, they enthusiastically formed craft unions, professional organizations, trade associations, and agricultural cooperatives. In due course, these organizations increased entry requirements into their occupations to protect their prestige through exclusiveness. They also used science to solidify their status and then to advance it. For example, medicine went from an imprecise craft to a scientific profession. Law paralleled this move, and even veteran farmers started to develop scientific approaches to agriculture as shop supervisors applied the scientific method to management.

To feed these occupations, American universities, led by Harvard University, diversified curricula to include more practical and scientific subjects. This, in turn, pressured large urban secondary schools to prepare youth for these curricula. The gap between grade school and university, which was once filled only by private preparatory schools, now was filled by public high schools, populated with youth who could benefit from vocational education and occupational guidance. From 1890 to 1910, students and teachers increased more than fourfold, and then doubled in the next decade (Wiebe, 1967).

Although science prompted the societal movement toward occupational identity and professionalization of functions and activities, bureaucracy facilitated the differentiation of occupational specialties. The government and

industrial bureaucracies of large cities placed science at center stage, or, if not science itself, then at least the scientific method. The bureaucratic orientation of the time included valuing continuity and regularity, functionality and rationality, and administration and management. The middle class appreciated the bureaucratic form, viewing it as a social means for progress. They were reinforced in this belief by the military mobilization of 1917 and 1918, which showed how well bureaucracy worked in ordering the new society. A staunch advocate of the benefits of bureaucracy was the Progressive movement.

Progressives envisioned using science to redeem the ills of the city caused by industrialization, urbanization, and immigration—the very forces that had propelled America into modernity from 1880 to 1920. By 1910, Progressivism was the leading force in achieving a widespread consensus for reform. During the next decade, Progressivism reached its high point in the fight for commonwealth rather than for personal wealth. Progressives asserted that the boom in industrial and commercial expansion required corresponding radical changes in government to (a) remove the chief sources of political corruption, (b) restore popular rule, (c) increase the size of government and its functions to relieve social and economic distress, and (d) bring forth public ownership and operation of natural monopolies like railways and telegraphs (Mann, 1975). One of the leaders in the fight for public monopolies was Frank Parsons, a law professor at Boston University and a legal textbook writer. As a leading civic reformer who fought to better the conditions of slum dwellers, he was noted for his belief in fundamental democracy and efficient government. Parsons used his keen intellect and psychological insights to attack root causes of social problems and advance practical and rational solutions (Flower, 1914).

Although he did not invent it, Parsons is widely acclaimed as the founder of vocational guidance, because his three-step paradigm published in 1909 gave it status as a science. Parsons was very much interested in how people choose a life's work, because he viewed vocational choice as a form of individual and social efficiency, a part of the progressive ideal. His progressive views made him a frequent and popular guest at the Civic Service House, a settlement home opened in 1901 by Pauline Agassis Shaw, a philanthropist with a strong commitment to children. One goal of the Civic Service House was to provide a semblance of a college education to the working poor of the neighborhood (Brewer, 1942; Davis, 1969). Talking about vocational choice to students at the Civic Service House, Parsons found many wanting personal meetings to discuss their occupational futures, so much so that in January 1908 he opened the Vocational Bureau at the Civic Service House under the motto, *Light, Information, Inspiration, and Cooperation* (Brewer, 1942). The term "vocational guidance" was used for the first time on May 1, 1908, in the initial annual report of the Bureau's activities and accomplishments written by Parson.

The first course in vocational guidance was sponsored by the Boston YMCA, with classes scheduled to begin on October 5, 1908. Parsons designed the course "to fit young men to become vocation counselors and manage vocational bureaus" (Street, 1994). Unfortunately, Parsons died on September 26, before the course began. The first class was subsequently held on November 8, 1908, and taught by Ralph Albertson, Parsons' friend and colleague at the Bureau. In 1917, the Bureau was moved to Harvard University and renamed the Bureau of Vocational Guidance. The first university course in vocational guidance was offered at Harvard University summer school in July 7, 1911, under instructor Meyer Bloomfield, who succeeded Parsons as director of the Bureau. Although not for credit, 41 students enrolled in the course. Lysander Richards (1925) later recalled that two high school teachers who were enrolled in that course, after learning about his work from the instructor, visited him to obtain a copy of his book on the new science of "vocophy." Similar courses were offered at the University of Chicago in 1912 and at Columbia University in 1913. Also, in 1913, the Employment Managers Association of Boston sponsored a course on the theory and practice of vocational guidance given by the Vocational Bureau of Boston and Boston University and taught by Meyer Bloomfield, who was Bureau Director and Special Professor of Vocational Guidance at Boston University. The initial course had 29 enrollees (Brewer, 1942). Stimulated by Frederick Allen of the Boston Vocational Bureau, the Employment Managers Association had been formed in December 1912 to accelerate the development of the new profession of employment manager or personnel director. The next course, organized by the Employment Managers Association, was designed to prepare practitioners for personnel work. The course was offered by the Amos Tuck School of Administration and Finance at Dartmouth College in the fall of 1914, with Bloomfield as one of the lecturers (Brewer).

Toward a Psychology of Vocations

Although Parsons was a practitioner who wished to serve youth, his impact on vocational psychology was as important as his impact on vocational guidance and career counseling, because he formulated the conceptual model on which the field still rests: Adjustment is a function of the fit between a person's capacities and characteristics on the one hand and the requirements and routines of the occupation on the other (Crites, 1969). In writing the first book on modern vocational guidance, Parsons (1909) moved vocational guidance from an activity to a profession by providing a theoretical model and a scientific point of view. His three-step paradigm of increasing self-knowledge, providing occupational information, and matching self to job using "true reasoning" enabled vocational guidance personnel to develop a sense of specialization that distinguished them from social workers. The establishment of the

profession would come next with the formation of the National Vocational Guidance Association in 1913 (Brewer, 1942), which provided, and as the National Career Development Association currently provides, a professional organization and specialty credentialing.

It should be noted that the vocational guidance movement started by Parsons was not without its critics. Some commentators lamented that the 20th century, and vocational psychology, saw the shift from the Horatio Alger myth that ambition was what mattered to guiding youth to where they fit (Hale, 1980). Stanton Brooks, superintendent of the Boston public schools, criticized this goal of vocational guidance in 1911 when he wrote that the goal had shifted from “aim at the highest” to reconcile individuals to their fate. According to Brooks and other critics, vocational guidance personnel became implementers of the social order. Individuals are unequal as are social functions, so vocational counselors matched the two scientifically to reduce the misfits in society.

Despite these occasional concerns, during the 5 years following the publication of Parsons' (1909) book, YMCAs and settlement houses in many cities began to offer vocational guidance services. In addition to the Boston YMCA, the associations in Buffalo, New York City, Cleveland, and Minneapolis pioneered vocational guidance provided by special advisors called “consulting vocational analysts” and “employment secretaries,” who used standardized forms to gather occupational information and assess an individual relative to 74 occupations classified into six groups that resemble to a large degree Holland's (1959) six RIASEC types: agricultural, scientific, artistic, literary, commercial, and mechanical (Blumenthal, 1913; Davis, 1914).

In the beginning, vocational consultants at these bureaus based their work on character diagnoses made from considering an individual's answers to questions about oneself. In the words of Leonard Ayres (1913), the educational director for the Sage Foundation, these methods lack “the dignity of scientific status and reliability” (p. 235). For help in making vocational guidance methods and materials “become objective rather than merely observational” (Ayres, p. 235), Parsons and his colleagues at the Boston Vocational Bureau looked to psychology for information on personality and found it close to home in the work of a Harvard psychologist. Hugo Munsterberg, who William James recruited from Germany to run Harvard University's psychological laboratory, viewed psychology as the science of human efficiency. He developed interest in several areas of applied psychology including forensic psychology, educational psychology, psychotherapy, and industrial or economic psychology (Munsterberg, 1922).

Munsterberg was happy to work with the Boston Vocational Bureau when Parsons called on him to test the Bureau's candidates (Hale, 1980). Although strongly supportive of Parsons' initiative—Munsterberg (1910, p. 400) called it “an innovation with unlimited possibilities”—Munsterberg charged Parsons

with being naive in accepting an individual's self-report, something that social work theorist Mary Richmond (1917) would also do. Munsterberg sought to bring "scientific exactitude" to the "calculation of the life development." Munsterberg wrote that "the average man knows his mental functions as little as he knows the muscles that he uses in walking or speaking" (p. 400). To Munsterberg, individuals were unreliable in judging their own capabilities. He believed that experimental psychologists were duty bound to address this problem, observing that a modern psychological laboratory could assess mental functions with a subtlety that surpasses self-observation much like a microscope surpasses viewing with the naked eye. Munsterberg claimed that the mental personality is a complex combination of elementary states and, as an organ, is a combination of cells and tissues, so too is personality. He concluded that "If we know the simple parts, we can calculate beforehand the fundamental direction of the development" (p. 401). Toward this end, Munsterberg called for the establishment of psychological laboratories in municipal vocational bureaus.

The first city to follow Munsterberg's call to establish psychological laboratories in municipal vocational bureaus was Cincinnati. The origins of this bureau can be traced to 1911 (Brewer, 1942), when Helen Bradford Thompson Woolley became director of what would become the Vocation Bureau of Cincinnati. In 1910, Ohio enacted a progressive child labor law that gave the schools legal control over children until the age of 16, requiring that all children complete at least the fifth grade, mandating that school-leavers obtain employment certificates from their school, and enabling the investigation of working children's development (Woolley, 1926). The new law prompted two trustees of the Schmidlapp Fund (Edith Campbell from the Cincinnati School Board and Edward Clooper from the National Child Labor Committee) to conceive the idea of using experimental psychology to study differences between adolescents who remained in school and those who obtained school-leaving certificates to begin employment. Campbell, an assistant professor of social economics at the University of Cincinnati since 1906, and the first woman in Ohio elected to public office, also taught courses for "women wage earners" at the local YWCA. In March 1911, Campbell hired Woolley to direct a Bureau for the Investigation of Working Children, which would evolve into the Vocation Bureau of Cincinnati, to conduct the 5-year longitudinal study that she had planned with Clooper. This was the first vocational guidance bureau located in a public school system—rather than a YMCA or a settlement house (Fryer & Henry, 1950).

Woolley (1913) advocated the role of experimental psychology in contributing to the scientific understanding of educational and vocational guidance. When she had volunteered at Hull House while doing her doctorate under Angell at the University of Chicago (Milar, 1999), Woolley had learned from Jane Addams (1911) that vocational guidance was needed to direct youth

because, Addams claimed, those youth in the wrong occupation were more likely to become juvenile delinquents. As a social reformer and advocate for women's rights, Woolley carefully walked the terrain between scientific research and social activism (Milar, 1999), a territory that would become home for many vocational psychologists throughout the century and the central location for vocational psychology today. Woolley moved to Detroit in 1921 where she became one of the co-developers of the Merrill Palmer Mental Scale for Children. The tome reporting her research in Cincinnati, *An Experimental Study of Children: At Work and in School between the Ages of Fourteen and Eighteen Years*, was finally published in 1926. Edith Campbell succeeded Woolley as director of the Vocation Bureau, where she remained director for more than 20 years. To carry forward Woolley's work, Campbell recruited Mabel Ruth Fernald, who was one of only three psychologists to be a member of the National Vocational Guidance Association (NVGA) in 1921. The others were Helen Woolley, who in 1921 became the first psychologist and the first woman to serve as president of the organization, and Harry Dexter Kitson. Interestingly, all three NVGA psychologists earned their doctorates with functionalist James Roland Angell at the University of Chicago: Woolley in 1900, Fernald in 1910, and Kitson in 1915. Indeed, vocational psychology was finding a home within applied psychology and American higher education.

THE EMERGENCE OF VOCATIONAL PSYCHOLOGY

In establishing the profession of applied psychology, Columbia University was the leader. It had three recognizable strands which its professors and students weaved together to suit their own interests: individual differences, intelligence measurement, and experimental procedures and statistics. James McKeen Cattell headed the department, which grew to include two of his former doctoral students: E. L. Thorndike, who received his doctorate in 1898 and Robert S. Woodworth who received his doctorate in 1899. Woodworth developed the first structured personality inventory and led the school of dynamic psychology, which focused on the motivation that causes behavior in addition to the function of that behavior. E. L. Thorndike masterfully applied psychology to education in his three-volume book *Educational Psychology* (1913-1914).

The person who was to become the first vocational psychologist did his training in applied psychology at Columbia under Cattell, Thorndike, and Woodworth. Harry Hollingworth received his doctorate in 1909 and stayed at Columbia's Barnard College for his entire career, founding the Department of Psychology and serving as its chair until his retirement in 1946. In 1927 he was president of the American Psychological Association (APA). Remarkably, Hollingworth was not particularly proud of his status and fame as a vocational

psychologist, stating in his autobiography that “I never had any genuine interest in applied psychology” (Benjamin, 2003).

In 1916, Hollingworth published *Vocational Psychology*, the first book on the subject and a book that promoted the science of psychology for assessment of individual differences and debunked character-reading techniques such as those advocated by Blackford and Newcomb (1914, 1916), Ralph (1923), and Richards (1881). He wrote the book while teaching a course at Teachers' College, Columbia University, entitled *Psychological Tests in Vocational Guidance and Selection*. In that book, Hollingworth reviewed the literature on the theory and methods of vocational assessment and counseling. He described the book as essentially a presentation of the problems and methods of that new branch of applied psychology that deals with individual differences in mental constitution that are significant in determining an individual's choice of vocation or in influencing the selection of workers from among a group of applications or candidates. Joseph Jastrow, the editor of the *Conduct of the Mind* series, which published Hollingworth's book, explained in the book's introduction that *Vocational Psychology* dealt with an individual's fitness for the work of the world. Jastrow asserted that psychological tests promise to play a central role in this endeavor because they can determine how individuals compare to others on a particular quality. He then wrote, “In further pursuit of insight the psychological laboratory has undertaken to analyze the qualities needed for several specialties of modern vocational life, by setting up ‘test’ counterparts of practical occupations, by reducing them to their underlying faculties, by testing the correlation of quality and achievement, and by combining the clues or verdicts of several methods” (Jastrow, 1916, p. xiv).

In this influential book, Hollingworth catalogued three problems of vocational psychology. The first question asked how might individuals achieve self-knowledge of their capacities, interests, and aptitudes, and how do they compare to their peers on these characteristics. E. K. Strong, Hollingworth's first doctoral graduate and protégé, would later devote much of his career to addressing this question relative to interests while his Stanford University colleague Lewis Terman addressed the question relative to capacities. Hollingworth's second question asked how may individuals acquire information about what is required for success in various occupations in order to select an appropriate one. The third question asked how may employers select the best candidates from among those who offer themselves for employment. Thus, Hollingworth articulated the goals of vocational psychology as specifying the traits required in various types of work so that both the choice of the individual and the selection of the employer would proceed directly once an individual's characteristics were known.

In 1922, Hollingworth supplemented *Vocational Psychology* with *Judging Human Character*, a book in which he reviewed in detail the invalidity

of character analysis techniques. Hollingworth then published a second edition of *Vocational Psychology* in 1929, calling it *Vocational Psychology and Character Analysis*. That edition retained the goal of being a general volume that surveyed the whole field of vocational psychology, something not done again until Crites (1969) published his tome entitled *Vocational Psychology: The Study of Vocational Behavior and Its Development*.

In September 1915, a year before Hollingworth published the seminal book on vocational psychology, the Carnegie Institute of Technology set up a program of applied psychology that in systematically addressing the need for measures of abilities and interests became the "big bang" of vocational psychology. The director of that program was Walter Van Dyke Bingham, who, in 1908, along with Clarence Stone Yoakum received his doctorate from Angell in Chicago. Bingham spent his first postdoctoral year working at Harvard University, where Munsterberg persuaded him of the need to apply psychology to industrial problems (Ferguson, 1965; Landy, 1993). Bingham became convinced of this in his first appointment which was at Teachers College, Columbia University, where he was an instructor and an assistant to Thorndike. Under the influence of Thorndike and Cattell, Bingham became interested in testing before accepting a 5-year appointment as chair of psychology at Dartmouth University. Bingham left Dartmouth to become a professor of psychology and head the Division of Applied Psychology at Carnegie Tech in the fall of 1915.

In what would be the first department of applied psychology in America, Bingham hoped to help students identify their talents and match them to jobs as well as teach students to use psychology in their work, especially in sales and advertising. In particular, Bingham (1952) envisioned three projects for the Division: instruction in how to understand and influence people, helping individuals make occupational choices based on their special talents and limitations, and research on the use of psychological examinations and personal interviews for the selection of college students. The Division opened with four faculty members in psychology. Two were existing faculty with master's degrees in psychology and education, the third was Louis Thurstone who would soon receive his doctorate from the University of Chicago, and the fourth was James Burt Miner.

Because there were few psychologists who were familiar with business operations, Bingham persuaded Northwestern University to loan them Walter Dill Scott who began work at Carnegie Tech on June 1, 1916. At that time, Scott was the leading applied psychologist in the nation and widely recognized as the first business psychologist. Bingham, who had read some of Scott's articles on a new way of selecting sales personnel, invited Scott to take a leave from Northwestern to establish and direct the Bureau of Salesmanship Research at Carnegie Tech. When Scott accepted, the Board of Trustees for Carnegie Tech formally appointed him as the world's first professor of applied psychology. While at Carnegie Tech, Scott formulated a new aid in the

selection of salesmen: the rating scale. During that year, as the United States prepared to enter World War I, the psychologists in the Carnegie Tech faculty became the first Americans to construct an occupational aptitude test (i.e., for jobs in sales), and James Burt Miner became the first psychologist to construct a vocational interest inventory.

Miner had trained under Thorndike at Columbia University and had been on the faculty of the University of Minnesota before being recruited by Bingham to Carnegie Tech where in 1915 he initiated the first systematic attempt to design criterion-related and content-validated measures of vocational interests. In 1918, while still at Carnegie Tech, Miner published *Analysis of Work Interests*, a four-page folder to be used by high school students for observing and analyzing their own interests. Miner's inventory differed from other self-analysis questionnaires—such as Yerkes and LaRue's (1914) outline for the study of the self and the YMCA's self-analysis blank (Davis, 1914)—in being devoted entirely to the problems of vocational choice and fundamental personal interests. It was first administered in the Pittsburgh public schools in 1918 when 8,500 students used it (Miner, 1922). The inventory had scales for 23 groups of activities including, for example, operating engines, teaching, organizing people, scientific work, and artistic creation. A second section contained paired comparisons of working conditions such as indoor versus outdoor, directing versus following directions, and slow movements versus rapid movements. A third section consisted of an adjective checklist to measure traits such as accuracy, concentration, and foresight. A fourth section assessed preferences for groups of school subjects such as mathematics, music, science, and history. Other sections inquired about avocational activities and employment experiences. The inventory was still in use during the mid 1930s, published by C. Stoelting Company.

Vocational Psychology Goes to War

As America entered World War I, members of society's newest occupations, including vocational psychology, sought to win public favor by demonstrating their value to society during a wartime emergency. They wanted social recognition for being engaged in an occupation that was useful to the community. For example, psychiatrists welcomed the opportunity to win recognition by treating victims of shell shock, and social workers helped to form and staff the Red Cross. University professors viewed joining the mobilization effort as a singular opportunity to increase their autonomy and enhance the social status of their profession. Of course not all professors supported the war effort. For example, Columbia University fired Cattell for writing letters to Congress on college stationery in support of pending legislation to exempt conscientious objectors from combat (Ballantyne, 2002). Cattell eventually was awarded compensation, in the form of reinstating his pension, after suing the university.

As the president of the APA, Robert Yerkes seized the opportunity presented by World War I to solidify psychology as a profession and “outdid all others in capitalizing on the wartime draft” (Diner, 1998, p. 259). Yerkes’ leadership of the psychomilitary effort led to an important showdown between “pure” and “applied” psychologists. Following America’s entry into the war, Yerkes quickly involved academic psychologists through the formation of the APA’s Committee on Methods of Psychological Examining of Recruits. On April 21, 1917, two weeks after the United States had entered World War I, Yerkes held a meeting of the APA executive council—Roswell Angier, Knight Dunlap, Bingham, Scott, Hollingworth, and Harvey Carr—to discuss the role of psychology in the war effort. Among the five who attended this meeting in Philadelphia were Bingham and Scott. In short order, Yerkes and Scott vehemently disagreed on the direction psychology should take. Scott wanted to use his rating scale procedures for personnel selection and group testing to assign military recruits to fitting positions. Yerkes (1920) wanted to use individual intelligence tests to screen out mental incompetents, believing that the primary purpose of tests was diagnosis not placement. Yerkes, an advocate of “pure” psychology, saw the war-mobilization effort as an opportunity to make pure psychology a branch of biology and applied psychology a branch of applied biology, that is, medicine (Yerkes). Scott viewed this as surrendering the new profession to the authority of physicians and preferred to demonstrate psychology’s contributions to the business world. Scott wanted Yerkes and other pure psychologists to adapt their interests to military needs rather than to accommodate the research ideals of academics (Von Mayrhauser, 1987). Bingham and Scott, who were interested in what they could do for the Army, left in a huff when it became clear to them that Yerkes and the others seemed more interested in what the Army could do for them (Jacobson, 1951).

This breach between Yerkes, the idealistic academic, and Scott, the utilitarian pragmatist, led to dissension and disunity among psychologists throughout the war. Scott and Yerkes acted independently and formed different committees for psychomilitary service: Scott’s civilian Committee on the Classification of Personnel in the Army in the Adjunct General’s Office and Yerkes’ Division of Psychology in the Surgeon General’s Office. Following their own leads, Scott’s committee, with Bingham as executive secretary, designed the procedures for deploying recruits. Other members of the committee included Thorndike, Angell, Terman, Watson, Strong, Dodge, and, nominally, Yerkes. The Committee drew extensively on what the Carnegie Tech group had learned about the selection of salespeople. Meanwhile, Yerkes and his committee gained government approval to administer an intelligence test to every recruit. Yerkes then directed the construction of the first paper-and-pencil tests of intelligence—the Army Alpha (verbal test) and the Army Beta (non-verbal test)—and supervised their administration. Yoakum and Yerkes (1920) reported the details of this intelligence testing program in their book, *Army*

Mental Tests. Although the program itself had little impact on the war effort, in large part because the military officers resented it, the program did produce data for subsequent research and helped to expand the field of psychology. For example, the data from the intelligence test administration, subsequently reported in the *Memoirs of the National Academy of Sciences* (Yerkes, 1921), were used to conduct the first analyses of occupational differences in intelligence. The data were also misused to promote such things as restrictions on immigration and to suggest that African Americans were innately inferior to whites (Samelson, 1977). After World War I, the Alpha and Beta were released for general use in schools and industry.

While Yerkes' group administered intelligence tests, Scott's group conducted performance ratings of officers and constructed qualification criteria for more than 500 military jobs. In the end, it appears that the military favored Scott's personnel evaluation procedures over Yerkes' intelligence tests as evidenced by awarding Scott the Distinguished Service Medal, the only psychologist so honored (Von Mayrhauser, 1987). Scott's rating scale technique had been a great success. For example, he had 10 generals rate all officers of the rank of colonel or higher, with the exception of Pershing. After the war, they found that 9 of 10 officers with the highest ratings had received special honors and promotions and the lowest 10 officers had all been sent home.

Vocational Psychology in Civilian Life

Most Army psychologists returned from World War I to academic positions where they taught applied psychology and conducted research. In addition, many of these professors of applied psychology engaged in substantial amounts of consulting work to supplement their university salary. For example, in 1919, Walter Dill Scott, along with five other members of the Committee on Classification of Personnel in the Army, founded the first postwar psychological consulting firm, The Scott Company for "applied vocational testing." With offices in Chicago, Philadelphia, and Dayton, the Scott Company offered personnel consulting to industry. In the next few years, the Scott Company conducted surveys for 50 leading businesses and industrial organizations to determine how their personnel situations could be improved. After 4 years, the Scott Company suspended operations because of the economic recession of 1922. Scott himself had in 1920 already begun his 19-year tenure as the president of Northwestern University.

One employee of the Scott Company was destined to become a preeminent proponent of vocational psychology. Donald G. Paterson, who was a protégé of Rudolph Pitner at Ohio State University, had worked with Yerkes on the Army Alpha Test and served as the Chief Psychological Examiner and Captain for the United States Sanitary Corps, which was directed by Yerkes. In 1921, Paterson accepted a faculty position at the University of Minnesota and was

promoted to full professor in 1923 without ever completing his doctorate. Before retiring in 1960, Paterson had over 300 publications and served as advisor to 88 doctoral students (including Leona Tyler and Albert Brayfield) and 300 masters' students. Some of Paterson's research during the era we are considering continued Hollingworth's (1916) efforts to advance the scientific approach to guidance and selection and to debunk the pseudoscience of characterology (e.g., Paterson & Ludgate, 1922). Paterson's most noteworthy contribution to this line of research was the book entitled *Physique and Intellect* (1930), which summarizes studies showing the lack of relation between physical traits and intellectual abilities.

After World War I, vocational testing exploded as the rehabilitation of disabled soldiers stimulated the testing movement. Over 100 different trade tests were devised, standardized, and administered as a regular part of the guidance work of the Rehabilitation Division of the U.S. Army Medical Corps as well as of the Veterans' Bureau. The Federal Board for Vocational Education in cooperation with the Office of the Surgeon General in the War Department produced a series of "opportunity monographs" to aid disabled soldiers, sailors, and Marines in choosing a new vocation if they could not perform the duties needed in their former vocations. These 15-page monographs were a great success, but vocational testing was haunted, like industrial/organizational (I/O) psychology, by charlatans and frauds (Napoli, 1981). Partly to counter the charlatans, Cattell along with 17 professors including Bingham, Hall, Hollingworth, McDougall, Scott, Terman, Watson, and Yerkes, in 1921, formed the Psychological Corporation in New York City as a consulting and testing company with high ethical standards and competence. Cattell hoped that the Psychological Corporation would be able to forestall the educational testing monopoly planned by the National Education Association's College Examination Board.

Bingham had returned to Carnegie Tech after World War I to continue the work he had started there. He recruited Clarence Stone Yoakum from the University of Texas and Edward Kellog Strong, Jr., from Vanderbilt University to work with him. They taught courses in educational psychology, applied psychology, and vocational psychology. Their research focused on the assessment of individual differences as they devised rating scales and psychological tests to tabulate individual differences that could be used to place the right person in the right job. By then Carnegie Tech had established six bureaus with similar methods but different aims: Bureau of Salesmanship Research, Bureau of Personnel Research, School of Life Insurance Salesmanship, Research Bureau for Retail Training, Bureau of Mental Tests, and the Educational Research Bureau. The six research bureaus cooperated with more than 30 large companies in conducting research and applying scientific methods in selecting and developing sales personnel, minor executives, and clerical workers. The research also examined problems in industrial education,

employment management, job analysis, and trade testing of workers (Tarbell, 1937).

The Personnel Research Bureau was directed by Clarence Stone Yoakum, who focused his attention on the question of which nonintellectual aspects of personality could best be measured. Supported by a grant from the National Research Council, he digested and systematized whole shelves of published studies about personality. After exploring many avenues, the path forward proved to be the measurement of interests. Yoakum conducted a seminar on interests in the 1919–1920 academic year, during which his students wrote 1,000 items relating to interests from childhood through early adulthood. This item pool was drawn from in many subsequent studies, including the dissertations written by Yoakum's students Bruce Moore (1921), Max Freyd (1924), Grace Manson (1931), and Merrill Jay Ream (1924). That same year several members of Yoakum's seminar constructed what would become the first standardized interest inventory—the *Carnegie Interest Inventory* (reprinted in Fryer, 1931, pp. 66–69).

From 1919 to 1923, Strong worked at Carnegie Tech as professor and head of the Department of Vocational Education and as Director of the Educational Research Bureau. Strong had written his dissertation on advertising (E. K. Strong, 1911) at Columbia under the sponsorship of Hollingworth and remained at Columbia until 1914, conducting research on advertising, marketing, and business. From 1917 to 1919, Strong served in the military on Scott's Committee on Classification of Personnel. Apparently his military service as a personnel specialist allowed him to observe the need that individuals have for vocational guidance and ignited his interest in using tests, such as the Army trade tests, to determine a person's fitness for a job.

Lewis Terman recruited Strong to Stanford University when Carnegie Tech closed both its graduate school and its Division of Applied Psychology. At Stanford, Strong served as a psychology professor in the College of Business and wrote books on selling life insurance, advertising, and psychological aspects of business, as well as three monographs and one book on the adjustment problems experienced by second-generation Japanese Americans who lived in California. In addition, Strong took the problem of interest measurement with him to Stanford. The first assignment that Strong made to any graduate student was in 1924 when he asked Karl M. Cowdery to determine how well he could differentiate engineers, lawyers, and physicians from one another using Freyd's *Vocational Interest Inventory* (Strong, 1952). Along with Truman L. Kelley (who in 1914 devised the item types used in many interest inventories), Strong co-directed Cowdery's doctoral dissertation. Cowdery made several improvements in Freyd's inventory. Cowdery's *Interest Report Blank* included 84 occupations, 78 types of people, 34 sports and amusements, six kinds of pets, 13 kinds of reading material, 23 miscellaneous activities, and 25 school subjects. Two innovations in Cowdery's work were Kelley's suggestion

of using a weighting formula to calculate scale scores and the use of cross-validation of new scales. Cowdery's (1926-1927) dissertation research with his *Interest Report Blank* showed that the scale could differentiate lawyers, physicians, and engineers. Of the 263 items in Cowdery's inventory, 182 were retained by Strong in publishing the first version of his own interest inventory in 1927 which included 238 new items. Strong worked for the next 36 years, until his death in 1963, to refine his venerable *Vocational Interest Blank*, now called the *Strong Interest Inventory*. In 1943, Strong published *Vocational Interests of Men and Women*, a monumental book that is still in print today.

The heavy emphasis on testing by vocational psychologists after World War I was challenged mightily by Harry Dexter Kitson, who received his master's degree at the University of Minnesota under James Burt Miner and his doctorate under Angell at the University of Chicago in 1915. While still a doctoral student, Kitson published a journal article, "Suggestions Toward a Tenable Theory of Vocational Guidance," in which he offered a grand plan for the development of scientific vocational guidance by application of the scientific method, not by tests or types. Kitson's (1917) dissertation, *The Scientific Study of the College Student*, was the first study to convert raw scores into sigma values and place them on a profile chart for the purpose of comparing various tests. After earning his Ph.D., Kitson worked as a professor of psychology first at Indiana University from 1915 to 1925 and then at Teachers College, Columbia University, from 1925 until his retirement in 1951. During these years, Kitson (1925) led a movement in vocational psychology called "self-analysis" (Williamson, 1965). This movement replaced the character analysis movement of the 19th century. It rejected psychological tests because of their low validity coefficients, preferring to rely instead on individuals' self-appraisal of their abilities and interests. Today, the line of research on self-appraisal remains vibrant as investigators examine topics such as self-estimates of abilities, self-efficacy, and self-knowledge.

Even if tests showed more validity, Kitson had another major reservation about their use. Kitson shared Ayres' (1913) concern about the logical flaw in vocational psychology's paradigm of matching people to jobs. Ayres had reasoned that the method worked better in personnel selection than in vocational guidance. In personnel selection, the task is to *select a person for a position*. Here tests are useful for sorting out the most fit candidates by identifying those who possess the needed qualifications for one kind of work. In vocational guidance, the task is to *select a position for a person*. The problem is to identify the best position from among the vast number of possible occupations that a person could ably do. According to Ayres, and later to Kitson, vocational tests work well in choosing persons for positions but not in selecting positions for persons. They reasoned that vocational guidance practitioners need occupational information more than they need personality tests, and they must remember that "people and positions are both plastic,

not rigid, and much mutual change of form often takes place without injury to either person or position" (Ayres, p. 237). In this regard, Kitson frequently quoted William James in stating that vocational biographies will never be written in advance. In 1921, Kitson argued that "the cult of tests for analyzing the individual, with its formalized ritual, has so dazzled its devotees as to blind them to the possibility of another method of approach to personnel problems" (p. 141). Kitson urged the vocational psychologist to "leave the shelter of his academic laboratory and enter the arena of occupations" (p. 146).

Sometime during the middle of the 1920s, the observational era in the history of vocational psychology came to an end. Many of the accomplishments of the era were codified in two major textbooks—Griffitts' (1924) *Fundamentals of Vocational Psychology* and Kitson's (1925) *Psychology of Vocational Adjustment*—whereas other influential books summarized the current status of knowledge about specific topics—for example, Fryer's (1925) *Vocational Self-Guidance*, Woolley's (1926) *An Experimental Study of Children*, and Kenagy and Yoakum's (1925) *Selection and Training of Salemen*. These works seemed to punctuate the close vocational psychology's observational era, a period of common sense infused with a scientific attitude. In its next era, vocational psychology would seek a better foundation in psychological science.

THE RISE OF VOCATIONAL PSYCHOLOGY INTO A SCIENCE

In its observational era, vocational psychology had concentrated on vocational orientation activities and intelligence testing. In its empirical era, vocational psychology would crystallize its identity as a psychological science by merging the streams of Parsons' vocational guidance and Binet's intelligence testing into a current of aptitude and interest testing (Super, 1955). Aptitude tests, a product of World War I, had replaced intelligence tests as the means for placing the influx of immigrants from different countries into the proliferation of industrial jobs. In pinpointing the beginning of the empirical era, one might cite 1924 when the National Research Council, with Yerkes as chair, offered Paterson a sizable grant to study mechanical ability, which eventually led to the publication of the *Minnesota Mechanical Ability Tests* (Paterson, Elliott, Anderson, Toops, & Heidbreder, 1931). It took Paterson and his colleagues 6 years of research to develop and validate the tests, and more importantly to impel vocational psychology into an empirical era.

According to Crites (1969, p. 5), 1927 was a banner year in vocational psychology's empirical era. That year, Strong published his *Vocational Interest Blank* (Campbell, 1971) and Elton Mayo and his colleagues at the Harvard School of Business Administration began the Hawthorne studies (Gillespie,

1952), which became the most influential study of worker productivity and led to the “human relations” component of industrial psychology. Also in 1927, Clark Hull who was to become a leading learning theorist conceived the idea of constructing a “forecasting” machine that would predict an individual’s probable success in every possible occupation. While studying for his doctorate and serving as an instructor of psychology at Wisconsin, Hull (1952) taught a course on psychological tests and measurements. When he began to concentrate on developing the scientific basis for vocational guidance, he changed the name of the course to Aptitude Testing. Eventually, Hull assembled the material from his course into a book called *Aptitude Testing* (1928). In that influential book, Hull described his idea for building the “forecasting” machine, and later he actually built some prototypes of such a machine with \$5,000 support from Yerkes at the National Research Council; yet, of course, it was not until the dawn of high-speed computers that Hull’s vision became a reality.

In 1931, the Hawthorne research group reported their most important finding—workers were intimately involved in their own social organization at the worksite (Gillespie, 1952). This involvement included subgroups, cliques, isolated individuals, as well as differential status, standards of behavior, codes of behavior, and traditions. The social group seemed to control productivity and even restrict it. Startling psychologists who had claimed productivity related to ability, they reported that performance and ability were unrelated. This major finding meant that performance on the job related more to group standards than to ability, causing industrial psychologists to abandon the simplistic idea of basing selection, training, and promises of efficiency on intelligence tests (Bartiz, 1960). This finding thus contributed to the beginning of organizational psychology. Industrial psychology remained focused on problems of fitting people to work (e.g., selection, training, efficiency, job analyses, and performance appraisal), whereas organizational psychology focused on fitting work to people (Katzell & Austin, 1992, p. 811). After adding human relations to its interest in selection, I/O psychology also began to focus on leadership studies, prompted by Kurt Lewin’s (1935, 1936) writings, and on worker satisfaction, prompted by Hoppock’s (1935) book, *Job Satisfaction*. Attention to human factors was also added to I/O psychology, yet not until after its success in World War II.

The other influential program of research in the 1930s, in addition to the Hawthorne studies, was the work of the Minnesota Employment Stabilization Research Institute (MESRI) at the University of Minnesota which conducted the first programmatic studies of vocational choice and adjustment. MESRI was formed in 1931, with funding from three foundations, to address the problems of unemployment and relocation caused by the Great Depression. It was designed to be at the intersection of psychology and economics. MESRI had three principal projects: examine methods for diagnosing vocational aptitudes, study the problems of the unemployed, and demonstrate methods of

training the unemployed and dislodged. The first project, one quite important to the development of vocational psychology, was pursued by the Committee on Individual Diagnosis and Training, chaired by Donald Paterson with Richard Elliott as associate chair and staffed by several pioneer vocational psychologists including John G. Darley, Beatrice J. Dvorak, and Marion R. Trabue. They undertook large research projects, including construction of many new tests. Their numerous accomplishments were reported in *Men, Women and Jobs* (Paterson & Darley, 1936).

Another landmark research project in vocational psychology's empirical era began in 1933 when Congress passed the Wagner-Peyser Act to create the United States Employment Service and establish a nationwide system of public employment offices. The act was amended in 1998 to make these employment offices part of the One-Stop services delivery system. When it was founded, the Employment Service surveyed 25,000 employers and 100,000 employees to gather occupational information, develop measures of proficiency and potentiality, study the transferability of skills, and write job descriptions. Through this work conducted at the Job Analysis and Information Section, United States Employment Service (1939), which compiled the *Dictionary of Occupational Titles*, and the research at Minnesota led by Paterson, Gherkin, and Hahn (1953), psychologists elaborated the new construct of "occupational ability patterns." Dodge (1935), Dvorak (1935), and Trabue (1933) worked to objectively describe groups of workers in particular occupations and differentiate them from workers in different types of occupations. This was an important accomplishment because it created a new kind of occupational information. Empirically derived and objectively measured descriptions of occupations replaced the observational and second-hand descriptions of jobs, such as those published by the staff first at the Vocational Bureau of Boston and then as its successor the Bureau of Vocational Guidance in Harvard University (e.g., Allen, 1913, 1928; Laselle & Wiley, 1913; Kelly, 1918). Jobs were now described in the same units of measurement as those used in describing workers (Williamson, 1965). In 1938, the U.S. Office of Education opened the Occupational Information and Guidance Service, headed by Harry A. Jaeger, to publish materials and bulletins relating to the field. Other organizations that figured prominently in occupational research included the Society for Occupational Research founded in 1925 and the Adjustment Service of New York founded in 1933.

Vocational Psychology Moves Into Two Homes

The 1930s also saw the beginnings of the drift apart by vocational psychologists interested in individuals and those interested in industries. Although applied psychologists interested in vocational psychology had typically served both guidance and selection functions, over time industrial

psychologists began to emphasize work adjustment. Although still interested in the individual worker, they clearly offered their services to industry, persuading employers that well-adjusted workers were more productive. A leader in both guidance and selection work, Morris Viteles (1934) wrote that “work is inseparable from the personality of the worker” (p. 41). Before social institutions could find the right niche for an individual, they needed information about that person. Writing in 1940, Viteles defined vocational psychology thus: “In its vocational applications, psychology seeks (1) to increase industrial efficiency, (2) to promote adjustment of the worker, and (3) to further industrial stability by eliminating sources of grievances and misunderstandings between workers and employers” (p. 442). Viteles asserted that these objectives are achieved by fitting workers to jobs, through both vocational guidance and personnel selection.

The splitting of vocational psychology into two groups—one focused on guidance and the other on selection—may have occurred anyway, yet the Great Depression certainly helped to divide the house of vocational psychology. At a time when vocational psychologists could offer critical insights and useful methods, many found themselves unemployed (Napoli, 1981). From 1929 to 1949, there was a decline in the number of doctorates in psychology, compared proportionately to other doctorates. Albert Poffenberger in 1935, during his year as APA president, tried to promulgate interest in applied psychology, particularly for one practical reason—there were not enough jobs in academia. The move was on to place new graduates in schools, clinics, and businesses. Ironically, Paterson, at the University of Minnesota, successfully kept academic and scientific psychology separate from applied psychology. As executive secretary of the APA from 1931 to 1937, Paterson argued that APA’s charter limited it to scientific matters.

Applied psychologists, forced to accept this structure, had in 1930—led by Douglas Fryer—reorganized the New York State Association of Consulting Psychology into a national organization named the Association for Consulting Psychologists (ACP). In 1935, ACP initiated a plan to form a federation of all existing psychology groups. When the idea failed, they founded a whole new group in 1937—the American Association of Applied Psychology (AAAP). It had four sections: clinical, consulting, educational, and industrial. At the same time, ACP founded the *Journal of Consulting Psychology*, today published by APA as the *Journal of Consulting and Clinical Psychology*. Paterson supported the formation of AAAP because he did not want APA to follow the American Medical Association in becoming a “trade union” that focused on nonscientific matters. AAAP’s first annual meeting was held at the University of Minnesota from August 30 to August 31, 1937, and its constitution was approved during the 1938 meeting (Street, 1994). They sought members who viewed the application of psychology, not academia, as their prime profession. Douglas Fryer, who wrote an outstanding book on the

psychology of interests (1931), was the first president of AAAP. This seemed to be a turning point in vocational psychology because the vocational psychologists who remained in academia gravitated to research on high school and college students and their career choices, whereas vocational psychologists in industry and clinics focused on the selection of employees and their subsequent work adjustment. Eventually, choice and adjustment were to become the two main wings of vocational psychology, eventually providing the two major sections of Crites' (1969) encyclopedic book, *Vocational Psychology*.

A Return to War

In addition to the Great Depression, the other major event that influenced the evolution of vocational psychology during its empirical era was World War II. War work made vocational psychology a mature discipline. Preparations for World War II brought employment opportunities for psychologists who could help the military apply psychological testing to the problems of personnel classification. In September 1938, Walter Dill Scott, who had contributed so much to the Army personnel system during World War I, approached the War Department, again offering the help of psychologists. If classification by testing was going to be part of the mobilization effort, now was the time to start. This time, however, Scott was politely refused. Nevertheless, the military did take notice and in 1939 established a personnel-testing section that began to revise the Army Alpha test that had been used during World War I. In April 1940, the Adjunct General's Office formed a panel of civilian consultants—the Committee on Classification of Military Personnel—chaired by Walter Van Dyke Bingham. In July, Bingham was named the Army's chief psychologist. On September 16, Roosevelt signed the Selective Service and Training Act, and 2 months later the first inductees were taking the Army General Classification Test. By the end of World War II, 9 million men had taken the test (Napoli, 1981).

In addition to their other work with the Army, vocational psychologists assisted the Army Air Force. The U.S. Army Air Force Aviation Psychology Program was formed when John C. Flanagan was commissioned on July 14, 1941, with the rank of Major and immediately became its director (Street, 1994). Donald Super, a prominent vocational psychologist, served under Flanagan as did the learning theorist Neal Miller. The Aviation Psychology Program (APP) was primarily responsible for selection, classification, and training of Air Force personnel during World War II. In addition to the APP, psychologists from more than 30 universities helped the Army Air Force in pilot training. This group worked for the National Research Council Committee on Aviation Psychology chaired by Morris Viteles. It was a civilian committee. Their research was not conducted primarily at government research facilities; instead,

in a new departure for applied psychology, they used academic facilities to study military problems.

World War II forced vocational psychology to mature as a field. Crites (1969) concluded that part of this maturation was a revised perspective on the relation of individuals to work. During the 1930s, vocational psychologists had assumed that maybe 10 or 20 traits were the maximum number of independent traits related to job success. With the research of Flannigan and his colleagues, using factor analysis, the number jumped to 50 or 100. This new truth combined with an emerging understanding that there exists "a high degree of specificity among the requirements for various types of activities" (Flannigan, 1947, p. 244). This understanding shifted attention from studying jobs, which had been the emphasis in the 1930s and the 1940s, to studying the characteristics of the individual. Crites suggested that this is why the "matching men and jobs" approach of the 1930s gave way to the "trait-and-factor" (Guilford, 1948) approach in the 1950s.

In addition to the move to the "trait-and-factor" view, the end of the empirical era in the history of vocational psychology was marked by major books that summarized the achievement of the era, including *Appraising Vocational Fitness* by Donald Super (1949) and the two-volume *Handbook of Applied Psychology* edited by Douglas Fryer and Edwin Henry (1950). The book that ushered in the next historical era in the history of vocational psychology and significantly changed the face of the field appeared in 1951. Eli Ginzberg, an economist at Columbia University, formed an interdisciplinary team, including a Freudian analyst and a Piagetian developmentalist, to study occupational choice as part of his programmatic research and writing on the conservation of human resources. The book was revolutionary in proposing for the first time a theory of career decision making. This was a radical departure from the "dustbowl empiricism" of MESRI and the statistical-methodological focus of the military psychology program. Ginzberg's theory was catalytic in highlighting "development." Rather than viewing occupational choice as a point-in-time event, it conceptualized choice as a developmental process that spanned the years from late childhood to early adulthood. The developmental theory of vocational choice first articulated by Ginzberg and his associates prompted an explosion of career theories; almost one theory per year was published for the next 20 years. Many of these theories are not "history"; they or their direct descendents are still being used today. These prototypical theories were first codified by Osipow (1968) in his seminal textbook, *Theories of Career Development*, which is now in its fourth edition (Osipow & Fitzgerald, 1996). These theories and their progeny continue to be chronicled in the serial volumes produced by Duane Brown, Linda Brooks, and their associates (Brown, 2005). The beginning of the theory era in the history of vocational psychology is where we must end this exposition, leaving for another time the story of vocational psychology's stabilization in the 1950s,

consolidation in the 1960s, advancement in the 1970s, and its maintenance and then deceleration in the last 2 decades of the 20th century.

AFTERWORD

In the first half of the 20th century, vocational psychologists resided in psychology departments and had doctoral degrees, whereas the main consumers of their research were vocational guidance counselors and personnel officers with master's degrees. At midcentury, a shift began that incorporated and expanded vocational guidance into the new profession of counseling psychology. In due course, vocational psychology, because of its close alignment with vocational guidance, became subsumed within counseling psychology programs. Vocational psychologists who had aligned themselves with personnel work moved into I/O programs. This bifurcated vocational psychology with those in counseling departments emphasizing the study of adolescent occupational choice and those in I/O departments emphasizing the study of adult work adjustment. Vocational psychology remains fairly vibrant in I/O programs, but now as counseling psychology becomes more interested in therapy—and typically resides in colleges of education—vocational psychology receives little support from counseling psychologists in the APA. The same appears true in the American Counseling Association where the *Handbook of Counseling* (Locke, Myers, & Herr, 2001) contains 44 chapters, yet no chapter has “career” or “vocational” in the title.

This brings us to the current situation in which vocational psychology has been split into two wings, with little communication between the two and with each receiving little support from their home departments. The two camps share in common a concentration on vocational behavior and its development in careers from the perspective of the individual; yet one emphasizes issues of occupational choice and the other emphasizes work adjustment. When they originated the discipline, vocational psychologists viewed guidance and selection as two sides of the same coin. Leading vocational psychologists such as Strong, Kitson, Paterson, and Viteles contributed research and reflection on both guidance and selection. This dual interest was particularly true until personnel psychology, which largely focused on selection and placement (Landy, 1993), expanded to become I/O psychology.

The split into two homes has, over time, dampened vocational psychology and led to the torpor described by Gardner (2002). In addressing the current status of the field, the *Journal of Vocational Behavior*, which is the home journal for vocational psychology, sponsored a special project to systematically consider alternative visions for the next decade of vocational psychology (Savickas, 2001). Editorial board members were commissioned to examine the internal strengths and weaknesses of vocational psychology as well as

its external opportunities and threats. Their SWOT (strengths, weaknesses, opportunities, and threats) analyses concluded that vocational psychology now lacks a disciplinary home. Vocational psychology is on the periphery of academic psychology and now often resides in the counseling psychology program in colleges of education and within organizational behavior programs with business schools. Given the current situation, the number of vocational psychologists is dwindling and the discipline faces the threat of losing its distinct identity. Confronting this threat, some vocational psychologists advocate consolidating all vocational psychologists in I/O programs, leaving counseling psychology as the home for career counselors. Others suggest joining vocational psychology with developmental psychology, which would better situate vocational psychologists to contribute significantly to life-span psychology. A third possibility is either to form a new division of vocational psychology within the APA, or form a new academy, something parallel to the Academy of Counseling Psychology, which focuses on competence standards for the practice of counseling psychology. As we face these issues and questions concerning the future of vocational psychology and its place in contemporary psychology, we take heart that it has been included as a major section in the *Encyclopedia of Applied Psychology* (Spielberger, 2004) and that the Society for Vocational Psychology is concentrating on reinvigorating the specialty.

The future of vocational psychology may rest on its ability to again respond to societal changes by providing useful models, methods, and materials to help workers adapt to transformations wrought by globalization and information technology. These economic factors and social forces are once again dramatically changing the organization of work roles and the structure of occupations as industrialization and urbanization had done 100 years earlier. There are many similarities between the Progressive era and the current post-modern period in which Americans are again trying to control their own work lives. Furthermore, lessons of the Progressive era when vocational psychology originated seem to apply to the current situation during which the discipline seems to be stagnant in showing few signs of advancement or innovation.

Currently, as we move from the industrial era to the information era (from machines to media), vocational psychology's basic model of person-environment fit may be less applicable in helping individuals adapt to the new organization of work. One must wonder if vocational psychology's basic paradigm suits the postindustrial society. Clearly the model worked well in the machine-dominated cities of the first half of the 20th century and continued to work well, with the addition of the developmental perspective, in the corporate office towers of the second half of the 20th century. Now, however, American culture is experiencing the same kind of revolutionary changes in social organization that occurred 100 years ago as society moved from the agricultural era to the industrial era (Cooper & Burke, 2002).

To cope with the rapidly changing world, companies are trying to maintain their flexibility by downsizing, outsourcing, flattening, and restructuring. The new metaphor for organizations is the bull's eye, not the hierarchical pyramid. The center of the bull's-eye is populated by full-time, permanent employees who perform core tasks in a conventional office. This core is surrounded by a middle ring of adjunct or contingent workers hired on short-term contracts to do specific projects, sometimes working at home as they telecommute and participate in virtual teams. The outer ring of the bull's-eye contains temporary or casual workers doing projects that have been outsourced to them.

In response to these changes, career structures have been radically transformed, especially for the 40% to 60% of workers in the middle and outer rings of the organization. Because these workers sell their services to organizations on short-term contracts or freelance agreements, they experience permanent job insecurity and lack the opportunities for training, development, and advancement formerly offered by organizations. Their protean or boundaryless careers are characterized by constant adaptation and personal responsibility because they themselves are responsible for managing their careers, rather than by an organization being responsible for developing their careers for them. With the conceptual move from career development to career management, career stages have been replaced by learning cycles and the employment contract has been replaced by an employability contract. As the move from Victorian character to modern personality called forth new innovations, so too does the current move from modern personality to post-modern identity, and even multiple identities and myriad selves. With less stable personalities and occupations, vocational psychology's basic model of person-environment fit with its goal of congruence seems less useful and less possible in today's labor market. Vocational psychology's future rests in its ability to respond to the challenges inherent in the new organization of work and occupations evolving in postindustrial America.

As one might expect, vocational psychology itself is in the midst of transformation. It seems to be fading as an identifiable discipline and losing (or already lost) its identity within psychology as a whole (Gardner, 2002). In addition to intellectual isolation from psychology in general, another threat to vocational psychology as a discipline is its breadth of coverage, which formerly was a strength. Vocational psychology once took as its purview all of psychology applied to the whole world of work. The unifying theme was examining work from the perspective of the worker. During the second half of the 20th century, vocational psychology carved this common ground into small habitats, with boundaries drawn by dichotomies such as research versus practice, choice versus adjustment, guidance versus selection, differential versus development, individual versus organizational, and education versus industry. A "rebirth" of vocational psychology requires that it cut across these arbitrary subdisciplinary boundaries to reform itself into a cohesive whole

and then move to collaborate on interdisciplinary projects. At a minimum, vocational psychology must reunite its adherents who work in guidance and selection. To prevent obsolescence, vocational psychology also needs substantial revision of its models, methods, and materials if it is to remain a viable professional resource for the United States. In short, to propel itself into the 21st century, vocational psychology needs a second “big bang”—one that rivals the explosion of creativity and productivity that occurred at Carnegie Tech from 1915 to 1923, when a group of vocational psychologists with diverse interests and identities laid the groundwork for vocational psychology in the 20th century.

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New Directions for Theory Development in Vocational Psychology

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The charge to suggest future directions for theory in vocational psychology is an exciting challenge. The backdrop to this challenge is manifold. In the first place, there is some consensus that the field of vocational psychology is a robust and vigorous one characterized by an impressive body of theory and research (Borgen, 1995; Heppner, Cassos, Carter, & Stone, 2000; Savickas, 1995). Yet, despite this record of success, there are repeated critiques of the field regarding such things as the split between theory and practice, the insularity of the field, the need to be more relevant to diverse groups, and the continuing challenge to integrate the practices of psychotherapy and career counseling, with many suggestions for future directions of the field that are responsive to these critiques (Betz, 2001; Blustein, 2001a; Blustein & Spengler, 1995; Collin, 1996a, 1996b; Fouad, 2001; Hackett, 1993; Richardson, 1996; Robitschek & DeBell, 2002; Savickas & Walsh, 1996). Furthermore, there has been an ongoing dialog regarding the implications of broader issues such as sociocultural change and new paradigms of intellectual inquiry for vocational psychology (Collin, 1997; Collin & Young, 1986, 2000; Richardson, 1993; Savickas, 1993, 1995, 2000). The plan for this chapter is to build on and to pursue these critiques and suggestions in order to develop an agenda or set of future directions for the field that hopefully will stimulate and encourage what might well be an emerging new stage in the history of vocational psychology.

This agenda for vocational psychology is influenced by three major sets of ideas. The first has to do with the contemporary sociohistorical context of the field. One of the most striking characteristics of the field in the past century

has been its ability to respond to societal needs: first, with respect to Parsons (1909), who responded to the need to help people make occupational and vocational choices in the rapidly expanding industrial economy; and second, with respect to Super (1963, 1969), who conceptualized a process of career development that dovetailed with the maturation of this industrial economy. These were brilliant and timely accomplishments. A similar kind of transformation is needed today in order to respond to the contemporary milieu.

The second set of ideas is rooted in postmodernism which provides a new understanding of the philosophy of science enabling an approach to theory development very different from that associated with more traditional perspectives. The postmodern epistemology opens up new intellectual terrain for the field of vocational psychology. The third set of ideas has to do with the implications of contextualism, which offers a different intellectual grounding from the traditional organismic developmental metamodels for theory development in the field. The metamodel or world hypothesis of contextualism also is consistent with a postmodern epistemology and with fundamental characteristics of the contemporary sociocultural milieu. Following an explication of these three sets of ideas, we turn to three new directions for theory development in the field. These new directions include those that emanate from a new definition of the field, a shift in theoretical lens from developmental to cultural psychology, and an emphasis on intervention-relevant theory including a call for action research.

THE CONTEMPORARY SOCIOCULTURAL CONTEXT

The world of work, what is referred to as market or paid work in this chapter, has long shaped and structured the field of vocational psychology. The vocational guidance movement began as a response to the proliferation of occupations that resulted from large-scale societal changes during the industrial revolution and the associated need to help people negotiate the world of paid work among the many options available to them. The bureaucratic form of large 20th-century organizations that followed then gave rise to the emergence of the career construct and ethic (Savickas, 2000). Numerous writers have commented on and analyzed the radical changes that have and continue to reshape the contemporary world of market work (Arthur & Rousseau, 1996; Cappelli, 1999; Collin & Young, 2000; Hage & Powers, 1992; Howard, 1995; Sennett, 1998; Storey, 2000; U.S. Department of Labor, 1999). These include changes in the nature of the work to be done, the skills needed by workers, worker demographics, organizational forms and structures, kinds of employment patterns, and the psychological contracts between employees and employers, all of which result in increased job insecurity. In most cases, the causes of these changes have been traced to the impact of globalization

and technological change. These changes have challenged the prevailing notions of career and have resulted in numerous calls and efforts to revise and renovate the meaning of career and the field of vocational psychology in order to respond to these changes (Arthur, Inkson, & Pringle, 1999; Collin & Young, 2000; Hall & Associates, 1996; Richardson, 1993; Savickas).

The relationship of vocational psychology to market or paid work, however, needs to be considered in a broader societal context. The emergence of the vocational guidance movement in the early 20th century in response to forces of industrialization occurred concomitant with the restructuring of social reality into separate work and family spheres (Parson & Bales, 1954; Weber, 1978). The industrialization of paid work in a capitalist system required the construction of a separate sphere of paid work that met the technological needs of an industrialized economy, provided for a free labor market operating according to systems of ability and competence, fostered the loyalty of workers to the industrial enterprise, and was guided by principles of efficiency and rationality. In contrast to this public world, a private and separate world of home and family evolved as part of this restructuring of social reality. The central concern of the private family domain was reproduction rather than production. The family domain fostered the nuclear family as the ideal family type and was characterized by vague and diffuse kinship ties, feelings, and relationships (Stockman, Bonney, & Xuewen, 1995). The unpaid work that was done in this private world, such as that associated with parenting and housekeeping, for example, was ignored and devalued. At the same time, this unpaid work became identified as women's work (Glazer, 1993; Hochschild & Machung, 1989; Pleck, 1982).

This social construction of separate public and private worlds has eroded in contemporary times. Regardless of whether one labels the contemporary period as postindustrial, postmodern, or late modernity, there is a consensus that a significant and far-reaching disruption and reorganization of social life is occurring, a disruption and reorganizing that shatters what is now clearly a myth of separate public and private worlds (Kanter, 1977). There are not only multiple connections between these public and private worlds but also massive changes occurring in the postindustrial world, affecting both spheres of life in increasingly complex and multifaceted ways (Demo, Allen, & Fine, 2000; Fukuyama, 1999; Held, 1986; Zinn, 2000). Rather than separate, these worlds are best viewed as intimately connected and interpenetrating (Brush, 1999; Hage & Powers, 1992; Gore, Leuwerke, & Krumboltz, 2002; Nippert-Eng, 1995). The logic of a field of vocational psychology that concentrates predominantly on market or paid work is no longer tenable. The forces that have and continue to radically alter the world of paid work are more pervasively altering the entire fabric of the social structure, and especially the mythology and ideology of separate spheres of work and family (Gross, 1999). Although it has long been contested that women's career development could

not be considered apart from their investment in family roles, this is now true for both genders. Despite the fact that the interconnections for women between work and relationships in public and private domains are arguably more extensive and deleterious, especially with respect to the impact on women's paid work (Brush, 1999), men's lives are increasingly affected by the interpenetration of these contexts. Thus, although the nature of this interpenetration differs greatly according to social locations of gender, race, and class, both public and private worlds are now the appropriate context for vocational psychology.

A deeper analysis of the kinds of changes occurring in the contemporary social world is provided by Giddens (1991), who examines the impact of globalization and technological change on self and identity in late modernity. In his analyses, radical transformations of space and time due to globalization and technological change are challenging the existing traditional structures that have, heretofore, shaped the processes of self and identity. He argues that the interpenetration of self-development and social systems increases under conditions of late modernity. In contrast to traditional culture in which options for living one's life are more tightly scripted and circumscribed by norms and expectations, in posttraditional modernity individuals are forced to negotiate their paths in life without the guidance of traditional culture, in the presence of numerous options, rapid change, and the interpenetration of self and social systems. In the absence of maps, people are far more dependent on the constant need for the self-conscious processing of their life experience in order to construct and reconstruct their life paths in relation to the ever-changing context of the times. It is this lifelong self-conscious processing of experience that Giddens refers to as the reflexive project of the self.

Giddens's analysis (1991) makes possible a reframing of the ferment occurring in the world of market work from the loss of the possibility of a traditional career, as it has been known through much of the last century, to a more pervasive dislocation of all aspects of our social lives and institutions. It enables a shift for vocational psychology from a concentration on the world of market work as the central context of professional efforts to a broader focus on understanding and facilitating the construction and reconstruction of lives going forward in relation to the broader context of a radically evolving social reality in which traditional guidelines and markers are absent or weakened. It is a direction for the future encouraged by Peavy (1993) in relation to the counseling profession in general.

It is argued in this chapter that this deeper analysis of social change provides an exciting opportunity for vocational psychologists to reposition themselves to play a central role in meeting the needs of people in the 21st century to develop not only their careers but also their lives in general. Similar to the need for vocational guidance to help people deal with the proliferation of occupational options in the early decades of the 20th century, vocational

psychology in the 21st century can position itself to help people deal with the proliferation of life options including but not restricted to options with respect to paid or market work.

A POSTMODERN EPISTEMOLOGICAL STANCE

The epistemological stance of the authors of this chapter is predominantly postmodern. Although much has been written about postmodernism as both a challenge and a threat to prevailing positivistic traditions in psychology (Fee, 2000; Gergen, K. J., 2001; Kvale, 1992), including vocational psychology (Savickas, 1993, 1995, 2000), there are three significant aspects of this stance that are particularly relevant to this chapter on new directions for theory in the field of vocational psychology.

The first has to do with a pragmatic understanding of theory. In positivistic traditions, it is assumed that there is a reality “out there” and that theory is an attempt to map or to represent that reality. The value of a theory, its validity so to speak, is then a function of how well the theory does, in fact, match the reality “out there,” a function that can be assessed with the aid of empirical observations. For example, if a theory predicts a certain relationship among variables, the empirical test of validity is the extent to which empirical findings substantiate the theory’s predictions. In this tradition, theory is about truth conceived as a representation of reality. The better the representation, the more likely it is that the theory is true.

The postmodern tradition challenges this view of theory as a representation of reality. Although most postmodernists would agree that there is a reality “out there,” the notion that it can be represented veridically is questioned. Rather, the human attempt to grasp reality is suffused with language and culture (Wittgenstein, 1953). As human beings attempt to postulate about the nature of reality, these postulations are inevitably affected by the normative and prevailing language patterns that they call into use and the culturally saturated worldviews that affect their phenomenology. For example, a belief that a process called career decision making exists in the world “out there” and is a critical aspect of career development sets up a predisposition and tendency to identify parameters of this process in the phenomenal world. Instruments then can be developed to measure aspects of the process as well as theories which explain the function and utility of the process. A different set of guiding constructs from competing ideological positions would yield different instruments and different theories.

Given the postmodern perspective on theory, if theory does not provide an accurate representation of reality or access to truth, the question of what theories are for becomes primary. If theories are not about what is “true,” what are they about? Most would acknowledge that we need theory to make

sense of the world around us, of the flux of our phenomenological experience (Gergen, 1980). We need theory as a guide to a course of action. As social scientists and as scientist-practitioners in a field in which our understandings (our theories of human behavior in relation to a certain domain of human activity) are meant to inform our actions or interventions in relation to the persons with whom we work, theories are indispensable. In this sense, theories provide a base for understanding and action in the phenomenal world rather than a resource for prediction and control. For example, if we are attempting to design an intervention for a school, a program in an adult counseling setting, or sitting face to face with someone in a counseling session, we need conceptual maps regarding significant factors and salient issues as guides to action. If we are planning a research project, we need theories to frame the investigation or to guide the methodology.

If this is the case, how might we choose among theories, if we cannot trust that one theory is "truer" than are others with respect to a representation of or a correspondence with reality? This is the crux of the matter. It is here that the postmodern perspective on theory is most relevant to a field such as vocational psychology. Rather than truth, the central postmodern criterion for selecting a theory shifts to the pragmatic one of usefulness. And once the shift is made to pragmatism, the philosophical foundations of the field can be traced to and informed by the works of pragmatic philosophers such as Dewey (1929, 1933) and Rorty (1999).

Once the central or most significant criterion for a theory shifts to the pragmatic one of usefulness, the next and most significant questions are useful for what purposes and for whom? It is here that values become central. In order to answer these questions, one must have some sense of what one is trying to accomplish with any particular theoretical construction. Thus, the centrality of values is the second aspect of postmodernism that informs this chapter. The central question of the values of the field is addressed in the section of this chapter on a new definition for the field.

While endorsing the centrality of a pragmatic criterion for truth, the epistemological position taken in this chapter does not negate the real and material world that exists outside our necessarily subjective efforts to understand this world. The notion of working truths described by Driver-Linn (2003) with respect to her analysis of the role of Thomas Kuhn in the epistemological battles of psychology is particularly valuable in this regard. She posits that Kuhn's position regarding science is best described as naturalism in that scientific theories are representations of reality that "fit the world more or less well" (Giere, 1999, p. 240), thereby constituting working truths, always open to criticism and revision as the methods and insights of science progress. In this chapter, the notion of theories as working truths is adapted to incorporate, first of all, a commitment to theories or working truths that help to accomplish valued ends, and, second of all, an understanding that working truths also constitute approximate maps of reality.

The third aspect of postmodernism central to this chapter is its emphasis on social constructionism (Gergen, M., 2001; Gergen & Davis, 1985; Shotter, 1993). In social constructionism the notion of objective reality gives way to awareness that human beings actively participate in and construct their realities; constructions that are, in turn, saturated by social and cultural contexts. Social constructionism is particularly relevant to this chapter in a number of ways. The first has to do with research methodology. The challenge to objective reality provides the basis for a critique of positivistic and postpositivistic research methods in favor of more experience-near and qualitative approaches. The loss of faith in objective reality has enabled potentially revolutionary changes in methodology derived from this epistemological stance. Although some attention is given in this chapter to action research, it is beyond the scope of this chapter to more fully address the rich, generative, and evolving literature on new qualitative methodologies (Denzin & Lincoln, 2000; Morrow & Smith, 2000). However, it is important to note the close and synergistic connection between theory and research. New epistemologies give rise to new ways of doing research. It can be expected that theory informed by postmodern epistemologies such as social constructionism will advance hand in hand with new ways to do research.

The second influence of the social constructionist theme in postmodernism is its explicit attention to the ways in which power hierarchies involving privilege and oppression are constructed and maintained through social and cultural processes (Derrida, 1973; Foucault, 1980; Sampson, 1993). The awareness of the political ramifications of social constructionism is central to this chapter. Third, the social constructionist stance, with its emphasis on the social and cultural milieu as the lens or medium through which individuals construct their experience, positions culture as a primary force in human development. The implications of the social constructionist theme in postmodernism with respect to culture are addressed later in this chapter in our recommendation to shift the theoretical lens of the field from developmental to cultural psychology.

CONTEXTUALISM

The significance of context, with context considered as a set of factors or variables affecting and interacting with development, has long been recognized in developmental psychology and in vocational psychology. In developmental psychology Bronfenbrenner's (1995) ecological developmental theory, perhaps, best epitomizes theory built around ideas of context. In vocational psychology, Collin (1997) describes the role of context through a range of career theorists, including Bordin, Dawis, Holland, Krumboltz, and Super. Person-environment fit theories that also have to do with context are reviewed by Chartrand, Strong, and Weitzman (1995).

In contrast to theories that understand context as a set of factors or variables surrounding and influencing development, contextualism is a philosophical perspective that has more far-reaching and radical implications for the field. According to Pepper (1942), there are four possible root metaphors or world hypotheses: formism, mechanism, organicism, and contextualism, each of which provides a different perspective on the construal of reality, and each of which is incommensurate with the others. What this means, according to Pepper, is that these four world hypotheses enable four different perspectives on reality, with categories appropriate to the world hypothesis in question, and all potentially equally adequate in making sense of the empirical world using their respective categories. Thus, it is not possible to say that one world hypothesis is better or more adequate than another with respect to truth value. All four can be true, only in very different ways. In an ideal world, Pepper recommends what he calls a postrational eclecticism, by which he means that knowledge pursued according to all four world hypotheses would be available in order to take practical action. The notion of world hypotheses is, thus, very postmodern in spirit in that multiple truths (as opposed to a single truth) regarding the nature of reality are posited.

There are two main aspects of contextualism as a world hypothesis. First, it emphasizes the dramatic, active event in the present, referred to as the historic event. What is most important is what is happening now. Furthermore, the act (or actor) and its context are inseparable and interpenetrating. Rather than dualistic thinking about a person in his or her context, contextualism posits a nondualistic interpenetrating person-in-context unit. In its focus on the present, the influences of past and future are only relevant insofar as they exist in the present moment. A second feature of contextualism is the notion that change is both potentially constant and dispersive. That is, change is always possible, and there is no inherent reason why this change may not proceed in any given direction, ordered or disordered, depending on what is going on in the present.

It is our contention that contextualism is a particularly useful lens for future directions in vocational psychology. A perspective grounded in the assumption of potentially constant change may be appropriate at a time in which discontinuous and disruptive change is endemic. Further, contextualism's focus on the power of what is going on in the present to affect change offers an optimistic perspective for a field in which not just theory or research, but actually improving lives is an issue (Lewis, 1997). In contextualism what is important about history is what a person brings to the present moment. In contrast to developmental contextualism, an important body of theory located in developmental psychology which attempts to integrate the worldviews of organicism and contextualism (Brandtstadter & Lerner, 1999), contextualism considers context primary. Thus, contextualism guards against a "developmental tilt" in which early experiences, either good or bad, are given undue

weight in their potential effect on the present and future. In this chapter, the influence of contextualism is apparent in our emphasis on work and relationships as central and interpenetrating contexts for most people—in our consideration of cultural psychology, in that culture is surely one of the most powerful ways of understanding context—and in our focus on intervention-relevant theories which are essentially about groups of persons in specific kinds of contexts.

A NEW DEFINITION FOR THE FIELD

In this section of the chapter we propose a new definition for the field of vocational psychology which flows from the intellectual terrain considered earlier. This new definition, in turn, has important implications for theory development. In line with the postmodern stance of this chapter with its emphasis on values, we propose that vocational psychology be defined as a field, comprised of theory, research, and intervention practices, that is committed to the importance of work and relationships in people's lives, to helping people live healthy and productive lives, and to social justice, especially with respect to providing access to opportunity for those marginalized or disadvantaged due to social locations such as gender, race, and class. In contrast to a recent definition of the field in which vocational psychology was defined as "the study of vocational behavior and its development in careers, particularly emphasizing issues of occupational choice and work adjustment (Savickas, 2001a, p. 167), this definition is not limited to theory or research, nor is it limited to processes of choice and adjustment in relation to domains of work or career. A definition of the field based on the values proposed here is broader and more inclusive of a multiplicity of directions in which the field might evolve. Each of the three values central to this new definition is addressed in turn, followed by a discussion of the implications for theory development for a field defined by values.

The importance of work and relationship as a central value commitment of vocational psychology follows from the earlier analysis in this chapter of the interpenetrating structure of public and private worlds in contemporary times which shapes life experiences. To focus solely on paid or market work is to perpetuate a myth of separate worlds which is no longer tenable or useful to people who are attempting to negotiate the increasingly complex landscapes of their lives. Furthermore, to focus solely on paid work ignores the significance of unpaid work in private domains and the ways in which relationships in both public and private domains are also central and interpenetrating contexts of lives (Richardson, 2002).

This focus is greatly indebted to Blustein's (2001b) depiction of the bifurcation of scientific inquiry in relation to paid work and to relationships,

a bifurcation shaped by the same mythology of separate worlds which has shaped vocational psychology, and to his recommendation to attend to the interconnections between these two aspects of human experience. The relational revolution Blustein describes helps to shift attention to a template of relationships that is broader than family ties and includes relationships such as friendship and support networks as well as relationships originating in the domain of paid work.

Thus, a rubric of work and relationship enables a reframing of the dichotomy of a public world of paid work and a private family domain, to one that identifies work and relationships, in both public and private domains, as multiple and interpenetrating contexts of experience. In this reframing, it is assumed that work and relationships are central and significant life contexts for most people across the lifespan.

The identification of work and relationship as central contexts of experience for vocational psychology emphasizes work rather than career for several reasons. A number of authors have elaborated a new understanding of career which includes activities and behavior across the diverse terrain of modern life inclusive of paid work in the occupational structure, unpaid work in personal and communal spheres of life and significant relationship commitments, and further, recasts career as a construct that helps to capture how people make meaning in their lives (Cochran, 1991; Hall & Associates, 1996; Young & Valach, 2000). Although we appreciate and value these efforts, it is our contention that it is difficult to decouple career from its meaning with respect to paid work in the occupational structure. Further, unpaid work in personal and familial domains tends to be marginalized in most career discourse, even discourse that defines career to be inclusive of unpaid work. The tendency to identify career with life also loses the richness of the meaning and the significance that is possible with a discourse that includes work. For example, the proposal for an inclusive psychology of working and the explication of the multiple functions of working by Blustein (2001a, 2002) are important contributions to the field which would be muted if career simply became identified with life or a life career.

Although numerous definitions of work can be found, the definition in this chapter follows those who define work as an instrumental and purposive activity that produces goods, services, or social relations which have both social and/or personal value (Richardson, 2002; Thomas, 1999; Wharton, 2000). This definition recognizes economic ends but does not marginalize unpaid work in personal and communal spheres of life. It also foregrounds a broad range of social and personal values, including but not limited to economic considerations, which drive the multiple forms of work in which people engage. Although the notion of career has long provided a mainstay and source of identity in modern societies, it is suggested here that a focus in vocational psychology on the multiple variations of work and relationships

in which people engage over time will contribute to a flexible and broadly based identity which is more adaptive and better suited to the uncertainties and exigencies of contemporary lives.

An implicit assumption of vocational psychology has been that helping people choose occupations and develop careers is part and parcel of helping people live healthy and productive lives. We would like to make this assumption explicit and to position this value in relation to the work and relationships in people's lives. That is, central to our definition of vocational psychology is a commitment to the value of helping people live healthy and productive lives, especially through the work and relationships in which they engage. Although this value commitment appears similar to current concerns in positive psychology (Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001), it is explicitly contextualized here in work and relationships as especially significant sociocultural domains or contexts through and within which healthy and productive lives are constructed. Attention to the sociocultural contexts of lives is one of the most significant and unique contributions of vocational psychology to date. It is this attention to the embeddedness of lives in context which has been mostly expressed in relation to paid work in the history of the field that we would like to elaborate and extend to the broader context of work and relationships across public and private domains of life.

A focus on the construction of healthy and productive lives, especially through work and relationship, also will enable vocational psychology to be at the forefront of efforts to develop integrative practices that do not falsely split off paid work concerns from the rest of a person's life, as in much of career counseling, or ignore the significance of work contexts as venues that provide essential opportunities for self-development along healthy and productive lines, as in most psychotherapy practice (Cushman, 1995; Hackett, 1993; Richardson, 1997, 2002). Such integration will marry new understandings regarding the significance of attachment theory for healthy development (Lopez & Brennan, 2000) with the emerging work on the importance of intentionality and goal-directed behavior for healthy and effective functioning (Brandstadter & Lerner, 1999; Brunstein, Schultheiss, & Maier, 1999; Deci & Ryan, 2000; Little, 1999; Richardson, 2002, 2004). The capacity for both good and satisfying relationships and effective intentional action is essential to mental health and positive functioning across work and relationship contexts in both public and private domains.

Finally, we propose that the third value central to vocational psychology is social justice, which focuses on providing access to opportunity for those marginalized or disadvantaged due to social locations such as gender, race, and class. The need for vocational psychology to put social justice at the forefront of its efforts is a current theme in the field. It is responsive to the neglect of social justice issues in past decades (Blustein, Juntunen, & Worthington, 2000). The call for social justice also reflects the concerns of the founder of the field,

whose work was, to a large extent, animated by concerns regarding equity (O'Brien, 1999). A commitment to social justice by vocational psychology aligns the field with others in psychology and counseling psychology that are committed to move beyond the typical apolitical professional arena to become more actively engaged in efforts to influence the sociopolitical structure on behalf of underserved and marginalized populations (Albee, 2000; Brown, 1997; Helms & Cook, 1999; Ivey & Collins, 2003; Prilleltensky, 1997; Vera & Speight, 2003).

The issue regarding social justice is a particularly salient one for vocational psychology with regard to work. Work, both paid and unpaid, is central to the distribution of privilege and oppression in our social structure. Not to take a position here actively in support of social justice is for vocational psychologists to acquiesce in supporting the reproduction of the status quo accomplished through work systems and structures.

A reliance on values as the defining attributes of the field rather than on bodies of theory or research or even intervention has significant implications for theory development in the field. A reliance on values enables vocational psychologists to have more open and permeable boundaries in the work they do. This, in turn, helps to avoid the troubling insularity which has plagued the field and which, according to Leong (1996), has operated as a deep and limiting structure. Moving beyond boundaries, a reliance on values as a defining attribute of the field enables vocational psychology to stake out a more fully interdisciplinary location from which to both study and intervene in people's lives around issues of work and relationship. A broad and diverse interdisciplinary lens is essential for doing meaningful work in the real world. Thus, more permeable boundaries foster collaboration between vocational psychology and related fields which are relevant to the values and issues central to vocational psychology. For example, trends in the field to be encouraged and enhanced include the work of vocational psychologists on career self-efficacy, which has productively borrowed from and contributed to social cognitive theory (Bandura, 1997; Betz & Hackett, 1986; Hackett & Betz, 1981; Lent, Brown, & Hackett, 1996); the work of Vondracek and associates, which operates in the interface of vocational psychology and life span developmental psychology (Vondracek, 2001; Vondracek & Kawasaki, 1995; Vondracek, Lerner, & Schulenberg, 1986; Vondracek & Porfeli, 2002); the infusion of narrative theory into the field exemplified by the work of Cochran (1991, 1997); and the application of action theory to career development research and intervention practice by Young and Valach (1996, 2000, 2004). The broader definition of the field, in turn, opens up the possibility for collaboration with theorists in a wider range of interdisciplinary fields. For example, the study of relationships as contexts of development (Berscheid, 1999; Collins & Laursen, 1999) is clearly very relevant to vocational psychology as defined in this chapter. The point here is not to come up with a list of theories or fields which might

define the parameters of vocational psychology; rather, it is to emphasize that there should be no parameters with respect to fields which now or in the future may contribute to the value commitments guiding the field. A focus on values enables an interdisciplinary stance toward the ever-evolving world of intellectual inquiry and professional intervention as opposed to a stance that privileges theory specific to vocational psychology.

A SHIFT IN LENS TO CULTURAL PSYCHOLOGY

The second new direction for theory development proposed in this chapter is to shift the theoretical lens of the field from developmental to cultural psychology. This is a shift that is closely linked to the emphases in this chapter on postmodernism and contextualism. It also follows from and extends the suggestions by theorists such as Stead (2004) to place culture at the forefront of vocational psychology and Leong and Hartung (2000), who have called for a cultural mindset for vocational psychology. Following a discussion of the rationale for this shift, the study of narrative and social practice, both of which are closely associated with cultural psychology, is recommended as especially useful for the development of theory in vocational psychology.

The essence of cultural psychology is that it is culture rather than biology or a universal human nature that shapes the mind (Bruner, 1990; Schweder, 1990, 2003). The assumption of psychic unity in most psychological theory is replaced in cultural psychology by the assumption of difference with the quest to examine how these differences emerge in diverse social and cultural groups. It is not that human development is eschewed in cultural psychology; it is that developmental understandings are situated within culture as opposed to across cultures. A prism of cultural psychology is not concerned about general or universal developmental processes, but about the course of development within and in response to particular cultural settings. This prism holds the promise of opening up for investigation aspects of developmental process relevant to work and relationship that may well have been ignored by the focus of the field, to date, on normative aspects of a career developmental process across cultures.

The metaphor of construction is central to cultural psychology. Although the meaning of construction is interpreted differently by those who refer to themselves as constructivists, social constructionists, or constructionists (Young & Collin, 2004), most would agree that people both construct and are constructed by the social and cultural forces in their lives. Rather than positing developmental regularities that emerge over time, as in a more traditional developmental psychology, the metaphor of construction views human development as something that is the joint product of the encounter of an intentional human organism with the culture in which that human being is

immersed. The metaphor of construction takes the developmental notion of human plasticity and reshapes it to be a more active and mutual engagement of persons with and in their social worlds. In the new definition of vocational psychology suggested in this chapter, the metaphor of construction enables a shift from the study of how careers develop over time to how people in diverse cultural settings construct their lives through work and relationships, and how these lives, in turn, are constructed by the work and the relationships in which and with whom they engage.

Clearly there is much affinity between cultural psychology and social constructionism, that aspect of postmodernism that emphasizes the ways in which social location affects and constructs experience (Gergen & Davis, 1985). Social locations are inextricably cultural. However, what social constructionism brings to the table that is missing in cultural psychology is, first of all, an appreciation of the multiplicity of cultures that impacts minds and a deep appreciation of the fact that any one person may be exposed to multiple and frequently contradictory cultural influences with respect to diverse social locations. For example, a Chinese-American woman participates in both Chinese and American cultures, each of which, in turn, interprets and constructs gender in different ways. Add to this the influence of culture mediated by socioeconomic status and religion and the complexities of the shaping of mind become apparent. Second, there is an inherent tension between a cultural psychology that celebrates difference and the plurality of human experience and the politically conscious current in social constructionism that interrogates ways in which differences between cultural groups and persons in diverse social locations become locations for the distribution of power that privileges some and disempowers others. The contribution of cultural psychology to vocational psychology needs to be viewed through a lens that encompasses both a respect for difference and a concern for the implications of such difference in the culturally related opportunities and constraints that shape lives.

The Narrative Study of Lives

The narrative study of lives is central to new theoretical directions for vocational psychology for several reasons. First of all, Sarbin (1986) identified narrative as the appropriate translation of the root metaphor of contextualism, the historic event, for psychology. In his interpretation, the historic event is, in fact, a narrative. He argues that narrative is the primary way in which human beings impose structure on the flow of their phenomenological experience and that one can best understand the intentional actions of human beings through the stories or narratives that they tell regarding their lives.

From cultural psychology, Bruner (1990) echoes the insights of Sarbin by identifying the study of narrative as the quintessential way to understand folk

psychology, that is, the commonsense ways in which people understand themselves and their worlds. In narrative theory, what is most important is how people understand themselves and their worlds, how they make meaning and sense out of their actions, and how their actions are infused with intentionality. This meaning-making process, in turn, is the central way through which human beings are linked to and embedded in their cultural milieus. That intentions do not necessarily predict behavior is not a problem to narrative theorists, who would be the first to acknowledge that any human action sets into motion expected and unexpected consequences and that lives unfold in surprising and unexpected ways.

The significance of narrative for vocational psychology also is suggested by the work of Giddens (1991) referred to earlier. The lack of certainty and the corresponding instability in personal and social lives in contemporary times place greater stress on the need to develop meaningful life narratives, narratives in which work and relationship are likely to be central. The reflexive project of the self, critical to the ability to sustain a coherent sense of identity, entails the telling and retelling of these life narratives. From a social justice perspective, narrative also has been recommended as a way to tell the stories of those whose lives have been ignored and marginalized to date (Franz & Stewart, 1994; Josselson & Lieblich, 1993). From this perspective, the study of narratives in vocational psychology enables the telling of stories that have been left out of the mainstream normative vocational discourse. Examples of research along these lines include the study by Fernandez (2003) on the life stories of highly successful Puerto Rican women raised in poverty and Ziehler's (1999) narrative analysis of life stories told by married heterosexual women who are childless by choice.

Narrative theory at this point is a rich and diverse interdisciplinary field (Josselson, Lieblich, & McAdams, 2003; McAdams, 1999; McAdams, Josselson & Lieblich, 2001), which also recommends it as a theoretical venue of importance to vocational psychology. Its significance in the field to date is apparent in the fact that narrative constitutes one of the three levels of analysis in Savickas's (2001b), comprehensive theory of career development. The notion that narrative is a contemporary understanding of self positions the study of narrative in historical continuity with the emphasis in vocational psychology on the significance of self in vocational and career psychology. It can be expected that narrative studies will continue to constitute lively and important contributions to the field in the future. What is especially to be recommended are newer approaches that position narrative as interactional events; that is, that the coherence of narrative is located in the ways in which narrative is used to position the narrator in relation to significant others (Wortham, 2001). This understanding of narrative brings it more fully into the relational space between self and other, a space that also has been the focus of study by vocational theorists (Blustein, Schultheiss, & Flum, 2004) who have used

Josselson's (1992) typology of relational space to examine the role of relationships in vocational development.

The Construct of Social Practice

Although narrative theory is already a significant player in vocational psychology, the study of social or cultural practice is newer, more ground-breaking, and less well known. The construct of social practice is a product of the struggle in cultural psychology to develop non-dualistic ways to understand the mutual shaping of mind and culture (McPhail & Palinscar, 1999; Ratner, 1997; Wertsch, 1998). Nondualism, in turn, is a healthy antidote for the prevailing and problematic individualism of American psychology with its tendency to think of human beings as personalities contained within their skins. It also resonates with the nondualistic notion of the historic event in contextualism which is comprised of person-in-context. Central to nondualism is a shift in attention to the importance of what people do rather than of what they are like. It is what people do, their activities in the social world, that is a central concern of cultural psychologists. In focusing attention on what people do, social practice is central. It refers to what people do with or in relation to others in their social and cultural milieus, activities that are inevitably saturated with the multiplicity of meanings in these milieus. According to Miller and Goodnow (1995), cultural or social practices are "actions that are repeated, shared with others in a social group, and invested with normative expectations and with meanings or significance that go beyond the immediate goals of the action" (p. 7). Activities and social practices include language and conversation.

To label activities as social practices is to make explicit the ways in which activities are inevitably shaped by culture as well as by the persons engaging in the activities and the ways that activities exist in social interactions with others. In cultural psychology the focus is on how mind or psychological processes are constructed by and evolve out of social practices. According to Ratner (1997) "psychological phenomena are the subjective processes of practical cultural activity and cultural activity is the practical objectified side of psychological phenomena" (p. 114). The construct of social practice, according to Cole (1996), takes the idea of context from that which surrounds to that which weaves through experience. It enables the locus of research and theoretical activity to focus primarily on what goes on in social space as people engage in their daily social practices. It is through participation in social practices that lives are constructed. In a culturally oriented vocational psychology influenced by the definition of the field suggested in this chapter, the emphasis would be on how lives are continually shaped, constructed, and reconstructed through the social practices associated with the work and relationships in which and with whom people engage. Within vocational

psychology, the work of Young and Valach (1996, 2000, 2004) on a contextual action theory of career best exemplifies theory that is consistent with the focus on social practices in cultural psychology.

Attention to what goes on among people as they engage in social practices is a major challenge to our typical approaches to research in psychology which have been almost wholly framed as methods suited to the study of the individual. Within vocational psychology, research by Young and his colleagues (Young et al., 2001; Young, Valach, Dillabough, Dover, & Matthes, 1994) on the construction of careers within families through analysis of parent-child conversations typifies the struggle to develop innovative methodology that enables the study of a social practice, in this case, conversations between parents and adolescents about the adolescents' work and life goals. In this work, based on the contextual action theory of career, the focus on parent-child conversations enables a reframing of the evolution of work-related paths and structures in adolescence as embedded in the evolving parent-child relationships and as a family project. It also illustrates how the study of social practices can identify cultural influences which shape and modify the processes of career or work-related constructions in adolescence (Young, Valach, Ball, Turkel, & Wong, 2003).

The promise of the study of social practice for vocational psychology, especially a vocational psychology committed to social justice aims, is further supported by an understanding of the ways in which participation in the social practices of one's culture helps to develop the sense of belonging and identity in one's cultural group (Miller & Goodnow, 1995). It is a highly value-laden activity. It is this participation, in fact, as well as the relationships among the participants that change in the course of development. In other words, as a person participates in social practices, the nature of that participation and the relationships with other participants changes and evolves. In this emerging body of theory, participation in social practices and relationships replaces notions of developmental change. Over time, a person becomes a more expert practitioner of the social practices in which he or she participates.

What is most important here is that the direction of change may not always be progressive. In fact, participation in culturally situated social practices, especially in social locations characterized by discrimination and lack of opportunity, may help to shape lives in negative and deleterious ways. Identification of salient and critical social practices in diverse cultural milieus and social locations is a first step for developing research and theory along these lines in vocational psychology. The study of such social practices in different social locations may help to illuminate ways in which access to opportunity is both enhanced and constrained. In this kind of research, the work of Rogoff, Baker-Sennett, Lacasa, and Goldsmith (1995) may be considered a model in that attention is given to the study of social practice at the individual, the interpersonal, and the community level.

INTERVENTION-RELEVANT THEORY

In this section we propose a recommitment to the significance of all three aspects of the field, theory, research, and intervention, and recommend that theory which is both useful to and emerges from intervention practices is a third focus for theory development in vocational psychology. We refer to this as *intervention-relevant theory*. Following a discussion of the meaning and significance of intervention-relevant theory, the school-to-work transition literature is briefly discussed as an exemplar of how the field has, in fact, recently moved in this direction. Action research is then suggested as an approach to research that goes beyond typical practices to build theory from intervention. Action research is also notable for its grounding in social concerns. Following a brief exposition of action research, the section concludes with a discussion of persons-in-situations of risk.

The Meaning of Intervention-Relevant Theory

One of the significant strengths of vocational psychology is its association with both theory and intervention. It is an invaluable resource for the field. In contrast to the enormous potential for a productive and synergistic relationship between theory and intervention practices, at this point, the interface between them in vocational psychology is problematic (Savickas & Walsh, 1996). The extent of the disconnect between theory and intervention in vocational psychology is evident in Savickas's (1996) depiction of a separate science of career development theory having to do with descriptions and explanations of career or vocational behavior and career counseling theory having to do with how to foster career development in clients. These kinds of splits between theory and intervention can, in part, be traced to an endemic power hierarchy in professions such as psychology in which theory is accorded higher status than intervention. From the perspective of this hierarchy, theory is intellectual; it is about knowledge and knowing, whereas intervention is about doing or practice. In such a comparison, knowing is better than doing. In contrast, the position taken in this chapter is that theory, research, and intervention are all practices associated with modes and forms of professional activity. In other words, one does theory or research or intervention along the lines of prevailing norms, expectations, and other cultural affordances. Developing theory is as much a practice as is intervention. The negating of hierarchy among ways of doing theory, research, and intervention hopefully will enhance a more productive collaboration between and among all modes of professional practice in vocational psychology.

Further, the postmodern pragmatic criterion for theory is especially salient here. Theory or theoretical practices in vocational psychology that are useful for intervention should be encouraged, that is, theory that "works" to

help achieve the goals of the intervention practice. Rather than an emphasis on theory-based intervention (i.e., intervention derived from theory, which is the typical way in which theory is expected to contribute to intervention), this perspective values theory that is both useful to and emerges from intervention practices. Thus, in contrast to a preference for theory-based intervention, we recommend intervention-relevant theory. A very similar notion regarding the relationship between theory and intervention practices in relation to vocational psychology has been elaborated by Collin (1996a, 1996b).

What is inherent to intervention practice is that interventions are typically guided by a problem-solving orientation. Intervention attends to what should be rather than to what is. The position taken in this chapter is that theory development in vocational psychology, in general, should endorse a problem-solving view of science. Following Hoshmand and Martin (1995), the progressive research programs encouraged by a pragmatic and problem-solving view of science are “characterized by (1) appropriate changes in method choice over time and (2) a pattern of effective problem-finding and problem-solving” (p. 11). Similarly, we recommend a problem-solving view of science in vocational psychology in which the problems to be solved emerge from intervention practice.

With respect to the new definition of the field proposed earlier, the generic intervention question for the field might be “How can we help people construct healthy and productive lives involving work and relationships, especially facilitating access to opportunity for groups marginalized or disadvantaged due to social locations such as gender, race, class, sexual orientation, etc.?” However, in this chapter we propose a more focused intervention question. This question, influenced by the nondualism inherent in contextualism and cultural psychology, is “How can we help persons-in-situations of risk construct healthy and productive lives involving work and relationship?” This question shifts attention from concerns with group identities to concerns for persons-in-contexts which can be considered problematic situations. These are situations in which, for any number of reasons, people can be considered at risk for negative life outcomes. Such problematic situations present challenges and threats due to social, structural, political, and economic factors, and, in turn, impact one’s ability to thrive and do well in life. These also are situations that call for intervention to buffer the risk. Of most interest to vocational psychology are those situations of risk in which work or relationships are salient. Shifting attention from marginalized groups to persons-in-situations of risk hopefully decreases the potential to further stigmatize persons already dealing with a high level of situational stressors. It also more sharply foregrounds the need for vocational psychology to focus on persons-in-situations of risk as opposed to the more typical and traditional normative concerns of vocational psychology.

It is our belief that its long-standing commitment to developmental psychology, along with the attempt to describe a master career developmental narrative, has tended to narrow the field of vocational psychology to a concern with normative issues for predominantly mainstream populations. This focus leaves many out of the vocational discourse. The result has been a neglect of underserved, troubled, or otherwise marginalized populations, all of whom can be considered persons-in-situations of risk and who, by definition, do not fall within the purview of the normative. A commitment to theory associated with efforts to both understand and intervene with persons-in-situations of risk enables vocational psychology to pay attention to persons and situations that have long been with us (e.g., the problems of the poor in their access to opportunities with respect to work and relationships) as well as to other more transient situations in which persons are at risk. Some situations in which persons are at risk may emerge and also fade from view depending on the sociocultural and political context of the times. For example, although the situation of risk for displaced homemakers certainly has not disappeared, due to the increasing participation of women in the paid workplace, its current salience as an issue has receded. The point here is that a focus on intervention-relevant theory enables theorists, researchers, and interventionists to work together to respond to current and pressing social needs.

It is important to underline that this emphasis on intervention-relevant theory does not negate the contribution of developmental understandings of work and relationship phenomena. Developmental understandings may, in fact, be particularly potent in such efforts. It is rather that the traditional developmental lens, especially when paired with an emphasis on normal development, has unduly narrowed the scope and boundaries of the field, often excluding those who, in some way, fall outside the bounds of what has been identified as normative. In contrast to the more traditional commitments to foster normal development, especially in the career domain, a commitment to helping people live healthy and productive lives, especially in work or relational domains, is relevant to all.

Further, this shift in focus is not meant to ignore or, in turn, marginalize mainstream populations. Rather it is designed to develop theory relevant to persons-in-situations of risk where some kind of intervention may be needed. Although the definition of persons-in-situations of risk could and does, indeed, encompass many groups and situations (particularly in light of the instability and uncertainty of the contemporary world), social justice concerns dictate efforts in favor of those persons-in-situations of risk where the need is greatest.

Finally, central to an acceptance of intervention-relevant theory is a post-modern awareness that theories are local and temporary. The goal is not to build a body of theory about what is true; it is to build and revise theories that are primarily useful in helping to solve the problems emerging in

the constantly changing contexts of our times and, secondarily, that provide approximate maps useful for understanding persons in these contexts. As risk-related situations and problems change, so will theories. In the effort to construct such theories and to intervene with persons-in-situations of risk, the optimism inherent in contextualism is an important resource.

School-to-Work Transition

The school-to-work transition for adolescents and young adults fits the definition of theory relevant to intervention for persons-in-situations of risk. It is a central and significant theme in contemporary vocational psychology and is indicative of the way in which the field has already begun to move to a problem-solving view of science. Although this discussion is limited to the school-to-work transition literature, the significance of transitions in general as situations of risk and as a focus of professional efforts is highlighted by the recent Biannual Conference of the Society for Vocational Psychology on transitional phenomena in working lives. The rate of change and the instability of life scripts in contemporary society suggest that transition phenomena throughout the life course will place increasing numbers of people in situations of risk. What is learned about theory relevant to facilitating the school-to-work transition may have some implications for the development of theory appropriate to other transitional life situations.

The problematic situation in the school-to-work transition is the difficulty faced by youth in making a transition to work or further schooling following high school graduation as well as a transition to work at different points in the pursuit of higher education. These transitions are especially difficult in the United States because, in comparison to many other countries, there is no organized system for helping youth to make this transition (Heinz, 1999). Moreover, it is a transition that is becoming increasingly difficult due to the rate of change and discontinuity in the world of paid work, the increased demand for higher level skills from employers, and the erosion of opportunities for good jobs requiring only a high school education. Intertwined with these trends has been the increasing complexity in what it means for many young people to become an adult, a complexity that has shifted the time frame for adulthood further into the 20s. Graduation from school and getting a job are no longer markers of adulthood for many. The magnitude of this change and its pervasive effects on the life course has led some to hypothesize a new stage of emerging adulthood between adolescence and adulthood, at least for some cultural groups (Arnett, 2000).

In response to this problem and supported by government funding, there has been a plethora of programs, activities, and research that provide some examples of the ways in which theory emerges from intervention-relevant theoretical efforts. Based on a major review of the school-to-work research

literature across multiple disciplines, Blustein, Juntunen, and Worthington (2000) derived a framework comprised of two theoretical constructs useful for guiding future research and intervention practices. The first is an interdisciplinary definition of adaptive transition that includes economic, sociological, and psychological indicators. The second is identity capital, defined as a set of personal and relational resources as well as environmental supports, which is likely to maximize the transition from school to work for work-bound youth. Both constructs bridge the gap between conceptualizations of persons and environments and locate them in a person-context framework. These theoretical constructs are contextual as well as relevant to the research and intervention practices of multiple disciplines.

The community career system program evaluation framework developed by Lapan and Kosciulek (2001) provides another example of how a theoretical model can be constructed in response to the intervention needs of young people at risk in the transition from school to work. In this case, the program evaluation framework encompasses post-high-school transitions for college-bound as well as work-bound students and the transitions to work at all points of the educational system through college graduation. The framework itself is informed by contextualism in that it conceptualizes schools in communities and locates the program design and program evaluation efforts at the interface of education and business. With respect to students, the overall goal of program development based on input from multiple stakeholders is to enable students to “capitalize on an array of educational and training opportunities without being prematurely tracked into narrowed job paths” (p. 4). This goal is not an outcome derived from theory, but an outcome considered useful by those who are close to the situation and who, for different reasons, are invested in youth’s ability to make a successful or adaptive transition. It demonstrates the ways in which intervention-relevant theory foregrounds pragmatic aims. With this pragmatic goal in mind, a model for career development in adolescence is then constructed, the elements of which are expected to contribute to the overall goal. The model consists of specific student outcomes and related theoretical constructs and components, drawn primarily but not exclusively from the vocational literature, which are expected to be related to these outcomes. Here, the desired outcomes drive the construction of the model. Moreover, although a model such as this guides program design and evaluation efforts, the model itself is open to revision based on the results of evaluation efforts.

Action Research

Action research is a paradigm for research on social problems, referred to in this chapter as persons-in-situations at risk, which has a great deal of potential for a vocational psychology committed to integrating theory, research, and

intervention practices, and developing theory with social justice aims. Action research, also referred to as participative action research and collaborative inquiry (Heron & Reason, 1997), is generally traced back to John Dewey's (1929, 1933) efforts to develop a practical science that would heal the split between theory and practice. Other philosophical roots (Fals-Borda & Rahman, 1991; Freire, 1970), in combination with the fundamental Lewinian idea that the best way to understand a phenomenon is to try to change it, provide the basic parameters of a systematic approach to action research (Argyris, Putnam, & Smith, 1985; Greenwood & Levin, 1998). The construct of action in this paradigm is essentially analogous to what is referred to in this chapter as intervention.

Although action research, to date, is better known in relation to international development work and has been largely absent from university contexts (Brydon-Miller, Greenwood, & Maguire, 2003), the basic parameters of action research recommend themselves to the kind of intervention-relevant theory proposed for vocational psychology in this chapter. For example, the epistemology of action research recommends deriving theory from intervention practice. According to action research, it is by engaging with the phenomenon to be understood in order to change it, that theory regarding the phenomenon and processes of change related to the phenomenon can be generated. The phenomenon, in this case, refers to the problem to be solved or the persons-in-situations of risk which are the target of intervention. Furthermore, increasingly accurate and valid theory emerges only after repeated cycles of action and reflection, referred to by Schon (1983) as "ongoing conversations with a situation" (p. 163). The emergence of theory from intervention efforts in action research grounds theory development in intervention practice and necessarily produces collaborative inquiry between theorists and interventionists, a move that would begin to tap into the synergistic potential of the theory and intervention poles of the field.

Beyond involving both theorists and interventionists in developing theory, the action research paradigm involves the members of the community of social practice where the research is located as equal participants in the problem-definition and problem-solving aspects of the research project. What this means is that the persons-in-situations of risk as well as other community participants are included as collaborators in the research. The full participation of the persons-in-situations of risk in action research helps to ensure that the results of the research will be useful to them, thereby safeguarding the pragmatic goals of such research. It also helps to ensure a commitment to social justice in that action research involves "the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities" (Reason & Bradbury, 2002, p. 1). Given that work is central to the distribution of privilege and disadvantage in contemporary American culture, vocational psychologists who engage in

action research related to issues of work for persons-in-situations of risk are especially well located to advance social justice aims.

The potential for action research in vocational psychology is exemplified by the work of Solberg, Close, and Metz (2001), following principles of action research, to develop an intervention both useful and practical for educators seeking to facilitate adaptive transitions for low-income youth, and by Washburn's (2003) proposal for action research involving work-empowerment interventions with adolescents. In this proposal, similar to the recommendation by Blustein, Juntunen, and Worthington (2000), it is suggested that vocational psychologists team with researchers in both positive psychology and youth development to promote development from a holistic perspective. Fostering development with respect to work and relationships is closely related to the more general project of fostering healthy development in general, whereas the inclusion of specific work-related indicators of adjustment helps to contextualize and ground efforts to promote positive youth development.

Persons-in-Situations of Risk

The identification of persons-in-situations of risk immediately brings to mind a multitude of specific situations, beyond the general descriptors having to do with gender, race, and class, in which people are at risk and for whom issues of work and relationship are likely to be critical. These include, for example, the working poor; immigrants; refugees; the long-term unemployed; the physically disabled; mothers on welfare; the mentally ill; low-level and unskilled service workers; divorced and single women with children; unmarried teenage mothers; older adults facing ageism in the workplace; retired adults; gay, lesbian, and transgendered people; and imprisoned people. In each case, attention to context brings into sharp focus the ways in which individual well-being is adversely affected by social-structural, political, and economic inequities. Goals of well-being or living healthy and productive lives and liberation aims are necessarily synergistic in these kinds of situations (Prilleltensky & Prilleltensky, 2003). This awareness of the impact of social context calls forth for intervention modalities that go well beyond the typical counseling, psychotherapeutic, and programmatic efforts of most psychologists, such as outreach, prevention, community service, and a wide range of advocacy efforts. The need for psychologists to address systemic inequities directly as well as the considerable barriers to such efforts has been addressed by many (Helms, 2003; Ivey & Collins, 2003).

Although such challenges are daunting, in this chapter and with respect to the more limited goal of suggesting new directions for theory development in vocational psychology, the participatory action research project of Fine et al. (2001) with women in prison sheds a promising ray of light and exemplifies the way in which action research has implications for both social justice and

well-being and can advance theoretical understandings, even in a situation that is particularly grim.

First of all, with respect to context, the situation of imprisonment in the United States, particularly for minority populations, is a problem of crisis proportions. The incarceration rates in the United States are between 4 and 10 times the incarceration rates of any civilized country in the world (Butterfield, 2003), with Blacks and Hispanics, who are approximately 25% of the population overall making up over 80% of those imprisoned (Fine et al., 2001). Clearly this massive and critical social problem is embedded in a disturbing nexus of social policy, social attitudes, and political and economic realities. A part of this picture is the extent to which prisons have given up on the idea of rehabilitation in favor of punishment (Granello & Hanna, 2003).

In the context of these bleak national trends, the project by Fine et al. (2001) focused on the rehabilitative potential of a college experience for women in prison. It documented the impact of a college experience on women in prison and on their postrelease outcomes. Following principles of action research, the research team included researchers drawn from inside the prison, including some of the women who were imprisoned, and from outside resources. Working together collaboratively, the research team, first of all, found that the college experience for the women in prison led to a significant decrease in recidivism, with evidence that the costs of the college education were far less than the costs of imprisonment. This is a finding with important social policy implications. For the women in prison, findings indicated that the college experience led to both successful completion of degrees and personal transformation in fostering maturation, responsibility, and instilling hope for the future. These outcomes are significant to the ability to live healthy and productive future lives involving both work and relationship. Moreover, the description of personal transformation that occurred for the women in prison, through participation in the college experience as well as in the collaborative research project, helps to develop theory regarding the nature of transformative change in a situation of high risk.

CONCLUSION

We are hopeful that the new directions for theory development that we have recommended will help to move the field of vocational psychology toward pragmatically oriented theory which is useful in helping people to construct productive and meaningful lives, particularly through work and relationship contexts across public and private domains. We recommend that this pragmatic theory be developed both in relation to potentially problematic life situations involving work and relationship issues in which people are at risk and in relation to social and cultural contexts in which difference is both

valued and questioned as it might impact the distribution of opportunities and constraints based on these differences. Although we have broadened the scope of "vocational" beyond its traditional meaning with regard to paid work and have tried to develop a more holistic orientation toward persons-in-context within which work and relationship are significant, we do not mean to minimize the significance of paid work. In fact, we believe that paid work is central to the construction of healthy, productive, and meaningful lives. We also believe that paid work in our culture is a central mechanism for the distribution of privilege and hierarchy and that vocational psychologists have a unique opportunity to pursue social justice aims through efforts to broaden opportunities related to paid work for those who are disadvantaged in the current sociopolitical arena. The challenge is to be able to hold this more holistic orientation in which both work and relationships are significant without engaging in the splitting of public and private domains which is deeply embedded in our culture and which, in turn, splits off paid work from the rest of a person's life.

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Theoretical Issues in the Study of Women's Career Development: Building Bridges in a Brave New World

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O brave new world/ That has such people in 't.

—William Shakespeare, *The Tempest*

Counseling psychologists are attempting to build and refine vocational theory in the uncharted territory of a brave new world, its people characterized by increasing diversity as well as by occupational needs, values, and behaviors that have undergone dramatic change during the latter half of the 20th century. Women's career development, arguably still one of the most vibrant areas in vocational psychology (Fitzgerald & Harmon, 2001), also has witnessed radical transformation in its focus over the past several decades, a "herstory" summarized in the second edition of this handbook (Fitzgerald, Fassinger, & Betz, 1995).

This chapter considers the contributions of recent scholarly literature to understanding the vocational psychology of women. First, contextual changes (both societal and disciplinary) are reviewed briefly in order to provide a backdrop for the subsequent linking of vocational theories to unique career issues facing women. These latter sections are organized according to four classes of theories (person–environment fit, developmental, cognitive, and gendered frameworks), and each section offers four specific recommendations (one research, measurement, population, and assessment/intervention possibility) conceptualized as bridging functions that might be served by future theoretical and empirical work in vocational psychology. The chapter concludes with brief suggestions regarding advocacy and policy.

CONTEXTUAL INFLUENCES

Societal Change

Much is being written of late that documents monumental shifts in the occupational structure of the United States over the last century (e.g., Chartrand & Walsh, 2001; Richardson, 1993; Savickas, 1995). Both Savickas and Richardson discussed the evolution of the concept of "work" as a calling requiring clear social contribution that characterized the beginning of the 20th century, to the concept of "career" during the second half of the century, emphasizing individual achievement within an organizational bureaucracy. This transformation further privileged white middle-class men, emphasized autonomy over community, resulted in a focus on individual behavior that fostered advancement up a career ladder, led to the dismissal of socially responsible work that took place outside the paid occupational structure (e.g., community service, child rearing, relationship maintenance, household management), and ultimately estranged vocational psychology from its potential to solve social problems.

Sweeping contemporary changes related to technology, diversity, and globalization now are demanding another transformation in the way vocational pursuits will be conceptualized, enacted, and examined in the 21st century (Chartrand & Walsh, 2001; Savickas, 1995). These changes include: increased workforce diversity and longevity, movement from an industrial to information and service economy, globalization; emphasis on technological skills and specialization, flattened organizational hierarchies and increasing use of teams, and decreased predictability regarding organizational tenure and job security. Individual workers are experiencing a job market that is increasingly polarized regarding needed skills and education; greater employer emphasis on traits and competencies that foster flexibility, self-management, and interpersonal compatibility and cooperation; less certainty that performance and loyalty will be rewarded by job security; the occurrence of occupational change and transition as common (and often abrupt); career trajectories that are less linear and predictable; and increased need to manage careers in an ongoing way (e.g., on-the-job training, positioning oneself to seize opportunities).

Dramatic change also characterizes workforce patterns of women, particularly white, middle-class women, whose entry into the paid workforce has produced profound shifts in work and family life. More than half of the current paid U.S. workforce is female, with approximately 75% of women aged 25 to 55 currently employed (an increase of more than 70% in just 3 decades; Fitzgerald & Harmon, 2001). Female employment has consequences that extend far beyond the obvious economic benefits of keeping families out of poverty, providing a means of obtaining material resources, and supplying

a larger base of competent workers. Considerable evidence suggests that employed women benefit, mentally and physically, from workforce participation (Barnett & Hyde, 2001); they exercise more power and influence in their families and communities (Fitzgerald & Harmon); and workplaces have been forced to abandon many overt discriminatory practices in response to their presence (Fitzgerald & Harmon).

However, these positive outcomes of employment for large numbers of women are offset by several disturbing realities. First, covert and subtle discrimination and disadvantage continue to plague women workers despite the disappearance of more obvious barriers to occupational participation (Fassinger, 2002; Fitzgerald & Harmon, 2001). Moreover, because women with male partners continue to shoulder most of the domestic burden, they essentially hold two full-time jobs. The lack of structural supports for multiple role management (e.g., affordable child care, flexible work schedules) dictates the entry of others (mostly women) into service positions to fill these roles—the “invisible economy” of paid housework, child care, and elder care—often poorly compensated and with minimal or nonexistent benefits (Fitzgerald & Harmon, p. 220). Thus, although the occupational opportunity structure has broadened considerably to incorporate women, the benefits of increased opportunity are distributed inequitably as well as constrained by relatively intractable features of gendered roles and family life for women.

Disciplinary Change

Societal changes are mirrored in shifting foci within psychology, and particularly in counseling psychology. Increased attention to diversity within the American Psychological Association (APA), for example, has resulted in the development and endorsement of guidelines for competent practice with diverse populations (i.e., APA, 2000). Within counseling psychology, multiculturalism has been proclaimed a “fourth force” (Pedersen, 1991), akin in salience to psychodynamic, behavioral, and humanistic schools of thought, and many issues of *The Counseling Psychologist* have been devoted to multicultural and identity-related topics (e.g., Thompson & Neville, 1999; Worthington & Mohr, 2002). There also has been a resurgence of interest in counseling psychology's prevention and advocacy roots (Romano & Hage, 2000; Fouad, McPhearson, Gerstein, Blustein, Elman, Helledy, & Metz, 2004), and even issues of globalization are beginning to be experienced by counseling psychologists (Leong & Blustein, 2000).

Vocational counseling psychologists, too, are grappling with the impact of societal shifts on vocational theory, research, and practice, where several seemingly intransigent gaps remain among vocational theory and career counseling practice, other psychological (particularly developmental) theories, workplace realities, vocational research, therapy and intervention theories,

unique issues of diverse populations (e.g., women, people of color), advocacy and social justice goals, and theoretical camps themselves (Richardson, 1993; Savickas, 1995, 2001; Swanson & Gore, 2000). Some very provocative and productive scholarship has been devoted to issues such as theory convergence, the relevance of vocational assessment, theory–research and theory–practice integration, scientific legitimacy, and the meaning of work in people’s lives (e.g., Chartrand & Walsh, 2001; Richardson; Savickas). Greater attention to diversity also has been noted (Arbona, 2000), although it is unclear how and when these ideas will have broad impact on theoretical and empirical work in vocational psychology.

Finally, disciplinary shifts are occurring within the women’s career development arena itself, where the focus has evolved from a narrow preoccupation with the internal and intrapsychic career barriers of individual women to the recognition of external, contextual impediments to vocational development that are embedded in gendered structures and roles (Fitzgerald et al., 1995; Fitzgerald & Harmon, 2001). Moreover, there is growing attention to heterogeneity among women and to identity and relational variables that appear to be integral to women’s career decisions and experiences (Fitzgerald et al.; Fitzgerald & Harmon; Phillips & Imhoff, 1997). Increasingly, traditional career theories are being examined for their applicability to diverse women, and “gendered” theoretical frameworks (Fitzgerald et al.) have been developed that rest, at least in part, on variables with demonstrable impact on women’s career-related behavior. Vocational theories and their relevance to the career development of women are the focus of the following sections of this chapter.

BRIDGING THEORY AND WOMEN’S VOCATIONAL DEVELOPMENT

Presented here is a discussion of linkages between vocational theories and well-documented issues in women’s career development. Swanson and Gore (2000) have identified as an empirical problem the fact that most vocational research is not derived from theory. Thus, rather than simply providing a detailed review of the recent empirical literature (which can be found elsewhere, e.g., Leong & Barak, 2001; Phillips & Imhoff, 1997; Swanson & Gore), the goal here is to tie women’s contemporary vocational problems to specific career theories in order to stimulate more theory-driven research. The assumption is that conceptualizing issues within the structure of theoretical tenets might better enable the kind of research that successfully teases out processes not yet fully understood. An excellent detailed example of this approach can be found in Lent, Brown, and Hackett (2000), in which nagging difficulties in the literature regarding career barriers are recast into

social-cognitive career theory terms, with directions for research clearly indicated. Although such penetrating analysis is far beyond the scope of this chapter, the bridging between women's vocational problems and specific career theories may forge new heuristic paths for vocational psychologists.

Person–Environment Fit Theories

The hallmark theories of person–environment (P–E) fit are Holland's (1959, 1997) typology of vocational personalities—the “most widely studied career theory in history” (Swanson & Gore, 2000, p. 234)—and the Theory of Work Adjustment (TWA; Dawis, 1996; Dawis & Lofquist, 1984). P–E fit theories rest on an assumed dynamic and reciprocal relationship between the characteristics of the individual (e.g., interests, values, and abilities) and those of the work environment (e.g., reinforcers and requirements). Some sort of match (“congruence” in Holland's typology and “correspondence” in TWA) between the person and her or his environment is assumed to lead to vocational choices (Holland) or occupational adjustments (TWA) that are satisfactory to both the individual (in terms of meeting interests and needs) and the occupational environment (in terms of possessing requisite skills and abilities for satisfactory performance). These theories rely heavily on accurate assessment of personal and environmental characteristics; thus, they have made profound psychometric contributions to vocational psychology, particularly in the areas of interest measurement and job satisfaction.

Research on Holland's theory, especially regarding interests and congruence, has continued vigorously in recent years (catalyzed, in part, by extensive revision of the Strong Interest Inventory; Harmon, Hansen, Borgen, & Hammer, 1994), whereas research on TWA has been sparse (Swanson & Gore, 2000). For the latter, relationships between correspondence and job satisfaction, as well as between satisfaction and turnover, seem well supported at this time. In regard to Holland's theory, Swanson and Gore concluded in their review that the substantial focus of vocational counseling psychologists on career choice has resulted in considerably more being known about persons than about environments, and the robust literature in interest measurement has led to far more knowledge about interests than about other personal characteristics. Research on congruence has been extensive, although measurement issues have led to equivocal findings overall. These authors also noted the overall mismatch between changing patterns of U.S. worker interests and the availability of jobs fitting those patterns as a major problem to be addressed by congruence researchers in the coming years. Limited studies of other aspects of Holland's theory (differentiation, consistency, and identity) suggest a relationship to clarity and stability of occupational choice; but, again, measurement issues have slowed this research considerably.

In terms of person variables related to gender, Swanson and Gore (2000) noted that the evidence to date supports the structure of interests as invariant across race, gender, and nationality. However, sex differences in the strengths of interests remain incontrovertible, and the correspondence between interests and personality variables also appears to be moderated by gender. Recent gender-related research on interests and confidence (Betz, Harmon, & Borgen, 1996) has indicated that mismatches of high interest and low confidence are more common in areas of interest atypical for one's sex, whereas mismatches of high confidence and low interest are more characteristic of sex-typical interest areas. Swanson and Gore also noted that new research on the spherical representation of the structure of interests that incorporates occupational prestige (Tracey, 1997; Tracey & Rounds, 1996) may be promising.

The dearth of research regarding environmental assessment in the P-E fit theories is particularly problematic in considerations of gender issues because it is largely the structural barriers in workplaces, organizations, schools, communities, and families—rather than person variables—that limit women's access and choices and prevent them from realizing their potential (Barnett & Hyde, 2001; Fassinger, 2002; Fitzgerald & Betz, 1994; Fitzgerald & Harmon, 2001). Thus, the following section briefly summarizes salient aspects of work environments that create gender-related barriers to vocational development.

Work Environments

In a recent review, Fitzgerald and Harmon (2001) declared formal workplace discrimination related to gender “virtually extinct” (p. 223). However, more insidious forms of well-documented discriminatory practices related to hiring, compensation, retention, advancement, and workplace policies and climate remain entrenched (Betz, 1994; Betz & Fitzgerald, 1987; Fassinger, 2002; Fitzgerald & Harmon; Phillips & Imhoff, 1997). Although women's entry into traditionally male occupations has been dramatic, men still advance faster, further, and with greater compensation than do women, with salary patterns that favor men persisting over many decades (Fassinger; Phillips & Imhoff). Compensation differences remain even when age, education, experience, performance, and other relevant variables are controlled (Phillips & Imhoff), with the greatest disadvantage in earnings experienced by ethnic and sexual minority women, women with disabilities, women in lower socioeconomic strata, and women in traditionally female fields (Badgett, 1998; Betz & Fitzgerald; Bingham & Ward, 1994; Fassinger; Olkin, 1999). Only about 11% of women with disabilities, for example, are employed full time (Bruyere, 2000), and they earn about 73% less than nondisabled working women; almost three fourths of single mothers with disabilities are living in poverty (Noonan et al., 2003).

Women also are disadvantaged consistently in advancement relative to men, despite comparable education, qualifications, tenure, and occupational attitudes (Phillips & Imhoff, 1997). Factors contributing to differential advancement patterns for women and men center largely on organizational concentrations of power in the hands of senior men, who tend to promote other men and may oppose the entry of women into their ranks; this often leads to a host of gender-discriminatory practices including biased performance evaluations, lack of access to information and networks, tracking into unfavorable positions with limited opportunity for upward movement, unfair allocation of resources, occupational stereotyping, absence of role models and mentors, prevalence of sexual harassment, excessive responsibility for "shadow jobs" that impede advancement, double standards for performance and behavior, chilly workplace climates, and lack of support for family responsibilities (see Fassinger, 2001, 2002).

Although specific events of discriminatory practice may appear inconsequential when viewed in isolation, such microinequities produce cumulative disadvantage over time (see Fassinger, 2001b); computer simulation studies of hypothetical organizational promotion practices have demonstrated that gender bias accounting for as little as 1% of the initial variability in promotion resulted in 65% males at the top of an eight-level hierarchy after several repetitions (Martell, Lane, & Emrich, 1996). A similar attempt to quantify discrimination (Melamed, 1995) documented 55% to 62% of the variance in women's career success due to sexist discrimination. Recent studies also have documented the specific content of barriers to advancement in samples of female medical school faculty (Carr et al., 1998), eminent female scientists (Wasserman, 2000), prominent women in diverse occupations (Richie et al., 1997; Gomez et al., 2001), and women in corporate settings (Stokes, Riger, & Sullivan, 1995).

The implications of these findings for job satisfaction and turnover clearly support the assumptions of TWA. For example, the studies of prominent women (Richie et al., 1997; Gomez et al., 2001) documented numerous instances of women exiting from positions deemed unsupportive or discriminatory, and the Stokes et al. (1995) study found a strong relationship between perceptions of organizational friendliness and plans to remain in that organization. Phillips and Imhoff (1997) pointed out that job satisfaction research indicates strong links to environmental variables such as mentoring, social support, occupational rank and type, and income (as well as to family structures and role conflict, discussed in the following section), all areas of chronic disadvantage for women.

As with compensation, environmental barriers to advancement are compounded for women in male-dominated fields, in low-level positions, or for whom demographic location includes additional sources of oppression (e.g., lesbians, women of color, women with disabilities; Fassinger, 2002). For

example, female firefighters have been found to experience more sexist events and job stress and feel less valued by coworkers than do women in more traditional occupations (Yoder & McDonald, 1998), and female clerical workers have been found to experience greater work demands, distress, difficulty in coping, and less support and job satisfaction than do women in management (Long, 1998). Poor rehabilitation outcomes (e.g., failure in achieving and maintaining gainful employment) for women with disabilities have been linked to sexism and antidisability prejudice (see Noonan et al., 2003), and discriminatory workplace environments also have been associated with the work adjustment of women of color (Bowman, 1998). For sexual minorities, organizational climates rife with homophobia and heterosexism have been implicated in incongruent work environment choices (Mobley & Slaney, 1996), and a recent study of lesbian workers (Driscoll, Kelley, & Fassinger, 1996) found strong effects of work climate on job satisfaction through occupational stress and coping.

Despite the obvious importance of contextual influences on the vocational experiences of women, research regarding the environment side of the P-E fit equation has been compromised by measurement limitations such as lack of instrumentation, questionable applicability of existing tools to diverse populations, and lack of specificity in defining contextual variables (Swanson & Gore, 2000). As thorough and accurate assessment is integral to P-E fit theoretical formulations, lack of attention to contextual variables constitutes a major threat to the usefulness of these theories in vocational research. Thus, assessment issues are noted in the following section.

Assessment Issues

There is a growing literature on the extent to which commonly used career instruments are accurate for and applicable to women and people of color (e.g., see Betz, 1994), although considerably less research attention has been given to sexual minorities (Croteau, 1996), people with disabilities (Olkin, 1999), and the poor (Fouad & Brown, 2000), especially women. Even in the area of interest measurement, arguably the most well-developed literature in vocational psychology, issues of scoring and norming existing measurement devices relative to gender have not been settled to universal satisfaction, with divergent practices existing across instruments (Fitzgerald & Harmon, 2001; Swanson & Gore, 2000).

Unfortunately, the subtleties of pervasive psychometric uncertainty (particularly regarding women and other diverse groups) seldom find their way into professional training (Fassinger, 2000), and there is alarming evidence that basic training in measurement issues has declined markedly during the past 2 decades (Chartrand & Walsh, 2001). This decline is occurring simultaneously with the escalating use of more advanced statistical approaches

(e.g., confirmatory factor analysis, cluster analysis), creating a disturbing gap between the possibilities of greater rigor and methodological flexibility in instrument development on one hand and the decreasing levels of statistical literacy in users on the other hand. The consequence of this gap is test misuse, such as unquestioning reliance on single test scores and test manuals or other support materials that may be poorly understood (Chartrand & Walsh). Moreover, lack of understanding of limitations in measurement may lead to inadvertent reinforcement (in both counselors and their clients) of societal stereotypes regarding gender, race, disability, and the like. Chartrand and Walsh call for career counselors to stay abreast of current knowledge and advances in measurement models and analyses, as well as computer-based assessment and cultural diversity, but the outlook is somewhat bleak given the deemphasis on the quantitative training of psychologists.

The dangers of test misuse with women, including diverse subgroups of women, are exacerbated by the fact that graduate trainees also are not being educated adequately in many areas of diversity, particularly gender, sexual orientation, disability, and social class (see Fassinger, 2000; Fassinger & Richie, 1997; Goodyear & Guzzardo, 2000; Fouad & Brown, 2000; Olkin, 1999). Lack of knowledge regarding the most basic aspects of human diversity makes it highly unlikely that professionals will be able to translate complex psychometric information into diversity-sensitive assessment choices, interpretations, and interventions. The obvious result is that clients may not receive adequate help with their vocational concerns, which, in the P-E fit arena, means limited opportunity to make appropriate occupational choices and maximize one's own potential within a chosen field or workplace. Indeed, Phillips and Imhoff (1997) asserted in their recent review that many of the existing measurement devices and interventions used in vocational counseling continue to function to restrict women's options. How can the gap between P-E fit theory and the realities of women's vocational experiences be bridged? The following section briefly addresses this question.

Recommendations for Bridging

Research. As was implied in the previous discussion, vocational researchers investigating P-E fit theories need to broaden their scope to encompass the complexities of occupational transitions, and must devote greater attention to person variables other than interests. More dynamic conceptions of occupational "fit" might focus on the increasing need for workers to adapt to change, where individual traits such as flexibility, adaptability, problem-solving ability, creativity, and interpersonal skills (e.g., empathy, communication, and tolerance for diversity) are critically important to vocational satisfaction and success; emerging literatures that might be explored fruitfully include those in emotional intelligence (Chartrand & Walsh, 2001) and

breadth of vocational interests (e.g., Johnson & Stokes, 2002). In addition, it is important for researchers to be more deliberately constructivist in methodological approach, focusing on the meaning ascribed to vocational choices and transitions, where narrative analysis, case study, and other qualitative methods are thought to be particularly useful (see Morrow & Smith, 2000). Particularly intriguing about this shift in research direction in the P-E fit arena is that it may tap more effectively into a strength-oriented (vs. deficit-based) conceptualization of women's career development in that it focuses attention on a host of interpersonal and intrapsychic variables acknowledged to be areas of unique strength for women.

Measurement. The increased attention to contextual variables sorely needed in the P-E fit arena opens up a wide array of measurement possibilities. Workplace climate is an obvious target for instrument development, as is the operationalization and measurement of various contextual barriers to women's career development. Regarding the latter, the notion of cumulative disadvantage may offer promise; for example, normative facilitative events (e.g., obtaining a prestigious postdoctoral position) in specific career trajectories (e.g., research chemist) might be identified and weighted, and then individual careers studied for the relative absence or presence of those events. This would allow more precise documentation of the subtle microinequities that impede women's careers, and might provide clearer direction for interventions. A final crucial note regarding measurement in the P-E fit arena is societal trends toward the increasing utility of job task and skill descriptors rather than job titles in occupational identification, a shift that very likely will necessitate extensive psychometric modification of many of the foundational measurement tools in this arena that rely on job titles (e.g., the Strong Interest Inventory).

Population. In a broadened P-E fit conceptualization that includes occupational transition and contextual factors impinging on worker success and satisfaction, the vocational experiences of sexual minorities provide a fertile ground for study (e.g., see Mobley & Slaney, 1996, who offered seven hypotheses for investigating lesbian and gay work experiences from a P-E fit perspective). Lesbian and gay workers are unique in that their identity status is often unknown to employers and coworkers. Consequently, workplace hostility may be less masked by political correctness and the effects of workplace climate may be studied more easily. Lyons, Brenner, and Fassinger (2003), for example, used TWA theory to investigate the relative importance of workplace heterosexism and occupational fit in predicting job satisfaction for lesbian and gay workers; their results indicated that heterosexism exhibited a strong effect on satisfaction, but only slightly greater than P-E fit, implying that a good fit between the individual and her or his occupation

may be especially crucial to job satisfaction in sexual minority workers, for whom negative climates are so pervasive that they may be taken for granted. Another promising area of investigation is comparing the effects on occupational fit and satisfaction of coming out after one already is established in a career in which homophobia is known to be high (e.g., elementary school teaching) versus coming out before one makes initial occupational choices. Finally, lesbian (and gay) workers provide intriguing possibilities for exploring the effects of hidden identities on workplace adjustment and job satisfaction and performance.

Assessment and Intervention. Chartrand and Walsh (2001) claimed that “computer technology will impact the practice of career assessment to a greater extent than any other single development over the next 10 years” (p. 244). Given the importance of assessment to P-E fit conceptualizations, it is critical to explore the technological transformation of this activity, particularly the increasing use of the internet. Computerized assessment (particularly on the Internet) can make career testing, self-help materials, and access to additional resources available to larger numbers of people and can be more efficient in delivery than can face-to-face intervention. It also offers promise for the development of adaptive devices for people with disabilities and allows for long-distance interventions (e.g., videoconferencing for those in rural areas), thus rendering it amenable to the needs of some diverse populations. However, it also allows much room for misuse and misunderstanding, as there is no control over what information is available and how it is being interpreted. Moreover, computerized assessment requires some degree of technological skill and access, which are likely to be out of reach for the most vocationally needy segments of the population (e.g., the poor and the homeless), many of them women. Finally, the well-documented differences between males and females in use of and comfort with technology suggest that overreliance on computerized approaches may further disadvantage women in their career pursuits. Thus, the inclusion of women is a critical issue in emerging practice in this brave new world of technological advancement.

Developmental Theories

Developmental vocational theories find their most consistent voice in the work of Super (1992; Super, Savickas, & Super, 1996) whose life-span, life-space theory postulates the implementation of the self-concept through age-appropriate developmental tasks, negotiated in a predictable sequence of life stages. Emphasis of the theory is on “readiness,” that is, having the requisite skills necessary to accomplish developmental tasks, and much of the focus of both theoretical and research attention has been on late adolescence and

early adulthood, where initial vocational choices are being made. Thus, career maturity has been the main locus of formal assessment in this theory.

Swanson and Gore (2000) noted that contemporary empirical attention to Super's theory has been scant, although scholarly attempts have been made to link his theory to gender (Cook, 1994), sexual orientation (Dunkle, 1996), and cross-cultural perspectives (Leong & Serafica, 2001), as well as to constructs of other career theories (e.g., circumscription and compromise and self-efficacy; see Betz, 1994). Critique of Super's theory has targeted its nearly exclusive focus on one life stage (late adolescence and early adulthood), its lack of connection to developmental theory more broadly, limitations in the explanatory power of career maturity, difficulties in operationalizing the self-concept construct, lack of attention to the actual process of development (including lack of longitudinal research to trace this process accurately), and inattention to context (Savickas, 2001; Swanson & Gore)—a rather long list of shortcomings for such a widely cited and popular theory.

In addressing critiques of Super's theory, Swanson and Gore (2000) identified as heuristically promising the evolving conceptualization of career maturity into "career adaptability" (Savickas, 1997), perhaps a more appropriate construct for contemporary vocational behavior, where one-time occupational choices are increasingly unlikely and career transitions can be expected throughout the life span. Also deemed promising in explicating developmental processes is recent research linking parental attachment variables to career development (e.g., Blustein, Prezioso, & Schultheiss, 1995; Ketterson & Blustein, 1997; Lucas, 1997; O'Brien & Fassinger, 1993; Schultheiss, Kress, Manzi, & Glasscock, 2001; Tokar, Withrow, Hall, & Moradi, 2003), thought to be especially useful in explicating exploratory vocational behavior and the development of career-relevant self-efficacy expectations (Fitzgerald & Harmon, 2001; Swanson & Gore).

Attempts also have been made to address some of the theoretical gaps in Super's model through radical revision and reformulation. For example, Schlossberg, Waters, and Goodman (1995) proposed a three-part model of adult career transitions that focuses on understanding and approaching transitions, mobilizing coping resources, and identifying and implementing strategies for maximizing transition outcomes. Although there has been no research to date on this model specifically, there has been qualitative study of narratives (McAdams, Josselson, & Lieblich, 2001) aimed at understanding the meaning for individuals of their life transitions, and studies by Fassinger and colleagues (Fassinger, Hollingsworth, & Tomlinson, 2003; Gomez et al., 2001; Noonan et al., 2003; Prosser, Fassinger, & Chopra, 2003; Richie et al., 1997) have explored the complexities of vocational decisions and transitions across the career lives of prominent women in a variety of occupations. In addition, Blustein and colleagues (Blustein, Phillips, Jobin-Davis, Finkelberg, & Roarke, 1997) have used a qualitative approach to investigate the adaptive elements

of the school-to-work transition for non-college-bound youth. Given the societal shift toward more fluid career trajectories, it seems likely that focus on career transitions will gain momentum among vocational psychologists in future theorizing and empirical study. Research in the vocational psychology of women offers tremendous heuristic promise in this regard, because the fluidity that traditionally has characterized women's career trajectories can be seen as a prototype for the study of vocational behavior more broadly in this brave new world of transition and change.

The most vigorous revisionist attempts to address the difficulties in Super's theory perhaps can be found in the work of Savickas (e.g., 2001), who presented an intriguing proposal to use the selective optimization with compensation model (SOC; Baltes, Lindenberger, & Staudinger, 1996), and McAdams' (1995) tripartite model of personality theories to integrate into a developmental framework Holland's typology, advances in the larger field of developmental psychology, and the use of personal narratives in understanding vocational behavior. Also implicitly integrated into Savickas' proposed model are theoretical constructs (such as cognition, social learning, and decision making) from most other contemporary vocational theories (e.g., Gottfredson, 1981; Lent, Brown, & Hackett, 1994), rendering his model quite comprehensive. It is interesting to note the resemblance between Savickas' revisionist approach to developmental theory and Leona Tyler's (Tyler, 1978) earlier "possibility theory," suggesting that perhaps Tyler's pioneering work deserves revisiting by present-day vocational psychologists.

As developmental career theory is revised and expanded to include greater focus on developmental processes, contextual influences, and the self-concept construct, it is likely to have increased relevance to the vocational behavior of diverse women, for whom self-concept and contextual issues are critical. In particular, the experiences of females in the educational system represent a well-researched arena for linking developmental theory to gender inequities. Thus, the educational development of girls and women is addressed in the following section.

Educational Development

Gender-related bias in (co-ed) education is well documented and includes such variables as exclusionary classroom interaction patterns, dismissive teacher behavior, harassment and intimidation, bias in testing; alienating curricular content and practices, restricted extracurricular opportunities, and the lack of women in powerful (and sometimes even visible) positions within educational systems (see Fassinger, 2002). As with work environments, the co-ed educational context is thought to be particularly disadvantageous to girls and women who also are members of sexual or ethnic minority groups, are disabled, or who come from economically disadvantaged backgrounds (Bingham

& Ward, 1994; Harris, 1997; LePage-Lees, 1997; Olkin, 1999). Research on single-sex schooling suggests beneficial outcomes for girls and women, particularly regarding career aspirations (e.g., Watson, Quatman, & Endler, 2002).

Fassinger (2001b) noted, as one gender-related educational issue of considerable scholarly focus, the continued lack of girls and women in mathematics, sciences, technical, and engineering (MSTE) fields. As in the workplace, dramatic changes have occurred in females' pursuit of MSTE degrees—the number of doctorates awarded to women in MSTE fields has increased fivefold over the last several decades and females are enrolled in math and science courses in record numbers throughout the educational system. However, the overall numbers obscure the intransigence of male-dominance and deeply rooted occupational segregation in MSTE fields, where the social and biological sciences now boast female participation that equals or exceeds that of males, but where the percentages of women remain appallingly low and even are declining in the physical sciences and engineering. Moreover, a persistent “pipeline” problem illustrates the continued inability of women to gain entry into higher levels of MSTE fields.

Although blatant discrimination may have disappeared by and large (Fitzgerald & Harmon, 2001), a benign but deeply ambivalent tolerance seems to have taken its place, for example, a professor who observes that weak skills might bar a female student from desirable positions, but offers her no help in skill development (Fassinger & O'Brien, 2000). Much has been written about the way in which a “null” educational environment (Betz, 1989) constitutes discrimination against girls and women in its failure to consider and proactively address the lack of encouragement for educational and vocational achievement that characterizes the experience of most females. Support for the continued relevance of the null educational environment is evidenced in recent research on retention in MSTE college majors (Seymour & Hewitt, 1997). Findings indicated that female students, in comparison to their male peers, were more likely to have selected MSTE majors through the impact of an important other (e.g., teacher), brought to college greater expectancies to have personal relationships with faculty, were more affected by faculty feedback (both negative and positive), and were less able to separate their judgment of faculty from their own performance. Seymour and Hewitt concluded that faculty are unintentionally discouraging women more than men by engaging in behavior that actually is the same for both sexes.

One of the most pernicious effects of a null educational environment is that the absence of obvious barriers may promote self-blame in girls and women when goals fail to materialize (Fassinger & O'Brien, 2000), thereby compromising the development of a strong, healthy self-concept. There is undeniable evidence that the self-concept of girls decreases steadily throughout the school years (e.g., American Association of University Women, 1992; Sadker & Sadker, 1994), suggesting that powerfully disruptive systemic forces

are at work. It is hardly surprising that self-concept problems in adult women have been widely documented as barriers to vocational development, and although recent scholarship has moved away from viewing poor self-concept as an individual problem to focusing on damaging gendered societal ideologies that become internalized as self-concept difficulties in women, the fact remains that a compromised sense of self impedes the healthy negotiation of developmental processes and tasks. Thus, self-concept issues for women that are rooted in gender socialization are addressed briefly in the following section.

Self-Concept

It is now commonly accepted that many vocationally relevant attitudes, beliefs, and personal traits contributing to the self-concept stem from internalized gender socialization (Phillips & Imhoff, 1997). Both the forms and outcomes of gender socialization are well documented, and their effects in the vocational arena are widely assumed, although much of the existing research has been conducted on white, middle-class, (presumably) heterosexual, able-bodied samples and little is known about the interactive effects of ethnic, cultural, and other diversity-related variables on socialization (Fassinger, 2002). The evidence does, however, suggest a constellation of nurturance, caretaking, cooperativeness, denial of one's own needs, male-referential self-worth judgments, expectations for marriage and children, and at least some avoidance of sex-"inappropriate" interests and behaviors to be characteristic of the socialization of most girls and women in the United States today. Translated into the vocational arena, internalized gender socialization manifests itself in a wide range of well-documented self-concept problems for women including compromised decision making, self-doubt, low aspirations, underutilization of talents and abilities, lack of confidence, low expectations for success, role conflict, guilt, and inordinate concern over the judgment of others.

Socialized habits of caretaking and self-denial, coupled with pervasive external messages about the rewards of motherhood, can lead to feelings of guilt about nonparenting activities and pursuits. Indeed, evidence suggests that internal conflicts in the work-home interface for women are rooted, in part, in the endorsement of relatively traditional attitudes toward family obligations coupled with more liberal ideologies regarding work outside the home (Novack & Novack, 1996). In addition, a weak self-concept increases the likelihood that environmental discrimination will be internalized in the form of self-blame, thus decreasing the possibility of corrective action and perpetuating a cycle of self-doubt and self-denigration; Fassinger (2002) cited by way of illustration a lesbian employee receiving an unjust performance evaluation who chides herself for failing to protect her hidden identity rather than take action against her employer's discriminatory behavior.

Although one aspect of the self-concept—self-efficacy—has been appropriated very successfully into career theory and research (see following), the broader effects of gender roles on self-concept development beg systematic attention in the vocational literature. For example, liberal gender roles appear to exert considerable influence on the experiencing and successful managing of multiple roles for both women and men in heterosexual couples (Barnett & Hyde, 2001), presenting intriguing questions about the relational self-concept and the negotiation of roles in the development of intimate relationships. Moreover, there is some evidence that the flexible self-concepts that seem to characterize women can have positive effects on career development, in that they may lead to consideration of a broader array of possibilities (Phillips & Imhoff, 1997). What is particularly appealing about these ideas is that they open up a more positive approach to investigating gender roles and self-concept issues in women's career development, moving vocational psychologists away from excessive problematizing of women's behaviors. In addition, they offer new possibilities in the bridging of developmental theory and women's vocational issues, addressed in the following section.

Recommendations for Bridging

Research. As was noted earlier, most of the work in the developmental arena has occurred around the period of late adolescence and early adulthood, leaving dramatic gaps in knowledge related to the life phases prior to and following this period. For women, the impact of gender role socialization and null educational experiences in childhood and adolescence, as well as barriers to career advancement and constraints due to family obligations that occur during the adult years, render research attention to other life phases critically important in understanding their vocational behavior. In addition, greater focus on environmental factors clearly is needed in explicating developmental processes, but methodological limitations have impeded progress in this arena. Hierarchical or Multilevel Linear Modeling (HLM; Bryk & Raudenbush, 1992; MLM; Reise & Duan, 1999) offers much promise in the empirical study of contextual variables, as it makes possible the analysis of effects of variables that are nested hierarchically within several levels of influence. Thus, for example, in studying educational effects on girls' career aspirations, variables known to constitute barriers or supports can be linked to age-appropriate developmental tasks (Lent et al., 2000) and examined at multiple levels such as peer, teacher, and school factors.

Measurement. In the measurement arena, contemporary understandings of developmental vocational processes must focus greater attention on career transitions and changes, including factors related to occupational exit and reentry, and such work will necessarily entail explication of contextual

influences. Women's career trajectories, which tend to be characterized by nonlinear paths and frequent transition, provide an ideal location to begin mapping the elements of "career adaptability" (Savickas, 1997), that is, the constellation of skills and traits that allow one to adapt successfully to vocational disruption, transformation, and changing demands. In addition, developmental literatures outside the vocational arena (e.g., vectors of development in college students; Chickering & Riesser, 1993) offer useful psychometric models for defining and operationalizing developmental processes.

Population. One population of great importance developmentally is women with disabilities, for whom the employment outlook often is dismal (Noonan et al., 2003; Olkin, 1999). Disabled women face a number of challenges in forming and implementing occupational aspirations, including workplace accessibility issues, pervasive antidisability prejudice and "ableism," resource and financial issues (e.g., the sheer cost of assistive devices such as motorized scooters), physical and health constraints, and more complex management of the home-work interface (e.g., dependence on personal assistants and response to child care crises). Developmentally, ableism compounds gender socialization influences for women in that it intensifies expectations of helplessness and passivity, and physical limitations often result in heightened dependence on the family and others for the most basic personal needs (see Noonan et al.). Thus, the heuristic promise of linking of attachment theory to vocational development (noted previously) finds a potentially useful direction in studying women with disabilities; that is, if career exploration and "maturity" for young women are tied to both family cohesion and individual independence (as they appear to be; Phillips & Imhoff, 1997), then the family relationships of many young women with disabilities offer a window for examining conceptualizations of independence and occupational aspiration that are rich and complex. Moreover, the differential effects of various kinds of contextual barriers on vocational development trajectories can be investigated using samples of women with disabilities through focusing on different disabling conditions (e.g., deafness, blindness, and spinal cord injury) and on their impact on career planning.

Assessment and Intervention. Although there is a voluminous literature (most of it by educational researchers) exploring the effects of economic deprivation on school performance and achievement in children, very little nuanced attention in the vocational psychology literature has been devoted to social class issues, particularly regarding differential vocational development patterns linked to class. Moreover, almost nothing is known about the intersection of class with gender. Fouad and Brown (2000) suggested the utility of "differential status identity" in conceptualizing and understanding the effects of race and class, where individuals' perceptions of their own

social standing are made salient by awareness of difference from the ordinate reference group. This model—particularly if augmented by the inclusion of gender, sexual orientation, and disability—offers intriguing possibilities for client assessment, where it may help to untangle the complexities of identity expression for those with multiple identity statuses (e.g., Latina lesbians, poor African-American women). In addition, it provides direction for interventions aimed at client development of specific management strategies for oppression targeted at identities that are salient in a given context. Regarding career intervention, an important consideration is the need for increasing attention to educating clients about the realities of career transition; intervention must ensure focus on the development of skills for managing lifelong vocational change rather than promoting a one-time occupational choice.

Cognitive Theories

This class of theories includes social learning theory (Krumboltz, 1996; Krumboltz, Mitchell, & Jones, 1976), social-cognitive career theory (SCCT; Lent et al., 1994), and decision-making frameworks (e.g., Gati & Asher, 2001). These theories all focus, in some way, on cognition and the processes by which one makes vocational decisions in the context of the social environment, including the beliefs held about the decision and the influential factors in social relationships (including counselor-client interactions) that affect decision processes and outcomes. Issues of information access and processing, outcome expectations, personal efficacy, goal planning, and implementation of decisions are the targets of scrutiny in these theories. Early articulations of Krumboltz' social learning theories and Bandura's (1977) self-efficacy theories gave rise to contemporary models focused on applying the self-efficacy construct (Betz, 2001) and social-cognitive concepts (Lent et al.) to the career arena. In addition, advances in human cognition have informed work in decision-making processes (Phillips, 1997) and have been incorporated into models such as Gati and Asher's prescriptive decisional framework of career choice.

Swanson and Gore (2000) reported little empirical attention to learning theory in recent years, and indicated that Krumboltz (1996) is shifting the focus of his work to applications of learning theory in vocational counseling, where it may be particularly relevant to the school-to-work transition (Worthington, 1999). Research in self-efficacy, on the other hand, has exploded since its landmark introduction into the career arena by Betz and Hackett (1983; Hackett & Betz, 1981), rendering this construct the most heuristically fertile in contemporary vocational psychology—indeed, Fitzgerald and Harmon (2001) declared it “the most important theoretical advance in 25 years” (p. 223). Voluminous research supports the importance of self-efficacy to a wide range of vocational variables including vocational aspirations, academic

success, career barriers, vocational interests, outcome expectations, occupational congruence, and social support (Betz, 2001; Fitzgerald et al., 1995; Phillips & Imhoff, 1997). Research in explicating the four sources of self-efficacy postulated by Bandura (1977) also is gaining momentum, whereas research in SCCT has been "intense" (Swanson & Gore, p. 244) over the past decade, due in part to the convenience of clearly articulated and testable postulates in the latter.

Swanson and Gore (2000) reported that research on SCCT to date largely has supported relationships among interests, self-efficacy beliefs, and outcome expectations, although these authors identify as a notable gap the question of whether self-efficacy beliefs and outcome expectations stabilize in adolescence and early adulthood. Moreover, less attention has been devoted to outcome expectations (in both origins and outcomes) than to self-efficacy, partly due to measurement limitations. There is a nascent scholarship exploring the applicability of SCCT to diverse populations, with linkages made to people of color (e.g., Flores & O'Brien, 2002; Hackett & Byars, 1996; McWhirter, Hackett, & Bandalos, 1998) and sexual minority individuals (Morrow, Gore, & Campbell, 1996). However, despite some suggestion that the SCCT framework might offer promise in theoretical integration of diverse populations (Lent et al., 1994), contextual variables—deemed of critical importance in the multicultural literature—largely have been ignored in SCCT research, especially early influences and those proximal to the interests-to-goals-to-actions translation (Swanson & Gore; Lent et al.).

The lack of attention to contextual variables poses a considerable problem in this class of theories because, as noted previously, it is largely structural barriers (and their internalization in the form of attitudinal impediments, such as lack of confidence) that create the greatest difficulties for women. Many of the educational and workplace obstacles already mentioned are salient to social learning, social-cognitive, and decision-making theories in their impact on the development of outcome expectations, self-efficacy, decisional efficacy, and other cognitive processes. Two of these contextual barriers—occupational stereotyping and modeling and mentoring—bear closer scrutiny because they relate directly to assumptions in this class of theories, the former to interests and outcome expectations in SCCT and the latter to sources of self-efficacy beliefs (vicarious learning and verbal persuasion).

Occupational Stereotyping and Modeling/Mentoring

Fitzgerald and Harmon (2001) asserted that occupational segregation has lessened over the past 3 decades and is now manifested primarily by level, not field (i.e., women are able to enter previously inaccessible occupations with greater ease, but subsequently are unable to advance within those occupations). Occupational segregation is upheld, in part, by gendered beliefs about

the appropriateness of particular fields for men or women, that is, occupational stereotypes. Research on the development of occupational stereotypes (e.g., Helwig, 1998) indicates that they are formed in early childhood as fantasies, which give way somewhat in late childhood and early adolescence to foci on the perceived social value and status of occupations, which are supplemented, in turn, by greater incorporation of an individual's unique personal traits in late adolescence. Research also suggests that occupational stereotypes are held more strongly by males than by females (e.g., girls identify greater numbers of career aspirations than do boys), are retained through adolescence and early adulthood despite an increasingly individual focus, are reinforced by the media, and exhibit incontrovertible influence on role identification and vocational beliefs in young people (Phillips & Imhoff, 1997). It is important to note that occupational stereotypes restrict perceptions of choice, function to limit entry into particular occupations (e.g., males hired over equally qualified women), and constrict later advancement opportunities (e.g., women being passed over for deserved promotions; Fassinger, 2002). Research indicates that actual knowledge about jobs as well as atypical modeling can decrease gender-based occupational stereotyping, but evidence also suggests that female entry into predominantly male jobs increases their appeal to women but not necessarily to men (Phillips & Imhoff), raising questions about the flexibility of men's ideologies and the viability of truly opening up vocational options for women.

In addition to lack of support from men, much of the difficulty for women in negotiating work environments, particularly those in male-dominated fields, stems from the absence of other women who can provide modeling, mentoring, and support. Harway (2001) noted that the disappearance of formal occupational structures for the transmission of work skills and norms (e.g., apprenticeships and collective socialization by a group of elders) has rendered individual mentoring critical to career success in most contemporary workplaces. Research indicates that individuals tend to receive more support for advancement from same-sex workers, although women more than men tend to support both sexes (Phillips & Imhoff, 1997)—these findings, in sum, suggest that men are far more likely to be mentored than are women. That this, in fact, continues to be true for many women is evidenced in recent reports by female scientists, who indicated that the paucity of women in science left them without role modeling and support and that their exclusion from "old boy" networks had limited the information and mentoring available to further their success (Wasserman, 2000).

Research (see Harway, 2001) suggests that being mentored does positively affect women's career advancement, in terms of both career help functions (e.g., coaching and promoting the mentee to others) and personal help functions (encouragement and personal validation). However, obtaining mentors, particularly those similar to oneself, is prohibitively difficult for many women

because of the lack of women (especially women of color, women with disabilities, and out lesbians) in the upper ranks of most workplaces (Fassinger, 2002; Harway; Phillips & Imhoff, 1997). In considering mentoring within the social-cognitive arena, it also is worth noting that the broad and diverse functions served by mentoring can be linked conceptually to Bandura's (1977) four sources of self-efficacy—for example, ensuring that mentees receive desirable assignments where they can display their competence (performance accomplishments), role modeling (vicarious learning), encouragement and advice (verbal persuasion), and personal validation and confidence boosting (emotional arousal). Thus, self-efficacy is reviewed briefly in the next section.

Self-Efficacy

Fassinger (2002) suggested that women's tendency to underestimate their competencies, talents, and capabilities is perhaps the "most pervasive and intractable internal barrier" to their career success (p. 31). Although related to the broader self-concept variable postulated by Super (1992), this more specific construct has been operationalized and investigated most fruitfully in the vocational literature as self-efficacy (Betz, 2001), the expectation or belief that one can successfully perform a particular behavior or class of behaviors, assumed to affect both behavioral attempts and behavioral persistence in the face of challenges. Betz and Hackett's (1983, Hackett & Betz, 1981) pioneering work demonstrated clear links between career-relevant self-efficacy beliefs and gender, establishing the utility of the self-efficacy construct for understanding a wide variety of vocational choice and implementation behaviors.

In the most recent comprehensive review of the self-efficacy literature, Betz (2001) highlighted several findings that have remained fairly robust over multiple studies: (a) self-efficacy influences the range of occupational options considered; (b) males demonstrate higher self-efficacy than do females for traditionally male interests and occupations, and levels of self-efficacy similar to females for traditionally female pursuits; (c) scientific technical self-efficacy is related in predictable ways to persistence and performance in those college majors; (d) there are large gender differences in math self-efficacy, which predicts math performance and achievement and math or science relatedness of career choices; (e) there are gender differences in self-efficacy regarding Holland's types (favoring males in Realistic and Investigative themes and females in Social themes), with differences less pronounced in individuals already employed in a field; (f) self-efficacy is related to both career decision-making and interests, with possible gender effects as well; and (g) studies of interventions designed to foster self-efficacy are promising. Phillips and Imhoff (1997) reported that self-efficacy is a stronger predictor of career choice than is past

performance or achievement; Betz noted that this pattern is likely due to the avoidance that low self-efficacy fosters, creating a self-perpetuating cycle in which engagement is avoided and weak self-efficacy remains unchallenged.

Self-efficacy research primarily has focused on career choice behaviors, and little empirical attention has been given to vocational adjustment (Fitzgerald et al., 1995). This is a particularly critical gap in understanding women's career development because barriers to entry have undergone significantly more favorable societal change than have barriers to retention and advancement once in the workforce (Fassinger, 2002, Fitzgerald & Harmon, 2001). Moreover, very little is known about work role exit (including retirement) and workforce reentry for women, severely limiting understanding of women's vocational changes and transitions (Phillips & Imhoff, 1997). What elements of social learning, social-cognitive, and decision-making theories might help to explicate some of these processes? Several ideas are offered in the next section.

Recommendations for Bridging

Research. Although much vocational research has been focused on the content and outcomes of career-related decisions, very little attention has been given to the decision-making process from the decider's perspective, that is, why deciders decide as they do (Phillips, 1997). For women, it has been suggested, for example, that outcome expectations may be particularly relevant to vocational aspirations and planning (Fitzgerald et al., 1995), and yet research to date has not explored the impact of expectations regarding possible career outcomes on the vocational decision processes in which girls and women engage. Participatory action research is a methodological approach (increasingly common in the educational arena, e.g., Mills, 2000) that may offer promise in explicating complex decision-making processes. Action research blurs the traditional boundary between expert researcher and participant, in that the targets of inquiry in this approach take an active part in shaping and carrying out the inquiry, and the expertise of the researcher is viewed as simply one contribution in an array of skills and perspectives brought to bear on the inquiry by all involved. This approach may be especially suitable to studying decision-making processes, because it allows more flexibility and depth than do traditional empirical approaches in querying the intersections among cognitive, personality, emotional, contextual, and temporal influences on those decisional processes. It also facilitates movement beyond simplistic focus on status variables (e.g., whether or not one's mother worked) to more complex interrogation of relational influences (e.g., one's relationship with and attachment to mother and mother's relationship to her job) in understanding women's career decisions (e.g., see Phillips, Christopher-Sisk, & Gravino, 2001).

Measurement. As noted earlier, the measurement of self-efficacy has dominated research related to social learning, social-cognitive, and decision-making theories, and there is clear need for psychometric work on other important variables in this class of theories (e.g., outcome expectations and cognitive styles). One area of possibility for psychometric development and refinement is related to career-related barriers, where perceptions of the existence of barriers have been confounded with coping efficacy regarding those barriers (Lent et al., 2000), thus making it impossible to determine whether self-reported impediments in this arena stem from barriers per se or from the lack of coping resources for addressing them. Untangling these variables would contribute substantially to better assessment of women's career-related problems, and also would more clearly direct interventions aimed at overcoming vocational impediments. Efforts in psychometric development might begin by linking widely used coping measures with existing instruments assessing career barriers (see Lent et al.).

Population. Sexual minority individuals, particularly women, provide intriguing opportunities to test propositions stemming from social-cognitive and decision-making theories, especially in the areas of modeling and decision-making support. Nauta, Saucier, and Woodard (2001), for example, found that lesbian, gay, and bisexual (LGB) students who were connected to gay support groups reported more career role models but less guidance in making career-related decisions than did non-gay students; the authors concluded that the greater awareness of sexual minorities in a variety of careers (fostered by being part of an active LGB community) may be offset by family rejection and lack of social support for nonconforming interests and behaviors, thereby impeding the career decision-making process. Other research suggests delays in career planning among some lesbians due to the diversion of energy to the coming out process (Boatwright, Gilbert, Forrest, & Ketzenberger, 1996). In summary these findings indicate that there are powerful effects of sexual minority status on career decision processes, although the exact nature of these effects is unknown, due, in part, to the lack of attention to process variables (noted previously). Research on lesbians also offers a unique opportunity to tease out the constricting effects of gender from the influence of other factors on career choice because lesbians tend to exhibit more liberal, less traditional roles and choices than their non-lesbian peers, and thus may hold efficacy expectations less fettered by gendered occupational stereotypes.

Assessment and Intervention. Chartrand and Walsh (2001) claimed that societal and disciplinary changes are leading to more process-oriented career assessment—that clients are viewed increasingly as active information processors who require more of assessment than do traditional test-and-tell procedures. In addition, constructivist approaches to assessment that focus

on the personal meaning of such variables as confidence, decision making, and personal efficacy are likely to lead to more collaborative, relationally oriented assessment practices, perhaps especially suited to work with women. It is also important to note that career counseling and intervention focused on helping girls and women to overcome career-related barriers can lead to the unavoidable consequence of raising awareness of impediments not previously considered; fortunately, research suggests that deliberate planning for encountering difficult vocational situations may make those challenges more manageable for women (Phillips & Imhoff, 1997).

Gendered Theories

This class of theories refers to models that have been developed to take gender (and often other forms of diversity such as ethnicity and class) explicitly into account in the formulation of constructs and their interrelationships. These theories are consistent with Meara's (1997) observation that experiences of gender permeate every aspect of vocational development and must be incorporated deliberately into theoretical frameworks. That is, these theories are constructivist approaches to understanding the meaning of women's career behaviors in a pervasively gendered context, and all theories in this class implicitly or explicitly incorporate relational elements into postulated processes, a need articulated almost 2 decades ago (Forrest & Mikolaitis, 1986). Five established models with varying degrees of empirical support are included in this brief review (Astin, 1984; Betz & Fitzgerald, 1987; Fassinger, 1985, 1990; Cook, Heppner, & O'Brien, 2001; Farmer, 1985; Farmer & Associates, 1997; Gottfredson, 1981) and a sixth, new model (Fassinger, 2002) is described as well.

Established Models

Gottfredson's (1981) theory of circumscription and compromise attempted to explain occupational choices through a process beginning in early childhood of narrowing alternatives and realistically evaluating opportunities. Gottfredson focused on occupational gender type, prestige, and work field, predicting that career compromises would uphold gender type above work field or prestige. Swanson and Gore (2000) reported that there has been scant research on Gottfredson's theory to date, in part because instrumentation required to test the theory is lacking, and because a satisfactory method for assessing childhood processes has not yet been developed (also see Gottfredson & Lapan, 1997). Moreover, although support for the stage aspects of the model has been found (e.g., Helwig, 1998), the central prediction of Gottfredson's theory—that gender type would be last compromised in vocational decision making—has not been supported in samples of either sex (Swanson & Gore).

Astin (1984) and Farmer (1985; Farmer & Associates, 1997) both proposed career development models that melded psychological variables and social context. Astin's model included the four core variables of motivation, expectations, gender role socialization, and the structure of opportunity to predict career outcomes. Astin's model had been tested in only one study by the mid-1990s, the broad generality of its constructs blamed for the difficulties in operationalizing and testing them. However, the theory remains notable for articulating the structure of opportunity construct as an important contextual variable in women's career development (Fitzgerald et al., 1995).

Farmer's (1985; Farmer & Associates, 1997) model, rooted in social learning theory and focused on persistence in the sciences, addresses the gap between women's achievement motivation and actual career success by attempting to predict career and achievement motivation from three classes of influences: background factors (e.g., gender, race, and class), personal characteristics (e.g., values and attributions), and environmental variables (e.g., teacher support). Farmer's theory has been supported in part by her own ambitious 10-year longitudinal study of high school students who were followed into adulthood. Using a cross-section of schools and notable for its careful inclusion of ethnic minority participants, Farmer's study involved both quantitative and qualitative data on hundreds of men and women, documenting that career salience, aspiration, and mastery motivation are related clearly and strongly to environmental support for women working. Farmer's model also has been used by others to confirm the applicability of some of its constructs to ethnically diverse samples (e.g., McWhirter, Hackett, & Bandalos, 1998).

The Betz, Fitzgerald, and Fassinger model (Betz & Fitzgerald, 1987; Fassinger, 1985, 1990) focused on predicting realism of career choices (operationalized as congruence of both interests and abilities with career choice) in high-ability college women, incorporating such variables as lifestyle and family orientation, gender role attitudes, work attitudes, academic ability, agentic personality characteristics, and selected background factors (e.g., work experiences and encouragement). Empirical testing of the model (Fassinger) has demonstrated clearly the importance of ability, personal agency, liberal gender role attitudes, and career and family orientation in explaining women's career choices; elements of the theory also have been used to predict persistence in engineering majors (Schaefer, Epperson, & Nauta, 1997). In addition, the successful incorporation of parental attachment variables to the model (O'Brien & Fassinger, 1993), and testing the applicability of this expanded model to rural adolescent girls (Rainey & Borders, 1997), suggests that maternal relationships exert strong influence on career outcomes for young women of precollege and college age. Unfortunately, the structural equation modeling processes used to test this theory in previous studies have been plagued by measurement limitations, and research has proceeded at a very slow pace.

Finally, Cook, Heppner, and O'Brien (2001) proposed a race and gender ecological model of career development. Based on the work of Bronfenbrenner (1977), this model postulates effects on career development at five levels emanating outward from the person: individual variables (e.g., interests and abilities), microsystem (interactions at home, school, and work), mesosystem (interactions between or among two or more microsystems), exosystem (linkages among subtypes, such as school policies), and macrosystem (dominant societal ideologies, such as class bias and racism). Although the Cook et al. model is too new yet to have been tested empirically, it offers promise in its deliberate incorporation of a contextualized developmental framework. This model also exhibits a striking similarity to the frameworks generated by Fassinger and colleagues (e.g., Gomez et al., 2001; Richie et al., 1997) in studies of the career paths of prominent women. The latter program of research has yielded a new theory of women's career development aimed at inclusion of diversity, context, and relational variables, described in the following section.

Inclusive Model

Swanson and Gore (2000) noted that, to date, theoretical work in vocational psychology has not produced specifically racial/ethnic or lesbian/gay career development models, nor have there been applications to the vocational arena of any number of identity models (e.g., racial identity and sexual minority identity) currently in existence. Moreover, scholars have attempted to incorporate the emerging multicultural, contextual, constructivist thrusts of counseling psychology into traditional vocational theories (Super and Holland) in a largely unsatisfying post hoc manner, and even the newer social-cognitive and gendered frameworks have not attended consistently to diversity in explicit, comprehensive terms. In particular, sexual orientation and disability, as well as social class, have not received the kind of theoretical and empirical attention they deserve.

The work of Fassinger and colleagues in new theory construction (Fassinger et al., 2003; Gomez et al., 2001; Noonan et al., 2003; Prosser et al., 2003; Richie et al., 1997) grew out of awareness of the inadequacy of the existing body of theory for explicating women's career processes. Quantitative methodological limitations (e.g., lack of appropriate instrumentation as well as the strong likelihood of inapplicable constructs) demanded a qualitative approach, more specifically one that would facilitate theory construction (grounded theory; Strauss & Corbin, 1998). Moreover, consistent with current constructivist voices (e.g., Savickas, 2001) within vocational psychology, the experiences of diverse women (lesbians, women of color, and women with disabilities), with contextual influences fully explored and their meaning constructed and interpreted by participants themselves, formed the foundation of

the new model emerging from narrative study. Congruent with contemporary interest in relational components of identity and behavior (see Blustein, 1994, 2001; Blustein et al., 1995; Crozier, 1999; Josselson, 1987, 1996; Phillips & Imhoff, 1997), interpersonal relationships (both individual and community) were explored in order to "embed" identities in context (Blustein, 1994), understand the contributions of connection and autonomy to forging women's career trajectories, and begin to comprehend the oft-documented complex relations among worker and other life roles for women. Finally, consistent with the assumptive foundations of counseling psychology as a field devoted to maximizing individual strengths, adaptive development, and healthy functioning (Gelso & Fretz, 2001), the focus was on women who had achieved success in overcoming challenges (e.g., sexism, racism, heterosexism, and ableism) stemming from their diverse demographic locations.

This program of five qualitative studies involved more than 100 prominent U.S. women across a dozen career fields. Although participants were very diverse in age, socioeconomic status (both childhood and present), race and ethnicity, sexual orientation, disability, occupation, career trajectories, and a wide array of background variables, a number of striking commonalities emerged from their personal narratives: a tendency toward nonlinear career paths; experiences of oppression and discrimination; leadership or pioneer status in their fields; strong belief in self and willingness to fight for their rights and opinions; persistence in the face of obstacles; optimism and ability to transform challenges into opportunities; intense dedication to and passion for their work; a tendency toward internal motivations for and evaluations of their successes; strong commitment to interconnectedness with others, expressed both in their professional lives (e.g., collaborative, collegial approaches, and a sense of collective empowerment) and in their personal lives (responsibility to families, friends, and communities); sense of perspective gained by the experience of otherness that being the "first" or "only" conferred; integrated identities deriving from self-reflection; and deep commitment to activism, advocacy, and social justice, using their status and positions to attempt to make the world a fairer place (Fassinger, 2002).

More variable across participants was identification with the various aspects of their demographic locations, differences that seemed to be rooted in the specific forms of discrimination they experienced. For example, many of the women of color discussed the clear intersection of race and gender in their identities, describing discrimination targeted at them as women of color (i.e., both aspects of identity salient). Most of the women with disabilities, on the other hand, described clear disability-based discrimination, acknowledging that disability plays a more salient role in their sense of self because it is the first aspect of their identity noticed by others. Also variable across and within samples were background and current experiences in families and communities, with vastly different levels of interpersonal support for career

pursuits. Noted as salient influences on career development by a majority of participants were diverse social movements (e.g., civil rights, feminist, gay rights, and disability rights) in terms of role modeling, mentoring, opportunities for connection with similar others in activism, and the opening up of new ways to think and view oneself. Finally, the women in these studies reported myriad stressors, varying levels of stress, and diverse coping strategies (Fassinger, 2002).

Based on these narratives and the preliminary theoretical frameworks created using grounded theory procedures, Fassinger (2002) developed a new, inclusive model of the career development of diverse women, explicitly incorporating person, environment, cognitive and decisional, developmental, and relational variables. A detailed presentation of this theory, including the articulation of detailed testable postulates, is in progress; thus, the model is summarized here only briefly.

In this model, career development is seen as the evolving formation of the self in relation to others, focused on work roles and behaviors in the context of other life roles. The model is dynamic, in that it assumes developmental growth and change as well as reciprocal person-environment influences. The *Self* is at the core of the model, and is composed of Identity Self-Construals (e.g., gender and race), Belief in Self (e.g., persistence and self-efficacy), Coping Strategies (e.g., gender roles and stress management), and Values and Life Purpose (e.g., work attitudes). There are two major contextual layers of influence: An inner/proximal *Interpersonal Relationship Context*, which includes Family, Educational Experiences, Occupational and Workplace Experiences, and Community (note that role modeling, mentoring, and general social support can be found in all of these areas); and an outer/distal *Sociopolitical and Cultural Context*, which includes structural barriers and the various "isms" that comprise prejudice and oppression (e.g., sexism and racism), as well as facilitative factors such as human rights movements. The outer layer is filtered through interpersonal relationships, the assumption being that it is through contact with people that prejudice and oppression are enacted and experienced. Finally, *Developmental Vectors* or trajectories emanate from the *Self* outward. Assumed to be of varying magnitude depending on a particular woman's most immediate needs, these vectors capture the developmental tasks of successfully implementing the self-as-worker role in the context of interpersonal relationships and broader social forces, including developing a work ethic and career aspirations; developing abilities, skills, and competencies; exploring occupational choices and fit; sizing up and seizing unplanned, serendipitous opportunities; addressing challenges and barriers; managing multiple roles; and empowering oneself and others.

Fassinger's (2002) model and the other gendered frameworks summarized here implicitly or explicitly take into account the integration of women's personal and work lives in a way not approximated in other theories. Thus, it is

in relation to this class of theories that women's well-documented difficulties managing the home-work interface can be considered most clearly. These issues are discussed in the following section.

Home-Work Interface

A number of issues have been identified in the vocational literature as salient in women's management of the home-work interface, the most frequent target of study being the impact of multiple roles. Although the beneficial aspects of multiple roles (especially work roles) for women are incontrovertibly supported (Barnett & Hyde, 2001), the fact remains that expectations, priorities, and processes regarding the integration of work and personal/family roles complicate occupational choice, implementation, adjustment, advancement, and longevity for many, if not most, women (Fitzgerald & Harmon, 2001; Phillips & Imhoff, 1997). The vocational impact of marriage and parenting continues to be experienced far more strongly by women than by men and remains the single most critical variable predicting women's career trajectories (Fitzgerald & Harmon). This is mainly due to the fact that, despite radical increases in women's labor force participation, the household and child care responsibilities of women in heterosexual couples have not changed relative to men's, and women continue to shoulder most of the domestic burden (Fitzgerald & Harmon; Phillips & Imhoff). Moreover, care for others in the extended family (e.g., aging parents) and community (e.g., terminally ill friends) are commonplace for women, suggesting that multiple role difficulties affect most women at one time or another in their lives (Fassinger, 2002).

Research suggests that most women in contemporary society desire an equitable distribution of housework and child care, and relationship satisfaction is strongly related to perceived cooperation regarding domestic responsibilities (Barnett & Hyde, 2001; Phillips & Imhoff, 1997). However, men's expectations and actual performance of household labor tend to lag behind their female partners, even in couples who view their relationships as egalitarian or their spouses as supportive (Gilbert, 1998; Wasserman, 2000). Research also strongly demonstrates that healthy negotiation of multiple roles for women is heavily dependent on spousal views of her employment, gender role attitudes of her partner and spouse and other family members, and family climate (Phillips & Imhoff), with flexibility in gender role beliefs and behaviors the "hallmark of success for men and women as they manage their work and family demands" (Barnett & Hyde, p. 789). However, traditional views of gendered family roles are buttressed by pervasive societal discourse that protects men from caregiving obligations and rewards them for the rare occurrence of these behaviors, while expecting women to assume full responsibility for caregiving roles without recognition of the labor required

and in addition to any other roles they might pursue (Deutsch & Saxon, 1998; Gilbert).

Workplace structures and policies bear much of the blame for women's difficulty in multiple role management because they do not provide such supports as accessible and affordable child care, flexible work arrangements (e.g., flextime, job sharing, and telecommuting), liberal parental leave policies, spousal relocation programs, and viable alternative paths to advancement (Fassinger, 2002). Moreover, for lesbians and disabled women, workplaces often fail to provide even the most basic supports and accommodations (e.g., domestic partner benefits and accessible facilities). However, cost-benefit analyses suggest that there are clear, tangible advantages and few real costs to offering structural supports to employees. As examples: One large company reported that merely providing 20 days of emergency back-up child care saved almost \$1 million in reduced absenteeism in a year; another company found that, after instituting domestic partner benefits (the top-ranked recruiting incentive for executives), only 1% of its 150,000 workers requested these benefits over a 4-year period; and studies indicate that making workplace accommodations for persons with disabilities costs less than \$1,000 in four out of five situations and is cost-free in one fifth of cases (see Fassinger, 2001).

The lack of workplace supports for managing multiple roles is a particularly insidious threat to women's vocational pursuits because it compels women to seek personal solutions for pervasive structural problems (Barnett & Hyde, 2001; Fassinger, 2002). One unfortunate consequence is that women may feel more confident about their capacity to juggle multiple roles if they are considering female-dominated occupations versus careers in traditionally male fields (Phillips & Imhoff, 1997). Moreover, having women in the top ranks of the workplace (more common in female-dominated fields) is associated with implementation of policies that benefit women in terms of multiple role management (see Fassinger, 2002). Thus, women's plans to integrate family and work obligations may inadvertently exacerbate already-pervasive sex segregation in the workplace (by both field and level), effectively blocking women from a variety of lucrative, prestigious career choices. Fortunately, there is evidence that planning for multiple roles may decrease role conflict and increase effective problem solving (Phillips & Imhoff), suggesting the importance of interventions in this arena.

It has been noted (Fitzgerald et al., 1995, Fitzgerald & Harmon, 2001) that studying lesbian families in regard to multiple role management offers much promise, in that it provides a "rich opportunity to unpack the relative influences of partnership and child rearing from those of the highly gendered institutions in which they typically are embedded" (Fitzgerald & Harmon, p. 217). That is, the equality and shared responsibility that typify lesbian relationships may reveal clearly that it is male refusal to share child care, rather than the mere presence of children, that leads to role overload for women.

Moreover, there are other important issues related to home-work role integration (besides overload) that are unique to lesbian workers. One such issue is identity management in the workplace, that is, the negotiation of dual private and public identities in an often homonegative context. Research indicates widespread anti-gay prejudice in the workplace that necessitates protective identity strategies, and studies also document the negative consequences of such behaviors to both the worker and the organization (Fassinger, 2001a), suggesting the critical importance of this variable in consideration of the home-work interface.

A final issue related to multiple roles and the home-work interface is the disadvantaged position, in terms of compensation and benefits, of the large number of workers, predominantly women of color, who are entering the household and caretaking roles formerly assumed by women who worked only in the home (Fitzgerald & Harmon, 2001). The economic shifts implied by this transition are profound, the free provision of these services in the past having buttressed capitalist and patriarchal structures with little required in return. Fitzgerald and Harmon noted that the pattern of undercompensated women filling these jobs is the "postmodern equivalent of the historical belief that women's work is unskilled, unpaid, and unimportant" (p. 226), and that effectively training and fairly compensating these critically needed service workers will constitute a major challenge to policymakers in the future. What can vocational psychology contribute to resolving both nagging and new problems for women at the critical juncture of home and work? A few suggestions are offered in the next section.

Recommendations for Bridging

Research. As was noted earlier, multiple role management for women is tied very closely to the attitudes and behaviors of partners or spouses, and, although more liberal role expectations facilitate successful management strategies, evidence also suggests that it is the degree of (dis)agreement between partners regarding role expectations that is most critical to relationship satisfaction in this arena (Barnett & Hyde, 2001). Thus, the most promising research direction to pursue is analysis of variables at the level of the couple unit, and Barnett and Hyde suggest the utility of the construct of "schedule fit" (p. 793) in predicting multiple role outcomes such as role quality, burnout, and quality of life. Schedule fit refers to an adaptive role management strategy created by a couple to take into account work hours and work distribution in meeting the needs of both partners, with high degrees of schedule fit characterizing successfully functioning families. Examining couples as a unit also would allow comparisons among a wide variety of types of families—lesbian or gay, single-parent, and working-class families, as well as families in which a female parent also has a disability—thereby helping to identify

elements of success across varying conditions. Both quantitative and qualitative methodological approaches can make contributions in this arena, perhaps most effectively occurring simultaneously and recursively (cf. Blustein, 2003).

Measurement. There is evidence that research is beginning to focus on the benefits, not just the limitations, of women's social and relational contexts (Barnett & Hyde, 2001; Phillips & Imhoff, 1997). Unfortunately, most of the existing psychometric work, where it attends at all to women's multiple life roles, tends toward the assessment of problematic aspects of these roles (e.g., the "consequences of maternal employment" for children, the "spillover" of home or work roles into the other arena, the "conflict" between home and work responsibilities). More comprehensive and less biased understandings of women's participation in multiple roles could be greatly facilitated by the development of measures tapping the beneficial aspects of multiple roles—in women's mental and physical health, in couples and families, in workplaces, and in the communities. Within the workplace, cost-benefit analyses may be particularly useful in communicating with employers regarding the critical importance of family-friendly policies that make multiple role management more viable for women.

Population. The benefits of multiple roles for women are closely linked the number and quality of those roles as well as to the time demands and flexibility of the roles. These, in turn, are strongly affected by social class in several ways. First, there is clear evidence that women cannot support themselves or their families in the minimum-wage jobs so many of them hold (Ehrenreich, 2001). Moreover, even for employed women who are compensated sufficiently, levels of wealth and material resources determine the degree and kind of support (e.g., child care and household maintenance) available to them in managing multiple roles. Middle- and upper-class women also are more likely to inhabit jobs characterized by time flexibility and autonomy, affecting their ability to respond to the inevitable unexpected demands of care taking roles. Finally, working-class and poor women are more likely to be affected by traditional gender role expectations (in their own self-construals as well as in the attitudes of their partners, families, coworkers, and employers), leading to stress and conflict regarding the worker role. Thus, although there is incontrovertible evidence that it is not multiple roles per se that threaten women's well-being, but rather the lack of tangible workplace and family supports for healthy management of those roles (Barnett & Hyde, 2001; Fassinger, 2002), poor and working-class women are far more likely to experience the negative aspects of multiple roles. Unfortunately, there is a dearth of vocational research on poor and working-class women, making this a crucial frontier for empirical efforts.

Assessment and Intervention. In working with female clients, it should be abundantly clear that contemporary vocational assessment and intervention must extend beyond the worker role to consideration of all life roles that a woman is experiencing, as well as the interactions among those roles. Research indicates that deliberate planning for multiple roles facilitates women's coping and problem solving (Phillips & Imhoff, 1997); this suggests many fruitful directions for interventions aimed at increasing awareness and building problem-solving skills. In addition, it is critical to target men for interventions regarding multiple role management (Fassinger, 2000, 2002), because it is their attitudes and behaviors as partners, spouses, coworkers, and employers that so strongly determine the viability of multiple roles for women.

CONCLUSIONS REGARDING ADVOCACY AND POLICY

Fitzgerald and Harmon asserted that "the transformation of the American family . . . as well as of the American workforce resulting from women's integration into that workforce, has not been matched or even adequately recognized by employers and policy makers" (2001, p. 225). Several contemporary challenges face employers: providing opportunities for workers to continually update their skills in order to adapt to an ever-changing occupational environment; managing constant job turnover and growing workforce diversity; instituting policies and supports to accommodate employee demands for more flexible and family-sensitive workplaces; and adapting workplace expectations and practices to the emergence of work teams, flattened hierarchies, and technological advances. Vocational psychologists can help employers address these challenges by assuming leadership roles in both science (e.g., measurement development targeting workers' interpersonal competencies and cognitive flexibility) and practice (e.g., developing and offering interventions aimed at managing occupational transition or workplace diversity), thereby advocating directly for workplace changes that render work a more viable enterprise for women. Leadership also implies the provision of education and training for other helping professionals such as school and clinical psychologists, mental health counselors, social workers, and teachers. Moreover, vocational psychologists must ensure that graduate education in counseling psychology incorporates adequate training in areas such as: a range of research approaches, including qualitative and action research; measurement, statistics, and technology; vocationally relevant contextual change in both the discipline and society; gender and other forms of human diversity; and advocacy and social justice.

Particularly in the practice arena, intervention itself becomes a form of advocacy, and many vocational psychologists already are involved in this important work (Fassinger, 2001a). Suffice it to say that every time a vocational

psychologist creates a program to enhance the self-efficacy of women students in science and engineering majors, provides expert testimony in a sexual harassment case, sets up a career panel of women for a public school visit, or offers a workshop aimed at decreasing employment barriers for displaced homemakers, critical steps in advocating for women in the workplace are being taken. Moreover, research efforts directed at evaluating such interventions are essential to ensuring their effectiveness and long-term viability in bringing about both individual and societal change.

Finally, advocacy also is needed at the more indirect level of policy and legislative transformation. Fassinger (2000, 2001a) offered a number of suggestions for legislative efforts aimed at eliminating educational and workplace inequities, such as fighting the dismantling of affirmative action, lobbying for passage of the Employment Non-Discrimination Act, protecting the provisions of the Americans with Disabilities Act, and becoming more actively involved in welfare-to-work and school-to-work policy efforts. Engaging in socially conscious research, individual lobbying (e.g., letter writing), providing testimony, seeking public office, and joining local activist groups all provide opportunities for vocational psychologists to participate in the shaping of policy at local, state, and national levels. In their roles as both scientists and practitioners, vocational psychologists can contribute to more equitable, welcoming, healthy, and rewarding workplaces for all people in this brave, new, contemporary world.

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PART TWO

**RESEARCH ON VOCATIONAL
CHOICE**

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Vocational Choices: What Do We Know? What Do We Need to Know?

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Few would argue that the primary goal of career counseling is to help individuals make the best vocational choices possible. As counselors seek to foster optimal career development and choice making, they seek to help clients to avoid making decisions that will lead them down unproductive, disappointing, or otherwise unsatisfying paths. The goal, in brief, is to help individuals identify, obtain, and achieve in career pathways that satisfy their particular characteristics and circumstances. What do we—the vocational psychologists, the theorists, and the researchers—have to offer toward this goal?

To begin with, a scan of the literature on vocational choices over the past few decades indicates that there has been considerable interest in theorizing and learning about occupational choices, in studying how rewarding those choices are, and in deciphering how the decisions were made. In this chapter, we examine this literature on vocational choice with a particular eye to what it offers to the task of the counselor seeking to facilitate good vocational choices. Evaluating the state of our theory and research in this domain, we suggest what conclusions can be drawn for best practice in vocational counseling. Given the task and goals of the counselor, we consider the literature with an eye to such questions as “How does our current theory and research fare in terms of helping counselors guide career decision making?” and “How well do we do in providing counselors with ways to help others make the best possible career choices?” We start with a selected review of the current literature and close with ideas about knowledge that remains to be discovered.

WHAT DO WE KNOW?

As a point of departure, it is necessary to consider some basic questions about what makes some decisions better than others, and about how “best vocational choices” might be defined. Although there are arguably many possible answers to those questions, the vocational literature to date has tended to define the “best” choices by considering either what is chosen (the content of the choice) or the process by which the individual makes his or her vocational decisions. Thus, the best vocational choices could be those in which the alternative that is selected is determined to be the “best” option for that person. Alternately, the best vocational choices could be those that entailed the best decision-making process—regardless of the alternative selected. In the following sections, we explore what we currently know about the content of individual’s vocational choices—what is chosen—as well as what we know about how individuals engage in the process of making a vocational decision.

The Content of Vocational Choices

Throughout the history of vocational psychology, when asked how to help individuals make good career choices, vocational psychologists have drawn heavily on variations of Parson’s (1909) prescription that individuals need to acquire self-knowledge and knowledge about the world of work, and that through “true reasoning” a match can be made between the characteristics of the person and the characteristics of appropriate jobs. A variety of theories that expand on this basic notion have been advanced to suggest the particular ways in which person and job can be matched. Of these, the person-environment fit model put forth by Holland (1973, 1985, 1997) is undoubtedly the most widely recognized; although other theories, such as the more intricate person-environment theory of work adjustment proposed by Dawis and Lofquist (1984) and the socially and developmentally embedded variation posed by Gottfredson (1981, 1996), have offered some useful insights into the content of vocational choices. The literature stemming from these perspectives is examined in the following section.

Person-Environment Fit. As noted earlier, one of the most popular person-environment fit models is Holland’s (1973, 1985, 1997) theory of personality and vocational choice. Briefly, Holland posited that both individuals and environments can be characterized by six types (i.e., Realistic, Investigative, Artistic, Social, Enterprising, Conventional). According to the theory, individuals seek out environments that match their personalities, such that they can express their personality in these environments. Holland (1985) theorized that the greater the match or congruence between individuals and

their environments, the greater their satisfaction, achievement, and tenure in that job. From this perspective, then, *congruence* is considered the indicator of a "good" vocational decision.

Dawis and Lofquist (1984; Dawis, 1996) also proposed a more intricate person-environment fit model with their theory of work adjustment. In the theory of work adjustment, congruence, or *correspondence*, occurs along two parallel dimensions. In one, the greater the match between the abilities of the individual and the ability requirements of the job, the greater the person-environment correspondence. On the parallel dimension, the greater the match between the needs of the individual and the needs fulfilled by the particular job, the greater the correspondence. In this model, congruence between person and environment leads to satisfaction on the part of the worker, as well as satisfactoriness (the work environment's satisfaction with the worker).

Given the notion of match, or congruence, between person and work environment, as the central feature of a good occupational choice, it is important to consider closely how this notion is defined. Muchinsky and Monahan (1987) suggested that at least two types of congruence may exist. One type, "supplementary congruence," reflects Holland's (1985) assertions that people seek environments that are composed of individuals who are similar ("birds of a feather flock together"). Indeed, most career counseling practice is focused on this definition of match between the person and his or her environment, in that the characteristics of the individual are matched with occupations where people with similar characteristics comprise the environment. The characteristics in question are typically elements of personality or interest (Spokane, Meir, & Catalano, 2000). However, several other definitions of supplementary congruence have been delineated by scholars (Gati, 1998; Spokane, Meir, & Catalano, 2000) such as congruence of occupational tasks, environment, abilities, and avocational interests.

Although supplementary congruence has prevailed in the empirical and practice literature, Muchinsky and Monahan (1987) posited a second type of congruence in which the characteristics of individuals provide an attribute or element that is missing in a given environment. They referred to this second type of congruence as "complementary congruence." For example, in an organization (environment) composed mainly of individuals with Realistic interests, instead of hiring another individual with similar traits (i.e., supplementary congruence), it may be more advantageous to select an individual with Social interests whose characteristics can *complement* the existing environment. This notion has not received much attention in the existing literature, however.

With (supplementary) congruence theorized as a defining feature of a "good" vocational choice, researchers have sought to establish clear links between congruence and positive career outcomes. Over 40 years of research

on congruence has produced an enormous array of research, with many contradictory findings. The overwhelming majority of the studies have focused on Holland's (1973, 1985, 1997) theory; far less is known about the correspondence predictions of Dawis and Lofquist (1984). Within Holland's theoretical framework, Spokane et al. (2000) concluded that the literature had provided evidence for relationships between congruence and variables such as job and academic satisfaction, supervisor's evaluation, job persistence, indecision, work productivity, well-being, and competency utilization. Variables not consistently related to congruence include anxiety, gender role, employee conduct, coping, self-concept, job readiness, income, and number of job skills.

Focusing more specifically on the link between congruence and satisfaction, there has been much research and conjecture, as small, but significant, correlations between job or academic satisfaction and congruence have been consistently found in many studies (e.g., De Fruyt, 2002; Gottfredson & Holland, 1990; Mount & Muchinsky, 1978). However, a number of other studies have also produced none to few significant correlations between congruence and satisfaction, including those studies comparing multiple measures of congruence (e.g., Hoeglund & Hansen, 1999; Young, Tokar, & Subich, 1998). There is also some evidence that measuring personality by the Five-Factor Model, rather than by Holland's typology, may more strongly predict job satisfaction (i.e., De Fruyt; Tokar & Subich, 1997).

Contradictions such as these have led several authors to conduct reviews or meta-analyses to evaluate the relationship between congruence and positive career outcomes across multiple studies. Spokane's (1985) review suggested positive relationships between congruence and variables such as job satisfaction, choice stability, personality, and academic achievement. In contrast, Assouline and Meir (1987) reported small, but significant correlations between congruence and satisfaction, and no support for hypothetical relationships with stability or achievement. Further, given that using occupational speciality as a measure of environmental congruence produced the strongest significant correlations between congruence and satisfaction, questions are thereby raised about the operationalization of congruence. Tranberg, Slane, and Ekeberg (1993) conducted a meta-analysis using 27 studies and failed to find significant correlations between congruence and job or academic satisfaction, job tenure, and job or academic achievement or performance, although the links between congruence and satisfaction were the strongest. There was also evidence to suggest that personality type moderated the relation between congruence and satisfaction, such that Social individuals demonstrated greater satisfaction in Social environments, whereas satisfaction was not strongly related to congruence for the other personality types. Finally, despite the often contradictory findings, belief in the congruence-satisfaction relationship persists in theory and research (Spokane et al., 2000; Tinsley, 2000). In a recent

review of the literature, Spokane et al. concluded that the correlation between the two is around .25. As Meir (1995) observed, a construct with that level of predictive power may have utility, depending on how one views a variable that explains 5% of the variance in satisfaction.

It was noted previously that operationalization of congruence and its theorized correlates may well be a limiting factor in the available research, and this possibility is well worth highlighting when considering this literature. Often, crude measures of the variables, particularly satisfaction, are used (Tinsley, 2000). In addition, a broad array of methods of calculating congruence have been employed. Where earlier congruence research focused on simpler methods such as match only first-letter Holland codes (Spokane, 1993; Spokane et al., 2000), more recent research has focused on more mathematically complex calculations, such as the C index (Brown & Gore; 1994) or the Iachan M index (Iachan, 1984, 1990), that take into consideration all letters of the three-letter Holland code. However, the congruence indices range in the degree to which they are related to each other (Brown & Gore; Camp & Chartrand, 1992; Hoeglund & Hansen, 1999; Young et al., 1998), and the specific method or index used to compute congruence differentially affects the demonstrated relationships to various career outcomes (Assouline & Meir, 1987; Camp & Chartrand, 1992; Tinsley, 2000).

To summarize, the literature on person–environment fit offers the notion of congruence as the defining feature of vocational choice. The best choice would occur if individuals are matched with congruent occupations, where (theoretically) they will remain, and be more satisfied and productive. Although this is a conceptually appealing notion, it would be fair to suggest that the expected beneficial outcomes of a congruent choice have yet to be convincingly documented, with the possible exception of satisfaction. Perhaps a better way to describe this conclusion is that, based on over 40 years of research on congruence, what we know is that people choose, achieve, remain in, and are satisfied with their occupations for reasons *other than* congruence.

We return with this conclusion to the perspective of the counselor seeking to facilitate vocational choices: As a theoretical framework, the person–environment fit model—particularly that of Holland—provides a clear and easily comprehended framework that is readily usable by counselors and clients. Further, the development of tools to assess the “person” side of the equation has been a major contribution to the task of the counselor. With a generous interpretation of the research findings, counselors can have some confidence in the notion that clients in congruent occupations may be more likely to be satisfied than are those in incongruent occupations. However, this may only be true for certain individuals in certain types of jobs (i.e., social-typed individuals may be more satisfied in social-typed jobs), and it is very clear that a number of other (unknown) factors are likely to contribute to the individual’s

satisfaction. Further, despite the availability of well-developed measures of personality and interest, counselors should probably hold considerably less confidence for broader predictions about what vocational choices would provide the best career experiences and outcomes for a given individual.

Contributing to the less than fully compelling evidence about the importance of congruence are several methodological and conceptual issues mentioned previously. First, the benefits of conceptualizing congruence as supplemental versus complementary has not been fully explored. There may yet be other ways of considering the concept of “match” or “fit,” perhaps using multiple elements of both person and environment. Further, the notion of multiple kinds of congruence highlights the very individualistic assumptions that underlie the current person–environment model: In its simplest form, the congruence equation considers primarily the individual’s personality, interests, needs, and desired outcomes. More social or collective needs and outcomes are considered only secondarily, if at all. Dawis and Lofquist’s (1984) inclusion of a parallel organizational, or employer, perspective is an interesting exception to the individualistic assumption and points to unanswered questions about the entire environmental context in which “best” choices are made. Second, the measurement of congruence (even of the supplementary variety) contains a host of questions: What is an adequate measure of a person? Should the environment be measured by its inhabitants—or perhaps on some other dimension such as task or organizational climate? What index of calculating similarity is best? As these issues are addressed, we may be able to provide more certain guidance to counselors helping clients make good choices.

Gottfredson’s Alternative. Gottfredson (1981, 1996; Gottfredson & Lapan, 1997) provided an alternative explanation to the prevailing person–environment fit models for understanding why people come to make a choice to enter a specific occupation. Although the centerpiece of Holland’s model is that individuals seek to make a congruent match, Gottfredson sought to explain—from a socially and developmentally embedded perspective—why individuals may not always make congruent choices. She noted that, in many cases, individuals opt for a “good enough” choice rather than for an optimal choice. Similar to that of Holland, Gottfredson’s theory focused on the content of individual’s choices; however, she explicitly incorporated developmental stages and the role of the external environment into her theoretical propositions and explained how social structures become embedded within the self-concept of the decider.

In brief, Gottfredson (1981) posited a model by which individuals circumscribe or progressively narrow the range of occupational alternatives considered. She proposed that children incorporate, successively, messages about appropriate gender role and social valuation, before being oriented to an internal, unique self, that integrates interests, skills, and values. The range of career

options considered is reduced or circumscribed at each stage as the individual rules out those that are incompatible with the developing self-concept dimensions of gender role, social valuation, and, eventually, unique individual characteristics. At the point of choice, she theorized, the final alternative selected is one that is not a complete match with the full self-concept, but is a "good enough" alternative. Gottfredson originally hypothesized that in the compromise process, individuals will more readily compromise the later-arriving elements of the self-concept (first, interests, then prestige level, and finally sex type). In theory, then, individuals may make choices incongruent with interests because those choices are "good enough" second alternatives that preserve the other elements of the self-concept.

Although Gottfredson's (1981) theory begins to suggest a number of facets of vocational choice that are not incorporated in the traditional person-environment fit models, the research support has been less than encouraging. In support of her theory, there is evidence that individuals share similar cognitive structures or "occupational images" of the occupational world (Lapan & Jingeleski, 1992). Further, the circumscription research provides general evidence that the constructs of sex-role self-concept, prestige, and interests are all important factors in individuals' career choices (e.g., Leung & Harmon, 1990; Leung & Plake, 1990). Children seem to learn gender-based occupational stereotypes at a somewhat earlier age than what Gottfredson posited (Henderson, Hesketh, & Tuffin, 1988), suggesting that children may reject occupations based on gender type before age 6. Additionally, there appear to be gender differences in the circumscription process, such that girls perceive more flexibility than do boys in the gender traditionality of their occupational considerations (e.g., Hannah & Kahn, 1989; Henderson, et al.). In addition, rather than a progressively narrowing process, individuals may continue to expand the zone of occupational alternatives until late adolescence (Leung & Harmon, 1990; Leung, 1993).

The research on the notion of compromise and circumscription has largely focused on the specific order in which dimensions are discarded in the compromise process, with mixed findings. Generally, the compromise order is not clearly defined and there is little support for the theoretical notion that sex type will be the last sacrificed. Indeed, much research suggests that sex type may be the most easily sacrificed dimension, and individuals may be less willing to compromise prestige and interests (e.g., Hesketh, Durant, & Pryor, 1990; Hesketh, Elmslie, & Kaldor, 1990; Leung & Harmon, 1990; Leung & Plake, 1990).

One major issue plaguing research on Gottfredson's (1981) theory is the highly interrelated nature of the constructs of sex role, prestige, and interests (Hesketh et al., 1990; Leung, 1993). (Consider, by way of example, that there are virtually no feminine, high-prestige occupations.) The interdependence of the constructs suggests that individuals might reject an occupation based

on one dimension (e.g., reject the occupation of social work because it is a feminine occupation), but may reconsider that same occupation based on another dimension (e.g., reconsider social work to match interests of helping others). In an attempt to circumvent some of these methodological issues, researchers developed a "fuzzy rating" process to measure individual's social spaces (Hesketh et al.; Hesketh, Pryor, & Gleitzman, 1989). Using these procedures, individuals can describe their occupational preferences within a range of prestige, sex type, and interests.

Based on the lukewarm research support, Gottfredson (Gottfredson, 1996; Gottfredson & Lapan, 1997) subsequently revised some of her initial theoretical propositions and suggested that compromises may differ in the degree to which the self-concept is threatened. That is, major compromises in interests, prestige, and sex type may require greater adjustment for the individual, whereas more minor compromises would cause less distress.

Drawing together this literature, we can suggest some of the ways in which Gottfredson's theory and its research inform counselors guiding a client's career decision making. First, this theory has been a promising contender in closing the gap between theory and practice in that it reflects the reality that clients do not always obtain the occupational choices they desire, and, further, that their desires may not be reflected solely in an assessment of their unique individual characteristics. The theory provides a focus for counselors to assess and explicitly discuss the influence of the sex role socialization process and social class, in addition to basic assessment of clients' interests, skills, and values. The lack of strong empirical support, however, leaves unknown the specific mechanisms by which sex role self-concept, prestige, and interests affect the content of career choices.

The theory also helps counselors understand how their clients may come to make "good enough" decisions, but it does not clearly delineate how an optimal choice might be attained. As a counselor, one might well wonder how much circumscribing is necessary to have a workable number of alternatives under consideration, and how much restricts the range of alternatives too much. Further, given the evidence that the circumscription process may be more severely truncated for men than for women, one may well wonder what impact this truncation would have.

Last, Gottfredson's theory incorporates elements of the social context in the development of self-concept in the formative years. How subsequent development—as documented, for example, in the literature on adult development—might further shape individuals' circumscription and compromise is not yet known.

Some Conclusions. Defining good career choices by their content, person–environment fit theories of career choice generally posit that the best occupational choices are ones that are congruent with clients' personality

or interest patterns. The alternative proposed by Gottfredson suggests the developmental and contextual ways in which clients come to make choices that are incongruent. Taken together, these theoretical perspectives help to construct a conceptualization of broad fields of interest to individuals, but are less successful at affording a specific prediction about the specific careers in which individuals will feel satisfied and achieve.

From the perspective of the research, empirical support of the theories has been sought in studying theoretically relevant questions such as: "Do people choose within their Holland code, and, if they do, are they more enduring/more satisfied/higher achieving?" and "Do people compromise interests, prestige, and sex type in making less than congruent career choices?" The lack of compelling evidence in answer to either of these broad questions is disappointing. Although this literature offers interesting and easy-to-use ways to conceptualize the best vocational choices, it does not offer much in the way of empirically-supported guidance to the counselor who is trying to facilitate the achievement of same.

It has been suggested that the failure to provide more affirmative findings may stem from problems in measuring the constructs involved. However, given the sheer volume of research in this area, it seems also plausible that the problem lies on a deeper, more conceptual level. That is, toward the goals of helping individuals make optimal career choices and providing research-based direction for counselors, we may need to reconceptualize our definition of a good choice. This would entail broadening our thinking beyond the constraints of congruence as it is currently defined. For example, if we conceptualized congruence by means other than the personalities of the people in the environment (such as some behavioral or task element of the work environment), or if we elaborated further the notion of complementary congruence, this might well provide different answers to our current questions. In broadening our constructs, we could also consider what people need to make good career choices depending on factors such as their developmental stage, their age, the current economic situation, and other individual and contextual factors. We could inquire about what makes for a better vocational choice for an individual at different life stages and in different situational contexts. What kinds of congruence would be important for a given person at a given point in his or her life? What is the optimal range of alternatives to work with; that is, what is a "good enough" range of alternatives? What kinds of postadolescent developmental experiences might change how individuals evaluate good choices in their lives?

Moving beyond the concept of congruence, we could also look to the individual for alternative definitions of what makes for a good vocational choice. What criteria do the deciders use in evaluating or defining a good vocational alternative for themselves? We may find that deciders consider numerous constructs beyond satisfaction, achievement, and tenure to determine whether

their vocational choice is a good one for that point in time. For example, one decider may define a good choice as one in which the job provides a paycheck that covers her basic living expenses, whereas another may consider a good alternative the job that is the best of the available jobs that are along the bus route. Yet another might define a good choice as that alternative that matches his or her sense of calling. Still others might define as the good vocational choice that which most benefits their community.

Last, it may be that we simply are not asking the right questions in the literature. With due respect to the important role of theory in the creation of knowledge, perhaps the research needs to take a step back from the notion of congruence, and ask, instead, such questions as: What are the characteristics of the most satisfied person? Of the person who achieves the most? Of the person who has made the "best choice?" It would seem that a literature addressing these kinds of questions may get closer to what counselors need in terms of useful, empirically supported guidance. Through expanded questions and conceptualizations such as these, we may be better positioned to devise theories and research that follow more closely what counselors face.

Vocational Decision-Making Process

Recalling that "good" career decisions can be defined not only by the content of the choice but also by the process of the choosing, we turn next to the ways in which people make career decisions. Here we discuss models of the decision-making process, decision-making styles or strategies, problems in the decision-making process, and readiness for decision making. We consider what we know about how individuals make decisions and what guidance this literature provides to counselors helping clients pursue an optimal vocational choice process.

Models of the Decision-Making Process. A variety of models delineating the process by which individuals progress in making decisions have been proposed in the literature over the past several decades. Some of these simply describe the process; others provide a prescriptive guide about how decisions should be made. In one of the first models, Tiedeman (1961, 1979; Tiedeman & O'Hara, 1963) provided a comprehensive descriptive model that portrayed the sequence of stages in the decision-making process. In this model two phases were described in which individuals first anticipate an impending decision by exploring, crystallizing the alternatives, making a choice, and clarifying the choice by putting it into action. The second phase involves an implementation process in which the choice is adjusted to following its implementation. Harren (1979) expanded on Tiedeman's model, incorporating person and contextual factors into the decision-making process and applying it specifically to college students. His revised model includes four phases

of awareness, planning, commitment, and implementation. These models of the decision-making process essentially provide a road map of the decision-making process, without suggesting the manner in which that road should be pursued.

In a more prescriptive vein, Krumboltz and Hamel (1977) provided a model of decision making for helping adolescents narrow down career options in a rational, logical manner. Their DECIDES model contained seven steps: defining the problem, establishing a plan of action, clarifying values, identifying alternatives, discovering probable outcomes, eliminating alternatives systematically, and starting action. Also in a prescriptive mode, classical Expected Utility (EU) models have been applied to vocational choice (Katz, 1966; Pitz & Harren, 1980). The EU models posit that the best decisions are ones in which deciders comprehensively gather information about alternatives and systematically weigh the probability of a certain outcome of a given alternative by its utility or desirability. The optimal choice, then, is the alternative with the highest expected utility. In these, as in many other prescriptive models, there is clearly an assumption that the best decision would be one that followed a rational, systematic, logical, autonomous process, in which comprehensive information is gathered and weighed against some known criterion.

In recognition that such a process may not reflect the realities of the decision-making situation, Gati (1986) proposed a Sequential Elimination (SE) model, which expanded on the EU models and better reflected realities of the decider. Drawing from work by Tversky (1972), in this model, individuals sequentially eliminate occupational alternatives in arriving at an optimal choice. Individuals making some type of vocational choice (e.g., choosing among majors or choosing among job offers) progress through a step-by-step process in which they identify the important aspects relevant to the situation, rank the alternatives according to which aspects are more important, and use this information to narrow down the options considered (see Gati, Fassa, & Houminer, 1995, for an application of the model in career counseling). Gati and Asher (2000) also proposed a three-stage model for conceptualizing and guiding individuals through a career decision-making process that includes prescreening (clarifying and crystallizing the alternatives considered), in-depth exploration, and choice.

Available research on these models of the vocational decision-making process has been limited, although recent research has suggested that the EU model may not capture real-life decision making. For example, in contrast to the EU models which assume that several positive aspects of a given alternative can compensate for (fewer) negative aspects, research has revealed that individuals tend to use a noncompensatory decisional strategy in searching for career information (i.e., do not allow one aspect to compensate for another aspect). Further, at various points in the decision-making process, deciders

who were provided with larger amounts of information clearly selected only a subset of that information for thorough review (Gati & Tikotzki, 1989). In addition, situations where one must choose between two favored occupational alternatives (e.g., police officer vs. counselor) are seen by deciders as requiring more of a compromise and as a more difficult choice. In contrast, when the situation is framed as a choice between aspects of the alternatives (e.g., choosing between working indoors vs. working outdoors), it is seen as less of a compromise and as an easier choice (Gati, Houminer, & Aviram, 1998).

In one of the few studies focused on cross-model comparisons, Lichtenberg, Shaffer, and Arachtingi (1993) compared three models of decision making and found that an EU model provided the highest expected utility outcome. However, Gati's (1986) SE model and an unspecified model, in which participants were not given any instructions on how to rank occupations, were not different from each other in terms of the types of careers participants selected. Also, there was no difference in participants' satisfaction with the final career alternative chosen between the SE model and the unspecified model. These findings would suggest, first, that the SE model more closely approximates real-life decisions, and, second, that neither SE-guided nor "real-life" decisions approach the "optimal" decision-making process portrayed by the EU models.

Drawing from this literature as well as from findings in research on human judgment, Phillips (1994, 1997) argued that not only did the available evidence refute the notion that a classical "rational" model accurately reflects real-life decision-making processes, but also that there was little reason to even consider the classical model adaptive in the context of career decisions. Given the limitations of human-information-processing capacities, and given the inconsistencies and complexities of decision making in the vocational domain, she argued that there may well be a variety of definitions of "rationality," and that such human resources as intuition, emotion, and consultation should also be considered as elements of an intelligent, adaptive decision-making process.

Although the debate over how individuals should decide continues to emerge in the literature (e.g., Kahneman, 2003), we return to the perspective of the counselors seeking to help their clients go about making good decisions. From this vantage point, what does the literature offer? First, it would seem that what is known about the process of decision making remains largely theoretical at this point. The advice from the classical theoretical literature in terms of how best to proceed in the choice process suggests that pursuing a methodical, sequential, objective, logical, information-rich process would represent better decision making. Second, the available research on the decision-making process would seem to contradict this theoretical prescription. Gati's research, for example, implies that counselors should expect

clients to differ from this prescriptive ideal of a rational and comprehensive consumer and processor of information. Rather, counselors would be best advised to recognize the human capacity of processing information, and to know that their clients will likely overlook large segments of data before arriving at a point where they can process any relevant information. Counselors would also need to entertain the possibility that there may be multiple ways in which deciders can go about making good decisions. Redefining a good decision-making process opens avenues to consider decision-making processes that are adaptive rather than optimal, or “good enough” rather than perfect.

Decision-Making Styles. Although the literature has yet to reveal precisely how decisions should be made, the research has shed considerable light on decision-making styles or strategies—the different ways that individuals might approach, respond to, and act in a vocational decision-making situation.

Dinklage (1968) is credited as the first to delineate styles or strategies that individuals use in making decisions. She classified eight traitlike decision-making styles (four of which include various ways in which individuals avoid making decisions): planning, agonizing, delaying, paralysis, impulsive, intuitive, fatalistic, and compliant. Traitlike styles of decision making were also proposed by Johnson (1978) and Jepsen (1974). In contrast, Arroba (1977) analyzed unstructured interviews and found six decision-making styles (logical, hesitant, no-thought, intuitive, emotional, compliant) that seemed to overlap with those of Dinklage, but had a more situational quality. Finally, most prominent in the literature is Harren’s (1979) model which hypothesized three fairly traitlike styles of decision making: rational, intuitive, and dependent. The rational style refers to decision makers who employ a logical, systematic, and planful approach to making decisions. Harren initially endorsed the rational style as the most effective style for making deliberate decisions. Intuitive deciders tend to base their decisions on their current feelings, be more impulsive, and less systematic in gathering information than do rational deciders. Those with a dependent style tended to rely on others for making the decisions and take less responsibility for the decision. Dependent deciders were considered the least effective decision makers.

Research on decision-making styles has largely focused on Harren’s (1979) three styles and has revealed some interesting links to various aspects of adaptive functioning. These styles have been related to a differential level of ego identity development, with achieved individuals using a more rational style, those with more foreclosed identities relying on a dependent style, and diffused individuals using an intuitive style (Blustein & Phillips, 1990). Mixed results emerged for the link between decision-making styles and vocational maturity, with some research finding vocational maturity related to a rational style (Blustein, 1987), and other reports that vocational maturity is

related negatively to a dependent style (Phillips & Strohmer, 1982). A rational style has been related to an approach, rather than to an avoidance, strategy to problem solving (Phillips, Paziienza, & Ferrin, 1984), self-concept crystallization (Lunneborg, 1978), and decisional progress (Harren, Kass, Tinsley, & Moreland, 1978; Lunneborg). A dependent style has been related to negative outcomes such as less progress in decision making (Phillips, Paziienza, & Walsh, 1984), an avoidance strategy in problem solving, and lack of problem-solving confidence (Phillips et al.). Research on the effectiveness of career interventions designed to match a participant's decision-making style found that rational deciders given a rational intervention increased in their career maturity and choice certainty, whereas intuitive deciders receiving an intuitive intervention also improved (Rubinton, 1980).

Most recently, research has focused on exploring the role of others in decision making. Where the existing taxonomies of decision-making style acknowledge a role for other people only in the dependent decision-making style, Phillips, Christopher-Sisk, and Gravino (2001) suggested that a relational perspective would provide a more complete—and less pathological—view of how deciders make decisions in a relational context. They proposed a taxonomy of how deciders use others in decisional situations in more or less self-directed ways and of how others involve themselves in the decision-making process.

Taking together the theory and research on differences in how individuals approach and behave in decision-making situations, we return again to the perspective of the counselor: What does the literature tell counselors about the decision-making styles of their clients? Despite the initial support for the superiority of a rational style, the research is not conclusive that a rational style is the only best style. Indeed, some evidence suggests that intuitive deciders might make good decisions in some circumstances (Rubinton, 1980), and that a dependent style may not be as maladaptive as originally conceived (Phillips et al., 2001). Phillips (1997) suggested that the intuitive or dependent or consultative decider may not necessarily reflect an irrational, or negative, style but may instead be adaptive in incorporating affective components in decision making and may also be collaborating with others in his or her decision field. Overall, it would appear that there are several possible ways to approach and behave in a decision-making situation, and that the adaptiveness of a given decision-making style may well depend on the context in which that decision is made. Indeed, this consideration of the context of individual differences suggests that there may not be a single standard for "good decisions." Clients from cultures that value collectivism and the importance of family elders in making decisions may show a more dependent style—which may, in fact, be the most adaptive style to have in that cultural and family environment (Rosin, 2002). Thus, based on this literature, counselors seeking to guide clients toward optimal vocational choices are well advised to consider the context

in which their clients are making their decisions, to consider the possible benefits of various decision-making styles, and to suspend judgments about the (mal)adaptive functioning of deciders who proceed in ways other than the traditionally "rational."

Problems in Decision Making. In addition to individual differences in decisional style, the vocational decision-making process research has explored how it is that individuals have difficulty making career decisions. It is clear that not all individuals progress through the decision-making process successfully, and particular attention has focused on the phenomena of career indecision and indecisiveness. Although these terms are sometimes used interchangeably, indecision is considered a transitory state through which individuals may pass in the process of making career decisions, whereas indecisiveness is a traitlike notion reflecting the characteristic way in which people function in decision-making situations (Osipow, 1999).

In attempting to capture why individuals have difficulty in decision making, there has been considerable attention in the literature to developing taxonomies and diagnostic systems to identify and differentiate types of undecided individuals. For example, with a college student sample, Chartrand et al. (1994) documented four clusters of indecision (i.e., *developmentally undecided*, *ready to decide*, *indecisive*, and *choice anxious*) with differing cognitive and affective concerns underlying each type. Although most research has focused on high school or college students, Callanan and Greenhaus (1992) found two types of career decidedness (*vigilant* and *hypervigilant*) and two types of career undecidedness (*developmental* and *chronic*) among employed adults. In a review of the research on career decidedness, Gordon (1998) suggested that similar subtypes of decidedness emerged across the various research findings, with the multiple subtypes ranging along a continuum from decided to undecided: *very decided*, *somewhat decided*, *unstable decided*, *tentatively undecided*, *developmentally undecided*, *seriously undecided*, and *chronically undecided*. She cautioned against stereotyping clients based on these categories and noted that clients may not necessarily reflect a single type, but may reflect aspects of several types.

In addition to the taxonomic literature designed to characterize kinds of decisional problem states, there have also been efforts to develop instruments to allow counselors and researchers to measure decisional problems. The Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koshier, 1976), designed to measure indecision, is one of the most widely used measures of general indecision. Consistent with the literature on subtypes of indecision, there has been some debate as to whether this measure is uni- or multidimensional (e.g., Osipow, Carney, & Barak, 1976; Shimizu, Vondracek, & Schulenberg, 1994). Another example is the Career Factors Inventory (Chartrand, Robbins, Morrill, & Boggs, 1990), which is specifically designed to measure

indecision along four dimensions: career choice anxiety, generalized indecisiveness, need for career information, and need for self-knowledge.

Research using the various instruments has pointed to links between career indecision and less adaptive personality characteristics such as neuroticism (Chartrand, Rose, Elliot, Marmarosh, & Caldwell, 1993), external locus of control and fear of success (Taylor, 1982), and passivity and lack of confidence (Sweeney & Schill, 1998). Career indecision of high school students has been related to less clear vocational identity and lower congruence of aspirations (Conneran & Hartman, 1993). Decisional difficulty has also been linked to selected family interaction patterns and developmental experiences (Eigen, Hartman, & Hartman, 1987; Kinnier, Brigman, & Noble, 1990; Lopez & Andrews, 1987; Tokar, Withrow, Hall, & Moradi, 2003).

Toward the goal of helping clients make the best possible career choices, the literature provides counselors with ways to conceptualize the types of decisional problems that clients experience, and with a range of instruments to use in an assessment process. The literature also outlines the complexity of possible causes of decisional problems and suggests to counselors that solutions to these problems may be similarly complex. Although there is little actual intervention research in this area to guide the counselor's work, the literature would seem to suggest that counselors would be well advised to explore first the nature of their client's undecidedness and, from there, to design an intervention that addresses the particular situation.

Although the research on undecidedness and indecision provides a substantial aid in the process of conceptualizing a particular client's decisional problems, it is not particularly informative about which kind of indecision might be most problematic, how long states of indecision should reasonably last, and when indecision might even be considered adaptive. (For example, for some clients, it may be "better" to be undecided than to foreclose on a decision.) Further, we do not know much about how other contextual factors such as culture or economic opportunity can impact a decider's feelings of indecision. Environmental variables have not been fully considered in the formation of the undecided subtypes; thus, it is unclear how variables such as socioeconomic status, prior work experience, and status of the labor market play a role in the indecision or indecisiveness of clients (Gordon, 1998).

Readiness for Decision Making. The last perspective in the vocational decision-making process to be considered here concerns not so much the actual choice process as much as the individual's readiness to even engage in a vocational decision-making process. Focusing on the evolving nature of careers over the life span, Super (1953, 1957, 1980) proposed that the tasks associated with the various stages of career development require a certain developmental readiness to address. This proposition was reflected in the notion

of vocational maturity, or the "readiness to cope with the developmental tasks of one's life stage, to make socially required career decisions, and to cope appropriately with the tasks which society confronts the developing youth and adult" (Super & Jordaan, 1973, p. 4).

As a construct, vocational maturity has attracted enormous attention over the past several decades. A variety of measures of vocational maturity have been proposed, first focusing on the exploratory stage of development (e.g., Crites, 1978; Super, Thompson, Lindeman, Jordaan, & Myers, 1981; Westbrook & Parry-Hill, 1973), and later broadening to include adult readiness (e.g., Crites, 1979; Super, Thompson, Lindeman, Myers, & Jordaan, 1985). Using measures such as these, researchers have explored the antecedents, correlates, and consequences of vocational maturity. Drawing on a broad array of situational, behavioral, cognitive, attitudinal, and developmental variables (see Savickas, 1984, for a full review), the general picture of the individual most ready to engage in decision making emerged as one who is oriented to the task of choosing, has a clearly formulated view of themselves, has explored themselves and the world of work, and who understands decision making and is able to put that understanding into practice. The construct of readiness—or vocational maturity—is not without controversy, however. Questions have been raised about its dimensionality, its freedom from a certain class bias, and its predictive validity (cf., Betz, 1988; Savickas, 1984, 1993; Westbrook, 1983), and several future directions for the construct have been proposed (e.g., Phillips & Blustein, 1994).

In addition to the basic research on the construct and measurement of vocational maturity, there has also been a fair amount of research on interventions designed to promote greater readiness for decision making. Using either the construct or its actual measurement to conceptualize individuals in the context of expected development, these interventions have sought to promote the readiness of the decider. Super's (1983) model of developmental assessment was proposed as a tool to direct such interventions, although it is not clear that this tool has received much use, at least in the empirical literature. A variety of classes, workshops, groups, and individual and computer-assisted counseling have been documented as successful, generally drawing on common elements of providing information about the self, information about the world of work, and enhancing decision-making skills (see Phillips, 1992, for a review).

Returning to the perspective of the counselor seeking to facilitate good vocational decision making, the literature on readiness for decision making would appear to be generally quite helpful, although somewhat dated. Provided with conceptual and measurement tools to assess an individual's current level of readiness, counselors also have available an array of documented successful intervention strategies to enhance readiness. However, thorny questions about whether these readiness enhancements will actually result

in better decisions remains to be fully documented. In addition, the literature would benefit from further integration of the construct of readiness with some of the more recent knowledge about individual and contextual factors in career decision making.

Some Conclusions. Defining good vocational choices by elements of the process by which they were made, the literature on decision-making processes yields a picture of the best choice as one that is undertaken by a ready decider who is unencumbered by indecisiveness or by other decisional difficulties. Further, it is a choice that is arrived at in a problem-free, systematic, autonomous manner, in which the decider is able to obtain and process all relevant information. This theoretical prescription is appealing in that it provides counselors with a conceptual roadmap to good choice making, in which they would first work to ready their clients, assess relevant causes of indecision, and finally guide them through a systematic and information-rich decision-making process.

Despite the appeal of this roadmap, there are noticeable gaps between this prescription and the realities of human decision making. Indeed, the empirical literature has been quite convincing that decisions are made by individuals who are less than ready and who are plagued by indecision, and it remains to be fully demonstrated that choices made in these circumstances are less than good. Further, the evidence would also indicate that decisions are made in a variety of ways that are not comprehensive, thorough, systematic, and autonomous, and that there may well be wisdom in decision-making processes that conform to human information processing abilities, and that draw on such resources as emotion, intuition, and consultation.

Taken together, there is clearly a need to resolve these discrepancies and to provide workable models of good decision making that are compatible with actual human experience. Toward that goal, it may well be necessary to set aside some of the traditional assumptions about what counts as "good" decision making. Echoing some of the conclusions cited previously concerning the content of choices, it may also be necessary to consider how we define good choices, how those definitions coincide (or do not) with those of the decider, how they incorporate the decider's context, and how they might be manifested at different points in an individual's life course.

WHAT DO WE NEED TO KNOW?

The vocational choice literature provides counselors with some ideas for helping clients make good vocational choices and also leaves many questions unanswered. When a good vocational choice is defined by the content of the alternative chosen, the literature offers ideas for matching people with

their environments. However, the outcomes of such a match are far from certain, and expanded definitions of congruence may be needed. When a good choice is defined by the process, the literature provides various models for conceptualizing how people should make decisions, how they actually make decisions, and what it looks like when they have problems in the decisional process. However, it falls short of providing an evidence-based view of how to help clients progress in the decision-making process in an adaptive manner. We have suggested a number of avenues specific to the literature reviewed earlier, which might help to move our knowledge about the content and process of vocational choices forward. However, reflecting on these avenues, we would also highlight three broad perspectives that may be helpful in aligning theory, research, and practice with the realities of clients' lives. These perspectives include (a) the developmental influences on vocational choice; (b) the importance of individuals' contexts in the content and process of vocational choice; and (c) vocational choices in a new, constantly changing, information-rich age.

Vocational Choices From a Developmental Perspective

The discerning reader will have already noticed that there is a noticeably limited presence of developmental perspective in the literature reviewed earlier. That is, when we define good choices by the content of what is chosen and by the process by which the decisions are made, we take a very abbreviated snapshot, despite the fact that we know that it is a part of a developmental process that will extend over many years and many life stages. Similarly, using this literature, counselors helping clients make good choices would be most mindful of the immediate decisional situation, although they may also know that there was a larger developmental picture to be considered. Indeed, the life-span development literature (e.g., Super, 1980; Vondracek & Kawasaki, 1995) has offered a rich view of themes to consider as individuals age.

However, the literature on choice and choice making is not well integrated into the developmental landscape. We, as theorists, researchers, and counselors, do not know if the choice that was made when we were watching turned out to be relevant, useful, or meaningful at a later point. We do not know what might change, or should change, for an individual's satisfaction with their choice, simply by the virtue of the passage of time and developmental progress. When individuals reach new developmental stages or when their lives take new turns, the literature about vocational choice and vocational decision making tells us very little about how to help. We do not know if our knowledge about vocational choice is helpful for those later in life or more helpful for those at earlier stages, nor whether help received earlier in the career path provides transferable skills in dealing with later life and career decision points. Although individuals clearly make vocational choices

at all ages and stages (even if it is only a choice to remain in a given position), we know very little about the sequence of decisions that define an individual's career. Might there be some sequences of decisions that lead to better outcomes? If individuals make their decisions intuitively now, are they more likely to use the same process later? And if they do, are they better off? What distinguishes the people who consistently use one decision-making style from those who use multiple styles over time? All of these are questions that could be addressed by embedding our knowledge about vocational choices and vocational decision making in a developmental perspective. Once we consider how developmental patterns and sequences may affect the content and process of choosing, our understanding of the full reach of an individual's career decision making will be enormously enriched.

The Contextual Elements of Decision Making and Choice

Until the past decade or so, theory and research on vocational choice and decision making was advanced as if the decider acted as a solitary, decontextualized, figure in his or her career decisions. With criticism mounting about the value of decontextualized knowledge, there has been an increasing awareness that vocational choice always occurs within the broader context of the individual's life. It should be noted here that the value of knowing about a decider's context is not to enable an isolated view of a given phenomenon (e.g., to achieve a view of the role of a given variable, with "all things being equal"). Rather, the value of knowing about context lies in its meaningfulness to the decider's lived experience. Richardson (1993), for example, suggested a change in the focus of research and practice from careers to work, which provides a perspective for incorporating "an understanding of people's behavior as fully embedded in the context of their lives" (Richardson, 1996, p. 352). Clearly, there are a variety of features of the context of people's lives, including both demographic and sociological characteristics that define an individual's experience (Leong & Brown, 1995). Other elements of context, however, include consideration of the full array of life roles and interactions. The long-standing recognition of multiple life roles and dual-career situations (e.g., Gilbert, 1984; Super, 1980) is an example, as is the more recent perspective on planning for multiple roles in people's lives, and the importance of gender roles in defining women's and men's relation to work and family (Gilbert & Brownson, 1998; Weitzman, 1994). Another example is the recent research on the role of others in the decisional process and career development (Blustein, 2001; Phillips et al., 2001; Kenny, Blustein, Chaves, Grossman, & Gallagher, 2003; Schultheiss, Kress, Manzi, & Glasscock, 2001; Schultheiss, 2003). By placing these kinds of contextual elements as an essential part of vocational choice and choosing, theorists, researchers, and

counselors will capture a more complete understanding of career decision making.

Vocational Choices for a New Age

Our traditional models of vocational choice and decision making are predicated on twin assumptions about knowability and analytic supremacy. That is, it is assumed that all relevant features of a given choice situation are knowable, and further that once this knowledge is submitted to an analytic process, the best choice will be revealed. As a result, the existing models encourage us to assume that with enough information gathering and rational analysis, individuals will have the power to make excellent decisions for themselves.

In contrast, it has been argued that in the current milieu, such "rational" decision making may be neither realistic nor the most adaptive strategy (Phillips, 1997). Further, if we were to advise clients that their task is to proceed as if relevant information were fully knowable and a single, best alternative is readily available, we would be ignoring some important realities. The new age has brought us the capacity to have extraordinary amounts of knowledge at our fingertips, despite the fact that it is already known that human information processing capacity is limited (e.g., Baddeley, 1990; Kahneman, 2003; Miller, 1956). Individuals may be able to identify a congruent occupation, but be unable to implement it in a given location or economic climate. The "best" decision may no longer be one in which the decider comprehensively analyzes all options and confidently chooses that with the highest theoretical yield, but rather frames the decision-making task as one in which an array of "good enough" options are identified. Further, with no one "best" option, there may be multiple good alternatives for a particular client, and a good choice might be one which is "good enough," "good, for now," "good, as far as I know," "good for my family and community," "good, because it gives my life purpose," or even "good, because it brings me joy."

With the challenge to the assumptions of knowability and analytic supremacy, we clearly need better models for how to work with the unknown, and for how to accommodate different definitions of "good." Recognizing that in this new age quite a bit of the career choice process may be unknown, and that there may be highly individualized definitions of "good choices," we might need to build this into our models of vocational choice. Perhaps a more adaptive approach would be to develop strategies to help clients to adopt an attitude of positive uncertainty (Gelatt, 1989) and to work with the inherent ambiguity in their decisions. Mitchell, Levin, and Krumboltz (1999) echoed this idea in advocating a strategy of planned happenstance where clients are taught to be flexible, to be ready for and actively seek out chance encounters or opportunities. Williams et al. (1998) further provided compelling evidence for the influence of chance events in career paths. Although chance

encounters or serendipity are certainly difficult constructs to operationalize, we clearly need to know more about how to work with these realities. Similarly, as we come to know more about uncertainty, and more about the full context of individual's lives and developmental progress, it would be useful to devote some renewed thought and dialog to the concept of a good vocational choice.

ENDNOTE

In this chapter, we explore how the theory and research in vocational choice can help counselors guide clients' vocational decision making. In considering what we currently know and what we need to know about vocational choice, we find that we can offer counselors some assistance in identifying the broad parameters of a congruent vocational choice. In addition, we can offer counselors ideas regarding the multiple ways in which their clients might approach decisional situations and regarding what decisional problems might look like. We have also noted several challenges that acknowledge the roles that developmental and contextual factors play in vocational choice, as well as how "good" vocational choices might be made in a changing and unknown world. As the theory and research in vocational choice pursues these challenges, we would hope to provide counselors with clearer and more complete advice about the myriad of ways in which clients can make good decisions that match the realities of their lives.

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Career Counseling Process and Outcome

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Career counseling has a long and illustrious past, dating back to Frank Parson's (1909) three-step model of vocational guidance. In the past 90 to 100 years, more complex models of career counseling have evolved, and additional empirical information has shaped the process of career counseling. As the field approaches the 100-year anniversary of the publication of Parson's seminal model, it might be an opportune time to reflect on the knowledge gained in the last 100 years in terms of which career counseling strategies, under what conditions, effectively help which clients.

In this chapter, we focus on the research related to career counseling and emphasize six topics. First, before summarizing the research related to career counseling, we define career counseling and distinguish it from personal counseling and from other career interventions. Our second area of focus concerns whether career counseling does in fact help individuals. In our view, it makes little sense to discuss factors that may influence outcome until we determine whether career counseling is effective. After considering the effectiveness of career counseling, we then address the process of career counseling and identify factors that contribute to effective outcomes. Hence, the third section of the chapter addresses the interaction between process and outcome in career counseling. The process research, however, does not typically include input variables (Heppner & Heppner, 2003), which involve characteristics of the client and counselor and the setting in which the career counseling is provided. In particular, we have focused on both client and counselor factors that have been shown to influence career counseling

outcome. In the fifth section of the chapter, we discuss the role of theory in career counseling. Unlike psychotherapy, where various theoretical orientations have had a major influence on research and practice, the role of theory in career counseling is more nebulous. Accordingly, we consider various views on the role of theory in career counseling. The next section of this chapter examines how career counseling is changing and evolving, with specific attention to the influences of technology and the Internet. We conclude the chapter by identifying areas related to career counseling that need additional research.

DEFINING CAREER COUNSELING

Before examining the process and outcome of career counseling, it is important to determine what constitutes career counseling. In defining career counseling, it is often useful to make a distinction between career interventions and career counseling. Traditionally, career interventions have been defined as "any treatment or effort intended to enhance an individual's career development or to enable the person to make better career-related decisions" (Spokane & Oliver, 1983, p. 100). This is a broad definition that encompasses a wide range of interventions, including career counseling and other modalities such as workshops, career classes, computer applications, and self-administered inventories. In the field of vocational psychology, career counseling is often viewed as a subset of career interventions. Swanson (1995) defined career counseling as "an ongoing, face to face interaction between counselor and client, with career- or work-related issues as the primary focus" (p. 219). We use this same definition of career counseling in order to build on the empirical knowledge discussed by Swanson.

The distinction between career interventions and career counseling is not always distinct and there is often considerable overlap. For example, some interventions (e.g., use of computer applications, test interpretation), that when delivered in isolation would be considered a career intervention, may also be interwoven into the more "face-to-face" or therapeutically oriented career counseling. Consequently, research related to some of these career interventions is pertinent and will be discussed in our overview of career counseling. Our discussion of these interventions, however, differs from Brown's (this volume), in that these interventions will be considered in terms of a strategic and ongoing process of individual career counseling, where the clinician makes decisions about the needs of the client and selects career interventions in order to accomplish these therapeutic goals.

Consistent with Swanson (1995), we contend that career counseling is psychological in nature and the activities take place in the context of a therapeutic relationship. Given that our definition focuses on the interaction between the

client and counselor and the psychological nature of the process, some may assume that we are defining psychotherapy with a focus on career-related issues. As Swanson (2002) indicated, there has been a long and extensive debate about the distinctions between career counseling and personal counseling or psychotherapy. On the one hand, Richardson (1996) and Rounds and Tracey (1990) have contended that the distinction between psychotherapy-type counseling and career counseling is artificial and that career counseling falls within the broader category of psychotherapy and counseling. On the other hand, Blustein and Spengler (1995) suggested that career counseling and psychotherapy are closely intertwined processes, and the difference is primarily in the domain emphasized during treatment. Whereas, Rounds and Tracey viewed career counseling as a subarea within psychotherapy, Blustein and Spengler (1995) viewed both modalities as being on the same continuum, where the approach is domain sensitive depending on the client's issues and needs. Both Swanson and Blustein and Spengler provided empirical evidence that supported an integrative career-personal perspective in counseling. Similar to the view taken by Swanson, we suggest that an integrative career-personal approach is supported by research related to similarities of clients, similarities in process, and convergence of outcome indicators and indices of effectiveness.

Similarities of Clients

In terms of similarity of clients, Lucas (1992) found that college students seeking career counseling were not different from students seeking personal counseling in terms of the types of problems they were experiencing. Other research has also indicated that career and noncareer clients do not differ in terms of levels of emotional discomfort (Gold & Scanlon, 1993) or on pre-counseling measures of personal adjustment (Lewis, 2001). Moreover, Lucas (1999) and Niles, Anderson, and Cover (2000) found that many of the adults seeking career counseling also had personal concerns. Although career clients are sometimes perceived as having less need for mental health services, Multon, Heppner, Gysbers, Zook, and Ellis-Kalton (2001) found the majority of career counseling clients could be classified as psychologically distressed.

Similarities of Process

Kirschner, Hoffman, and Hill (1994) found the counselor intentions of insight and challenge were most helpful in career counseling. Counselor intentions are the reasons behind an intervention and address what the clinician thinks or believes should be done in session. The counselor intentions of insight and challenge are also intentions commonly found in psychotherapy or personal counseling (Lambert & Hill, 1994). Also in comparing a clinician's behavior

in personal and career counseling, they found many of the same interventions were used in both types of counseling; however, they also found that additional interventions, such as information giving, were helpful in career counseling. Nagel, Hoffman, and Hill (1995) also found many of the verbal responses of a career counselor were similar to those personal counselors who tended to be active, directive, and focused on problem solving. Anderson and Niles (1995) found that both career and personal issues surfaced in career counseling and that the process of career counseling, similar to that of personal counseling, needed to attend to those personal issues. Pace and Quinn (2000) found that 20% of the college students who sought counseling for mental health issues also received career counseling as part of the counseling process and 11% of those who sought career counseling also received treatment for mental health concerns. This same integration of personal and career content was also found with adult clients, as Niles et al. (2000) categorized 54% of the career counseling sessions as focusing on career issues, 34% of the sessions were personal counseling focused, and 12% of the sessions involved a combination of career and personal content.

Convergence of Outcome Indicators and Indices of Effectiveness

Oliver and Spokane (1988) and Whiston, Sexton, and Lasoff (1998) found that career counseling had a positive effect on noncareer outcome, such as self-concept, anxiety, and depression. The reverse is also true, where studies of psychotherapy have used career-related outcomes. As an example, functional capacity to work has often been used to evaluate different treatments of depression (Mintz, Mintz, Arruda, & Hwang, 1992). Not only are career and personal counseling evaluated using similar measures, but they also tend to have similar results related to the degree to which they are effective. Phillips, Friedlander, Kost, Specterman, and Robbins (1988) found that clients' levels of satisfaction did not differ in counseling that focused either on career or personal issues. Whiston (2002) argued that the effectiveness of career counseling is very similar or slightly above the average effect size for other psychological interventions. Lipsey and Wilson (1993) found a mean effect size of .47 for psychological interventions, which corresponds to the effect sizes for career interventions that tend to range between .30 and .60. The change process for career interventions is also quite similar to that of psychotherapy. Related to career interventions, Brown and Ryan Krane (2000) found that clients' ratings of effectiveness rose quickly with each early session, peaked around the fourth or fifth session, and then dropped rather dramatically. Lambert and Cattani-Thompson (1996) found this same pattern of sequential increases with each early session of psychotherapy that also peaked around the sixth session and then began to level off.

Although we believe the evidence supports the notion that career and personal counseling are closely intertwined processes, we suggest, consistent with Crites (1981), that career counseling is both more and less than personal counseling or psychotherapy. On one hand, the assumption that all vocational problems are personal problems is unfounded and illogical. On the other hand, for the majority of clients, career and personal issues do interact, and counseling can be more effective if both issues are addressed. Crites contended that career counseling often involves personal counseling but that it goes beyond this to “explore and explicate the clients’ role in the main arena of life—the world of work” (p. 11). We support this notion and maintain that because sleep is the only activity over a lifetime that the average client spends more time at than work, that all mental health clinicians and psychologists need to be competent and well trained in career counseling.

IS CAREER COUNSELING EFFECTIVE?

To avoid unnecessary duplication, our review of the research on the effectiveness of career counseling focuses primarily on the research that has been published since 1995 and the previous edition of this handbook. In the last few years, some additional studies have been conducted that provide further documentation of the effectiveness of career counseling. Concerning the effectiveness of career interventions compared to no treatment, two recent meta-analyses (Brown & Ryan Krane, 2000; Whiston et al., 1998) have been published since Oliver and Spokane’s (1988) classic study. It should be noted, however, that these studies involved a wide range of career interventions (e.g., classes and computer systems) and not just career counseling. In analyzing studies on career interventions published before 1982, Oliver and Spokane found an unweighted effect size of .82; whereas Whiston et al., replicating the same procedures as Oliver and Spokane with studies published between 1983 and 1995, found an unweighted average effect size of .45. Although these effect sizes may appear discrepant, a careful examination of these results reflects some similarities in findings. Oliver and Spokane reported that their mode and median fell within the .40 to .60 range, which is similar to the effect size of .45. When sample size is considered, the difference between the effect sizes also diminishes. Whiston et al. found a weighted effect size of .44, as compared to Oliver and Spokane’s weighted by sample effect size of .48. In recent years, a number of researchers (Hedges & Olkin, 1985; Lipsey & Wilson, 2001) have recommended a procedure for correcting effect size based on sample size and the inverse variance of the effect size. A third meta-analysis (Brown and Ryan Krane) used this procedure and found an overall effect size of .34, which is similar to the effect size of .30 that Whiston et al., found using this same procedure.

In considering the results of these three meta-analytic reviews, it appears that the overall effect sizes for career interventions tend to fall in the range of .30 to .60, particularly when new procedures for appropriately weighting effect sizes are considered. In using Cohen's (1988) classification system, effect sizes in the range of .40 to .50 would be classified as "moderately effective." Although these effect sizes are lower than Oliver and Spokane's (1988) initial findings, there are still indications that most clients who receive a career intervention fare better than those who do not receive an intervention. Even when using the most conservative effect size of .30, the average career client exceeds 62% of the control group (Whiston, 2002). Whiston et al. (1998), however, found that career interventions were not a homogenous group and that there was significant variation in effectiveness among the different career interventions.

Career Counseling Versus Career Interventions

In comparing career interventions, Whiston et al. (1998) found that individual career counseling was the most effective intervention; whereas Oliver and Spokane (1988) found that class interventions had the highest average effect size. However, when the focus shifted to efficiency and the time needed to produce the most gain, then both Oliver and Spokane and Whiston et al., found that individual counseling was the most efficient and produced the largest gains in the least amount of time. In combining the effect sizes from Oliver and Spokane and Whiston et al., Whiston (2002) found individual counseling was one of the most effective treatment modalities and that the effects of individual counseling occurred quickly as the average career counseling only lasted 1.38 hours.

The support for the efficacy of individual career counseling is further substantiated by other recent studies. For adult clients who had attended between three and 12 sessions, Heppner, Multon, Gysbers, Ellis, and Zook (1998) found that both levels of decidedness and target goal scores increased significantly after each individual career counseling session. Furthermore, Mau and Fernandes (2001) found that most clients who participated in career counseling were satisfied with the counseling they had received. In fact, Anderson and Niles (2000) found that clients' evaluations of their career counseling were significantly more positive than their counselors' ratings. Also for most clients, the gains they made in career counseling appear to continue. In following up with clients 1 to 12 months after receiving career counseling, Healy (2001) found that 85% of the clients reported continued progress (e.g., pursuing degrees, gathering information, and changing occupations); whereas only 15% indicated they had done nothing since their last career counseling session.

In a recent comparison of various career interventions, Whiston, Brecheisen, and Stephens (2003) found that participants who used a career

computer system supplemented by counseling had better outcomes than those who just used a computer system. Barnes and Herr (1998) found that individual counseling alone was not significantly different from individual counseling plus either the Strong Interest Inventory or DISCOVER. In addition, Whiston et al. (2003) found that counselor-free interventions (e.g., reading occupational information or completing a self-directed activity) were consistently less effective than were other types of treatment modalities, such as individual career counseling, workshops, or career groups. Their results indicated that counselors play a critical role in assisting individuals with their career development and decision making. Hence, we would argue that the preponderance of evidence indicates the importance of counselor involvement in assisting individuals with career issues and that individual career counseling is the most effective and efficient modality for providing that assistance.

Measuring Effectiveness

In examining outcome research, it is essential to consider how the outcome is measured as the suitability and pertinence of the outcome measure directly influences the conclusions that can be drawn (Oliver, 1979; Rounds & Tinsley, 1984). Even if an intervention was shown to be tremendously effective, that finding has little importance if a shoddy or meaningless outcome measure was used. In psychotherapy research, it is common for researchers to use multiple measures of outcome from multiple perspectives (Lambert & Hill, 1994; Ogles, Lambert, & Master, 1996). The use of multiple measures is partly a function of the belief that the effects of psychotherapy are complex and multidimensional. We maintain that the rationale related to complexity and multidimensionality equally applies to career counseling and that strategic choices of multiple measures are needed to adequately assess the effects of career counseling. Whiston et al. (1998) found that the average career outcome study employed 5.27 outcome measures. They, however, did not find many studies that included multiple perspectives; rather the outcome measures used in career research were predominantly client self-reports.

On a more positive note, Whiston et al. (1998) found an increased usage of standardized measures as compared to Oliver and Spokane (1988), who found mainly author-constructed instruments. Whiston et al. also found that measures of career maturity and career decidedness were often used in assessing career outcome. The prevalence of these measures was also found by Whiston et al. (2003), in which the most common career counseling outcome measures were, once again, career maturity, career decidedness, and also, career information seeking. It is somewhat troubling that career information seeking continues to be a common outcome measure as Myers (1986) argued more than 15 years ago for a moratorium on its use as an indicator of outcome because of its lack of practical and clinical significance. Whiston

(2001) contended that greater attention should be focused on the selection of outcome measures in career counseling and proposed a scheme that included analyzing the meaningfulness of the measures.

In measuring the effects of career counseling, a number of vocational psychologists (Oliver & Spokane, 1988; Spokane, 1991) have urged researchers to explore the cost-benefits of career counseling. We, however, were only able to identify one recent study (Reardon, 1996) that addressed this issue. Reardon's study is to some extent limited as it compared the costs of a self-directed career decision-making program to hypothetical data on individual career counseling. It is somewhat disheartening that there has been so little investigation of the cost-benefits of career counseling in these days of increasing accountability and declining financial resources for many organizations. Although there is substantial evidence that career counseling is effective, determining the cost-benefits is necessary if career counseling is to retain its status as a psychological intervention worthy of funding.

Conclusions on Career Counseling Outcome

Vocational psychologists have more information about the effectiveness of the broad area of career interventions than about the specific effects of career counseling. Nevertheless, there are findings that indicate that individual career counseling is one of the most effective career interventions and produces the most difference in the least amount of time. Knowing that career counseling is effective, however, is only half of the equation, for one needs to understand what contributes to this effectiveness. As Warwar and Greenberg (2000) argued, "merely knowing that change has occurred simply is not enough, but instead we need to look to how that change occurred" (p. 571).

CAREER COUNSELING PROCESS

In defining career counseling process, Heppner and Heppner (2003) contended that the career counseling process refers to overt and covert thoughts, feelings, and behaviors of both clients and counselors while they are engaged in career counseling. Process differs from outcome, which concerns the changes that occur either directly or indirectly as a result of the career counseling. According to Heppner and Heppner, process variables can also be distinguished from input variables, which involve characteristics of the client and counselor and the setting in which the career counseling is provided. Even with some definitional clarity, the distinction between process and outcome is sometimes difficult to distinguish as process and outcome are inextricably linked. Besides the conceptual link between process and

outcome, it is sometimes difficult within a study to label process and outcome variables. For example, some constructs, such as the working alliance, are used both as process and outcome variables. Consistent with Swanson (1995), we have chosen to discuss outcome and process separately, but this is with an acknowledgment that this separation is somewhat artificial.

Critical Ingredients

In psychotherapy, there is a wealth of process research that can inform the clinician; however, in career counseling we know significantly less about the relationship between process and outcome (Blustein & Spengler, 1995; Heppner & Heppner, 2003; Spokane, 1991). Anderson and Niles (2000) investigated important events in career counseling and found that both clients and counselors cited events related to client self-exploration and emotional support as being most helpful. In a study of process factors in career counseling, Kirschner et al. (1994) found the most helpful counselor intentions were insight and challenge. Other counselor intentions that also were found to be helpful were providing information, focusing on feelings, focusing on change, and focusing on the relationship. Healy (2001) found similar results with clients reporting the most helpful elements of career counseling being clarifying assets and values, feedback from testing, and information. These are similar to the results of Nagel et al. (1995), which also supported an active approach, where successful career counselors tended to use information giving, direct guidance, paraphrasing, and closed questions.

Concerning the general area of career interventions, Brown and Ryan Krane (2000) found that there are five critical ingredients that positively influenced outcome regardless of modality or format. These five critical ingredients are written exercises, individualized interpretations, occupational information, modeling, and attention to building support. Moreover, they found not only that these five critical ingredients were important individually but also that combinations of them yielded larger effect sizes than any one individually. Although no study in their analyses employed all five critical ingredients, adding one, two, or three critical ingredients yielded average effect sizes of .45, .61, and .99, respectively. In a further analysis of these data, Brown et al. (2003) found some preliminary findings that the written exercises are more effective if they include (a) opportunities for occupational comparison and future planning and (b) opportunities to articulate future goals and activities related to achieving those goals. They further found evidence that the individualized interpretation and feedback should be targeted toward assisting clients in planning toward the future and setting goals. In addition, Brown et al.'s study indicated that occupational information should be explored in session and not relegated to homework activities. Related to the fourth critical ingredient, modeling, Brown et al. found some initial evidence that modeling and

self-disclosures by the counselor or facilitator can be potent, thus indicating that modeling can occur in individual career counseling. The final ingredient has received the least attention, but Brown et al. (2003) found some rather substantial effect sizes when career counselors devoted attention to helping clients build support for their career choices and plans. This support may be particularly important when clients are coping with existing or perceived barriers.

In discussing the process of career counseling, it is important to consider differences in process as they relate to various needs and goals of clients. Heppner and Hendricks (1995) found that the career counseling process needed to vary depending on whether the client was undecided or indecisive. Niles, Anderson, and Cover (2000) examined differences in the career counseling process as it related to the concerns and goals clients expressed in their initial career counseling session. They found that on entering career counseling, clients sought assistance with career issues; however, the process of the career counseling often included personal issues and other factors not directly related to the stated career concerns. This study raises some interesting questions related to the interaction between client expressed counseling goals and the process of career counseling, and whether career counseling should correspond to clients' expressed needs or should encourage novel experiences and exploration that, although not expected by the client, are beneficial.

Dose Effect

In psychotherapy research, there have been several investigations on the effect of the number of sessions on outcome (Lambert & Cattani-Thompson, 1996; Lambert & Hill, 1994). Analogous to medical or pharmaceutical research, where the interest is on how much of the prescribed treatment is necessary; this area of psychotherapy research is often labeled the "dose effect." Career researchers have also investigated the number of sessions or the dose effect of career counseling. Oliver and Spokane (1988) found that treatment intensity (number of hours and number of sessions entered as a block) was the only significant predictor of effect size. Whiston et al. (1998), however, were unable to confirm the significance of treatment intensity. Healy (2001) did not find a difference in level of satisfaction with the career counseling between those who completed the entire process and those who terminated early. Brown and Ryan Krane (2000) found an interesting, but nonlinear, relationship between the number of sessions and a wide range of career outcomes. In plotting the number of sessions by outcome, they found an increase in effect size between one session to four to five sessions; however, the effect sizes dramatically decreased after five sessions. In a tongue-in-cheek manner, Brown and Ryan Krane suggested that Crites' (1981) well-known criticism of trait-factor approaches to career counseling (i.e., "three sessions and a cloud

of dust”) was a session or two off and that the phrase “four (or five) sessions and a cloud of dust” more accurately represented their research findings.

Career Assessments

Although Hackett and Watkins (1995) contended that career assessment has historically been a rich and fertile area within vocational psychology, there is surprisingly little research related to the effectiveness of interpreting the results of those assessments to clients. In analyzing research published between 1983 and 1995, Whiston et al. (1998) found no studies related to individual test interpretation that employed a control group. Based on only two studies, Oliver and Spokane (1988) found an effect size of .62 for individual test interpretation. In a review of 65 studies on test interpretation outcome, Tinsley and Chu (1999) concluded that there was no credible body of evidence to document that test or interest inventory interpretation by a trained clinician is helpful. This finding, however, is contradicted by Brown and Ryan Krane’s (2000) conclusions that, when the outcome concerns career choice, one of the critical components of career counseling is individualized interpretation and feedback. Although there are not definitive findings related to traditional test interpretation, the world of career assessment is changing and evolving technologies are having a substantial impact on how career assessments are delivered and interpreted (Chartrand & Walsh, 2001). The influences of developing technologies on career assessment are significant and we have devoted a later section of this chapter to that specific topic.

Working Alliance

The importance of the counseling relationship or working alliance in psychotherapy has been well documented, with research indicating the quality of the relationship has a significant influence on counseling outcome (Gelso & Hayes, 1998). In the psychotherapy literature, the working alliance is frequently conceptualized as (a) agreement between the counselor and client on the goals of therapy, (b) client and counselor agreement on the tasks to achieve those goals, and (c) the quality of the personal bond between the client and counselor. Although Meara and Patton (1994) contended that the working alliance is essential to effective career counseling, the research in this area reflects a more equivocal relationship. Case study investigations have tended to support the importance of the relationship or working alliance in career counseling, as Heppner and Hendricks (1995) found that clients attributed significant importance to the working alliance. Furthermore, Kirchner et al. (1994) found that the counselor did provide support during the career counseling and that the intention of focusing on relationship was one of the most helpful counselor interventions. Two studies (Lewis, 2001; Vargo-Moncier &

Jessell, 1995) that compared the counseling relationship in career and personal counseling found that the quality of the relationship did not differ between the two types of counseling. Multon et al. (2001) found the working alliance did increase over the course of the career counseling and that the strength of the alliance at the first and last session were related to outcome. This relationship in career counseling, however, only accounted for a small amount of variance (i.e., 1%–12%) compared to the more than 26% of the outcome variance typically explained by the working alliance in psychotherapy (Horvath & Symonds, 1991). Similarly, Heppner, et al. (1998) found that the working alliance did increase during career counseling; however, they did not find a significant relationship between the working alliance and the outcome. There are probably a variety of factors that contribute to these findings regarding the small to nonsignificant relationships between the working alliance in career counseling and outcome. One of these factors, however, could be that counseling psychologists report placing significantly less importance on the development of a working alliance in career counseling than they do in personal-social counseling (Heppner, O'Brien, Hinkelman, & Flores, 1996).

Negative Effects

Concomitant with more knowledge related to factors that positively affect the career counseling process, there is also a growing body of literature related to factors that have little or no positive influence on the process. In asking participants what was not helpful in their career counseling, Healy (2001) found individuals (a) faulted the tests because they did not produce new leads, (b) indicated the process did not yield sufficient career direction, (c) felt the counselor was inadequate (e.g., inattentive, mechanical test interpretation), and (d) were disappointed in the available career information. Consistent with Healy's findings, Anderson and Niles (2000) found that both clients and counselors cited ineffective counselor-structure activities as being the least helpful interventions. Anderson and Niles described these ineffective counselor-structure activities as ones that were poorly selected or implemented in a haphazard manner.

Conclusions on Process Factors

The increased focus on career counseling process research has resulted in a better understanding of the process factors within career counseling that affect outcome. Based on these findings, counselors should be encouraged to be actively involved in the process and should focus on facilitating client insight and exploration. The counselor should also concentrate on supporting and modeling effective career choice strategies. Furthermore, most clients seem

to benefit from using sound occupational information and outcome appears to be increased when counselors ensure that the occupational information is used appropriately. It also appears that the gains individuals make in career counseling can happen relatively quickly and that prolonged individual counseling is probably not necessary for most clients. Furthermore, the skillfulness of the clinician plays an important role in the process, and clients frequently cite ineffective interventions as being least helpful to them. Although career assessment has sometimes been seen as being synonymous with career counseling, there is surprisingly little research related to what it contributes to outcome. Conversely, there is evidence that individualized interpretation is a critical part of the career counseling process. The role of the relationship or working alliance in career counseling is another area where there are equivocal results, which probably indicate there is an interaction effect and that the relationship is a potent factor for some clients but not for others. In conclusion, although we know more about the process of career counseling than we used to, our knowledge is still limited, and additional research is needed to further elucidate the process factors that influence outcome.

CLIENT AND COUNSELOR FACTORS

Client Factors

Who Seeks Career Counseling? Results from a few recent studies provide additional insights into which individuals are more likely to seek career counseling and their preferences in terms of types of career services and activities. The results of a Gallup (1999) survey sponsored by the National Career Development Association indicated that 60% of college graduates would seek more information about job and career options if they were starting their careers over. Furthermore, the survey results reflected that ethnic minority individuals reported a greater need for services than did Caucasian respondents. Mau and Fernandes (2001), using a large sample of 1,080 college students, found that African American and Asian American and Pacific Islander students were more likely to use the career counseling services in their colleges as compared to Caucasian students. Hispanic students, however, were the least likely group to seek career counseling as compared to other ethnic groups.

Preferences and Attitudes. Similar to measures of attitudes toward psychotherapy, Rochlen, Mohr, and Hargrove (1999) developed the *Attitudes Toward Career Counseling Scale* and found that, in general, college students tended to see value in career counseling and did not believe there was a significant stigma attached with seeking career assistance. In a detailed analysis

of college students' perceptions of different career services, Shivy and Koehly (2002) found some notable trends in terms of "schemes" college students may use in viewing a variety of career services. Their results indicated that when students viewed 17 possible career services, they tended to sort or organize the services along the dimensions of (a) duration of the career assistance, (b) whether the career assistance involved a personal advising relationship, and (c) whether clients received services on- or off-site. In terms of preferences, students indicated they preferred interactions with employed individuals in their field (e.g., internships and job shadowing) as compared to interactions with counselors. This is in contrast with previous research (Galassi, Crace, Martin, James, & Wallace, 1992) that found students preferred three sessions of individual career counseling. Furthermore, Shivy and Koehly found that in general students preferred to receive career services off campus that were limited in duration. In particular, they found differences in preferences among students in three categories: graduate status, employment variations, and previous experience with career services. They found that both graduate and undergraduate students preferred off-site services; moreover, undergraduates preferred time-limited assistance as compared to graduate students who were more interested in services of a longer duration. Students who had taken a career class were more interested in on-campus services and activities that involved a greater degree of personal involvement. In contrast, students who had previously participated in career counseling were least interested in talking with a trusted adult, participating in a semester-long class, or meeting with a counselor. As Shivy and Koehly reflected, these students seemed to indicate that they had been there and done that!

Ethnicity. Brown and Ryan Krane (2000) contended that much has been written about the unique career development needs of racial and ethnic minorities; yet, there has been very little exploration of the effects of varying career interventions with these different groups. There are some models that have been developed to provide career counseling specifically for clients from diverse ethnic and racial backgrounds. One of the more eminent models is Fouad and Bingham's (1995), in which they proposed a seven-step process. The steps of their culturally sensitive career counseling model include establishing rapport, identifying career issues, assessing cultural variables, establishing culturally sensitive processes and goals, designing culturally appropriate interventions, making appropriate decisions, and implementing the career plan with follow-up. Bingham and Ward (2001) argued that this model holds promise; however, it has yet to be empirically investigated, and, therefore, we cannot conclude that it is more effective for clients of color than for more traditional career counseling strategies. Brown and Pinterits (2001) made this same point regarding contentions that career counseling with African Americans should be action oriented, system targeted, and delivered in nontraditional

settings. They indicated that although these may be laudable suggestions, there is little research to support these commonly suggested practices.

In providing culturally sensitive career counseling, a number of researchers (Bowman, 1995; Brown & Pinterits, 2001; Fouad & Bingham, 1995) have suggested an exploration of the contextual variables related to racial and sexual discrimination. This practice is supported by Swanson, Daniels, and Tokar's (1996) finding that racial-ethnic minority individuals were more likely than were Caucasian subjects to perceive barriers to their career development related to racial discrimination. Another common suggestion is that career counseling include an examination of racial identity (Helms & Piper, 1994; Pope-Davis & Hargrove, 2001). A study by Kim, Li, and Liang (2002) provided some important insights into the relationship between Asian American clients' cultural values and the counseling strategies they deemed useful in career counseling. Contrary to expectations, these researchers found that Asian American clients with high adherence to Asian cultural values perceived the counselors who focused more on expression of emotion to be more cross-culturally competent than counselors who emphasized the expression of cognition. Furthermore, Asian American clients who had high adherence to Asian cultural values also reported more counselor empathic understanding and a better working alliance. High and low cultural adherence, however, did not influence higher ratings for counselors who focused on immediate resolution of the problem as compared to counselors who focused on exploration as a means for insight attainment, as both groups perceived the immediate resolution approach to be more efficacious. The study by Kim et al., with its multifaceted findings, highlights the complexity of multicultural career counseling and serves as a good model for further research in this area.

Gender. In their meta-analysis, Brown and Ryan Krane (2000) identified 18 studies that examined gender differences in outcome; however, only three out of the 18 studies reported significant outcome differences between men and women. Interestingly, in each of these three studies, women had higher levels than did men of career maturity at posttreatment. Rochlen et al. (1999) found that, compared to women, men, were more likely to report a higher stigma attached to career counseling. In contrast, Mau and Fernandes (2001) found no significant gender difference in terms of usage of career counseling services; however, they found female students reported higher levels than did men of satisfaction with the career counseling. Conversely, Healy (2001) did not find gender differences in terms of satisfaction with either a brief career program or a more in-depth individual career counseling approach.

Whiston et al. (1998) noted the dearth of outcome research related to career counseling with men. We, however, identified two recent studies

(Rochlen, Blazina, & Raghunathan, 2002; Rochlen & O'Brien, 2002) that explored the relationship between men's level of gender role conflict and their attitudes toward and perceptions of career counseling. Rochlen and O'Brien argued that for men, gender role conflicts are often career related, thus, well suited to resolution within a career counseling context. For example, high levels of male gender role conflict are associated with believing that achieving success and power through work is of critical importance to men's well-being and sense of self. Rochlen and O'Brien found that men who tended to be restrictive in expressing emotions and uncomfortable with closeness with other men were more inclined to view career counseling as having more of a stigma. In contrast, these researchers did not find differences between more traditional and less traditional men concerning their views on the value of career counseling. Both groups tended to be positive about the value and usefulness of career counseling. Although the authors predicted that more traditional men would prefer a person-environment approach as compared to a psychodynamic-integrated approach, this difference was not found as, in general, both groups of men preferred a person-environment approach. The authors also concluded that men's willingness to engage in career counseling is a complex phenomenon and that levels of career decidedness, attitudes toward career counseling, and gender role conflicts predicted very little of the variance in men's willingness to enter career counseling.

Age. For the broad category of career interventions, there appears to be evidence supporting the efficacy of career interventions with clients at various ages. Oliver and Spokane (1988) found the effect size for elementary students to be slightly negative, but found robust effect sizes for the other age groups that ranged from .82 to 1.28. In the Whiston et al. (1998) study, all the age groups, except elementary students, produced significant effect sizes. It should be stressed, however, that these findings apply to the broad category of career interventions and are not descriptive of the effectiveness of individual career counseling across the life span. Another problem related to determining which career interventions are effective with which specific age groups is that career intervention research has not been systematically conducted with clients across different developmental levels. Whiston (2002) found that 49% of the career treatment-control group comparison studies since 1950 were conducted with college students. Pertinent to college students, Mau and Fernandes (2001) found that students younger than 26 were more likely to use the career counseling services as compared to older students, but there were no differences between the two age groups related to their satisfaction with the career counseling. Nevertheless, this heavy reliance on research with college students and the lack of data related to the effectiveness of career counseling with different age groups pose problems

in terms of making conclusions about whether there are certain stages in life when individual career counseling is more appropriate and efficacious.

Client Psychological Factors. Rounds and Tinsley (1984) called for the development of a vocational problem diagnostic scheme that could be used by both researchers and practitioners. Most vocational psychologists are in agreement that clients have different needs and psychological resources; however, the field has yet to create a diagnostic system that conceptualizes those differences in a functional manner. This insufficient attention to diagnostic systems in the career literature severely limits research on client attribute by treatment interactions. Although there have been some suggested diagnostic taxonomies (e.g., Campbell & Cellini, 1981; Crites, 1969; Lucas & Epperson, 1990), there is little evidence that these diagnostic systems are being used in current research.

Regarding undecided clients, Brown and Ryan Krane (2000) found consistency in research related to types of undecided clients and identified three types of clients: (a) those who simply need additional occupational information and help with occupational exploration, (b) those whose decision-making problems are primarily anxiety related, and (c) those with more severe impairments revolving around issues of anxiety, vocational identity development, highly perceived needs for occupational information, and low self-efficacy perceptions related to their abilities to solve problems and make career decisions. A recent study by Multon et al. (2001) confirms that some career counseling clients have significant impairments, for these researchers found that 60% of career counseling clients could be considered psychologically distressed.

In addition, a comparatively new instrument by Gati, Krausz, and Osipow (1996), the *Career Decision-Making Difficulty Questionnaire* (CDDQ), may help fill a void for both clinicians and researchers in terms of diagnosing career decision-making difficulties. The CDDQ was constructed to measure a theory-based taxonomy of decision-making difficulties. The taxonomy includes three major areas of difficulties that are further subdivided into 10 specific difficulty categories, and, finally, into 44 very specific difficulties. For example, the first of the three major dimensions is lack of readiness, which is subdivided into the categories of lack of readiness due to (a) lack of motivation, (b) indecisiveness, or (c) dysfunctional beliefs. The second major dimension is lack of information, with the subcategories being lack of information about (a) the career decision-making process, (b) self, (c) occupations, or (d) ways of obtaining information. The last dimension is inconsistent information and the categories are unreliable information, internal conflicts, and external conflicts. Studies related to the psychometric qualities of the CDDQ have been mostly favorable (Gati, Osipow, Krausz, & Saka, 2000; Osipow & Gati, 1998). In an interesting study, Gati et al. (2000) found positive relationships

among counselor assessments of clients using the 10 difficulties categories with counselees' performance on the CDDQ; however, the correlations between counselor judgments and counselees' results were not significant for all of the 10 categories.

Counselor Factors

Experience. Consistent with the research in psychotherapy (Christenson & Jacobsen, 1993; Stein & Lambert, 1984), there is little support for the contention that more experienced clinicians are more effective than less experienced counselors (e.g., students) in career counseling (Whiston et al., 1998). In a similar vein, Gati and Ram (2000) found that both experienced vocational psychologists and graduate students could differentiate the degree to which hypothetical clients' interests were crystallized; however, the experienced psychologists did not differ from the students in terms of their abilities to determine career-related interest.

Counselor Beliefs and Attitudes. In the past, a few studies have investigated counselors' attitudes toward career counseling and whether clinicians attend to career concerns or whether they underemphasize vocational issues and focus more within the realm of personal problems. Related to vocational overshadowing, Spengler, Blustein, and Strohmer (1990) found that counseling psychologists with less interest in career issues were less likely to diagnose, assess, and treat clients' career concerns than were counseling psychologists with more of a career counseling preference. In a more recent study, Spengler (2000) examined whether counseling psychologists differed from clinical psychologists in terms of vocational overshadowing and whether the vocational overshadowing was influenced by the severity of the noncareer problems. In this study, Spengler did not find evidence of vocational overshadowing by either counseling psychologists or clinical psychologists when the noncareer concerns were either equal to or less severe than the career concerns. This may be related to an increasing awareness in a variety of fields of the key role work plays in many individuals' lives (Blustein, 2001). In contrast, clinical psychologists were more likely than counseling psychologists to underemphasize vocational concerns as the severity of the non career issues increased. Finally, those clinicians who demonstrated the attention to clients' career concerns had higher levels of cognitive complexity related to career counseling than others and more of a preference for working with career issues.

Although Spengler (2000) recently found some positive trends related to less vocational overshadowing, Heppner et al. (1996) found that counseling psychology students were significantly less interested in career-vocational counseling than they were in social-emotional counseling. In addition,

Vargo-Moncier and Jessell (1995) found significant differences in the quality of the intake reports among counselors who saw clients seeking career counseling versus the reports for clients seeking assistance with personal-social issues. Consistent with earlier findings (Gelso et al., 1985), Vargo-Moncier and Jessell found that intake information collected for clients with vocational presenting concerns were briefer and judged to be less useful than the intake reports for clients with personal-social concerns. More specifically, in the intake information for the career clients, there was less information related to their personal histories and dynamics of their personalities as compared to clients with personal-social issues. Conversely, the intake reports for clients with personal-social issues had little information regarding clients' interests and values when compared to career counseling clients. Vargo-Moncier and Jessell suggested that these differences reflect counselors' tendency to minimize career concerns and focus on personal concerns. These possible differences in treatment are particularly disturbing in light of recent findings related to career and personal counseling clients having similar levels of psychological distress (Multon et al., 2001), which may indicate that career counseling clients are less likely to receive attention and treatment that correspond to their levels of distress.

In researching counselor factors that may influence career counseling outcome, there have been some efforts to assess the impact of counselor attitudes. A measure that appears to have possible merit is the *Career Counseling Self-Efficacy Scale* (O'Brien, Heppner, Flores, & Bikos, 1997), which is designed to measure how efficacious a clinician feels related to providing career counseling. The expectation is that counselors who have higher levels of self-efficacy related to career counseling will be more effective with actual clients. This expectation, however, was not supported by Heppner et al. (1998); they did not find a linear relationship between career counseling self-efficacy and measures of career counseling outcome. In a rather perplexing finding, Heppner et al. found that as counselors' ratings of their self-efficacy in multicultural counseling and their abilities to establish a therapeutic alliance increased, their clients reported less growth in the area of personal control. As Heppner et al., concluded, their findings challenge the conjecture that "more self-efficacy is always better."

Counselor Ethnicity. There is some evidence that in career counseling, clients of color (e.g., African Americans and Hispanics) prefer counselors whose ethnicity and background are similar to theirs (Arbona, 1990; Bowman, 1995). In an interesting study with Asian American clients, Kim and Atkinson (2002) investigated the relationship among clients' adherence to Asian cultural values, counselors' ethnicity and expression of cultural values, and the quality of the career counseling process. Although European American counselors generally received higher scores Asian American counselors

related to the positivity of their sessions and the level of arousal during the session by Asian American clients, Asian American clients with higher Asian cultural values rated Asian American counselors, as compared to European American counselors, higher in empathic understanding and counselor credibility. Furthermore, Asian American clients with higher Asian cultural values who saw a European American counselor tended to rate those counselors as less empathic than Asian American clients with lower Asian cultural values.

Counselor Diagnostic Abilities. In psychotherapy, there is considerable interest in clinicians' abilities to diagnose and there are well-established diagnostic systems, with the most prominent being the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision [DSM-IV-TR], American Psychiatric Association [APA], 2000). As mentioned earlier, there is not a common diagnostic system used by vocational psychologists and, therefore, it is quite difficult to determine how well clinicians are able to use some unspecified diagnostic system. One study, however, that examined counselors' abilities to identify or diagnose clients' stage of career decision making was Gati and Ram (2000), who analyzed counselors' diagnostic skills using Gati and Asher's (2001) three-stage model of career decision making. Gati and Ram found that counselors could consistently identify those clients in the first stage who were ready to proceed to the second stage.

Conclusions on Client and Counselor Factors

In general, there is more information on client factors that are related to career counseling outcome than on counselor factors. Nonetheless, there continues to be limited knowledge about client attribute by treatment interactions. As an example, there has considerable speculation about the unique needs of women, ethnic and racial minorities, and gay, lesbian, bisexual clients, but there has been little research to determine if the integration of these ideas in career counseling practice produces better outcomes. In general, the research related to outcome differences between men and women is somewhat mixed with some studies indicating women are more likely to be satisfied, whereas other studies did not find differences between men and women's evaluations of career counseling. In addition, there is some evidence that clients of color prefer career counselors from a background similar to theirs; however, there is not enough research to determine whether these preferences affect outcome. The lack of a vocationally oriented diagnostic system continues to limit researchers' abilities to determine which career counseling strategies are most effective with which type of career clients. Even though a few studies indicated clinicians continue to minimize clients' career concerns, there are other results suggesting that more practitioners are becoming aware of the need to attend to vocational issues.

ROLE OF THEORY

If this were a chapter on personal counseling or psychotherapy, most readers would probably expect a detailed discussion on different theoretical orientations and the application of these theories in practice. According to Wampold (2000), in psychotherapy there are various theories, approaches, or models, each with a coherent and logical explanation for behavior and behavior change. In career counseling, however, many of the commonly cited theories describe vocational development and do not provide a comprehensive paradigm for how to facilitate vocational behavior change. Osipow (1996) argued that when proponents of career development theories have applied these theories to career counseling, it is typically as an afterthought. In addition, the preponderance of research studies related to these career theories has mostly concerned the degree to which these theories explain occupational choice and decision making rather than explore the theory's utility in career counseling. Subich and Simonson (2001) contended that a call for the development of theories of career counseling has become the anthem of the field, as many vocational psychologists believe that trying to adapt current career theories does not adequately serve their needs in career counseling.

In contrast, Swanson (1996) argued that the trait-factor theory, which evolved into the person-environment fit approach, exemplifies a theory that provides a firm foundation for career counseling practice. She further maintained that vocational psychologists shy away from endorsing this theoretical foundation because the trait-factor theory is typically overly simplified, historically misunderstood, and inaccurately perceived as an inflexible and authoritarian approach. Building on his social learning theory of career decision making, Krumboltz (1996) proposed that learning theory should serve as the theoretical foundation of career counseling. Others who have suggested that career counseling can be based on a single theory of career development are Chartrand (1996) and Brown and Lent (1996), who proposed that Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) can serve as the theoretical base for career counseling. Although there has been substantial research related to Social Cognitive Career Theory, very little of that research has concerned the application of the theory in career counseling.

Walsh (1996) contended that until recently, only Crites' (1981) treatise had provided much theoretical guidance to clinicians providing career counseling. Rather than basing the career counseling on one theory of career development, Crites drew from a number of theories in his model of career counseling. He argued that trait-factor, client-centered, psychodynamic, developmental, or behavioral theories did not provide a sufficient theoretical base for career counseling when employed in isolation. Crites, therefore, proposed a comprehensive model that integrates each of these theoretical

perspectives into a paradigm that incorporates the phases of diagnosis, process, and outcome. Although Crites' model is frequently acknowledged as one of the few theories of career counseling, there is little evidence that it has been empirically validated and we could not identify any studies where this comprehensive model was the focus of the research.

Another theoretically based approach to career counseling is Fouad and Bingham's (1995) model; however, their career counseling approach is primarily based on multicultural theory in contrast to other career counseling approaches that are predominately based on theories of career development. Fouad and Bingham contended that culture is a critical variable and that consideration of the client's culture should be infused in every aspect of career counseling. They proposed a seven-step approach to career counseling, which begins with establishing rapport within a culturally appropriate relationship. Even though Fouad and Bingham's last step involves decision making and implementation and follow-up, they stressed that this process must be considered within the client's "worldview," which may not include a rational and linear approach to decision making. Notwithstanding, the same criticism of other theories concerning the limited empirical investigations also applies to Fouad and Bingham's approach to career counseling.

In recent years, some other models of career counseling have been introduced (e.g., Gysbers, Heppner, & Johnson, 2003; Spokane, 1991; Yost & Corbishley, 1987). DeBell (2002) contended that *models* and *theories* are similar in that they both typically describe behaviors. According to her distinction, however, theories attempt to explain behavior rather than simply describe it and, therefore, can be used to predict behavior. These models of career counseling describe strategies for providing career-related counseling, but probably would not be classified as theories that explain vocational behavior and provide a theoretical foundation for facilitating and predicting client change. Furthermore, with the possible exception of Gysbers et al.'s model where there are a few studies (Heppner et al., 1998; Multon et al., 2001), most career counseling models have not been investigated empirically to determine if they do result in positive outcomes for clients.

Although there is considerable evidence that career counseling is effective, this lack of theoretical models and approaches makes it very difficult to explain how or why these somewhat ill-defined interventions work. As many counselors do not have a clear theoretical foundation, Savickas (1996) raised the critical issue of how clinicians determine what to do with each client without a firm foundation in which to select interventions. In career counseling, we would argue that decisions to implement specific interventions are often based more on common practices (e.g., exploration of interest) rather than on theoretical constructs. One of the reasons that vocational psychology may be somewhat overlooked by other psychological sciences (e.g., developmental psychology, and social psychology, and clinical

psychology) might be our lack of compelling theoretical approaches that can be applied to complexities of practice.

Blustein (2001) argued that the field of vocational psychology has developed a substantial and elegant science about the work lives of a small proportion of individuals who live in relative affluence in Western countries and have the luxury of choosing or deciding on a career. He contended that the field needs additional theoretical perspectives that consider the rest of humanity who work primarily to fulfill their basic needs of food and shelter, and care for other family members. In our analysis of existing career counseling models, the models primarily do focus on the goal of career decision making; thus, they are more applicable to educated, middle-class clients. Richardson (2002) also challenged existing theories of career counseling and vocational development as not sufficiently attending to the issues of contextualism and maintaining more of an individualistic focus. She endorsed a metaperspective, in which the goal of counseling practice is not choice but effective functioning, which broadly encompasses the entire life contexts of clients. In considering theories related to career counseling, Whiston (2003) suggested that the time is right either for a reinvigoration of theory development or for a period of theoretical renaissance, where there is significant theoretical development and a synergy in research and application. We support the view that theoretical advancements related to career counseling are needed and could significantly enrich the practice of vocational psychology.

Conclusions on the Role of Theory

The schism between career theory and practice is well documented in Savickas and Walsh's (1996) book on this topic. The benefits of integrating theory, practice, and research are substantial, but the coming together of these three domains involves complex issues without simple solutions. In order for the theory in career counseling to advance, the field of career counseling needs new theorists who will pick up the gauntlet and explain work behavior in a manner that can also be the foundation for career counseling. Walsh (1996) provided some specific suggestions for career counseling theory development related to some of the basic assumptions shared by prominent psychotherapeutic theories. Another area that has potential in assisting in the development of career counseling theories is the world of practice. Although not always measured, many career practitioners attest to the positive changes that occur in career counseling. Studying and identifying the mechanism of change in career counseling may lead to theoretical speculations about why career counseling is helpful. As compared to process and outcome research, the focus here would not be on the "bits and pieces" of the career counseling process; rather, the intent of these analyses would be to understand conceptually and theoretically the mechanisms of positive change that occur within career counseling.

CAREER COUNSELING AND EMERGING TECHNOLOGIES

We are certainly not the first to acknowledge that the world is changing and that these systemic changes affect individuals' work lives and relationships in complex and significant ways. Therefore, in a chapter on career counseling, it seems necessary to discuss potential future directions in career counseling that correspond to the rapid technological changes and fluctuations of the economy. In particular, we will address uses of technology in career counseling with an emphasis on the influence and impact of the Internet.

Technological Changes

Technological developments have considerably altered the world of work and have affected career counseling in important ways. In this increasingly technological era, concepts such as "jobs" and "careers" may become obsolete. Furthermore, these changes in technology may result in "flatter" organizations, where organizations employ fewer individuals and opportunities for upward mobility are reduced. Thus, the opportunity structure has changed for all levels of society, with the most adverse effects on those at the lower societal levels. Miller (1999) has argued that vocational psychology has neglected the extra-individual variable of opportunity structure and has instead focused on "individuals to the neglect of political, economic, and social realities" (p. 4). On the other hand, technology provides career practitioners and researchers with resources undreamed of only a few years ago (Gore & Leuwerke, 2000). In discussing technology and career counseling, some of the approaches involve Internet-based instruments and programs. Other approaches involve other technological applications such as videoconferencing or computer-adaptive testing, which require newer technologies but are not necessarily linked only to the Internet. Although there has been some concern about counselor acceptance of the newer technologies, especially of the Internet, a recent Canadian study (Hambley & Magnusson, 2001) found career practitioners generally positive toward using the Internet, although they had some reservations about its use.

Both Wall (2000) and Barak and English (2002) have enumerated the advantages and disadvantages of Internet testing in career counseling. Wall provided suggestions for best practices for counselors who wish to incorporate this technology into their work, and Barak and English have proposed remedies for the Internet's current limitations in this area. The use of the Internet in career counseling, which has increased in recent years, encompasses a variety of approaches. Its use can range from providing tools for traditional career counseling to being the sole medium for the career counseling process itself. Harris-Bowlsbey, Dikel, and Sampson (2002) have presented models with varying levels of Internet involvement in their recently revised book on

career planning. Bloom and Walz (2000) have edited a book that covers a broad range of topics related to technology in counseling and distance learning. Some of their chapters concern issues related to counseling in general (such as the use of chat rooms and assessments), whereas others pertain more specifically to career counseling (e.g., online career development courses). In her book, Boer (2001) has presented the model she developed for online career counseling. Boer described her changing views regarding what constitutes career counseling and discussed a variety of issues that relate to the online environment.

Internet Career Counseling Research

Perhaps the first research conducted on career counseling Internet sites was that of Oliver and Zack (1999), who evaluated 24 no-cost career sites. These researchers found that the content of the sites varied markedly, with many sites deficient in the quality of their assessments and interpretations. Only one site reported psychometric data for its measures, and information concerning the development of the sites was not attainable even when efforts were made to contact the site developers. Oliver and Zack concluded that, although they saw considerable potential in the Internet sites, the sites had many shortcomings.

For his dissertation, Steven Herman (personal communication, January 23, 2003) researched the effects of a career counseling experience housed on the Internet. Herman used announcements on the Internet to recruit 65 participants from the United States and Canada. The 8-week intervention included a series of interactive online lessons. In one lesson, participants completed an automated version of the self-directed search (SDS) and received computer-generated feedback. A primary component of the intervention was the online discussion groups consisting of about 10 participants each. Herman found that a substantial percentage of participants became quite involved in the intervention and spent a significant amount of time writing and responding to the messages in the online discussions. Outcome measures suggested that the intervention had a positive effect on some aspects of participants' career development and career beliefs.

Clark, Horan, Tompkins-Bjorkman, Kovalski, and Hackett (2000) have described three Internet programs developed at Arizona State University. These programs focused on changing irrational career beliefs of young women, helping parents facilitate their children's career development, and increasing student academic motivation by means of attribution retraining. Such programs have considerable potential for career counseling and illustrate the varied approaches that can be developed.

Many authors have emphasized the necessity of validating career counseling instruments and interpretive materials used on Web sites (e.g., Chartrand

& Walsh, 2001; Oliver & Chartrand, 2000; Rogelberg, 1999; Sampson, 2000). Levinson, Zeman, and Ohler (2002) compared the Web-based version of the Career Key and Form R of the paper-and-pencil version of the SDS. Their results suggested that the Web-based instrument can be used, albeit with some caution, because limitations of the university sample used in the study indicated the need for further research with varied samples to ensure the generalizability of the results. Levinson et al. also evaluated the career site against the National Career Development Association (NCDA) *Guidelines for the Use of the Internet for the Provision of Career Information and Planning Services* (NCDA, 1997) and found that the site met most of these guidelines. An investigation of another online version of the SDS was made by Barak and Cohen (2002), who compared online and paper-and-pencil versions of the instrument. Their results definitely supported the use of the online version, which they found was preferred to its paper-and-pencil counterpart. Kelly and Jugovic (2001) studied the Keirsey Temperament Sorter II (KTS-II), a popular online instrument with largely unknown validity. Kelly and Jugovic obtained concurrent measures of the KTS-II and the Myers-Briggs Type Indicator (MBTI) and found strong positive correlations between corresponding psychological types on the two instruments. The authors concluded that their findings provided tentative support for the validity of the KTS-II but urged counselors and clients to be "... extremely cautious in their use of the online interpretive information" (p. 57) provided on the Keirsey Web site.

Research is also needed when career instruments are translated from one language to another. Gati and Saka (2001) compared paper-and-pencil and online versions of the Career Decision-Making Difficulties Questionnaire (CDDQ) in Hebrew and English, matching their four groups on age and education. Although the patterns of results for the online and paper-and-pencil samples were similar for the instruments in both languages, the authors found about 24% of the Internet users exhibited "questionable" response patterns and suggested possible interpretations of this result.

University Career Centers and Other Career Counseling Web Sites

Recognizing the need for quality career sites, Prince, Chartrand, and Silver (2000) developed a self-directed site intended to enhance an individual's career development through a quality career assessment system. The authors have described the planning, development, and pilot study of their Careerhub site. They carefully delineated the steps involved in this complex process and discussed ethical issues as well as the problems of maintaining and revising such systems. Although this site proved not to be commercially viable, and the tools are now available only to corporate customers with assessment accounts (D. Donnay, personal communication, December 11, 2002), its development

process serves as a model for future career sites. The book by Harris-Bowlsbey, et al. (2002) includes a chapter on how to develop a comprehensive virtual career center designed to facilitate career planning. The same book includes a chapter listing career-related Web sites as well as criteria that counselors might use in evaluating such sites. In an article on Web-assisted career counseling, Kirk (2000) has made specific suggestions about how to find appropriate sites using a search engine and has listed specific sites for career planning, services for special populations, job hunting, and the like.

Davidson (2001) presented a case study of a Web site established by a university counseling center. The counseling center data revealed a dramatic increase in Web site users as well as a decrease in counseling center walk-in clients after the installation of some 2,000 pages of information on the Web site. Sampson (1999) has argued that career centers need to change in the information age. He stressed the need for centers to evaluate career Web sites in order to provide links only to quality sites and the importance of providing staff training so that counselors can use technological resources effectively. Miller and McDaniels (2001) described the use of technology in corollary career services such as chat rooms, resume-writing programs, job-posting sites, and virtual career fairs. They posed the question of who is providing these services and what credentials and training the providers have. Turcotte and Hiebert (1999) have cautioned that the use of career Web sites can lead to excess stress for counselors. They described a Canadian site for counselors that is designed to enhance well-being by providing a forum for career practitioners to share information and best practices, to publish professional development information, and to supply a server for professional association listserves and seminars.

Two federally funded Web sites intended for career exploration have been developed, which provide psychometric data. The O*NET, under the auspices of the Department of Labor (DoL), replaces the venerable Dictionary of Occupational Titles with an Internet version. The O*NET site (www.doleta.gov/programs/onet) is linked to the site of the National O*NET Consortium (www.onetcenter.org) via a disclaimer stating that DoL is not responsible for the contents of the linked site and does not guarantee its accuracy. The Consortium site provides career exploration tools and consumer guides for using the instruments, documents containing research and technical information, and other information related to the site. Another career site is the ASVAB (Armed Services Vocational Aptitude Battery) Web site, developed by the Department of Defense (DoD). This site (www.asvabprogram.com) has recently been extensively revised with the assistance of an advisory panel including a number of prominent counselor educators and counseling psychologists (J. Styron, personal communication, January 30, 2003). The user can access measures of ability, interests, and work values in addition to learning about career exploration and planning. Also available are guides

for counselors, educators, and parents. The counselor guide contains reliability and validity data, norms, and other technical information on the instruments.

Professional Attention Needed for Internet Career Counseling

The current state of Internet sites related to career counseling clearly requires research. Although the last few years have seen a number of pertinent studies appear in the literature, the number of career sites is proliferating; thus, considerable professional attention is called for. In this section, we discuss some of these issues. What we say here is not new—we and others have emphasized these research, ethical, and educational needs before.

Barak and English (2002), in their thorough discussion of the pros and cons of psychological testing on the Internet, have stressed the need for examining the psychometric properties of tests. Reliability and validity data are needed for all online instruments. As Rogelberg (1999) pointed out, paper-and-pencil instruments (or even computer-administered measures) may or may not transfer successfully to the online environment, whereas norms or cut-off scores for the original test or inventory cannot automatically be assumed to apply to the adapted measure. Sampson (2000) has discussed some inappropriate uses of Internet instruments, for example, assuming that an Internet version is equivalent to the validity of the original measure and that a written interpretation on the Internet is equivalent to a counselor interpretation. Kelly and Jugovic (2001) and Oliver and Zack (1999) have also emphasized the inadequacy of many Web site interpretations. The only online test interpretation study we encountered was that of Jones, Harbach, Coker, and Staples (2002), who compared three modes of interpreting the Vocational Preference Inventory (VPI)—online text chat, online text chat plus video cues, and traditional face-to-face interpretation. The results showed that there were no significant differences between the text chat plus video cues group and the face-to-face interpretation group and that both these groups were superior to the text chat-only group on participants' evaluations of the sessions. The authors concluded that their results provided "tentative support" for online interpretations involving text chat and video but not for interpretations involving text chat alone.

In addition to emphasizing the quality of the instruments used on sites related to career assessment or career counseling, we believe that the sites as a whole need to be evaluated. Oliver and Zack (1999) developed an instrument that they used to describe and rate the characteristics of the career sites they evaluated. Without guidelines or standards for evaluation, it can be difficult for even professional career practitioners—let alone a naïve user—to determine whether or not a site might be useful. Some professional associations have

recognized the need for evaluation and have developed guidance for Internet career services. The NCDA has developed *Guidelines for the Use of the Internet for Provision of Career Information and Planning Services* (NCDA, 1997), and the National Board for Certified Counselors (NBCC) has developed *Standards for the Ethical Practice of Web Counseling* (NBCC, 1998). Along with other professional organizations, the APA is concerned with these issues. The APA has convened a task force on Internet Psychological Testing to examine current practices and to consider issues concerning Internet testing, including test validity, confidentiality, and test interpretation. The APA Task Force will submit a report summarizing its work in 2003.

There has also been recent attention to the ethical issues involved with psychology and the Internet. Barak (2003) contends that career assessment provided over the Internet has the potential to be problematic and provide misinformation, and he suggests that the profession of vocational psychology needs to go beyond the previously noted guidelines and standards. Barak recommended, among other actions, focused legislation (including international conventions), Internet-specific training for professionals, and education for users that acknowledges the limitations of Internet-related career assessment. Sampson, Kolodinsky, and Greene (1997) have discussed problems such as the need for protecting client privacy, validity of data delivered on the computer, and cultural issues. Sampson, Peterson, Reardon, and Lenz (2000) have recommended the application of readiness assessment to self-help services in Internet-based settings. In their discussion of how the "information highway" can be used by career counselors, O'Halloran, Fahr, and Keller (2002) have made suggestions concerning its use in accordance with the NCDA Ethical Standards and the NCDA Guidelines. We believe that the recommendations in these various papers have merit, and we endorse action on these issues by the psychological community.

Where Do We Go From Here With Internet-Related Career Counseling?

First of all, we need research—research of many types. We need psychometric research on the career measures available on the Internet to establish their reliability and validity. We need evaluations of the Web sites themselves (both overall evaluations and of their various components), most particularly those intended to be self-help sites. We need to compare different levels of use of Internet resources by career counselors. And we need research on the best ways to train counselors and educate users in using Internet resources. In addition, we require more knowledge about how online career counseling functions. How do online strategies compare to face-to-face approaches? Can we better reach underserved populations or potential clients who may for whatever reason be less likely to come to a person for career counseling?

In addition, we must encourage the involvement of professionals in the construction, maintenance, and operation of Internet sites related to career counseling. Although such ongoing involvement is probably not a problem with sites associated with university career counseling centers, it seems to be lacking in some other locations. Site developers and counselors should be identified, prospective clients should be made aware of online limitations, and at least minimal evaluations should be conducted by the sites themselves. Vocational psychologists and counselors have a role to play both as individuals and as members of their professional associations. Barak (2003) has suggested a number of actions that could be taken to ensure the proper use of the Internet-based testing, and we endorse his proposals. The APA, the NCDA, and the NBCC have all taken the initiative in investigating the issues involving Internet career sites, making recommendations and developing guidelines and standards. State associations have been active in sponsoring events such as a "career month," with co-sponsors and supporting organizations that include not only university counseling centers but also commercial career sites. We encourage state associations to align themselves with only quality commercial organizations and to support their national associations in the activities we have described here. In summary, there is much to be done in the area of Internet-related career counseling, and we believe that both individuals and professional associations have roles to play in this effort.

RECOMMENDATIONS FOR CAREER COUNSELING RESEARCH

In making recommendations about research, we want to stress the dearth of current research on career counseling and the importance of more empirical investigations in all three of the traditional intervention research areas (i.e., outcome, process, and the interaction between process and outcome). Although some researchers have contended that more is known about the outcome of career counseling as compared to the process, this conclusion may not have been completely accurate when the focus is on career counseling rather than on the broader area of career interventions. Whiston (2002) found that only 19 studies that compared individual counseling to a control group were published between 1950 and 1995. It is troublesome that although many vocational psychologists (e.g., Blustein & Spengler, 1995; Swanson, 2002) have argued that career counseling and psychotherapy are an integrated process, researchers have barely investigated the efficacy of individual career counseling compared to other less "therapeutic" career treatment approaches. In a study comparing career treatment modalities, Whiston et al. (2003) found that the majority of studies did not involve comparisons of individual career counseling to other approaches (e.g., group, workshops, and test

interpretation), but rather the majority of research studies involved comparing one counselor-free intervention to another counselor-free intervention. This propensity to evaluate counselor-free career intervention may reflect the difficulties associated with clinical trials research with actual clients; however, this void of research severely hampers any vocational psychologist's ability to argue that career counseling makes important and substantial changes in people's lives. Furthermore, researchers need to explore the cost-benefits of individual career counseling. The costs of career counseling can be considerable because only one client is seen at each session; however, the benefits of career counseling may be worth the investment. It is important to develop empirical evidence the merits of career counseling are worth the financial outlays.

We would like to echo Savickas' (1989) assertion that research related to career counseling needs to explore the efficacy of which career interventions, with whom, and under what conditions. In terms of which interventions, researchers have often neglected issues related to treatment integrity and adherence. Heppner, Kivlighan, and Wampold (1999) indicated that the typical first line of inquiry in outcome research involves treatment package strategies, which usually involve the comparison of those who received a treatment package to those who did not (i.e., a control group). We would assert that in career counseling, the treatment packages provided under the banner of career counseling have varied significantly. In many studies, the descriptions of the career counseling are quite vague and provide little information on precisely which interventions were actually provided to clients. Hence, even though the results may indicate substantial client improvement, there is little hope of replicating these interventions in practice. Researchers can address this problem by developing career counseling protocols that specify the process and procedures of the career counseling provided in that study.

More than 20 years ago, Fretz (1981) made an eloquent plea for more research related to which clients benefit from what type of career counseling. Fretz's call for research on client aptitude-by-treatment interactions is still relevant today, where research is still needed related to effective interventions for clients at various ages and with different attributes. As indicated previously, there have been numerous calls for a vocationally based client diagnostic system (Brown & Ryan Krane, 2000; Rounds & Tinsley, 1984; Whiston, 2002) that would facilitate better analyses of attribute by treatment interactions. Another aptitude-by-treatment interaction that is worthy of investigation concerns various client personalities and whether different types of career interventions are more effective. Given the substantial research supporting the five overarching factors of personality (Goldberg, 1992; McCrae & Johns, 1992), it might also be very valuable for researchers to investigate the interaction among the "Big Five" factors of personality and different career counseling strategies.

Oliver and Spokane (1988) contended that one of the greatest contributions a group of researchers could provide to the field is a standardized battery of outcome assessments that career researchers could use. It currently appears that little progress has been made and the selection of outcome measures often appears random with researchers using a wide array of measures. Although Whiston et al. (1998) noted an increase in the use of standardized instruments, there was little consistency of measures, which inhibits our ability to compare the results from different studies. Although it may be difficult to develop a standard set of instruments that is appropriate for every client at diverse developmental levels, it certainly seems realistic to create a standardized battery for college students and adults. We would like to reiterate Oliver and Spokane's call for a standard battery of outcome measures and reinforce the importance of this project.

As Swanson (1995) indicated, we know more about the outcome of career counseling than we know about what contributes to that outcome. Although we have learned more about the process of career counseling, there are still many unanswered research questions. Heppner and Heppner (2003) suggested that process research in career counseling examine five counselor techniques that appear to have either a positive or a negative effect in psychotherapy (Hill & Williams, 2000). These counselor techniques are interpretation, confrontation, self-disclosure, paradoxical intention, and ways to encourage client action. Furthermore, there needs to be additional research to substantiate Brown and Ryan Krane's (2000) findings concerning the five critical ingredients of career counseling and further specify the most appropriate methods for including these ingredients with specific types of clients.

The findings of Brown and his colleagues' (Brown et al., 2003; Brown & Ryan Krane, 2000) reflect the importance of integrating occupational information into the career counseling process. These results are consistent with Galassi et al. (1992), who found that clients voiced a need for occupational information before entering career counseling. In practice, the use of occupational information can be challenging, as clients often have an adverse reaction to in-depth exploration of information sources. Researchers need to explore different techniques for incorporating occupational information in career counseling in order to identify strategies that facilitate effective use of occupational information.

Research also needs to be conducted to identify counselor factors that positively influence outcome. In psychotherapy research, there are indications that therapist skillfulness has a significant influence on outcome (Roth & Fonagy, 1996). Although there is not consensus on what precisely constitutes skillfulness, there continue to be efforts to differentiate between more skillful and less skillful clinicians. This same line of research is imperative for career counseling research, as we would hypothesize that the level of skillfulness of the clinician also significantly influences career outcome. Studies are

needed that examine the characteristics, background, and attitudes of those clinicians who consistently have positive outcomes as compared to those clinicians who are less skillful and effective.

Technology and the Internet are having a significant influence on numerous aspects of career counseling. Research is needed to identify how technologies can most effectively be used in career counseling. As the number of career sites on the Internet expands daily, research is needed to determine which sites are appropriate for which types of individuals. To evaluate sites, we require psychometric data on their measures and comparisons of the components of their strategies. Again, different approaches may be effective for different types of clients, as Brown and Ryan Kane (2000) found was the case for "undecided" clients. We also know relatively little about who is providing Internet career services and what their backgrounds are. Research must also investigate how career practitioners need to be trained and how clients need to be educated to maximize the benefits of Internet technologies.

CONCLUSIONS

Although there are many unanswered questions related to the process and outcome of career counseling, there are still indications that most clients benefit from participating in career counseling. Documenting that career counseling is effective, however, is not sufficient, for it is important to understand why the positive change occurred. In future research, there is a need to understand the process and mechanisms of the changes that occur in career counseling. In order to understand the mechanisms of change in career counseling, researchers, practitioners, and theorists must work together and commit to a combined effort. This united effort will facilitate a better understanding of career counseling and better client outcomes.

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Career Interventions: Current Status and Future Directions

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Much has been written about vocational choice and adjustment, and how they can be achieved and promoted, for at least a century (Parsons, 1909; Zytowski, 1972). Although research on career interventions has had a shorter history, enough research has accumulated to have yielded at least six meta-analyses of which we are aware on the effectiveness of career interventions (Baker & Popowicz, 1983; Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Spokane & Oliver, 1983; Whiston, Brecheisen, & Stephens, 2003; Whiston, Sexton, & Lasoff, 1998). The purposes of this chapter are twofold. First, we review the meta-analytic evidence on the effectiveness of career interventions along with other pertinent writings to summarize what we currently know about their effects and effectiveness. Our intent is to highlight what we currently know about career interventions in order to inform current practices.

Second, we discuss needed areas of future investigation that derive from our synopses of current knowledge. Although some of our suggestions have been offered in the past, we think that they are sufficiently critical to be reiterated and reemphasized here. Although other of our suggestions about future research needs and methodological issues might be more unique, we hope that both (the old and new) will stimulate research that might not only inform current practices but also improve the services that clients with career concerns receive in the future.

The chapter is also based on, and organized around, some basic assumptions that we have as researchers and practicing career counselors about

career interventions. First, although we have no empirical evidence beyond our counseling experiences, we assume that most people seeking help with career concerns do so for a limited number of reasons; namely, to (a) make or remake a career or occupational choice, (b) implement an already made (or remade) choice, or (c) achieve adjustment (i.e., satisfaction and success) in their chosen and implemented occupations.

Second, we also assume that although people seek help because of a variety of presenting circumstances (e.g., because they need to make an initial choice, have recently lost a job due to corporate downsizing, or are returning to the workforce after a period of absence), their basic goals are still to (a) make or (b) implement a choice, or (c) achieve greater success or satisfaction in their workplaces or careers. For example, we think that persons seeking help because of a job loss or desire to return to the paid workforce still ultimately want either to choose a new career direction or find a new job in their already chosen fields. What we know about choice making and implementation interventions will, therefore, be as relevant to these clients as those who are seeking to make or implement an initial choice.

Third, we acknowledge and fully realize that past and current life experiences associated with gender, race and ethnicity, sexual orientation, and socioeconomic status, as well as presenting circumstances, have important influences on career development and present some unique challenges to both clients and counselors. However, we still assume that most career help seekers have choice making, implementation, or work adjustment as their goals for career counseling.

Fourth, it is also clear to us and others (e.g., Blustein & Spengler, 1995; Gysbers, Heppner, & Johnson, 1998; Swanson & O'Brien, 2002) that career concerns can represent either primary or secondary reasons for seeking counseling. Nonetheless, we also assume that in cases where vocational issues may be secondary, though contributory, to a client's primary help-seeking concern (e.g., depression), choice making, implementation, or workplace adjustment are still representative of the vocational problems that such clients bring to counseling or have uncovered during the course of counseling.

Thus, although each of these assumptions begs for future empirical attention (more later), we use them to organize the major sections of this chapter by (a) discussing what we currently know about working with persons with choice, implementation, or adjustment goals; (b) highlighting, within each section, unique, but largely unresearched, issues that clients may bring to counseling on the basis of presenting circumstances, gender, race and ethnicity, sexual orientation, or income; and (c) outlining research that still needs to be done to improve our work with the widest array of clients experiencing vocational difficulties.

We have also, obviously, limited this chapter to more remedially focused interventions for persons at the later exploration, establishment, and

maintenance stages of the career life cycle. Although there is much that we know and still need to know about developmental and preventive interventions for children and youth dealing with tasks and issues of earlier developmental stages, and older adults dealing with issues of retirement, these are beyond the scope of our expertise and, therefore, the current chapter (see Brown & Lent, 2005, for a full life-span review of relevant theory, research, and interventions).

CAREER CHOICE INTERVENTIONS

Are Career Choice Interventions Effective?

The meta-analytic evidence on the effectiveness of career interventions in general clearly indicates that career interventions are effective, but probably of small to moderate, rather than large, magnitude according to criteria outlined by Cohen (1988). Unfortunately, only one of the meta-analyses (Brown & Ryan Krane, 2000) focused exclusively on career choice outcomes (e.g., choice satisfaction, certainty, or level of decidedness) and other outcomes that have been found to be importantly related to choice-making success (i.e., congruence, vocational identity, career maturity, and career decision-making self-efficacy beliefs). The other meta-analyses included a broader array of outcomes, including those more related to choice implementation tasks (e.g., interviewing skills and job-finding success) and perceptions of treatment (e.g., ratings of helpfulness of, and satisfaction with, the intervention).

Nonetheless, all of these meta-analyses have yielded results that are more consistent than they may appear at first blush and are quite consistent with the overall effect size for career-choice outcomes reported by Brown and Ryan Krane (2000). For example, Spokane and Oliver (1983) and Oliver and Spokane (1988), in their seminal meta-analyses of research published between 1950 and 1982, reported overall standardized mean difference effect sizes (d 's) of .85 and .82 (respectively); whereas Whiston et al. (1998) found an overall d of .45 for studies published between 1983 and 1995, and Brown and Ryan Krane reported an effect size of .34 for career choice outcomes in studies published between 1950 and 1998. However, when Oliver and Spokane reanalyzed their data by weighting individual effect sizes by sample sizes to give more weight to studies with larger samples, the effect size reduced from .82 to .48—quite similar to Whiston et al.'s (1998) weighted overall d of .45. Finally, when Whiston et al. (1998) used the same inverse variance weighting method for individual effect sizes that was employed by Brown and Ryan Krane and is advocated in the meta-analysis literature (Hedges & Olkin, 1985), they found an overall, unbiased effect size of .30 (cited in Whiston et al., 2003)—again remarkably consistent with Brown and Ryan Krane's .34 effect size. Thus, we

think that it can be safely concluded that career interventions, whether choice focused or more broadly considered, have a positive effect on clients—clients achieve at least a third of a standard deviation improvement in outcome when compared to controls who do not receive career interventions.

The remainder of this section focuses on three primary issues. First, we suggest that the size of the effect of career interventions, although perhaps disappointing to some, is really quite clinically and socially important. Second, we highlight some factors that have been identified in the literature that have the potential of improving the effects of career choice interventions. Third, we discuss in some detail research that needs to be done that might improve even further the effects and effectiveness of interventions for clients with choice-making difficulties.

Do Career Choice Interventions Make a Difference?

There appears to be a tendency by many in the social sciences (including vocational psychology) to lament the size of effects obtained in our literature and to be too quick to dismiss seemingly small effect sizes as being practically trivial and socially unimportant because they account for little variance in important human outcomes. Thus, for example, we often read in discussion sections of articles and in literature reviews that although a mean difference or correlation was statistically significant it only accounted for a small and trivial percentage of variance in the dependent variable. We, however, think that this view is short sighted for several reasons. First, we seem often to fail to realize that human behavior, thought, and emotion (including changes in such criteria as career decidedness, self-efficacy, vocational identity, and career maturity) are complexly and multiply determined (or at least fail to think about this when we are interpreting the results of our or others' experiments). To expect a single independent variable or even a small set of independent variables to account for a large percentage of variance in complexly determined human behaviors may be unrealistic, and can blind us to potentially important phenomena that can benefit the lives of a large number of people.

Second, on top of this, we think that many of us also fail to appreciate that measures of constructs are not the same thing as the constructs themselves, but are rather always fallible proxies for the construct of interest that yield scores that are always less than perfectly reliable and correlations and other effect size estimates that are usually, to a greater or lesser degree, attenuated. Thus, to achieve even a seemingly small effect size for a complexly determined behavioral, affective, or attitudinal change that is being assessed with an always fallible dependent measure (or measures) using a single (probably somewhat fallibly implemented) independent variable is to us a remarkable accomplishment. In fact, Tinsley and Brown (2000) suggested that Cohen's (1988) guidelines for small ($r = .10$, $d = .20$), medium ($r = .30$, $d = .50$),

and large ($r = .50$, $d = .80$) effects in the social sciences should have another category reflecting a too large effect ($r = .70$, $d = 1.00$) that would alert the investigator to possible conceptual problems (e.g., two measures with different names are really measuring the same thing), analytic mistakes, or other forms of error (e.g., data-recording mistakes). The moral to researchers and readers of research is to appreciate even seemingly small effects and to get worried (rather than happy or complacent) about very large effect sizes.

There is also a third, even more important, reason for not dismissing as practically unimportant effect sizes that seem to be small; namely, it may lead us to stop doing something that benefits a large and significant number of people. To explain, Rosenthal and Rubin (1982), in developing the Binomial Effect Size Display (BESD) as an index of practical significance, showed that seemingly small effects (i.e., those that seem to account for only a small percentage of variance in a dependent variable) can have substantial practical importance in the real world. In using the BESD, effect sizes, even if not originally expressed correlationally, can be recast into correlation metrics (e.g., phi, point biserial, Pearson Product), and interpreted as the percentage increase in improvement, success, or survival rates that are obtained by using versus not using an intervention. Thus, for example, a correlation between treatment and outcome as small as .20 suggests, in BESD terms, that 20% more clients will show improvement on the dependent variable if they receive the treatment under investigation than if they do not, even though treatment accounts for a seemingly trivial 4% of the variance in outcome.

In many contexts, this 20% increase in client improvement rates would translate into a substantial number of improved cases. For example, as noted by Rosenthal and Rubin (1982), the correlation between receiving AZT treatment and survival rates among AIDS sufferers was, at that time, .23, suggesting that AZT treatment accounted for only an unimpressive 5% variance in AIDS survival rates. Yet, when viewed from a BESD perspective, the effect is far from trivial—fully 23% more AIDS sufferers will survive if they receive AZT treatment than if they do not.

Other examples of seemingly small effects that translate into practically, socially, and clinically significant outcomes have been repeatedly reported in the literature (see Hallahan & Rosenthal, 2000, for discussion of some of these). Our point in the context of the current chapter is that rather than being disappointed that the effects of career interventions on choice outcomes are not larger, we should reconsider the large number of people who benefit from career interventions and whose choice making may be compromised if career interventions were not available to them (i.e., an overall d of .34 converts to an r of .17, which translates, in BESD terms, to an improvement rate increase of 17% with career intervention assistance).

We, therefore, urge professionals to view the effects of career interventions more positively than they might on the basis of the meta-analytic studies.

However, we do not want, at the same time, to reinforce a sense of complacency. Are there things that we could do to improve the effectiveness of our interventions?

Can Career Choice Interventions Be Improved?

Two recently published meta-analyses (Brown & Ryan Krane, 2000; Whiston et al., 2003) and a conceptual analysis of them (Brown et al., 2003) have moved beyond the basic question of whether career interventions are effective to address more specific questions about how they work and how their effects might be improved. Collectively they suggest that there may be some things that practitioners can do to improve their work with clients, especially if the suggestions and hypotheses that have been derived from these conceptual and meta-analyses are supported by future research and prove to be robust across multiple replications.

Whiston et al. (2003) conducted a meta-analysis of studies that directly compared one form of career intervention (e.g., structured groups) to another (e.g., unstructured groups), rather than studies that compared an intervention to a control (e.g., no treatment or delayed treatment) condition. Their results, based on an analysis of 57 studies employing some 4,732 participants, yielded a number of intriguing suggestions. The potentially most robust findings (based on a sufficient number of studies) included the following: (a) Totally self-directed interventions were consistently less effective than nearly all other forms of interventions, except for stand-alone computer interventions; (b) the effects of computer-guided interventions were improved substantially (effect size increase of .37) if counselor contact was included at some point during computer use; (c) structured groups were substantially more effective (effect size difference of .34) than less structured group experiences; and (d) the comparative effects of individual counseling to other forms of intervention could not be ascertained because of a dearth of research. Thus, it seems that totally self-directed interventions of any type, including self-directed computer work, should be avoided unless no other alternative is available; some degree of counselor contact may improve the effectiveness of computer guidance systems (and perhaps other types of self-directed interventions) substantially; and structured group experiences may be the intervention of choice for most clients.

Ryan (1999), Brown and Ryan Krane (2000), and Brown et al. (2003) provide some additional insights about how career choice interventions might be improved; these insights may even help to clarify further the Whiston et al. (2003) meta-analytic findings concerning the relative benefits of structured groups. Ryan conducted a meta-analysis of 62 career choice intervention studies employing 7,725 participants. A unique aspect of this meta-analysis was that Ryan coded for the presence or absence of 19 specific intervention components in each study (see Brown et al., 2003, for a definition of each of these

components), and then entered these as blocks at the final step of a series of weighted, hierarchical, least-squares regression analyses. The purpose of employing this analytic strategy was to explore whether any one or more of the specific intervention components accounted for significant unique variance in various career choice outcomes over and above the variance accounted for by (a) study characteristics (e.g., date of publication), (b) methodological characteristics (e.g., whether random assignment was employed), (c) participant characteristics (e.g., age), and (d) intervention format (e.g., individual, group, class-based, or self-directed).

The results revealed that five of the 19 intervention components may be critical to career choice outcome, regardless of how the study was conducted (although better studies yielded higher effect sizes); who participated in the intervention; and whether it was conducted in individual, group, or self-directed formats. Specifically, in more helpful interventions, (a) workbooks or other writing "assignments" were employed; (b) individual attention (regardless of format) was provided to clients; (c) occupational and other forms of world of work information were gathered *in session*; (d) clients were exposed to models; and (e) clients were explicitly helped to consider the support that was available, or could be accessed, for their career plans and occupational options.

Subsequently, Brown and Ryan Krane (2000) found that these five critical intervention components, when considered collectively, seemed to be linearly related to overall career choice outcome. That is, studies that used none of the critical components, regardless of what else was done in the intervention, yielded an average effect size of .22, whereas those employing one, two, or three of the components demonstrated average overall effect sizes of .45, .61, and .99, respectively (no studies employed more than three of the five critical components). These findings, therefore, suggest that the effectiveness of career choice interventions may be improved (i.e., from a small to large effect size) if counselors, whatever else they do, assure that clients (a) are asked to write rather than merely talk; (b) receive some individual attention from the counselor (when a group, class, computer-directed, or self-directed format is used); (c) search for and use occupational information during the session (rather than merely being exposed to information sources and encouraged to use them between sessions); (d) are exposed to models; and (e) are helped to consider, as part of the choice-making process, how much support they have for their plans and how further support might be marshaled.

In an attempt to clarify further how these five intervention components might be implemented in career choice interventions, Brown et al. (2003) reread the studies included in the Brown and Ryan Krane (2000) meta-analysis in order to ascertain how they were used in the apparently most versus least effective studies, incorporated suggestions derived from basic psychological sciences and career theories, and developed a series of 16 hypotheses for future research. Although a complete discussion of these hypotheses is

beyond the scope of this chapter, several notable insights might be derived from them to improve current and future career practice and direct future research. First, in analyzing the studies that employed workbooks and other forms of written materials, Brown et al. noted that the most effective of these interventions seemed to require clients to write goals about what they wanted to accomplish after counseling had terminated.

Second, the most effective interventions not only had clients write their goals but also provided time to discuss the goals individually with each client, regardless of intervention format. Relatedly, Brown et al. (2003) noted that computer-guided interventions that provided counselor contact *after* computer work tended to be more effective than computer-guided interventions that provided for counselor contact before or during interacting with the computer guidance system. This also seemed to be especially true if the post-computer contact focused on helping clients develop goals for what to do next. Brown et al. also speculated that the effects of post-computer goal setting may be enhanced further if the goals were written and talked about rather than merely discussed.

Third, it was also noted that the more effective interventions had clients not only write and discuss their future goals but also compare in writing (rather than merely talk about) different options they were considering. Fourth, it also seemed important to help clients, as part of the written comparison process, to consider explicitly sources of support currently available, or potentially obtainable, for each option, regardless of what else was being considered.

Fifth, Brown et al. (2003) noted that ensuring adequate information searches may be more important to counseling outcome than many of our theories and practices suggest. They found not only that the amount of information search engaged in during counseling distinguished the more from less effective interventions, but also that the more effective interventions seemed to be more successful in getting clients to engage in information searches and other exploratory activities outside of sessions. Brown et al., in fact, reported a correlation of .82 between information search and outcome effect sizes among studies that measured both (after checking for data-recording and analytic errors, of course!).

Sixth, Brown et al. (2003) hypothesized that although group test interpretations are effective, group interventions that gave clients with unusual, or otherwise problematic, profiles an opportunity for individual consultation seemed to yield larger effects than those in which group interpretations were used exclusively.

Summary and Conclusions

In summary, we think that the studies discussed in this section collectively provide some important data about the effectiveness of career interventions

for choice-making difficulties and equally important insights about how interventions can be improved. Although each requires direct testing in the counseling arena before its veracity and robustness can be ascertained, we offer the following take-home messages about career choice interventions.

1. Interventions for persons with choice-making difficulties are effective. What we do (and the mainstream, largely trait-factor, theories that seem to drive most intervention efforts) is at least somewhat effective and does have an impact on a potentially large number of current and future users of our services.

2. Interventions can be made more effective. This may be especially true if we ensure, regardless of what else we do, that clients (a) develop in writing goals for future career work, and we talk to them individually about their written goals; (b) consider in writing the strengths and weaknesses of each option, especially the support that they currently have or could generate; (c) have an opportunity to discuss hard to interpret, or otherwise problematic, assessment results individually with us; (d) are given time within sessions to search for, use, and process occupational information; and (e) actually engage in information searches and other forms of exploratory behavior outside of regularly scheduled sessions.

Parenthetically, we also offer another testable observation about the effects of information exploration vis-à-vis more self-understanding focused exercises—it might be that information exploration may be more important to clients and the outcomes that they achieve than the self-understanding that they gain and we like to promote. Not only did information search emerge as a more critical ingredient than the more self-understanding-oriented components (e.g., self-report inventories and values clarification exercises) in the Brown and Ryan Krane (2000) meta-analysis, but also there are data to suggest that clients do not remember all that well what they learn about themselves in counseling. For example, Gore et al. (2002) found that after receiving individual interpretations of Strong Interest Inventory (SSI) results, participants' immediate recall of their General Occupational Theme, Basic Interest, and Personal Style scale results were remarkably poor and got even worse 6 weeks later. On the other hand, they were much better, both immediately and at follow-up, at remembering the occupations that had been generated for them on the SII Occupational Scales. Gore et al. suggested that these results should stimulate research on how to improve clients' recall of assessment information.

Although we agree that this would be an important avenue for future research, we would also suggest that future research address the question of whether improved recall of assessment information is related to improved intervention outcomes. Although we are in no way suggesting that client self-understanding is unimportant, it might be that exercises designed to

promote self-understanding (which clients may not remember all that well) work more by helping clients to generate potentially viable occupational possibilities in which their chances of satisfaction and success are data driven rather than chance or otherwise more haphazardly determined—a not unimportant function of inventories and other self-assessment exercises.

3. Computer-guided and self-directed interventions are not very effective as stand-alone interventions. However, with counselor involvement their effectiveness can be increased to levels obtained by other forms of intervention, especially if that involvement occurs after computer interaction and includes helping clients develop in writing goals about how they are going to use their new knowledge and information in the future, and helping them process difficult to understand information.

4. Although it is not clear whether individual counseling is all that necessary for many clients or adds beyond what can be obtained from group interventions, it is clear that structured group interventions are more effective than less structured counseling groups for persons seeking help with difficulties in career choice making.

What Directions Should Future Research Take?

Although current career choice interventions seem to be generally effective and have the potential to affect positively (when effect sizes are considered in BESD terms) the lives of a large number of individuals seeking help with difficulties in career choice making, there is still a great deal that we still need to know to improve their effectiveness and to reach an even larger number of individuals. We have already mentioned some important questions for future research, including (a) whether or not choice making, implementation, and adjustment represent the primary reasons for why people seek career assistance; (b) whether the meta-analytic findings on intervention format (e.g., structured vs. unstructured groups vs. individual counseling) and critical ingredients are supported in primary investigations; and (c) whether improved recall of assessment information is associated with improved short- and long-range outcomes. However, we think that there are additional, very important directions that future research should take to provide effective and empirically supported career help to the widest possible array of career clients. It is to these topics that we turn next.

Need for Replications and Systematic Dissemination

It appears that most studies in the outcome literature that have been included in the prior meta-analyses are one-shot investigations of author-developed interventions that are virtually never replicated nor disseminated beyond the particular setting in which they were developed. In fact, we found

it both surprising and disconcerting when we reread the 62 studies included in the Brown and Ryan Krane (2000) database, to find that, other than computer-guided interventions and the Self-Directed Search (SDS), only Daane's (1972) Vocational Exploration Group (VEG) and Palmer and Cochran's (1988) Partners' Program were investigated in more than one study.

The effects of the Vocational Exploration Group (VEG) have been investigated in three independent studies with samples of adult inpatient drug abusers (Powers, 1978), and middle school (Yates, Johnson, & Johnson, 1979) and high school (Glaize & Myrick, 1984) students. Although this structured group program seemed to be effective (mean $d = .59$ in the student samples, and $d = .56$ in the substance-abuser sample), it has not received further investigation in other samples or settings despite the fact that its effectiveness might be enhanced by incorporating technology (i.e., Discover) that was not fully available when the VEG was originally developed (i.e., we calculated a d of .74 for Glaize and Myrick's VEG plus Discover vs. control condition comparison). The Partners's program, a seemingly effective method of including parents in high school students' career planning (mean $d = .47$), has received no independent replication in the published literature of which we are aware beyond the laboratories of the program's developers (Kush & Cochran, 1993; Palmer & Cochran, 1988).

We, therefore, do not think that we need more one shot studies of apparently new interventions that do not acknowledge the already voluminous research that is available and build clearly on prior intervention research. We would learn far more if investigators would, in a programmatic manner, build on what we already know, implement interventions that are already extant in the literature, attempt to replicate these apparently effective interventions in their own settings with their own clients, and test how their effectiveness might be improved.

Need to Incorporate a Wider Range of Theories Into Intervention Efforts

In addition to researching the extent to which critical treatment ingredients (Brown et al., 2003; Brown & Ryan Krane, 2000) and different intervention formats (Whiston et al., 2003) might enhance the effectiveness of current interventions, career choice interventions might be improved further by incorporating a wider range of theories into their design and implementation. As noted earlier in this chapter, most choice-focused interventions that have received empirical attention have been built around prominent trait-factor theories (e.g., Holland, 1997). Although there are variety of reasons for this, including the very clear intervention implications that derive from them, their parsimony and apparent ease of implementation, and the availability of well-developed instrumentation, other theories have also made some important

suggestions about working with persons with choice-making difficulties. For example, both Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) and Gottfredson's Theory of Circumscription and Compromise (Gottfredson, 1981, 2002) hypothesize that many people may prematurely eliminate potentially viable career options from consideration because of inaccurate self-efficacy beliefs or incomplete occupational information (Brown & Lent, 1996), or sex-role socialization and other experiences of childhood (Gottfredson, 2002). Both theories further suggest that an important goal of choice-based counseling is to help clients identify and reconsider these possibilities. Both also provide some strategies to facilitate this goal (see Brown & Lent, 1996; Gottfredson, 2002). However, neither the hypotheses nor the strategies have yet to be incorporated into the empirical literature on career choice interventions, even though the premature elimination of viable occupational options has frequently been described, without citing either of these two theories, as limiting the choices and development of women and people of color (e.g., Cook, Heppner, & O'Brien, 2002).

Savickas (2002), in his constructivist-contextual elaboration and update of Super's most recent (Super, Savickas, & Super, 1996) developmental theory of careers, also offers some researchable suggestions for career choice interventions. For example, Savickas suggests that counselors need to help clients gain a fuller understanding of their life spaces (e.g., the salience of work vis-à-vis other life roles), career adaptability (e.g., readiness to engage in career choice making), and career themes in addition to helping them understand their vocational identities (e.g., interests, abilities, needs, and goals) in order to make fully informed career choices and, especially, to prosper in the face of 21st-century career demands.

Although these are examples of just three theories that may have important implications for the development of career choice interventions, future research should, we think, test directly whether the counseling implications and suggestions offered by these and other theories add to the effectiveness of career interventions. For example, does helping clients identify and reconsider career possibilities that might have been prematurely eliminated add to the effectiveness of current interventions—especially for women, people of color, and others whose socialization experiences may have severely limited their perceived options? Do interventions that supplement traditional activities with those designed to help clients gain insights into the importance of work in their lives and to the overarching themes that seem to define their occupational desires promote better short- and long-range outcomes? Do readiness promotion activities make extant interventions more effective, or might readiness assessments provide important information on the specific types of career services that might most benefit individual clients? Savickas (2002) clearly advocates for readiness promotion as part of career interventions, whereas others (e.g., Peterson, Sampson, Lenz, & Reardon, 2002)

already use, in a systematically developed and comprehensively implemented manner, readiness assessments to triage clients. Although both readiness promotion and assessment seem to be reasonable, neither has, unfortunately, received empirical attention in the outcome research literature.

Need to Move Beyond Client and Intervention Uniformity Myths

We also think it is time for investigators to begin to develop and report on programs of research that address not only questions of intervention effectiveness but also questions of how and for whom a particular intervention works, and whether other forms of intervention might be needed to reach a larger array of clients. There seems, for example, to be some debate in the literature about whether career counseling is different from, or the same as, personal counseling. Although we admit that we might have intensified some of this debate when we said (Brown & Ryan Krane, 2000) that the need to assume that they are identical activities seemed to be stimulated more by a desire to make career activities interesting to our students than to serve our clients, our point was that this is an empirical question that deserves concerted research attention.

It is clear that current, short-term, structured career interventions that do not attend widely to other concerns that clients might have (or to the counseling relationship) are effective for a large number of clients. These interventions might also be made more effective without turning them into more intensive, psychotherapy-like interventions. There is also recent research (Multon, Heppner, Gysbers, Zook, & Ellis-Kalton, 2001) to suggest that such interventions might even positively affect clients' levels of psychological distress, even though they may not do a good job of fostering a working alliance between counselor and client.

Nonetheless, it is also clear, especially if one heeds what all the meta-analysts have been saying about the career intervention literature since 1983, that our research literature has been, and continues to be, plagued by the client uniformity myth (see also Fretz, 1981; Rounds & Tinsley, 1984). That is, the outcome research literature seems to treat all clients, regardless of their goals for counseling, precipitating circumstances, sources of difficulty, gender, race or ethnicity, socioeconomic status, and sexual orientation as if they were all alike. Clearly, future research needs to attend to questions of whether extant interventions are more effective for some clients than for others; whether extant interventions need to be modified and adapted to meet the needs of more diverse clientele (or even whether completely new interventions need to be developed); and for whom more intensive forms of counseling, built around the working alliance, may be necessary. We, therefore, encourage researchers to attend to important individual difference variables

that might provide practically meaningful information that would allow counselors, if necessary, to tailor their intervention efforts more effectively. The following types of individual difference variables represent those that we think deserve intensive study in the outcome literature on career interventions.

Sources of Choice Problems. First, as already implied, clients' career choice difficulties may have different underlying causes, some of which may require different, perhaps more intensive, relationship-based forms of intervention than would others. Much research, since at least the early 1970s, has explored factors that might relate to persons feeling undecided about their career choices (e.g., Fuqua, Newman, & Seaworth, 1988). This research has clearly identified a host of factors that might contribute to choice-making difficulties (e.g., lack of knowledge, anxiety, career maturity, vocational identity, goal stability, career decision-making self-efficacy beliefs, problem-solving skills).

In addition, more recent (within the last 20 years) research, employing factor-analytic methodologies, has attempted to identify latent variables that might account for relations among the plethora of manifest variables that have been shown individually to relate to choice-making difficulties (e.g., Brown & Ryan Krane, 2000; Fuqua & Newman, 1989; Kelly & Lee, 2002; Shimizu, Vondracek, Schulenberg, & Hostetler, 1988; Tinsley, Bowman, & York, 1989). Other research, appearing in the same time frame, has attempted to cluster clients into homogenous subtypes on the basis of their scores on manifest variables (e.g., Chartrand et al., 1994; Larson, Heppner, Ham, & Dugan, 1988; Larson & Majors, 1998; Lucas, 1993; Lucas & Epperson, 1990; Multon, Heppner, & Lapan, 1995). Although these two bodies of research would benefit from greater cross-fertilization (e.g., by using cluster-analytic methodology with factor analytically identified latent variables—see Kelly & Lee for an example), they have collectively yielded some consistent findings with potentially important implications for counseling.

First, it is clear, across both factor- and cluster-analytic studies, that at least two somewhat distinct subtypes of clients exist—(a) those needing more occupational information (and perhaps self-knowledge) and (b) those with more pervasive problems revolving around anxiety proneness (trait anxiety) and negative affectivity; low levels of perceived problem-solving ability, career decision-making efficacy, and goal stability; and high levels of fear of commitment. The latter clients have been labeled by all researchers as chronically indecisive to be consistent with earlier conceptual writings (e.g., Salomone, 1982), and a number of instruments exist with scales developed to identify this client subtype (e.g., Chartrand & Robbins, 1997; Jones, 1989).

Second, many of the cluster analyses have identified a third group of clients whose choice-making difficulties seem to be more related to high levels of

state anxiety associated with choice making than to more pervasive difficulties in decision making. Although some studies (e.g., Kelly & Lee, 2002) have not been able empirically to distinguish the choice anxious from more indecisive clients, Chartrand and Robbins (1997) provided an interesting clinical observation that a distinguishing feature of clients in which choice anxiety is prominent, regardless of the presence of other more indecisive characteristics or information needs, is how imminent the need to make a choice has become. Thus, whether a client is anxiety prone and indecisive or simply needing additional information, heightened state anxiety, and the physical and hypervigilant symptoms associated with it, will, according to Chartrand and Robbins, become increasingly prominent as the need to make a choice becomes imminent or otherwise pressing (e.g., through an anticipated or actual job loss).

Third, most factor- and cluster-analytic studies until recently have focused almost exclusively on client factors that might be associated with career indecision (e.g., vocational identity, career decision-making self-efficacy beliefs, goal stability, and need for information). However, a recent study (Kelly & Lee, 2002), employing measures of career-related barriers in addition to the more common client-focused measures, identified, through cluster analyses, a subtype of clients in which the presence of barriers, especially those related to conflicts with significant others, seemed to be prominent. (Kelly and Lee also replicated the existence of the information-needing and indecisive subtypes in their sample.)

Although there is obviously more that we need to learn about the potential causes for problems in choice making, we do feel that the literature has advanced sufficiently to allow us to begin addressing in career counseling outcome research questions about differential treatment effectiveness and whether different types of interventions are more effective for some types of clients than for others. The differences between developmentally undecided (i.e., those with information deficits) and chronically indecisive clients have been discussed in the literature for decades, and there is clearly now empirical support that these two types of clients actually exist (as well as measures that might be used to identify them). It is time, therefore, to begin addressing empirically whether extant interventions are equally effective for both types of clients or whether indecisive clients need different types (e.g., individual versus structured groups) and more intensive forms of intervention.

We might also begin to address whether clients who are anxious, because the need to make a career choice has become imminent, require more than, or something different from, what so far has been studied in the outcome literature. Similarly, do clients who are in conflict with others about their choices need something different from us, or is the support-analysis component identified by Brown and Ryan Krane (2000) sufficient? Further, rather than asking whether the therapeutic relationship is as important in career counseling as

it is in other forms of counseling, we might more fruitfully ask: For whom is the working alliance necessary and even critical? Relatedly, rather than continuing to debate whether career counseling and personal counseling are the same or different types of intervention activities, we might study empirically for whom a focus on personal, non-career-related issues is important and for whom it is not that important, or perhaps even counterproductive. It might, for example, be counterproductive to delve extensively into a client's personal, noncareer life unless such exploration is, or becomes, a goal for the client, regardless of how indecisive he or she may be (see Heppner & Hendricks, 1995, for a case study in which the counselor seemed to work counter to an indecisive client's goals for counseling).

Client Goals and Precipitating Events. Two other important, but largely ignored, variables that might predict differential treatment effectiveness are the goals that clients bring with them to counseling and the events that triggered help-seeking in the first place. With regard to client goals, it has been suggested for some time that not all clients who seek help with career choice making are looking for more career options. Rather, some clients seek counseling because they are considering an overwhelming number of options (e.g., Gati, Krausz, & Osipow, 1996), whereas others seem to be in an approach-approach conflict and need help in deciding among a few quite viable options (e.g., Shimizu et al., 1988). Still others may simply be seeking confirmation and assurance about an already-made choice (Chartrand et al., 1994). Unfortunately, all participants, in the research literature on career interventions, seem to be treated as if they have only one goal for counseling—to increase the range of career options that they are considering (i.e., most activities described in the intervention literature seem to be focused on helping clients generate and evaluate options).

It is also clear that a variety of events may lead a client to seek help with choice-making (and other forms of) difficulties. These obviously include normal, developmental life-cycle events associated with initial choice making (e.g., impending graduation from secondary or postsecondary education). They can, however, also include less developmentally on-time events such as an impending or actual job loss, voluntary or forced occupational reentry, or a contemplated career change. Unfortunately, the career intervention research literature, with very few exceptions, seems to treat all participants not only as if they are seeking additional career options but also as if they are all seeking help to make an initial choice. The research literature on the social and psychological issues involved in job loss (e.g., DeFrank & Ivancevich, 1986), reentry (e.g., Padula, 1994), and career change (e.g., Hesketh, 2000), on the other hand, suggest that the choice-making process may be somewhat more difficult and involved for such clients than for those who are attempting to make an initial career choice.

Thus, we think that future research could also profitably focus on whether extant career choice interventions are similarly versus differentially effective for clients with goals of generating, reducing, deciding on, or confirming options, and for those who are seeking counseling to make or remake an initial choice versus those whose choice-making help was precipitated by a recent job loss or a desire to reenter the paid workforce. Should such research show that extant interventions are not equally effective for clients with different goals or precipitating events, then there is a good deal of theoretical and research literature to call on to design interventions that might more effectively meet the needs and concerns of clients with different goals or precipitating circumstances.

Gender, Race and Ethnicity, Sexual Orientation, and Socioeconomic Status. Much has also been written about the unique experiences of women (e.g., Betz, 1989; Betz & Fitzgerald, 1987; Cook et al. 2002; Walsh & Osipow, 1994), people of color (e.g., Cook et al.; Fouad & Bingham, 1995; Hackett & Byars, 1996; Leong & Brown, 1995), and gay, lesbian, bisexual, and transgendered (e.g., Morrow, Gore, & Campbell, 1996; Pope, 1995) persons that may limit the career options that they consider and may have other potentially debilitating effects on their choice making and career development. Unfortunately, this literature too seems to have had little effect on career choice intervention outcome research. For example, no studies of which we are aware have explicitly tested whether the outcomes of extent interventions vary, as is commonly assumed, on the basis of gender, race or ethnicity, sexual orientation, or socioeconomic status. Nor has any research, to our knowledge, directly compared outcomes of interventions designed specifically for these groups to available interventions that do not focus explicitly on the unique needs and circumstances of these groups. These questions have also not been able to be addressed in any of the published meta-analyses because data on gender, and especially on race or ethnicity, sexual orientation, and socioeconomic status of participants in primary studies are neither adequately presented nor broken down in such a way that they are amenable to investigation. Thus, we also urge future investigators to test, rather than assume, differential intervention effectiveness and compare modified or new approaches to extant interventions for their effects and effectiveness. There are again rich bodies of literature to call on to direct the latter efforts, some of which have been already cited.

Summary and Conclusions

In summary, there is a good deal of basic research that needs to be done to move our research beyond the uniformity myth and to enable us to offer services that yield maximum benefit to the widest array of clients. We think

that the most important, yet basic, research questions include the following:

1. Are extant interventions less effective for chronically indecisive than for developmentally undecided clients, and for those with significant choice-anxiety involvement versus those who are less anxious about making a career choice?
2. Are clients who come to counseling to learn about new occupational possibilities, to reduce an overwhelming number of options, to choose among a few options, or to confirm an already-made choice equally benefitted by extant career interventions?
3. Are clients who are seeking career choice help because they have recently lost a job or are returning to the paid workforce after a period of absence less well served by extant career interventions than are those who are making an initial career choice?
4. Do women, persons of color, gay, lesbian, bisexual, transgendered, or less economically well-off clients benefit less from extant interventions than do men, persons of western European descent, heterosexual, or more economically advantaged clients?
5. Can the effectiveness of interventions be improved for any or all of the previously cited client groups?

How Might These Questions Be Addressed?

Although we fully expect that differential treatment effectiveness will in many cases be established, these still are empirical questions that must be addressed before they become reified into established facts without supporting evidence. We also think that there are two complementary ways in which each can be tested—through comparative outcome research and through studies aimed at exploring and testing hypotheses about predictors of treatment effectiveness.

Comparative Outcome Research

One way to approach questions of differential treatment effectiveness is to compare the outcomes of interventions designed specifically for targeted groups (e.g., indecisive clients, those with too many options, reentry populations, or women) to appropriate control conditions. As we have already said, there is a wealth of literature that can be called on to direct such intervention efforts, including established theories (e.g., Brown & Lent, 1996; Gottfredson, 2002; Hackett & Betz, 1981; Lent et al., 1994) and literature cited earlier devoted to the needs and circumstances of specific client populations. There

are, however, some important methodological issues that must be considered in the design of such studies.

First, we hope that we have made a case for the effectiveness of more generic interventions that already exist in the literature. We have also made some suggestions about how these more generic interventions can be improved. We, therefore, think that the need for untreated (delayed- or no-treatment) controls has passed, especially for addressing questions about whether modified or new interventions add significant unique variance in outcome beyond what is already attainable in the literature. Our first suggestion, therefore, is that the most appropriate control condition for such studies is interventions whose empirical effectiveness has already been established and that have been built for maximum effectiveness.

Second, the use of this “best available alternative” comparison condition strategy will require researchers not only to build new or modified interventions from the appropriate theoretical and research literatures but also to use the extant literature to ensure that the comparison condition is truly a best available alternative. To do otherwise is to set up a “straw man” comparison that will yield little useful information to the counseling public.

Third, researchers must also appreciate and understand that the null hypothesis can never be proven to be true—no difference results obtained in samples are largely uninterpretable unless a study is designed with sufficient power to detect small, but potentially nonnull effects. We would also guess that comparing new or revised interventions to best available alternatives may yield smaller effect sizes than if a no-treatment control condition was employed. Thus, studies must be designed with sufficient power to detect small but theoretically and practically important differences among treatment conditions.

Predictors of Treatment Effectiveness Studies

Another complementary strategy that might be employed to address questions and hypotheses about differential intervention effectiveness would be to employ a best available intervention, pretest clients on variables that might be predictive of outcome (e.g., level of indecision or anxiety, goals, precipitating events, and gender), and then analyze whether these predictor variables relate to outcome effects for the intervention. This strategy has the advantage of not requiring a control condition (and therefore enables one to use all available participants). It also seems to have the advantage of being routinely able to be applied in counseling, in addition to research, settings by simply pretesting all clients who come for counseling and analyzing data after a sufficient number of clients have been seen.

Another strategy that could be added, but one we have not yet seen applied, would allow for idiographic as well as nomothetic approaches to data

analysis and in-depth qualitative study. To explain, Jacobson and Truax (1991) developed a Reliable Change (RC) index to analyze data provided by individuals within a nomothetic treatment context. Specifically, the RC index was developed to address the question of whether change exhibited by each individual participant in a psychological intervention is greater than what would be expected by chance and measurement error alone. The RC index is calculated simply by dividing the pre-post difference score of each individual on relevant dependent variables by the standard error of difference for the dependent measure. The denominator in this formula is an estimate of the degree of change that would be expected in the experiment on the basis of chance, whereas the numerator is a direct estimate of the amount of actual change exhibited by the individual client. The larger the numerator vis-à-vis the denominator, the more nonchance change was exhibited by the client. As a standard normal deviate index, an RC value of ± 1.96 or greater would suggest ($p = .05$) that the amount of change exhibited by the client was greater than what would be expected by chance. A positive RC value of this magnitude would suggest real (beyond chance) improvement, whereas a negative RC value of similar size would suggest real (beyond chance) deterioration for that client. Values of less than 1.96 in either direction would suggest that the change exhibited by the client was not sufficiently greater than chance to be considered real.

Thus, in addition to pretesting clients on possible predictor variables, it is also possible to calculate the RC index for each client in a sample and then use each client's RC value to classify him or her as (a) reliably improved, (b) unimproved, and (c) reliably deteriorated. A variety of analytic strategies (e.g., logit regression) could subsequently be used to identify predictor variables that might differentiate these groups. This strategy retains the benefits of the more general predictor strategy, but adds a couple more potential advantages. First, it provides another way of comparing the effectiveness of interventions in comparative outcome research—interventions can be compared not only in terms of mean differences (which are influenced by extreme values of individual clients) but also in terms of the percentage of clients in each condition who demonstrate reliable improvement (and deterioration, if present).

Second, in ways that simply calculating group means cannot accomplish, this strategy would allow us to identify clients who improved, did not improve, and even may have gotten worse over the course of the intervention. This would then allow us to do more in-depth, perhaps qualitative, study of individual clients (especially of those who did not improve or got worse) to more fully understand the intervention, develop new hypotheses about differential treatment effectiveness, and perhaps improve the intervention for future clients. Although power issues are as important in using this research method as in conducting comparative outcome research, the new theoretical and practical knowledge that could be gained by triangulating quantitative

and qualitative data with this strategy suggests that it deserves a try in our literature.

IMPLEMENTATION AND ADJUSTMENT INTERVENTIONS

We have combined our discussion of interventions devoted to promoting job finding (implementation) and improving work adjustment (satisfaction and success) because there is much less to say about these than about interventions devoted to choice making. However, the reasons why there is much less to say about each are different. In the case of implementation interventions, there is both an extensive literature on job search success that provides clear empirical underpinnings for job search interventions and also interventions of choice in the literature—demonstrably effective interventions that have received systematic and thorough replications of their effectiveness. In the case of adjustment interventions, on the other hand, there is a rich and extensive body of research on job satisfaction and performance that could inform intervention efforts that unfortunately has not found its way into the empirical literature on career intervention outcome.

Our discussion of these two topics, although brief in each case, therefore takes different forms. For implementation interventions, we summarize the research literature on factors related to job search success, draw some counseling implications from them, and then discuss the interventions that have received widespread empirical support. We conclude by emphasizing that there still is research that needs to be done to improve further the effectiveness of these interventions. In the work adjustment section, on the other hand, we simply note factors that have been found to relate to job satisfaction and success and suggest that we need to begin translating these research findings into actual interventions designed to promote greater satisfaction or success among clients seeking help for problems of work adjustment.

Implementation Interventions

What Contributes to Job Search Success?

A great deal of research has accumulated over the past decade that has yielded some well-replicated findings on factors related to job search success (see Kanfer, Wanberg, & Kantrowitz, 2001). Foremost among these is that job search intensity, or the frequency and scope of job search efforts (Kanfer et al.), has consistently been identified as the strongest predictor of job search success (i.e., job acquisition and time to employment). Much research has also, therefore, explored factors that might relate to search intensity. Although a wide variety of variables have been explored, consensus seems to be emerging as to those that are most consistently predictive of intensity and success.

These include personality (e.g., extraversion and conscientiousness), situational (e.g., economic hardship), cognitive (e.g., employment commitment, job search self-efficacy, and motivational control), and social or contextual (e.g., job search social support) variables (Kanfer et al., Vinokur & Caplan, 1987; Wanberg, Kanfer, & Banas, 2000; Wanberg, Kanfer, & Rotundo, 1999; Wanberg, Watt, & Rumsey, 1996).

Thus, it appears that more successful job seekers spend more time and use more resources in their job search than do less successful job seekers, including, *but not limited to*, using networking as a source of job leads (Wanberg et al., 2000). The intensity with which successful jobs seekers engage in the job search process seems to be facilitated, at least in part, by their dispositional tendencies to be more outgoing, active, responsible, and organized than their less successful peers (conscientiousness and, to a lesser degree, extraversion seem also to relate to job search success independently of search intensity—see Kanfer et al., 2001). Those who work harder at finding a job may also do so because work is somewhat central to their identities or because they are experiencing serious economic hardships. They also have (or have developed) confidence in their job search skills and in their skills (e.g., to set reasonable goals) to sustain motivation in the face of setbacks. Those who engage in intensive job search efforts seem further to have at least one person in their social networks who support and encourage their job search efforts and who provide emotional sustenance to endure.

Unfortunately, these are not the job seekers who will probably require, or will seek, help for implementation problems. Rather, those who seek help will probably, in some combination, be somewhat introverted, and as a result (of this or other more contextual factors) have smaller networks of friends and associates on whom to call for job leads and other types of assistance and support, and be less comfortable in seeking help from friends and associates (see Wanberg et al., 2000). They may also have somewhat less energy and be less than organized and persistent in undertaking intensive job search efforts than are others, and may need help, regardless of how hard they work at finding a job, selling themselves to potential employers. Clients who seek help for implementation problems may also feel less than efficacious in their job search skills and in their abilities to sustain effort in the face of obstacles (see Wanberg et al., 1999). They may finally, whether because of their temperaments or more situational factors (e.g., family disruption, relocation, and homelessness), lack the type of naturally occurring support necessary to sustain their efforts and maintain emotional balance throughout the process (see Kanfer et al., 2001; Vinokur & Caplan, 1987; Wanberg et al., 2000). These, therefore, are central factors that we think must be explored by counselors working with persons seeking job search help and must, depending on assessment results, become central targets for intervention efforts.

Fortunately, there is at least one widely researched and replicated intervention program developed for those with choice implementation problems that seems to be clearly based on, if not directly derived from, this research evidence. This program, the Job Club, also represents to us a “treatment of choice” for persons with implementation problems who want to find work quickly. It may, however, as we discuss in the next section, require some modification and future research attention to facilitate job satisfaction as well as job acquisition.

***How Might Job Search Success Be Promoted
and What Do We Still Need to Know?***

The Job Club, originally developed by Azrin, Flores, and Kaplan (1975), is an intensive, structured group approach, based in learning theory, in which participants are assisted, via modeling, supervised practice, goal setting, peer support, and positive reinforcement, in all aspects of the job search and acquisition process. Typical Job Clubs encourage participants to view the job search process as a full-time job and, to reinforce this, meet frequently (e.g., from 3 to 5 days a week for several hours). Participants are helped systematically to obtain job leads through friends, relatives, and acquaintances, and to share job leads found through these sources with others in the group. They additionally practice (through modeling and role-playing) approaching others for job leads, establish weekly goals for obtaining job leads, and are reinforced by leaders and fellow participants for incremental successes. Other activities include modeled, supervised, and reinforced practice in using other sources (e.g., newspapers, yellow pages, and cold calls) to obtain job leads as well as in the necessary skills to obtain identified jobs (e.g., interviewing, resume and letter writing, and completing applications). Although the Job Club, well described in a comprehensive counselor’s manual (Azrin & Besalel, 1980), predated much of the current, systematic research on job search success, it is clearly built on, and attends to, many of the factors that have since been found to be important to job search success.

The Job Club has also been widely researched, and its positive effects on job search success have been replicated across numerous investigators, settings, and populations. In preparing this chapter, for example, we located a total of 33 outcome studies (references available from the first author on request) that evaluated the effectiveness of the Job Club with handicapped clients (eight studies), psychiatric patients (nine studies), welfare recipients (five studies), college students and college graduates (four studies), as well as with more general samples of unemployed (white- and blue-collar) adults of various ages (seven studies). The results of these studies are quite consistent and suggest that significantly more Job Club participants, regardless of setting, obtain jobs than do participants in various alternative intervention comparison

conditions. For example, we calculated an average job placement rate of 65% for Job Club participants across all settings and populations (range = 13% for one psychiatric patient sample to 93% for one unemployed adult sample) versus 38% for participants in comparison conditions.

It also appears that Job Club participants who find work do so in a shorter period of time than do persons participating in control conditions, and that adherence to the procedures outlined in the Job Club manual (Azrin & Besalel, 1980) may be associated positively with job search success outcome. In relation to the latter, our impression was that studies that seemed to use the Job Club name, but adhered minimally to procedures outlined in the manual (e.g., Bikos & Furry, 1999; Chandler, 1984), tended to obtain substantially weaker job placement effects and much higher dropout rates than did those studies that adhered closely to both the theory behind the Job Club and its activity prescriptions.

However, despite these positive effects, there is still much research that needs to be conducted on the Job Club. First, as implied earlier, future research might attend to whether intervention fidelity (i.e., the degree to which the Job Club was actually implemented) relates to outcome and to identifying components and ingredients that might be critical to outcome.

Second, we think it would also be important to begin to explore, using methodology outlined in the choice intervention section of this chapter, factors (e.g., personality, socioeconomic status, race or ethnicity, sexual orientation, and reasons for seeking help) that might moderate the effectiveness of the Job Club intervention and predict differential outcomes. For example, Kanfer et al. (2001), in their review and meta-analysis of the job search literature, found that no studies had been reported in the literature on the job seeking of reentrants into the workforce despite the fact that these make up 34% of the national labor force (Bureau of Labor Statistics, 1998—cited in Kanfer et al.). Thus, because we know much less about the job seeking behaviors and sources of success for this group of job seekers versus others, this may be an important variable to include in future studies of Job Club effectiveness (in addition, of course, to including reentrant samples in more basic studies of job search processes). For another, Kanfer et al. found that the intensity with which new entrants worked at finding jobs was more strongly related to personality (e.g., extraversion and conscientiousness) than to situational factors, whereas job search intensity was more situationally based than personality determined for those who were seeking new jobs as a result of layoffs and downsizing. Thus, an important research question to be addressed in the future is whether Job Clubs and other forms of implementation assistance are as effective with new versus later entrants because the formers' behavior may be more dispositionally driven than situationally determined. Finally, Wanberg et al. (1996) found that older workers (those 40 years of age and older) were

less likely to find jobs, regardless of search intensity, than those 39 years of age and younger. Thus, the Job Club and other implementation interventions may be particularly necessary, and more effective, for older than younger workers who are more likely to find jobs on their own and whose search behavior may be more influenced by their personalities than those of older job seekers.

Third, although the Job Club has been shown to have a demonstrably powerful effect on job placement rates, its effects on other outcomes have been much weaker to nonexistent. For example, no studies of which we are aware showed Job Club participation to relate positively to participants' satisfaction with the jobs that they obtained (although one study—Rife & Belcher, 1994—found depression decreases among Job Club participants vs. controls). Similarly, research on predictors of job search success, as noted previously, has consistently revealed that job search intensity, which seems to be the primary target of the Job Club, is usually unrelated to job satisfaction (Wanberg et al., 2000). Thus, it seems important to study whether (and how) Job Club procedures might be modified to promote greater job satisfaction as well as job-seeking success.

A recent study may shed some light on how this might be accomplished. Saks and Ashforth (2002), in a longitudinal study of job search among recent college graduates, replicated earlier findings that job search intensity related positively to job acquisition. However, they also found that career planning (defined in this study as having plans, goals, strategies, and objectives for one's career) related positively to later job satisfaction through the effect that career planning had on various perceptions of person-job or organization fit. Thus, those who indicated that they had engaged in career planning in addition to intensive job search efforts found jobs that they perceived as good fits and reported higher postemployment job satisfaction than did those who engaged in intensive job searches without prior career planning. These results, therefore, suggest that the effects of job clubs (and other forms of implementation assistance) on employment quality as well as on search success may be enhanced if participants are provided career planning assistance as part of the intervention. This is certainly a direction for future research—both in testing the effects of career planning as an additional component of Job Club interventions and in exploring how career planning might be most effectively and efficiently incorporated into implementation interventions.

We would be remiss if we did not include some discussion of another intervention that has also shown effectiveness for implementation problems—the JOBS intervention originally described by Caplan, Vinokur, Price, and van Ryn (1989). Although this intervention seems to be somewhat less time intensive (eight 3-hour sessions distributed over 2 weeks in the original study), and was developed from self-efficacy theory (Bandura, 1977) and research on social support (e.g., Vinokur & Caplan, 1987) and stress inoculation

(Marlatt & Gordon, 1985) as opposed to from general behavioral psychology, it shares many characteristics with the Job Club intervention. Foremost among these is in learning practical job-seeking skills (e.g., networking, contacting potential employers, preparing job applications and resumes, and practicing job interviews) in a supportive, but structured group context. Although research on this intervention has been impressive, could serve as an excellent model of programmatic research to be emulated by others, and has shown positive effects on job acquisition among primarily unemployed adults (59% at 4-month follow-up in the original Caplan et al. study), all research that we could identify has been conducted by the program's developers (Caplan et al.; Price, van Ryn, & Vinokur, 1992; van Ryn & Vinokur, 1992; Vinokur, Price, & Caplan, 1991; Vinokur, Price, & Schul, 1995; Vinokur & Schul, 1997; Vinokur, van Ryn, Gramlich, & Price, 1991). There may be two, interrelated reasons for this. First, the intervention was specifically designed to be facilitated by past participants and other peers who have been successful in the job search process. Second, facilitators thus seem to require intensive training by the program's developers, and, as a result, no facilitator manual has been published that could be used by others who might want to implement the program in their own settings.

Thus, although this seems to be a demonstrably effective intervention, it needs replication by independent investigators before it can be recommended with the same confidence that we can recommend the Job Club to professionals seeking a way to promote successful job seeking among their clientele, especially because the Job Club may also have positive effects, obtained by independent investigators, on some of the same types of additional outcomes as the JOBS intervention (e.g., depression and job search self-efficacy beliefs—see Rife & Belcher, 1994, and Sterrett, 1998). The JOBS intervention does, however, have the advantages of being less time intensive than the Job Club and of being peer directed. Its cost-to-benefit ratio may, therefore, favor it over the more intensive Job Club should independent replications continue to support its effectiveness across settings and populations.

Summary and Conclusions

Research over the past decade has allowed us to understand better how jobs are obtained and how job acquisition might be promoted. There is also a demonstrably effective intervention, the Job Club, that represents to us a clear "treatment of choice" for those seeking job-finding assistance. Although we do not imply by this that other forms of job-seeking counseling are ineffective and should be avoided, the fact remains that all comparative outcome research on the Job Club has found it to be clearly more effective than alternative interventions in helping participants find jobs. Thus, we recommend it to clients with problems finding employment.

There is still, however, a great deal that we need to know about the Job Club and other forms of intervention assistance (e.g., JOBS) to maximize their effectiveness for the widest possible array of job seekers. Foremost among the many research questions that still must be addressed, is (to us) whether job satisfaction as well as job search success can be better promoted by incorporating career planning activities into the Job Club, JOBS, and other interventions for persons with implementation problems.

Adjustment Interventions

Workplace adjustment (satisfaction and performance) is a major area of investigation in industrial-organizational psychology and is a central focus of several vocational psychology theories (e.g., Dawis, 2002; Dawis & Lofquist, 1984; Holland, 1997; Lent et al., 1994; Savickas, 2002). The latter (i.e., theories) have also stimulated significant research on factors related to the satisfaction that workers feel about their jobs and careers, and the performance that they attain in them (e.g., Dix & Savickas, 1995; Rounds, 1990; see also Dawis, 2002; Lent et al., 2002, for reviews of research stimulated by the Minnesota Theory of Work Adjustment and Social Cognitive Career Theory, respectively). Collectively, vocational psychology theories and industrial-organizational psychology research have yielded some important insights into how work satisfaction and performance are (or can be) achieved and some equally important suggestions about how each can be improved. Unfortunately, this impressive body of theory and research has not found its way into the empirical literature on vocational counseling and intervention, despite the fact that problems of work adjustment are very frequently encountered by counselors working with adults seeking help for career and other concerns. We could find no intervention studies on the effectiveness of career interventions with career- or work-dissatisfied adults or with those experiencing performance problems on their jobs. Thus, although we seem to know a great deal (see previous sections) about career choice and implementation interventions, we know next to nothing empirically about how problems of work adjustment might be remediated among clients who come to counseling presenting (primarily or secondarily) such workplace concerns.

Thus, we think, future research should begin to focus on testing empirically the effects and effectiveness of interventions with adults experiencing problems of workplace adjustment. There is a rich store of knowledge about person (e.g., neuroticism, extraversion, conscientiousness, self-efficacy, goal setting, and goal facilitation), environmental (e.g., work overload, role ambiguity, supervisor support, work-family conflict, and sexual harassment), and person-environment fit (e.g., correspondence and congruence) factors that can be called on in the design of such interventions (see Hesketh, 2000, and Lease, 1998, for reviews).

CONCLUSIONS

We have attempted in this chapter to cull from a variety of literatures information that might improve current and future career interventions for persons with choice-making, implementation, and workplace adjustment difficulties. We have also attempted to specify and highlight research questions and hypotheses that beg for future attention, and also presented some strategies to direct these research efforts. Although our aim was to promote further an applied science of career intervention, our ultimate goal was practical as well as theoretical and empirical—to inform career practices and to improve the services that the widest variety of persons receive from us for their vocational difficulties. These were the marching orders given to all of us a century ago by Frank Parsons (Parsons, 1909) and represent today both his legacy and the social mission of vocational psychology. We hope that in writing this chapter we were up to the challenge.

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Career Interventions for Racial or Ethnic Minority Persons: A Research Agenda

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“What we need to know is which procedures and techniques, when used to accomplish what kinds of behavior change, are most effective with what kinds of clients when applied by what counselor?”

—Krumboltz (1966, p. 22)

“What counseling techniques (and conditions) will produce what types of results with what types of students?”

—Williamson and Bordin (1941, p. 5)

We are aware of no society in which people, or the groups to which they belong or are ascribed membership, are (or were) considered and treated on an equal basis (cf. Fouad & Brown, 2000 with Brown & Fouad, 2000). In the present society, we generally accept that there is differential access to economic resources, social prestige, and social power, even if we do not accept certain bases on which access is afforded. Consider, also, that occupations represent “ecological niches” in a given society (Gottfredson, 2002). Consequently, career development and helping people both to make career choices and to adjust successfully in the vocational world has real-life consequences. And those consequences would be expected to be particularly significant for racial or ethnic minorities (see Leong, 1995; Leong & Brown, 1995).

Because of its importance to lives and livelihood, scholars contend that the need for psychologically oriented career assistance is ever present and great (Blustein, 1992; Stone & Archer, 1990). It has been argued that the need for effective career counseling is greater than the need for psychotherapy

or "personal" counseling (Crites, 1981). Moreover, the need appears to be increasing (Blustein, 1992; Swanson, 1995), given the radical restructuring of the occupational world, the increasing diversity of social constituents, and the ubiquitous challenges of finding an appropriate "niche." Indeed, it has been shown that racial or ethnic minority persons are more likely to express a need for more (and better) career assistance than are nonminority group persons (Brown, Minor, & Jepsen, 1991). That need has been a long-standing issue and continues unabated (Bowman, 1995; Fouad & Bingham, 1995).

Yet, we know virtually nothing, empirically, about what forms of career intervention work most effectively for different types of problems presented by diverse groups of racial or ethnic minority members working with different types of counselors. A career intervention is "any activity or program intended to facilitate career choice, decision-making, and adjustment" (Fretz, 1981, p. 78). Consider that our initial approach to writing this chapter was to review the extant literature over the last 10 years for career intervention studies that focused on the African American, Asian American, Latino, and Native American clients to see what could be learned from such studies. What we found was that almost no true career intervention study was published during that period, and we are not alone in making this observation (see Bowman, 1993; Fouad & Bingham, 1995). Among the published studies found, some were "preexperimental" in nature, having pretests and posttests but no control group or random assignment. More commonly, many more articles described one or more particular approaches or offered intervention recommendations for working with racial or ethnic minorities; but none of these were evaluated or evaluated effectively. Generally, it was unclear from reading many of the available studies who the intervention participants were and what were their perceived career dilemmas. Whiston, Brecheisen, and Stephens (2003) recently made a similar observation in their report of a meta-analysis of career intervention comparison studies, concluding that almost 80% of the reviewed studies did not report information on the ethnic makeup of the research participants.

Published reviews of the career intervention literature have often indicated that there were too few studies of the relative effectiveness of interventions for racial or ethnic minority persons on which to offer any conclusions (e.g., Brown & Ryan Krane, 2000; Fretz, 1981; Holland, Magoon, Spokane, 1981; Krumboltz, Becker-Haven, & Burnett, 1979; Myers, 1971; Osipow, 1987; Pickering & Vacc, 1984; Whiston, Sexton, & Lasoff, 1998). Thus, there is little real knowledge to guide intervention practice with respect to cultural differences (Arbona, 2000; Spokane, Fouad, & Swanson, 2003).

Notwithstanding, we opt not "to curse the darkness." As the question of Williamson and Bordin (1941) and the research need articulated by Krumboltz (1966), quoted earlier, indicate, career intervention research must advance in

both volume and type if the state of the science is to improve (see also Arbona, 2000; Fretz, 1981; Swanson, 1995; Swanson & Parcover, 1998; Young & Chen, 1999). And nowhere is that more true than with respect to ethnic or racial minority career intervention research. Given the richness that can be found in available reviews of the career intervention research, we attempt to offer a little light in the form of summarizing what we know from the general literature about effective career intervention process and outcome. We believe that knowledge might stimulate and guide ethnic or racial minority career interventions and research. Next, given the conceptual richness of the literature relevant on diverse groups with respect to career choice and decision making, as observed by Spokane et al. (2003), we review potentially important variables and processes to consider in constructing and evaluating ethnic or racial minority career interventions. Finally, we attempt to blend those two sources of information to offer a research agenda to guide prospective career intervention research, research that will lead to answering the question, "What forms of career intervention work most effectively for different types of problems presented by diverse groups of racial/ethnic minority members working with various types of counselors?"

GENERAL CAREER INTERVENTION RESEARCH LITERATURE

What We Know

It is important to learn how "we might tailor our [career] interventions to the client's predicament thereby improving the specificity and the potency of our strategies for assisting clients." (Spokane et al., 2003, p. 454), particularly those who are from racial or ethnic minority groups. The current literature on the differential effects of various treatment approaches gives us some understanding of how we might begin to do so.

We know that even though many past studies were "superficially planned and executed" (Fretz, 1981, p. 77; Super & Hall, 1978, p. 338), the weight of overwhelming evidence indicates that career interventions are effective (Brown & Ryan Krane, 2000; Fretz, 1981; Holland et al., 1981; Krumboltz et al., 1979; Myers, 1971; Osipow, 1987; Oliver & Spokane, 1981; Phillips, 1992; Spokane & Oliver, 1983; Swanson, 1995; Whiston et al., 1998).

It has even been argued that, based on comparisons of effect size, career counseling is more effective than psychotherapy (Hackett, 1993). Group, workshop, and class interventions have been shown to be particularly potent interventions (Spokane & Oliver, 1983; Whiston et al., 2003). Counselor-aided interventions demonstrate larger effect sizes than counselor-free interventions (Brown & Ryan Krane, 2000; Whiston et al.).

Brown and Ryan Krane (2000) offer meta-analytic findings that suggest that four to five counseling sessions may be optimal, though it can be expected that more sessions may be needed for more difficult or chronic client problems. Those authors also demonstrated that crucial intervention components appear to be:

1. Workbooks and written exercises
2. Individualized attention (that is, counselor-aided interpretation and feedback concerning assessment results, career plans, and decision-making strategies with respect to career choice)
3. World-of-work information (e.g., earnings, opportunities, work activities, training requirements, and its organization)
4. Modeling experiences to expand range of possibilities and increase career-relevant skills and self-efficacies
5. Support-building activities (e.g., enlisting the help of family and friends, extending one's social network and mobilizing it, and anticipating key people that might block attainment of career goals; see also Ryan, 1999)

Brown and Ryan Krane (2000) also reported that, although no study employed more than three components, the more components employed in an intervention, the more effective the intervention.

In addition, current data show that it is harder to affect change in career indecision relative to career maturity (Whiston et al., 1998); there is not enough known to make conclusions about relative effect sizes for other outcome variables. Given the contradictory meta-analytic results of Oliver and Spokane (1988) and Whiston et al., (1988) there is not enough known about the effect of treatment intensity (number of hours or sessions) to make useful conclusions other than that Brown and Ryan Krane (2000) showed that the number of sessions evidences a curvilinear relation to magnitude of effect sizes associated with interventions.

Given what we know, there are a number of tentative assertions we can make with respect to career intervention with racial or ethnic minority group persons. First, we would expect career interventions to be effective with such persons, just as they generally have been shown to be. Second, group, class, and psychoeducational interventions are expected to be particularly effective for racial or ethnic group minorities, just as they are for people in general. Finally, the optimal number of counseling sessions can be expected to be the same for racial group minorities as they are for people in general.

What We Do Not Know, Yet Need to Know

Some scholars have argued that almost all of what we know concerns the outcome of career interventions (*viz.*, their effects), but that we know far less

about the career intervention process (Heppner & Heppner, 2003; Swanson, 1995). That is, we know far more about treatment effectiveness than we do about counselor-overt and covert behaviors in session, those of the client, and the interaction between the two that facilitate or inhibit career counseling outcomes. Investigations of working alliance and common factors have been identified as likely fruitful areas of inquiry (Heppner & Heppner; Walsh, 2003).

The present state of the literature clearly indicates that we need more career intervention outcome and process investigations of career interventions (Spokane et al., 2003). Unfortunately, Whiston et al. (2003) reported a trend that career outcome research, the focus of their study, appeared to be on the decline: 60% of career outcome studies were published between 1975 and 1985, whereas 40% of the studies were published over the last 15 years. The decline may exemplify Tinsley's (1994) observation that counseling psychologists are too "trendy" in our research interests, a disposition that works against sustained, programmatic inquiry into critical phenomena.

It should be noted that a number of specific recommendations have been offered for improving the present state of the art in career intervention research and we summarize them here:

1. Many scholars have called for career intervention research where race and ethnic group membership have been employed as potential moderators (Brown & Ryan Krane, 2000; Heppner & Heppner, 2003; Ryan, 1999; Spokane et al., 2003; Walsh, 2003).
2. Some scholars have called for the study of potential psychological moderators of career intervention effects that measure dimensions on which racial or ethnic groups differ that might be expected to impact treatment and its effects, such as cultural perspectives (Heppner & Heppner, 2003), dominant-subordinate and individual-collective dimensions (Spokane et al., 2003), wealth and freedom (Walsh, 2003).
3. There are long-standing calls for more experimental research (Fretz, 1981; Super & Hall, 1978), especially treatment-comparison studies (see also Whiston et al., 2003). The need for manipulation checks or other methods of addressing treatment integrity in future studies has also been noted (Whiston et al.).
4. Because interventions often have multiple effects, it is reasonable that multiple outcomes be assessed. However, some researchers caution against employing too many outcome measures (Whiston et al., 2003).
5. Investigators have called for greater attention in career intervention research to the reliability, validity, sensitivity, and reactivity of outcome measures used (Oliver & Spokane, 1988; Spokane et al., 2003; Swanson, 1995; Whiston et al., 2003).
6. Investigators have called for greater study of actual career clients (Oliver & Spokane, 1988; Swanson, 1995).

7. There have also been calls for studies of the long-term effectiveness of career interventions on work and life satisfaction as well as on work performance and productivity (Brown & Ryan Krane, 2000; Oliver & Spokane, 1988; Walsh, 2003; Whiston et al., 1998).
8. Numerous investigators have repeated Rounds and Tinsley's (1984) call for a reliable and relevant career diagnostic classification system (Brown, Bhaerman, & Campbell, 1992; Oliver & Spokane, 1988; Swanson, 1995). It is reasoned that such a system might help us learn what intervention works best with what specific problem, as well as answer Phillips's (1992, p. 513) crucial question, "Are we able to do what needs to be done?"

**KNOWLEDGE FROM THE CONCEPTUAL
AND THEORETICAL LITERATURE DEVOTED
TO CAREER INTERVENTION WITH RACIAL
OR ETHNIC MINORITIES**

There is some evidence from the psychotherapy literature that negative process and outcomes may attend the failure to address issues especially or particularly salient to racial and ethnic minority clients (cf. Heppner & Heppner, 2003 with Sue & Sue, 1990). And because of the similarity between psychotherapy and many career interventions, there is every reason to believe that the role of racial- and ethnic-group-relevant factors needs to be better understood. Spokane et al. (2003) asserted another important observation:

It is clear that we serve, and indeed should expand our efforts to assist, a wider and more diverse clientele than has ever been the case. The need for our services is more compelling among underserved groups and internationally than it has ever been. (p. 455)

There have been a number of career intervention approaches and models offered for addressing such factors (aka, "culture"; Carter & Cook, 1992; Fouad & Bingham, 1995; Leong & Hartung, 1997; Leung, 1995; Ponterotto, Rivera, & Sueyoshi, 2000; Yost & Corbishley, 1987). All of these approaches and models suggest that factors potentially differentiating racial and ethnic minority clients from majority clients or from other racial ethnic minority group persons should be considered in the career intervention process. Although it was hard to glean from many of the models and approaches, we were able to discern that those "dimensions of differentiation" (Brown & Pinterits, 2001) are expected to affect the content of counseling sessions, the counselor-client relationship, responsiveness to various intervention components, and

counseling outcomes. The models and approaches differ, however, with respect to degree of specificity with which potentially differentiating dimensions were identified or discussed.

Yet, the conceptual and theoretical literature in the field of career development is replete with recommendations of potentially salient and "differentiating" dimensions (see Arbona, 1995; Cheatham, 1990; Fouad & Bingham, 1995; Fouad & Brown, 2000; Gottfredson, 1986; Helms & Piper, 1994; Leong & Brown, 1995; Spokane et al., 2003; Walsh, 2003). As has been suggested by Leong and Brown, we have chosen to organize these by Gottfredson's three types of risk factors, here called "dimensions of differentiation":

Selected dimensions of differentiation from the majority (or people in general):

1. Cognitive and physical ability (Gottfredson, 1986)—cognitive ability includes what and how much an individual has learned as well as a person's ability to solve problems, think abstractly, and adapt to new and changing circumstances, whereas physical ability includes the ability to execute necessary or desired behaviors in relevant performance contexts.
2. Wealth and poverty and socioeconomic capital and hardship (Gottfredson, 1986; Leong & Brown, 1995; Walsh, 2003)—types and degrees of economic and material resources, types and degrees of societal prestige, and access to and control over social values and behavior through political and legal institutions
3. Psychological manifestations of social status (Brown & Fouad, 1999; Fouad & Brown, 2000; Spokane et al., 2003)—an individual's standing (ascribed and self-ascribed) with respect to economic resources, societal prestige, and political/legal power
4. Skill and self-efficacy for managing racism and ethnocentrism, sexism, and classism (cf. Fouad & Brown, 1995; Hackett & Byars, 1996; Leong & Brown, 1995; McWhirter, 1997)—competence and expectancy to effectively manage racism, sexism, and classism in ways leading to the attainment of personal goals
5. Worldview perspectives (Cheatham, 1990; Fouad & Bingham, 1995; Heppner & Heppner, 2003)—the way an individual on the basis of culture perceives his or her relationship to nature, people, animals, institutions, and God
6. Societal estrangement or isolation and acculturation (cf. Arbona, 1995; Cheatham, 1990; Gottfredson, 1986; Leong & Brown, 1995)—fitting into and or succeeding in society
7. Language use and facility (Leong & Brown, 1995)—ability to communicate effectively with societal members, using oral and written language

Dimensions of differentiation from same social circle (one's racial or ethnic group peers):

1. Cognitive ability (Gottfredson, 1986)
2. Racial and ethnic identification and within-group involvement or isolation (Gottfredson, 1986; Helms & Piper, 1994; Leong & Brown, 1995)—ability to fit into and succeed in one's social circle
3. Traditionality of occupational interests (Gottfredson, 1986)—the degree to which one expresses the liking (or disliking) of occupational features in a manner characteristic of others that constitute the social group

Dimensions of familial responsibility (Gottfredson, 1986):

1. Primary caregiver status—whether and to what extent one is involved in providing daily care to dependents, including children and parents
2. Primary economic provider status—whether and to what extent one is the source of economic and material support for dependents

There is a constellation of other possible dimensions of differentiation (e.g., tribal identification, reservation status, and migration status—see Leong & Brown, 1995), but there has been more published discussion of the dimensions listed previously.

With respect to intervention outcomes, a career intervention outcome variable that, according to Fouad and Bingham (1995, p. 333), ought to be considered in future intervention studies is the cultural appropriateness of a client's career decisions. It was unclear what the authors meant by "career choices that are culturally appropriate," but we deduced that Fouad and Bingham would determine this by the cultural appropriateness of the career intervention process employed to help clients make them and the acceptability of the career choices to the client and those salient persons constituting the client's social world.

A number of career intervention process variables have also been identified by a number of scholars (cf. Bowman, 1995; Bingham & Ward, 2001; Fouad & Bingham, 1995): display of openness to and enjoyment of clients' experiences, knowledge of cultural similarities and differences, knowledge of culture-based strengths, openness to clients as teachers, knowing one's biases, and preferences for directive and structured counseling. It can be argued that two intervention process dimensions being variously referred to are therapeutic alliance and therapeutic structure (see Heppner & Heppner, 2003; Spokane et al., 2003; Walsh, 2003).

The available career intervention literature focusing on racial or ethnic minority clients has also identified a number of career intervention needs that include accurate and broad occupational information, accurate appraisal of ability and vocational personality, decision-making skills or planning,

elevated career and educational attainments, coping with racial or ethnic and sex discrimination, and role models that demonstrate effective career decision-making skills and an expanded range of career choices (see Bowman, 1993, 1995; Brown & Pinterits, 2001; Fouad & Bingham, 1995; Hackett & Byars, 1996; Leong, 1995).

LINKING THE ETHNIC AND RACIAL MINORITY CAREER INTERVENTION LITERATURE TO THE GENERAL CAREER INTERVENTION RESEARCH LITERATURE

Strategic and programmatic investigation of the effectiveness of career interventions with racial or ethnic minority persons would significantly advance the field. Is it true that such research will not populate the published literature until more racial or ethnic minorities and working-class persons populate the ranks of college or university researchers? A decade ago, Tinsley (1994) argued that because scholars tend to sustain interest only in research areas that they find interesting, programmatic study of career interventions with non-white, non-middle-class persons will not increase significantly until many more of those who have intrinsic (vested?) interest in the treatment of minority and working-class career concerns are educated as psychological researchers.

It may also be true that so little is empirically known and so much is advanced conceptually and theoretically, that the interested scholar hardly knows where to begin. We thought that we might best catalyze racial or ethnic minority career intervention research if we presented a suggested research agenda.

In doing so, we were mindful of the incisive question asked by Phillips (1992, p. 513) well over a decade ago, and it bears repeating: "Are we able to do what needs to be done?" So many experts, most recently Brown and Ryan Krane (2000) and Whiston et al. (2003), have repeated Rounds and Tinsley's (1984) 2-decade-old recommendation for a diagnostic classification system that might lead to answering the question posed by Phillips. Thus, we choose to start there and offer a classification of career intervention needs. We make no claims of its comprehensiveness with respect to all of the problems racial or ethnic minorities face with respect to career development or with respect to the vast range of career interventions that could be brought to bear on those problems. Moreover, we leave it to future investigators to demonstrate the most effective ways of identifying persons fitting the various categories. Also, the reliability (or lack thereof) of the classifications will need to be determined through future research. Yet, we believe the categories we offer below can easily link with known and important intervention "ingredients" (cf., Brown & Ryan Krane, 2000; Brown et al., 2003), facilitating both career

intervention and intervention research, an important consideration according to Rounds and Tinsley (1984).

In performing the review of the literature that constitutes the basis of this chapter, we discovered that many of the career intervention needs of racial or ethnic minorities that have been identified parallel those that have been identified via the general career development research. Both sets of intervention needs appear to closely align with recently reported critical career intervention ingredients. Consider the following list of ethnic minority career intervention needs that were presented earlier:

1. Accurate and broad occupational information
2. Accurate appraisal of ability and vocational personality
3. Decision-making skills and planning
4. Elevated career and educational attainments
5. Skills to manage discrimination and ethnocentrism
6. Skill and efficacy-building role models

Now consider Brown and Ryan Krane's (2000) critical career intervention ingredients but expressed as intervention needs, slightly reordered to facilitate comparison:

1. Access to occupational information on career pursuits
2. Objective and individualized self-appraisal information
3. The development, prioritization of, and commitment to clear, need-congruent, and coherently organized career and life goals (in writing)
4. Social support for aspirations and to overcome occupational barriers
5. Role models for how to establish goals, gain self-understanding, marshal support, and choose current career paths

The only career intervention needs that we found reported in the racial or ethnic minority career intervention literature that appear unaddressed were the need for elevated career and educational attainments and the need for skills to manage discrimination and ethnocentrism. At present, it is unclear whether the need for elevated career and educational attainments would remain unaddressed if all five critical ingredients of Brown and Ryan Krane (2000) were employed in a career intervention. The issue is an empirical one that yet awaits examination because Brown and Ryan Krane reported that none of the 62 studies on which their meta-analysis was based employed more than three of the identified critical ingredients.

One might also argue that skills for coping with discrimination and ethnocentrism may be very important for many racial or ethnic minority clients, and that the critical ingredients of Brown and Ryan Krane (2000) do not specifically identify such needs or how to work with them. Again, both the

importance to career intervention and the effectiveness of its treatment by the Brown and Ryan Krane ingredients await investigation. But we can assume, for the present, that many of the identified needs of racial ethnic minorities “map on” to the intervention ingredients of Brown and Krane.

A Recommended Research Agenda

So assuming that we evaluate actual clients in terms of the importance of each of the career intervention needs, we have a basis for determining the effectiveness and relative effectiveness of one or more of the Brown and Ryan Krane (2000) intervention components. And now, we have a basis for pursuing what we believe are a number of important investigations.

Perhaps the first and most basic research question to have answered is:

1. Does the effectiveness of the five Brown and Ryan Krane (2000) ingredients vary as a function of the racial or ethnic group membership of the client (as suggested by Brown & Ryan Krane, 2000, p. 754)?

A question that runs a close second to the first one is:

2. Which ingredients are important (either in an absolute or relative sense) in conducting career interventions with racial or ethnic minorities, especially with respect to helping them effectively manage various ecological barriers, constraints, and hindrances?

Because most scholars of racial or ethnic minority career development have argued that various dimensions of differentiation from majority group persons or people in general cause the career behavior of racial or ethnic minorities to evidence distinctiveness from majority group persons, it is important to investigate:

3. Do differences on any dimension associated with differentiation from majority-group persons or people in general alter the effectiveness of any of the five Brown and Ryan Krane (2000) ingredients of effective career interventions?
4. Does the effectiveness of career interventions vary according to the extent to which racial or ethnic minority persons, in particular, endorse the six career intervention needs listed earlier as presenting concerns?
5. Is there differential effectiveness of one or more of the five career intervention ingredients for the six career intervention needs, and does that differential effectiveness vary as a result of any, some, or most of the dimensions of differentiation from people in general (or majority-group persons)?

Because structured and directive approaches have been recommended in treating racial or ethnic minorities (cf. Atkinson & Lowe, 1995; Bowman, 1993; Sue & Sue, 1990), are viewed as culture related (Spokane et al., 2003), and appear to be potent interventions (Brown et al., 2003), it is important to investigate:

6. Do structured approaches to implementing one or more of the five ingredients identified by Brown and Ryan Krane (2000) lead to stronger and more positive effects than relatively less structured approaches for racial and ethnic minority clients?
7. Does the effectiveness of structured approaches to implementing one or more of the five ingredients vary as a function of any of the dimensions of differentiation, especially those associated with individual-collective orientation or social status dimensions.

Group interventions consistently have been recommended as being especially effective for racial or ethnic minority clients on the assumption that many come from collectivistic cultures (see Bowman, 1993, 1995; Fouad & Bingham, 1995; Leung, 1995; Sue & Sue, 1990). But because there is very little data on which to base such recommendations, it is important to investigate:

8. Are group approaches to implementing one or more of the Brown and Ryan Krane (2000) career ingredients more effective than individual approaches for clients from different ethnic and racial groups?
9. Does the effectiveness of one or more of those ingredients vary as a function of one or more of the dimensions of differentiation, particularly those associated with individual-collective orientation?

Finally, a call is echoing in the profession for career intervention process research (Heppner & Heppner, 2003; Rounds & Tinsley, 1984; Spokane et al., 2003; Swanson, 1995). Given that the racial and cultural characteristics of the counselor and client are expected to be interactional, influencing counseling content, process, and outcomes, it is critically important to study:

10. Do the racial or ethnic characteristics of career intervention clients and counselors affect content and process, particularly the process variable of "working alliance" (see Heppner & Heppner, 2003)? Other process variables that occur to us as important to study include client expectations about and preferences for career interventions and perceptions of the counselor and counseling session(s) (see Swanson, 1995).
11. Do one or more dimensions of differentiation (from people in general or from one's social group) affect career intervention content, process, and outcomes (including working alliance, client expectations

about and preferences for career interventions and perceptions of the counselor and counseling session(s)?

12. Do the racial or ethnic or psychocultural characteristics of clients and counselors affect the content and process of career interventions (cf. Helms, 1984; Helms & Cook, 1999; Helms & Piper, 1994)?

Closing Recommendations

We close by echoing the same recommendations for quality career intervention research that scholars have issued for general studies of career interventions (see Fretz, 1981; Oliver & Spokane, 1988; Swanson, 1995; Whiston et al., 2003):

1. Employ manipulation checks and control treatment integrity.
2. Long-term follow-up studies of life and work satisfaction and work productivity or effectiveness that could be said to result from effective interventions would be dearly prized (Walsh, 2003).
3. Treatment or intervention comparison studies are more likely to be of value than are simple treatment-control group studies.
4. Employ real clients if at all possible, or at least those with some identifiable and real career-related concern.
5. Control for treatment intensity (e.g., number of sessions, number of hours, and number or type of intervention components) when possible.
6. Report all key statistics (for each treatment group: means, standard deviations, sample sizes; also, *F* ratios and *t* values).
7. Report on the reliability and validity of all measures.
8. Randomly assign clients to interventions.

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PART THREE

**RESEARCH ON WORK
ADJUSTMENT**

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Work Adjustment

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Vocational Psychology has a proud history of strong theories, most of which are empirically testable and which have arisen from the need to assist people in career choice and adjustment. The Minnesota Theory of Work Adjustment (TWA; Dawis & Lofquist, 1984; Lofquist & Dawis, 1969) is in the best tradition of an empirically testable and applicable theory. The theory arose from the consultancy undertaken at the University of Minnesota as part of the Work Adjustment Project started in 1957, which grew out of research into job placement problems of the disabled. Much of the early research leading to TWA was published as part of the Minnesota Studies in Vocational Rehabilitation (e.g., Betz, Weiss, Dawis, England, & Lofquist, 1966; Weiss, Dawis, Lofquist, Tinsley, & Warnken, 1969). The early context for the development of the construct of work adjustment, and TWA more generally, lay in the measurement tradition at Minnesota that fitted with the need for objective criteria to determine the effectiveness of rehabilitation programs. A British occupational psychologist, A. Heron (1954), drew attention to satisfaction and satisfactoriness as two components of occupational adjustment, and these formed the cornerstone criteria in TWA.

Drawing on an earlier 1960 Monograph, Betz et al. (1966) argued that satisfaction included an overall component as well as satisfaction with specific aspects such as supervision, coworkers, working conditions, hours of work, pay, and types of work. More importantly, it was also viewed as including satisfaction arising from the fulfillment of aspirations, expectations and needs, and from having similar interests to those working successfully in

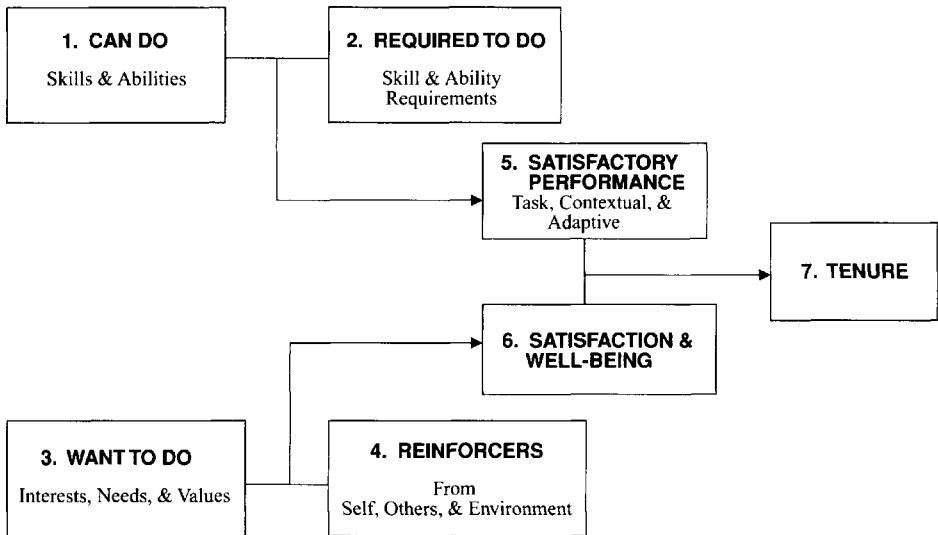


FIG. 9.1. Diagrammatic representation of the Minnesota Theory of Work Adjustment. Adapted from Hesketh, B., & Dawis, R. V. (1991). The Minnesota Theory of Work Adjustment: A conceptual framework. In B. Hesketh & A. Adams (Eds.), *Psychological perspectives on occupational health and rehabilitation* (pp. 1-16). Sydney: Harcourt Brace Jonanovich Group Pty Ltd.

comparable occupations. This early discussion highlights the importance of facets of satisfaction, as well as the role of fit or similarity of interests among workers, features of both TWA and Holland's (1997) fit theory. Satisfactoriness, the other major index of work adjustment, included correspondence between ability and job requirements, efficiency, productivity, the ability to get along with a supervisor and coworkers, and a willingness to follow company policies. The idea that a fit between job requirements and supplied abilities contributes to satisfactory performance is implicit in this definition and remains the cornerstone of TWA and selection models more generally. As is shown in this chapter, these components of the Minnesota Theory of Work Adjustment are in fact core constructs in industrial and organizational psychology and have been the subject of decades of research.

Over the years, much attention has been given to the "matching" structural aspects of TWA, summarized in Figure 9.1, and the associated development of instruments and measures. However, many summaries of TWA have failed to capture the underlying influence of learning theories on the development of abilities, skills, and needs, and have also missed the richness of the dynamic component of the theory that deals with how both individuals and environments change. Underlying TWA is the idea that the response potential of individuals becomes associated with reinforcers or environmental conditions

that in turn maintain or shape behavior. These patterns of response and reinforcement develop over time into “abilities” and primitive “needs.” “Abilities are basic dimensions of response capability generally utilized by the individual. Needs are preferences for responding in certain stimulus conditions which have been experienced to be reinforcing” (Dawis, Lofquist, & Weiss, 1968, p. 9). The dynamic component of TWA ensures continuing contemporary interest in the model because of the way in which the theory accommodates the current focus on adaptation and change in the work environment.

In the Minnesota psychometric tradition, the major contribution of the early research on TWA was the development of measures for each component part of the model. Fortunately, however, the framework is sufficiently general that alternative measures can be substituted for the constructs. In the next section, the theory and the original measures are outlined together with examples of a more recent overlay.

MINNESOTA THEORY OF WORK ADJUSTMENT

Figure 9.1 provides a simplified summary of the structural aspects of the Minnesota Theory of Work Adjustment, but is updated to incorporate more general and contemporary terminology. In TWA, work is viewed as an interaction between the individual and the work environment, with work adjustment reflecting mutual responsiveness of each to the other's needs and requirements (Lofquist & Dawis, 1969). Specifically, the work environment requires certain tasks to be performed, whereas the individual brings capabilities such as skills and abilities to bear on these tasks. In exchange, the individual has needs to be met and requires certain compensations and working conditions. When the work environment's requirements are being met, satisfactory performance is more likely. Similarly, satisfaction is related to the extent to which the work environment is capable of reinforcing the needs and values of the employee. The two primary indicators of work adjustment are satisfaction and satisfactoriness (satisfactory performance), both of which are required for an ongoing work relationship (tenure). The explicit TWA propositions outlining the theory are provided in Table 9.1.

There are several important principles in TWA that make it a particularly valuable theory of career choice, adjustment, and development:

1. *Sophisticated simplicity.* The simplicity of the theory is deceptive, in that there are depths to the predicted relationships in TWA more implicit in the propositions in Table 9.1 than in the diagram in Figure 9.1. However, its superficial simplicity is an aid in explaining the theory to employers and clients.

TABLE 9.1
Propositions in the Minnesota Theory of Work Adjustment

<i>Proposition I</i>	An individual's work adjustment at any point in time is indicated by the individual's concurrent levels of satisfactoriness and satisfaction.
<i>Proposition II</i>	Satisfactoriness is a function of the correspondence between an individual's abilities and the ability requirements of the work environment, provided that the individual's needs correspond with the reinforcer system of the work environment.
<i>Corollary IIa</i>	Knowledge of an individual's abilities and satisfactoriness permits the determination of the effective ability requirements of the work environment.
<i>Corollary IIb</i>	Knowledge of the ability requirements of the work environment and of an individual's satisfactoriness permits the inference of the individual's abilities.
<i>Proposition III</i>	Satisfaction is a function of the correspondence between the reinforcer system of the work environment and an individual's needs, provided that the individual's abilities correspond with the ability requirements of the work environment.
<i>Corollary IIIa</i>	Knowledge of an individual's needs and satisfaction permits the determination of the effective reinforcer system of the work environment for the individual.
<i>Corollary IIIb</i>	Knowledge of the reinforcer system of the work environment and of an individual's satisfaction permits the inference of the individual's needs.
<i>Proposition IV</i>	Satisfaction moderates the functional relationship between satisfactoriness and ability-requirement correspondence.
<i>Proposition V</i>	Satisfactoriness moderates the functional relationship between satisfaction and need-reinforcer correspondence.
<i>Proposition VI</i>	The probability of an individual being forced out of the work environment is inversely related to the individual's satisfactoriness.
<i>Proposition VII</i>	The probability of an individual voluntarily leaving the work environment is inversely related to the individual's satisfaction.
Combining Propositions VI and VII, we have:	
<i>Proposition VIII</i>	Tenure is a joint function of satisfactoriness and satisfaction.
Given Propositions II, III, VIII, this corollary follows:	
<i>Corollary VIIIa</i>	Tenure is a function of ability-requirement and need-reinforcer correspondence.
<i>Proposition IX</i>	Work personality-work environment correspondence increases as a function of time.

(Continued)

TABLE 9.1
(Continued)

<i>Proposition X</i>	The correspondence between work personality style and work environment style moderates the prediction of work adjustment from the correspondence between work personality structure and work environment structure.
<i>Proposition XI</i>	The flexibility of work environment moderates the functional relationship between satisfactoriness and ability-requirement correspondence.
<i>Proposition XII</i>	The flexibility of the individual moderates the functional relationship between satisfaction and value-reinforcer correspondence.
<i>Proposition XIII</i>	The probability that the work environment will use adjustment modes is inversely related to the individual's satisfactoriness.
<i>Corollary XIIIa</i>	Knowledge of this probability associated with the individual's satisfactoriness permits the determination of the work environment's flexibility threshold.
<i>Proposition XIV</i>	The probability that the individual will use adjustment modes is inversely related to the individual's satisfactoriness.
<i>Corollary XIVa</i>	Knowledge of this probability associated with the individual's satisfaction permits the determination of the individual's flexibility threshold.
<i>Proposition XV</i>	The probability that the work environment will act to remove the individual is inversely related to the perseverance level of that work environment.
<i>Corollary XVa</i>	Knowledge of this probability associated with the work environment's perseverance permits the determination of the work environment's perseverance threshold.
<i>Proposition XVI</i>	The probability that the individual will act to leave the environment is inversely related to the perseverance level of that individual.
<i>Corollary XVIa</i>	Knowledge of this probability associated with the individual's perseverance permits the determination of the individual's perseverance threshold.
Given Propositions VII, XV, and XVI, it follows that:	
<i>Proposition XVII</i>	Tenure is a function of satisfactoriness, satisfaction, and the perseverance levels of the individual and of the work environment.

Adapted from Hesketh, B., & Dawis, R. V. (1991). The Minnesota Theory of Work Adjustment: A conceptual framework. In B. Hesketh & A. Adams (Eds.), *Psychological perspectives on occupational health and rehabilitation* (pp. 1-16). Sydney: Harcourt Brace Jonanovich Group Pty Ltd.

2. *Symmetry*. The symmetry lies in the use of similar underlying constructs on which to assess the individual and the work environment, in both the structural and the dynamic components of the theory.
3. *Emphasis on structure and change process*. The theory provides a structural basis for assessing "fit" or correspondence at any one time, while also outlining the basis for measuring and predicting change, both of and by people and work environments.
4. *Testability and measurement*. The testability of the theory arises from the measures that have been developed, in association with the constructs, and the testable propositions.
5. *Comprehensiveness*. Few theories other than those of TWA are capable of being applied to career choice as well as to selection, training, ergonomics, and other organizational interventions. The theory also addresses the "can do" as well as the "want to do," or motivational component of work behavior.
6. *Generality*. Associated measures can be substituted for TWA constructs enabling the theory to be used more broadly than it is in career development and choice.
7. *Grounding in learning theory concepts*. One of the lasting features of TWA is its link to fundamental learning principles. The concept of reinforcement value, or the potential of an occupational reinforcer to reinforce behavior (Dawis, 1994) derived from the early learning theory tradition of Tolman (1932), underlies the TWA concept of psychological needs. In addition, TWA drew on Skinner's perspective of reinforcer class. Skinner's approach is content free, whereas Tolman was more interested in how stimuli came to acquire varying reinforcement values. Future development of the theory would benefit from revisiting and updating the links with learning theory (Mazur, 1990; Schwartz, 1984).

STRUCTURAL COMPONENTS

Abilities and Skills

Dawis (1994) argues that the concept of abilities (see box 1, figure 9.1) is seen as a point of convergence with other theories of career development. It has its basis in individual differences, which is an offshoot of experimental psychology and has anticipated modern cognitive psychology. The measurement of abilities was the most well developed at the time TWA was first conceptualized, and even today psychologists continue to place a major emphasis on ways of assessing individual differences in cognitive and other abilities. Early tests of the theory on rehabilitation clients made use of the General Aptitude Test Battery (GATB), with its measures covering General Learning

ability (G), Verbal (V), Numerical (N), Spatial (S), Form Perception (P), Clerical Perception (Q), Motor Coordination (K), Finger Dexterity (F), and Manual Dexterity (M). Other multiaptitude test batteries could be substituted for the GATB, and more recently other construct-oriented approaches have developed under the general label of “competency assessment” (Schippmann et al., 2000).

Dawis (1994) emphasizes the differences between abilities and skills in TWA. Relative to skill, ability is more stable because of a very lengthy learning process. Ability can be measured through tests that derive from the cognitive components of ability (e.g., French, Ekstrom, & Price, 1963). On the other hand, skills are more specific and flexible and can be developed more easily. Abilities are higher order skills; thus, having a particular skill means that one has an underlying ability. However, having a particular ability does not necessarily imply having a skill, as the individual may not have been exposed to the required learning experiences. Ability testing can only provide information about the level of skill that could be attained given the right learning experiences. Predicted skill level is referred to as “aptitude” in TWA, and as Dawis (1994) states, “Abilities, as indicators of aptitude, can be used to predict (or help predict) socially significant future behaviour, such as school or job performance” (p. 34).

Cattell (1965), Ackerman (1992), and Stankov (2000) emphasize the differential component of intelligence, including fluid intelligence (G_f), crystallized intelligence (G_c) and visualization. More recently, Ackerman (1996) has argued that one should think of a knowledge component to intelligence, the type of domain-specific knowledge that accumulates from extended advanced education, training, and experience in particular areas. This development makes it possible to show the value of correspondence between work experiences that relate to job requirements as a predictor of performance (see Allworth & Hesketh, 2000).

Ability and Skill Requirements

The principle of symmetry requires that the ability and skill *requirements* (see box 2, Figure 9.1) be measured on similar dimensions to those used to assess an individual. The measurement of this domain derives from the job analysis literature. The original TWA approach relied quite heavily on Functional Job Analysis (Fine, 1974), and the People, Data, Things requirements provided in the *Dictionary of Occupational Titles* (United States Employment Service, 1977). Hesketh, Adams, and Allworth (1991) provide a summary and overview of several job analysis approaches and highlight the shift toward a more differentiated approach to analyzing cognitive requirements in jobs. Even more recently, the competency analysis approach has dominated (Schippmann et al., 2000), and organizational or team analysis is often substituted for job analysis.

An important contribution that TWA can make to the competency debate is to show that the common underlying competency dimensions can be used to (a) analyze job, team, or organizational requirements; (b) describe the competencies that individuals or teams possess; and (c) help develop measures of individual (or group) performance or satisfactoriness that relate to these same dimensions.

Needs and Values

TWA defines needs (see box 3, Figure 9.1) as the person's requirements for reinforcers; thus, measurement is aimed at eliciting what reinforcers individuals seek on the assumption that needs can be inferred from reinforcement preferences. The symmetry in measuring the person and the work environment derives from the view that a need is for a specified reinforcing condition in the work environment. Early measurement of needs and values occurred through the Minnesota Importance Questionnaire (MIQ), which included 20 need dimensions (outlined in Table 9.2) that were common to the majority of working people (Weiss, Dawis, England, & Lofquist, 1964) and used an idiographic approach to assessing the relative importance of needs. These 20 needs factor analyze into five work values which, according to TWA, are higher order needs, "Needs are viewed as zero-order variables and values as factors" (Dawis, 1994, p. 35).

The five higher order values, with the component needs from Table 9.2 indicated in brackets, are:

1. *Achievement*. The importance of feedback and accomplishment from the work or task itself (needs 1 and 2)
2. *Autonomy*. The importance of self-control and initiative in work generally (needs 9 and 13)
3. *Status*. The importance of recognition (needs 4, 5, 12, and 16)
4. *Altruism*. The importance of harmony with and service to others (needs 8, 11, and 15)
5. *Safety and Comfort*. The importance of stability and predictability in the environment (needs 6, 17, and 18) and an environment free from stress (needs 3, 7, 10, 14, 19, and 20)

The structure of the MIQ requires respondents to express preferences for 20 needs, either through a paired comparisons exercise or a multiple-ranks exercise. In addition, an associated absolute judgment about the need is made. This way of eliciting needs and values fits well with the concept of reinforcers and the Premack Principle, in that the results essentially provide a hierarchy of preferences for reinforcers in the environment.

TABLE 9.2
Needs Assessed in the Minnesota Importance Questionnaire (MIQ)

<i>Need</i>	<i>Example</i>
1. Ability Utilization	I could do something that makes use of my abilities.
2. Achievement	The job could give me a feeling of accomplishment.
3. Activity	I could be busy all the time.
4. Advancement	The job would provide an opportunity for advancement.
5. Authority	I could tell people what to do.
6. Company Policies & Practices	The company would administer its policies fairly.
7. Compensation	My pay would compare well with that of other workers.
8. Coworkers	My coworkers would be easy to make friends with.
9. Creativity	I could try out some of my own ideas.
10. Independence	I could work alone on the job.
11. Moral Values	I could do the work without feeling that it is morally wrong.
12. Recognition	I could get recognition for the work I do.
13. Responsibility	I could make decisions on my own.
14. Security	The job would provide for steady employment.
15. Social Service	I could do things for other people.
16. Social Status	I could be somebody in the community.
17. Supervision—Human Relations	My boss would back up employees with top management.
18. Supervision—Technical	My boss would train employees well.
19. Variety	I could do something different every day.
20. Working Conditions	The job would have good working conditions.

Adapted from Hesketh, B., & Dawis, R. V. (1991). The Minnesota Theory of Work Adjustment: A conceptual framework. In B. Hesketh & A. Adams (Eds.), *Psychological perspectives on occupational health and rehabilitation* (pp. 1-16). Sydney: Harcourt Brace Jonanovich Group Pty Ltd.

Other measures of needs, interests, and values include Super's (1970) Work Values Inventory, Pryor's (1983) Work Aspect Preference Scale, the various measures of Holland interests, including the Strong Interest Inventory (Harmon, Hansen, Borgen, & Hammer, 1994), and an increasing array of personality and work attitude scales.

The theoretical components and associated measures for TWA were developed before personality and its measurement obtained its current popularity in I/O psychology. In updating TWA, personality needs to be incorporated, although it is not readily apparent exactly where personality fits into the structural components of the model. The identification of the Big Five and

subsequent research (e.g., Barrick & Mount, 1991) using these factors to predict job performance would suggest that personality measurement should be included in box 1 with knowledge, skills, and abilities. However, other research (e.g., Ackerman & Heggestad, 1997; De Fruyt & Merielde, 1999; Gottfredson, Jones, & Holland, 1993) shows that there are systematic relationships between interests and personality suggesting that personality could be an underlying enabler of interest development and therefore should fit in box 3 (Figure 9.1). Dawis (1994) actually alludes to the more overarching nature of personality by highlighting that: "Skills and needs might be thought of as surface traits, and abilities and values as source traits of personality" (p. 35). Thus, personality can be considered a fundamental construct underlying TWA.

Reinforcers From the Environment

Early research on Occupational Reinforcer Patterns (ORPs) outlined the methodologies that might be used to obtain information on environment reinforcers (see box 4, Figure 9.1), including direct observation, estimation, and inference. The Minnesota Job Description Questionnaire used the same 20 need statements outlined previously, but asked supervisors to rate how well each statement described a particular job. The statements were reworded to describe stimulus conditions in work, and a multiple-ranks exercise pitted each statement against the other at least once. In addition, supervisors were asked to make an absolute judgment about each statement in terms of whether it did or did not describe the job in question (Borgen, Weiss, Tinsley, Dawis, & Lofquist, 1968). These data, together with the information about the skill and ability requirements in relation to Data, People, and Things (Fine, 1974), were used to form the Minnesota Occupational Classification System (MOCS II; Dawis, Lofquest, Henly, & Rounds, 1979-1982). This multiaxial classification system yielded 78 taxons permitting commensurate assessment of work environments in terms of both the ability requirements (27 major groupings) and the six major occupational reinforcer patterns. This research is in some respects a forerunner to recent configural approaches to describing work environments (DeFruyt, 2002; Gustafson & Mumford, 1995), where environments are clustered and multiple dimensions are used to define and separate the various clusters.

The learning theory tradition of TWA can be seen in the manner in which the predictability and nonpredictability of environments could be thought of in terms of fixed versus variable schedules of reinforcement, whereas the source of reinforcement could be related to ratio versus interval schedules (self vs. nonself, with nonself further subdivided into social and nonsocial environments). Very neatly, the reinforcers can be grouped into these three categories of reinforcers (self, other people, and the environment).

The symmetry of TWA is highlighted by linking these categories to the associated work values of Achievement and Autonomy (that derive reinforcement from the self), Status and Altruism (that depend on other workers for their reinforcement), and Safety and Comfort (that depend on the external nonsocial environment for reinforcement). Furthermore, these three categories map onto the Alderfer (1972) ERG theory of job satisfaction that involves a collapsing of the five-factor Maslow (1943) hierarchy of needs into the three categories of Energy, Relatedness, and Growth needs. The approach used by both Alderfer and TWA avoids the pitfalls of the dynamic posited in Maslow's hierarchy, a dynamic that has not sustained empirical support (Lawler & Suttle, 1972) and provides a better fit with the factor analytic data.

Satisfactory Performance (Satisfactoriness)

Although many theories of career development have tended to emphasize an individual perspective, TWA has also incorporated the employer perspective through the inclusion of the construct of satisfactoriness (see box 5, Figure 9.1) derived from Heron (1954). The Minnesota Satisfactoriness Scales (MSS) ask the employer to rate how well the individual is performing compared to others in his or her work group on a dimension that one would now classify as *task performance* (quantity and quality of work), *contextual performance* (e.g., accept direction from supervisor and work as a member of a team), and *adaptive performance* (e.g., adapt to changes in procedures or methods and perform tasks requiring variety and change in methods). More recent research on this theme (e.g., Allworth & Hesketh, 1999; Borman & Motowidlo, 1997; Griffin & Hesketh, 2001; Pulakos et al., 2002) has examined predictors of each of these three components. The MSS also has sections that address what is currently called "counterproductive behavior" (come late for work, become upset and unhappy, and need disciplinary action), as well as a useful set of three questions asking whether the rater would give the ratee a pay raise, transfer the ratee to a job at a higher level, or promote the ratee to a position of more responsibility.

Dawis (1994) points out that, in addition to satisfaction and satisfactoriness, there are two other forms of satisfaction, namely, the individual's satisfaction with his or her own performance and the organization's satisfaction with its performance. This introduces a concept of self-assessment that is increasingly being used within industrial-organizational (I/O) psychology generally and in fit research specifically. Extending the idea of self-assessment, many researchers tend to rely on direct estimates of fit (subjective fit), rather than on measuring the person and the environment separately. Most recently, Lauver and Kristof-Brown (2001) examined differences among subjective estimates of person-job fit and person-organization (P-O) fit in terms of capacity to predict job satisfaction and intentions to quit. Both predicted job satisfaction,

but P-O fit was a better predictor of intentions to quit. Cable and Scott De Rue (2002) examined the convergent and discriminant validity of subjective fit indices. This is one of the few studies external to TWA to include the concept of perceived fit between job demands and abilities as well as perceived fit between needs and supplies. It is interesting to note that these authors acknowledge TWA in relation to the latter, but fail to acknowledge that TWA incorporates a demands-ability supply fit. Direct estimates of fit overcome the problem of composite measures (discussed in the following section) and they are much easier to obtain. However, such measures fail to provide a basis for understanding the derivatives of fit, nor do they permit the identification of changes to component parts during adaptability and adjustment. The separation of the two components of fit (needs-supplies and reinforcers and ability-job requirements) has been a feature of TWA. The need for this separation was confirmed by Cable and Scott De Rue, who also found that self-assessed fit between job requirements and abilities did not predict performance even though there is an array of research showing that objective measures of ability, based on ability requirements in a job, do. Not surprisingly, Cable and Scott De Rue found that perceived needs-supplies fit was the best predictor of job and career satisfaction and occupational commitment, whereas P-O fit was a better predictor of turnover.

Satisfaction

The emphasis placed on satisfaction in the Minnesota Theory of Work Adjustment followed the Human Relations era (Roethlisberger & Dickson, 1939) and built on earlier theories of job satisfaction (see box 6, Figure 9.1) outlined by Hoppock (1935) and Herzberg, Mausner, and Snyderman (1959). As previously mentioned, satisfaction is a function of correspondence between the reinforcer system of the work environment and an individual's needs (Proposition III).

The long version of the Minnesota Satisfaction Questionnaire (Weiss et al., 1964) consists of 100 items designed to assess satisfaction with 20 work reinforcers that correspond to the 20 needs outlined earlier. Participants rate statements using a Likert scale ranging from not satisfied to extremely satisfied. The shorter version involves endorsing 20 summary statements. This shortened version of The Minnesota Satisfaction Questionnaire has been more widely used than all other instrumentation associated with TWA, and is now one of the most frequently cited satisfaction measures (Warr, 1991).

Dawis and Lofquist (1981) summarize literature on job satisfaction highlighting its moderate correlation with performance but stronger relationship with withdrawal behaviors such as turnover, absenteeism, and tardiness. Job satisfaction is important for mental health, and fortunately Tziner and Meir (1997) have extended the model to include this.

Tenure and Withdrawal Behavior

The ultimate test of any relationship is how long the two parties continue to interact, and the primary index of this is tenure (see box 7, Figure 9.1). Propositions VI, VII, VIII, and XVII deal with the role of tenure in TWA. However, operationalization of tenure is not simple. Does one consider years on the job, and years in the organization; or should one obtain proxy or antecedent measures such as job occupational or organizational commitment, intention to leave, absenteeism, lateness, and other withdrawal behaviors? In TWA, tenure is used to cover the length of a relationship that can be terminated as the result of voluntary departure by the individual or termination of employment by the employer. In recent literature, the concept of withdrawal behavior has been used to include voluntary turnover as well as absenteeism, lateness, and other behaviors that indicate a reduced affective commitment to work. Each of these topics has been the subject of extensive theory development and review, and in this chapter we simply refer readers to a few of the more recent articles on the topic and to Tziner and Meir (1997), who expand TWA to take account of more recent research on predictors of turnover.

Subsequent to Tziner and Meir (1997), Krausz, Koslowsky, and Eiser (1998) developed and tested a withdrawal progression model and found that lateness and absence over 2 years predicted both satisfaction and intention to leave. Morrow, McElroy, Laczniak, and Fenton (1999) found that absenteeism (sick leave) showed a positive relationship with voluntary turnover, whereas performance was negatively related to voluntary turnover. There was no interaction between absenteeism and performance in predicting turnover. Interestingly, they found that recent performance data did not predict turnover as well as did performance data collected a longer time before. Meyer, Stanley, Herscovitch, and Topolnytsky (2002) provide a comprehensive summary and meta-analysis. Their meta-analytic data found a strong negative relationship between commitment and withdrawal cognition and turnover and turnover intentions. A strong relationship exists between affective commitment and overall job satisfaction. Affective commitment was also strongly related to perceived organizational support. The Meyer et al. meta-analysis suggests that this is important in predicting affective commitment and job satisfaction.

Iverson and Deery (2001) extend the study of employee withdrawal to include positive and negative affectivity. Future research may find a way of linking the style variables discussed in the following section to standard personality dimensions through research such as this examining the relationship of personality to withdrawal. As is discussed, variables such as flexibility in TWA determine when adjustment strategies are initiated, whereas perseverance determines how long parties persist in trying to achieve fit. It does not seem unreasonable to posit a personality profile involving combinations

of conscientiousness, neuroticism, and openness to experience that could similarly predict the start and end of adjustment strategies; but of course this must be researched.

DYNAMIC COMPONENT OF TWA

Achieving correspondence is the essence of TWA, and Dawis (1994) argues that this accords with the ancient Chinese tradition that highlights the "ideal of personal harmony with the environment" (p. 36). Of course, choosing the "right" job or career, or selecting the right person for a job is the most obvious way of at least starting to achieve this harmony, and these are components of Schneider's (1997) Attraction-Selection-Attrition (ASA) model. However, Schneider's ASA model assumes that if the attraction and selection have not worked, attrition results. TWA takes a less pessimistic view, arguing that employees as well as organizations can strive interactively to achieve fit, albeit within constraints. The orientation of TWA is one that provides a basis for counselors and coaches to help those at work achieve more satisfactory outcomes.

The change component of TWA is based on systems or control theory models, where discordance and its associated dissatisfaction trigger behavioral actions to reduce the tension. A mismatch between skills and abilities and their requirements, or between needs and values and the reinforcement of these, creates dissatisfaction, thus tension on the part of the employer and the individual, respectively, in each case providing a stimulus to reduce the tension. The descriptions and labels used for the personality-style variables in TWA tend to obscure their potential usefulness. In the original TWA, the content-free variables that deal with response latency, intensity, pattern, and durations are:

Celerity. The speed of initiating interaction with the environment

Pace. The level of activity typically exhibited in interaction with the environment

Rhythm. The pattern of the pace of interaction (steady, cyclical, or erratic)

Endurance. The sustaining of the interaction.

Hesketh (1995) suggests that these variables taken together might provide an alternative way of conceptualizing conscientiousness, in that they might be able to explain the "latency, intensity, pattern and duration of initiating adjustment or career enhancing behaviors in a work context" (p. 276).

Unfortunately to date, no effective measures have been developed for these dimensions, but there are ideas implicit in these style variables that are sufficiently different from traditional personality measures to warrant attention.

It is quite possible either that computer-simulated work environments could provide a basis for developing measures of these style variables or that they may be attained through configural measures of personality.

The targets (content) of change include the ability and skill requirements (response requirements); the ability and skills possessed (individual capability); needs, interests, and values (reinforcer requirements); and the occupational reinforcers (reinforcement capability) of the environment. The locus for the initiative of change can lie with either the individual or the organization (Hesketh & Dawis, 1991). *Active modes of adjustment* involve an individual changing either the job requirements (role development) or the reinforcement capability in the environment and the organization changing the skill and ability level of the individual (training) or their interests, needs, and values (attitude and value change). *Reactive modes of adjustment* involve individuals altering their own skill and abilities, or their needs interests and values, whereas reactive modes from the organizational perspective include altering the job requirements (ergonomics) or the rewards (compensation systems).

Two additional style variables relate to when the adaptive modes start and stop, namely, *flexibility* (tolerance of discorrespondence) and *perseverance* (length of time the adaptive behavior continues before giving up). The operationalization of the style variables has not been easy (Lawson, 1993). In addition to using standard measures, ideas can be derived from the research of Feij, Whiteley, Peiro, and Taris (1995), who suggest that individuals with high work centrality (or strong intrinsic motivation) are likely to keep trying to improve their lot (perseverance). Iverson and Deery (2001) suggest that negative affectivity may reflect flexibility, with dissatisfied employees high on negative affectivity being more likely to withdraw. These ideas are preliminary, and future work may usefully examine relationships of personality facets and need profiles with flexibility and perseverance.

RESEARCH ISSUES

A special issue of the *Journal of Vocational Behaviour* included a number of studies testing TWA together with commentary (e.g., Bizot & Goldman, 1993). Many of these and other studies testing TWA (and those using congruence indices to test Holland's theory) have made use of a composite index of fit. Specifically, most studies use a form of difference score between the person and the environment (absolute difference score or squared difference score) summed across attributes which is then related to the performance or satisfaction measure (Edwards, 1991). This issue, discussed more fully in both Hesketh and Gardner (1993) and Hesketh and Myers (1997), highlights the misleading interpretations that may arise if one does not first examine

the direct relationship of the person or the environment (on each of the attributes) before testing for their interaction (fit). Typically, individuals are more satisfied the better the supervision, irrespective of their need for good supervision. Similarly, some personality types (high on negative affectivity) will be dissatisfied irrespective of the rewards in the environment. Of course, there may be additional variance explained by fit after controlling for the direct effects.

Another problem with composite indices is that they assume similar types of relations across all ability and interest domains. Hesketh and Gardner (1993) found that the nature of relationships did vary among different attributes, a feature that is obscured by applying matching rules consistently across all attributes. The relationship between a P-E fit and an outcome variable may take a number of different forms, and a three dimensional response surface methodology is required to tease these out. Edwards and Rothbard (1999) provide one of the most thoughtful analyses of the P-E fit literature, highlighting that the assumptions underlying traditional composite indices of fit seldom apply, namely, that an outcome is maximized through perfect P-E fit, and that P-E fit leads to the same level of an outcome irrespective of the absolute level. There is a need for quite precise theorizing about relationships as they relate to satisfaction of needs in relation to self, others, and the environment (Taris & Feij, 2001).

Additional support for TWA can be inferred from the research examining the validity of selection procedures, particularly when the selection tests are chosen on the basis of job analysis and where a construct approach is taken. Hesketh and Robertson (1993) and Schneider (2001) draw attention to the implicit P-E fit notion in selection. In validating selection methods, typically the only relationship tested is that between the individual supplies and the performance. The job requirements or organizational demands are implicit, or taken to be stable. Future research might examine this, as despite the well-accepted validity generalization arguments from the selection literature (Schmidt, Ones, & Hunter, 1992), with few exceptions (e.g., Project A; Campbell, 1990), studies have not included a sufficient range of job types to provide a fair test of the moderating role of job requirements as implied in TWA.

A major issue in selection and fit research relates to the concept of variability of the component parts. Research carried out within one organization may well find less variance on the side of the individual needs and abilities due to selection; thus, it is not surprising that research finds stronger predictions from the organizational variables.

A further issue relates to the problems of using self-reports of organizational supplies. There is an inevitable tendency for individuals to perceive the organizational supplies in accordance with their levels of satisfaction, and this may enhance the relationship between reinforcers and supplies in the

organization and satisfaction or turnover. Attribution processes may well give rise to individuals attributing their dissatisfactions to the lack of suitable reinforcers in the environment.

WORK ADJUSTMENT AND ADAPTIVE BEHAVIOR IN A CONTEXT OF CHANGE

TWA was developed at a time when work environments were relatively stable in contrast to the current workplace, which is characterised by frequent and often rapid change. Technological advances, globalization, corporate activity such as mergers and acquisitions, increasing use of short-term teams, and the demand for customization are typical situations creating a climate of change and resulting in an ever-increasing need for adaptable workers (Pulakos et al., 2000).

Somewhat surprisingly, the concept of adaptability is not well understood and the extant research lacks a theoretical basis. Although the TWA does not directly address change contexts, there are clear implications: Organizational change, by its very nature, is likely to create a “mismatch” between an environment and the people working in it—the skills, knowledge, and abilities of a person that originally “fit” the requirements of the work may no longer correspond to the new requirements of the changed environment. Furthermore, TWA offers an explanation of the process involved in how either the person or the environment adjusts or *adapts* to minimize any deterioration in fit. As previously explained, improved correspondence between a person and his or her environment is achieved through different “styles” of adjustment or types of behavior. Therefore, using three of these styles as a basis (with slight alterations to wording in order to correspond more closely with current literature), TWA provides a framework for organizing the nomological net of what constitutes behavioral adaptability (Griffin & Hesketh, 2001):

1. *Proactive behavior*—the person initiating actions that have a positive effect on the changed environment
2. *Reactive behavior*—changing or modifying oneself to better suit the new environment
3. *Tolerant behavior*—being able to continue functioning despite the changing environment

As performance is a form of behavior (Campbell, 1999), the TWA framework can be applied to the domain of adaptive performance. The construct of adaptive performance was first discussed by Allworth and Hesketh (1999), who, recognizing that none of the popular models of performance included an adaptive component, extended Borman and Motowidlo’s (1993) task or

contextual model to include adaptive performance. Building on this concept, Pulakos, Arad, Donovan, and Plamondon (2000) developed an eight-dimension taxonomy of the adaptive performance domain that included dealing with emergencies or crisis situations; coping with work stress; solving problems creatively; coping with uncertain and unpredictable work situations; learning new work tasks, technologies, and procedures; demonstrating interpersonal adaptability; demonstrating cultural adaptability; and demonstrating physically oriented adaptability. The eight dimensions were generated from an extensive literature review and analysis of a large set of critical incidents rather than being grounded in a particular theory. Nevertheless, these dimensions clearly fit the TWA framework with creative problem solving and dealing with crises being forms of proactive behavior; new learning, interpersonal, cultural, and physical adaptability being types of reactive behavior; and coping with stress and with uncertainty, examples of tolerant behavior. The TWA framework also allows for the identification of additional specific adaptive behaviors beyond the eight currently described.

In addition, the structural components of TWA are readily modified to cater to change without destroying the symmetry of the model. As discussed, performance needs to include adaptive performance, whereas satisfaction measures can focus on facets of coping with and enjoying change. In assessing the individual, attention should be paid to developing specific measures of knowledge, skills, and abilities for change as well as for interests, values, and attitudes in and about change. From the organizational perspective, the environment needs to be assessed for its requirements for coping with change and the developmental support, variety, and opportunity for challenge that it offers.

SUMMARY AND CONCLUSIONS

The Minnesota Theory of Work Adjustment is a strong theory that has shown itself to be both empirically testable and readily applicable by vocational psychologists in assisting clients in the areas of career choice, adjustment, and development. This chapter purposely takes a historical perspective in outlining the origins of TWA, not only to demonstrate how the rich background of the concepts remains relevant for today's world of work but also to highlight how these concepts have parallels with many avenues of recent I/O research. As such, TWA has much to offer in guiding future research and in assisting counselors and coaches equip people to cope with the adaptive requirements of the modern workplace.

In explaining TWA, we draw attention to both the core constructs and the lesser known dynamic components. It is clear that the core constructs and propositions that evolve from their proposed relationships have been supported by decades of research: research that directly tests TWA, specific

“fit” research, as well as large bodies of research on selection and individual differences, for example, that indirectly tests and supports TWA. These core constructs were in need of updating to include recent findings. Tziner and Meir (1997) focused their extension of TWA on the “outcome” components of satisfaction and tenure. We expand the “predictor” components (supplies and requirements of the individual and the environment) and update the performance construct to include the dimensions of task, contextual and adaptive performance.

An understanding of the dynamic components of TWA is of particular value for those working in a fluid, changing work environment. First, we highlight how the theory draws on basic principles from learning theory to explain the development and maintenance of the core constructs. Second, a discussion of the style variables illustrates the process of how people and environments seek to maintain adjustment. Finally, we suggest that these styles provide a useful framework for describing the current nomological net of adaptable behaviors.

In updating TWA some key areas for future research became apparent. The role of personality, particularly in how personality variables may work in combination to predict adjustment strategies, is one avenue in need of clarification. In addition, although TWA emphasizes the need of a good fit between an individual’s abilities and the environment’s requirements, selection researchers have generally not considered the moderating role of job requirements on the effect of recognized general predictors such as cognitive ability and conscientiousness. As noted in this chapter, future researchers must be aware of the likelihood of drawing misleading conclusions if inappropriate measures of fit are used.

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Vocational Psychology and Personality: The Relationship of the Five-Factor Model to Job Performance and Job Satisfaction

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The use of personality inventories for selection purposes was embraced with great enthusiasm by both the American military and private corporations in the decade following the World War II (Mount & Barrick, 1995). However, many researchers soon came to view personality variables as being of little or no value to the prediction of job performance or job satisfaction. This dismissal of the value of personality testing was to span much of the next 3 decades.

In their review of the history of personality research, Mount and Barrick (1995) attribute this dismissal of personality testing to a number of factors. Among these factors were reviews of the literature that found only modest relationships between a broad range of personality scales and job performance. For example, in a review of 113 studies conducted between 1919 and 1953, Ghiselli and Bartol (1953) found an overall mean correlation of .22 between a range of personality variables and job performance. Guion and Gottier (1965) subsequently concluded that none of the personality measures then reported in the literature were useful as selection tools. Shortly thereafter, the use of personality testing for personnel selection found itself caught up in the wider "person-situation" debate in which Mischel (1968) argued that situational variables were far better predictors of behavior than were personality measures. An additional factor plaguing personality research was the sheer number of personality theories and personality inventories. Consequently, it was very difficult to equate findings across studies and to summarize research results.

Recently, there has been renewed interest in the role that personality plays in job-related performance, satisfaction, attitudes, and behaviors. In their book, *Personality in the Workplace*, Hogan and Roberts (2001) discuss four major reasons for this rediscovery of personality after so many decades of criticism. First, although cognitive assessment has long been the selection method of choice, it has come under fire for having an adverse impact on minority group members. Well-constructed personality inventories are relatively race and gender neutral, making them attractive adjuncts to cognitive assessment in the selection process.

A second reason for the renewed interest in personality measures was the emergence of the Five-Factor Model (FFM) of personality (Hogan & Roberts, 2001). The FFM provided a much needed, empirically validated schema for classifying personality measures and imposing order on the confusing mass of personality-job performance literature. The resulting order laid the foundation for new investigations of the relationship among personality and job performance and job satisfaction.

A third factor for the renewed interest in personality measures was the U.S. Army Research Institute study, "Project A" conducted in the 1980s (Hogan & Roberts, 2001). Project A investigated methods to improve the selection process for entry level army jobs. The results of this study (Hough, Eaton, Dunnette, Kamp, & McCloy, 1990) persuaded many doubters that personality assessment could be a very valuable component of the selection process.

The fourth reason for the renewed interest in personality measures was the development of increasingly sophisticated meta-analysis techniques (Hogan & Roberts, 2001). Over the last several decades, meta-analysis has evolved from a simple summing of effects sizes across studies into a complex statistical procedure requiring many well-informed decisions regarding corrections for error and bias in data sets. It is far beyond the scope of this chapter to discuss the technical aspects of meta-analysis. Suffice it to say that meta-analysis represents an objective, well-articulated method for summarizing related research findings.

The results of more recent meta-analytic reviews have been interpreted by the applied research community to suggest that personality assessments were more useful predictors of job-related behaviors than previous literature reviews had indicated. For example, a meta-analysis investigating the relationship between personality and job performance conducted by Schmitt, Gooding, Noe, and Kirsch (1984) found a mean correlation of .21 between 32 personality scales and ratings of job performance. This correlation has a very similar size to the value previously found and dismissed by Ghiselli and Barthol (1953). However, it had the advantage of having been arrived at through the use of a more sophisticated data summarization method.

Although Schmitt et al. (1984) used meta-analysis to objectively summarize research findings across a number of studies, this investigation still lacked a

parsimonious method for organizing the personality variables thus summarized. Subsequent meta-analyses (Hurtz & Donovan, 2000; Barrick & Mount, 1991; Mount & Barrick, 1995; Salgado, 1997; Tett, Jackson, & Rothstein, 1991) addressed this shortcoming by using the FFM of personality to provide a simple and theoretically coherent organizational scheme for the wide range of personality measures found in the job performance and job satisfaction literature.

In the pages that follow, we begin our exploration of the topic of vocational psychology and personality with a brief overview of the FFM of personality. We then review meta-analytic studies of personality and job performance. This is followed by a section concerning personality and job satisfaction. Finally, we conclude this chapter with a discussion of personality and well-being.

THE FIVE-FACTOR MODEL OF PERSONALITY

The FFM is currently the most widely accepted theory of the structure of personality. The origins of the FFM lay in efforts of researchers to replicate Cattell's 16-factor personality structure (Mount & Barrick, 1995). Although the researchers were unable to extract Cattell's 16 factors from their data sets, they consistently extracted a very similar set of five factors. As might be expected, in order for only five factors to describe the width and depth of human personality, each factor has to be quite broad.

Given the breadth of these factors, it is not surprisingly that over several decades of research, different personality theorists have emphasized different aspects of these dimensions. These differing interpretations were often reflected in the labels attached to each factor. However, in recent years there seems to be a convergence in the literature toward referring to the FFM dimensions as *Extraversion*, *Agreeableness*, *Conscientiousness*, *Emotional Stability*, and *Openness to Experience*. It should be noted that each of these five factors is bipolar and that these labels reflect only the "positive" pole of each dimension. For the sake of brevity, only the "positive" pole of each dimension is described. However, the "negative" pole of each dimension may easily be conceptualized in that it represents the opposite set of personality characteristics. It is important to emphasize that the negative poles of the FFM dimensions do not necessarily indicate pathology. Rather, they represent different constellations of response tendencies which, depending on circumstances, can lead to beneficial or harmful consequences. All of the FFM dimensions, taken to their positive or negative extremes, hold the seeds of dysfunction. The following descriptions of each dimension are drawn from the excellent summary table found in Mount and Barrick (1995, pp. 161-164).

The *Extraversion* dimension is associated with characteristics such as being sociable, gregarious, talkative, assertive, adventurous, active, energetic, and ambitious.

The *Agreeableness* dimension is associated with characteristics such as being courteous, good natured, flexible, trusting, cooperative, forgiving, empathic, caring, soft hearted, and tolerant.

The *Conscientiousness* dimension is associated with characteristics such as being careful, thorough, responsible, organized, efficient, persevering, hard working, and achievement oriented. It has been argued by some researchers that this dimension is better represented by descriptors suggesting dependability, whereas others have argued that it is better represented by descriptors suggesting achievement. Mount and Barrick (1995) concluded that both sets of descriptors were required to fully capture this dimension.

The *Emotional Stability* dimension is associated with characteristics such as being calm, composed, poised, resilient, adaptable, and self-reliant. (It should be noted that this FFM dimension is still frequently referred to as *Neuroticism* in the literature. However, the authors feel that it is inconsistent to discuss the other four FFM dimensions in terms of their positive poles and this one in terms of its negative pole. Moreover, the term *Neuroticism* has many negative connotations, and even professional audiences can easily misinterpret its meaning.)

The *Openness to Experience* dimension is associated with characteristics such as being imaginative, artistically sensitive, intellectual, curious, polished, original, independent, and having broad interests. As with *Conscientiousness*, there is disagreement regarding the best descriptors for this factor (Mount & Barrick, 1995). Some believe that this dimension primarily represents an orientation toward culture, whereas others feel that it is better represented as intellect. As was the case with *Conscientiousness*, a third group argues that both sets of descriptors are required to fully capture this dimension.

In summary, despite minor differences regarding the interpretation of two of its factors, as a whole, the FFM of personality provides a simple and theoretically coherent scheme within which to organize a wide range of personality variables. Consequently, it has been used by a number of researchers conducting meta-analyses relating personality to job performance.

PERSONALITY AND JOB PERFORMANCE

Hough et al. (1990) conducted one of the first meta-analyses of the relationship between personality and job performance that categorized a large number of personality measures into a smaller number of broader personality dimensions. This work was part of "Project A," mentioned earlier in this chapter. This project involved the development of the ABLE inventory (an induction center screening instrument) for the U.S. Army. Hough et al. started

with Hogan's six-factor model of personality (Hogan, 1982). Hogan's model is essentially a variant of the FFM, which divides the *Extraversion* dimension into two components. Hough et al. labeled Hogan's six dimensions *Surgency*, *Adjustment*, *Agreeableness*, *Dependability*, *Intellectance*, and *Affiliation*. In addition to these six dimensions, Hough and her colleagues used three categories of their own conceptualization that they labeled *Achievement*, *Masculinity*, and *Locus of Control*. They referred to these nine constructs as temperament categories.

Hough et al. (1990) then reviewed the personality and job performance literature from the period of 1960 to 1984 and assigned the 146 content scales from 12 commonly used multiscale personality inventories into one of the nine temperament categories. The mean correlation between each of these categories and several criteria related to job performance were then calculated. Hough et al. concluded that the only temperament category that had poor validity was *Affiliation*. They further concluded that the temperament categories of *Surgency*, *Adjustment*, *Agreeableness*, *Dependability*, *Achievement*, and *Locus of Control* were of potential importance in predicting performance in the U.S. Army.

Although the work of Hough et al. (1990) was pioneering, it must be viewed as an intermediate step along the path toward imposing a parsimonious structure on the personality–job performance literature because it used a six-factor variant of the FFM as well as three temperament categories of the authors' own conceptualization. This work is also limited because it was performed within the context of the development of a screening instrument for the U.S. Army. Consequently, the primary goal of this research was test validation, not exploration of personality structure.

The first job performance meta-analysis that used a *true* FFM was conducted by Barrick and Mount (1991). It was to become one of the most frequently cited articles in the 1990's (Mount & Barrick, 1998). Barrick and Mount (1991) attempted to identify all published and unpublished research related to job performance and personality from the years 1952 to 1988. Ultimately, they identified 117 studies that they deemed appropriate for inclusion in their meta-analysis. These 117 studies yielded a total of 162 samples for a total sample size of 23,994. Barrick and Mount categorized the studies into one of five major occupational groupings and three criteria. The five occupational groupings were professionals, police, managers, sales, and skilled and semiskilled workers. The three criteria were job proficiency, training proficiency, and personnel data. Barrick and Mount further classified these criteria as being either objective or subjective ratings. The personality measures used by these studies were assigned by a team of trained raters to one of the dimensions of the FFM or to a sixth "miscellaneous" category.

Barrick and Mount (1991) analyzed the data three different ways. The first analysis examined the mean correlations of the five personality dimensions with each of the five occupational groupings across all three criteria. The

second analysis examined the mean correlations of the personality dimensions with each criterion across occupations. The third analysis examined the mean correlations of the personality dimensions with outcome criteria classified as either objective or subjective across both occupational groupings and criteria. Objective criteria included productivity, salary, turnover and tenure, and status change. The subjective criteria consisted primarily of supervisor ratings.

Barrick and Mount (1991) hypothesized that both *Conscientiousness* and *Emotional Stability* would be predictive of job performance across all criteria for all of the occupational groupings in the study. However, only *Conscientiousness* was found to be significantly related to job performance across all criteria for all of the occupational groupings. The mean correlations for *Conscientiousness* ranged from .20 to .23. The hypothesis regarding *Emotional Stability* found little support. The mean correlation for *Emotional Stability* across all criteria for all of the occupational groupings was only .08. As expected by Barrick and Mount, none of the other FFM dimensions were predictive of performance across all criteria for all of the occupational groupings in the study.

However, Barrick and Mount (1991) did hypothesize that some of the remaining dimensions of the FFM would be predictive of job performance for one or more of the occupational groupings. They hypothesized that both *Extraversion* and *Agreeableness* would be valid predictors of job performance for the occupational groupings of managers and sales because both are areas requiring good interpersonal skills. This hypothesis received mixed support. *Extraversion* was found to be a predictor of performance for both occupational groupings (mean correlations of .18 for managers and .15 for sales), but *Agreeableness* was found to be predictive only for managers (.10). However, this value was only slightly higher than the mean value (.07) for *Agreeableness* across all occupational groups.

In the analysis of mean correlations by criterion type across occupational groupings only *Conscientiousness* was significantly related (.20-.23) to each category of job performance (Barrick & Mount, 1991). As hypothesized by Barrick and Mount, *Openness to Experience* was related (.25) to training proficiency. They also found that *Extraversion* was a significant predictor (.26) of training proficiency.

The analysis of mean correlations by objective versus subjective criteria across both occupational groupings and criteria found, with one exception, that all of the correlations for subjective ratings were higher than those for objective ratings. However, the only sizeable correlation was for subjective ratings of *Conscientiousness* (.26 across all criteria, as opposed to .10 for objective ratings).

The second meta-analysis of job performance that used the FFM was conducted by Tett, Jackson and Rothstein (1991). Tett and his colleagues

used more restrictive inclusion criteria than Barrick and Mount (1991). For example, Barrick and Mount included unpublished studies and Tett et al. excluded unpublished studies. In addition, Tett et al. only included studies published between 1968 and 1991. Ultimately, Tett et al. identified a total of 86 studies, for a total of 97 independent samples with a total sample size of 13,521.

Tett et al. (1991) found a mean correlation of .24 between personality and job performance when comparing across all occupational groups included in their study. This value is similar to the mean correlation of .21 found by Schmitt et al. (1984), but it is much larger than the value of .11 reported by Barrick and Mount (1991).

Tett et al. (1991) also made comparisons between personality and job performance for a number of subgroups within their data set. Among these comparisons was one between confirmatory and exploratory studies. In confirmatory studies, the selection of personality measures and performance criteria was driven by theory or is based on the results of previous research and job analyses. In exploratory studies, researchers typically used multifactor personality inventories and a broad range of convenient performance criteria in a purely empirical fashion—an approach that has sometimes been unkindly characterized as a “multivariate fishing expedition.” Tett et al. found much larger mean correlations between personality and job performance for the confirmatory studies (.29) than those for exploratory studies (.12). Tett et al. also compared the confirmatory studies that used job analysis to guide variable selection with those that did not use job analysis. The mean correlation for the studies that used job analysis was .38 as compared to .29 for studies that did not. Tett et al. concluded from these two results that the size of the relationship between personality and job performance would continue to be underestimated as long as researchers continued to use exploratory models.

Tett et al. (1991) also made several other comparisons that had important implications for the interpretation of personality-job performance meta-analysis results. A larger mean correlation was found between personality and job performance for recruits (.30) than for incumbents (.21). Consequently, research done on incumbents will likely underestimate the importance of personality variables for selection purposes. Perhaps reflecting the convenience of conducting research on incumbents as opposed to on recruits, the number of samples using incumbents (83, total $n = 8,542$) in this meta-analysis greatly outnumbered that using recruits (12, total $n = 4,853$).

Tett et al. (1991) found a larger mean correlation between personality and job performance for military samples (.30) than for civilian samples (.20). There were only nine military samples included in this meta-analysis, as compared to 88 civilian samples. However, the total size for the military samples was 5,054 as compared to 8,467 for the civilian samples. This finding suggests that studies attempting to determine the relationship between personality

and job performance for the general population may overestimate the size of this correlation if large samples of military personnel are included in its calculation.

Tett et al. (1991) found that the relationship between personality and job performance was larger for samples from research published in peer reviewed journals (.27) than for samples from unpublished dissertations (.13). Tett et al. suggest that dissertation research is likely to be of a lower caliber than research published in peer-reviewed journals. They argue that casting one's net too widely for studies to include in a meta-analysis will catch methodologically inferior studies that could lead to an underestimation of the size of the relationship between personality and job performance.

Finally, Tett et al. (1991) compared the relationship of each of the FFM dimensions to job performance across their entire sample. In general, their findings were greater in magnitude than those reported by Barrick and Mount (1991). Tett et al. found a mean correlation of .16 between *Extraversion* and job performance as compared to the value of .13 found by Barrick and Mount; a mean correlation of .22 between *Emotional Stability* and job performance as compared to the value of .08; a mean correlation of .33 between *Agreeableness* and job performance as compared to the value of .07; a mean correlation of .18 between *Conscientiousness* and job performance as compared to the value of .22; a mean correlation of .27 between *Openness to Experience* and job performance as compared to the value of .04.

Overall, the mean correlations for *Extraversion* and *Conscientiousness* found by Tett et al. (1991) and Barrick and Mount (1991) were roughly equivalent. However, those for *Emotional Stability*, *Agreeableness*, and *Openness to Experience* differed considerably. Barrick and Mount found only *Conscientiousness* to be a significant predictor of job performance. Tett et al. found that, with the possible exception of *Extraversion*, all of the FFM dimensions were predictive of job performance. Goldberg (1993, p. 31) termed the inconsistencies between two such similar studies "befuddling" and seconded Tett et al.'s call for greater precision in future personality-job performance research.

Ones, Mount, Barrick, and Hunter (1994) attempted to reconcile the differences between the two studies by challenging Tett et al. (1991) on the basis of methodological and technical errors in their meta-analysis. Ones et al. argued that these errors inflated the estimates of the size of the relationship between personality and job performance. In a response to this criticism, Tett, Jackson, and Reddon (1994) pointed out that the primary purpose of Barrick and Mount (1991) was to better understand predictor-criterion relationships across a range of occupations, whereas the purpose of Tett et al. (1991) was to investigate the magnitude of personality predictors selected on the basis of either theory or job analysis. Tett et al. (1994) did concede many of the technical points made by Ones et al. and reanalyzed their data

set incorporating the recommended changes. This reanalysis resulted in a lowering of the mean correlation between personality and job performance from .24 to .17, and also found no differences between confirmatory studies using job analysis and those studies not using job analysis. Tett et al. (1994) argued that although this reanalysis did decrease the magnitude of the estimated relationships between personality and job performance, with the sole exception of the job analysis findings, the original study's main conclusions remained unchanged.

As mentioned earlier, it has been argued by some researchers that the FFM dimension *Conscientiousness* is better represented by descriptors suggesting dependability, whereas others have argued that it is better represented by descriptors suggesting achievement. Mount and Barrick (1995) conducted a meta-analysis in which they investigated whether better prediction of job performance occurred on the level the FFM dimension *Conscientiousness* or on the level of its hypothesized components of *Dependability* and *Achievement*. This study also investigated whether better predictions are made using global or more specific job performance criteria. Mount and Barrick included 173 studies with a total 206 of samples for a total of 37,780 subjects in this meta-analysis.

Mount and Barrick (1995) drew three major conclusions from the results of this study. First, they concluded that both *Conscientiousness* and its components of *Dependability* and *Achievement* predict specific measures of job performance (mean correlations of .40, .38, and .38, respectively) better than they predict global job performance (mean correlations of .31, .30, and .33, respectively). Second, some specific measures of job performance are better than others at being predicted by *Conscientiousness* and its components of *Dependability* and *Achievement*. Those job performance criteria that Mount and Barrick categorized as being ability or "can do" factors were more poorly predicted (mean correlations ranged from .25 to .26) than those categorized as motivational or "will do" factors (mean correlations ranged from .42 to .45). Finally, *Dependability* and *Achievement* predict specific performance measures better than *Conscientiousness* does, only when they are conceptually related to the criterion. For example, employee reliability was better predicted by *Dependability* (mean correlation of .47) than by either *Achievement* (.33) or *Conscientiousness* (.41). However, Mount and Barrick caution that these incremental gains tended to be relatively small and therefore may not be of much practical significance.

Salgado (1997) noted that previous meta-analyses relating job performance and personality had been carried out using research samples of U.S. and Canadian workers. He suggested that the United States and Canada were so similar culturally that it was possible that a meta-analysis of data from other countries might reveal cultural differences in the relationship between personality and job performance. Salgado identified 36 studies, both published and

unpublished, from European community sources for inclusion in a meta-analysis. Depending upon the FFM dimension being analyzed, these studies yielded 18 to 32 samples with total sample sizes ranging from 2,722 to 3,877. Salgado assigned the samples from these studies to one of five occupational groupings: professionals, police, managers, sales, and skilled labor. It should be noted that due to limitations in the data set, not all occupational groupings could be included in all comparisons. Performance criteria included supervisory ratings, training proficiency, and personnel records information.

Salgado (1997) found that both *Emotional Stability* (mean correlation of .19) and *Conscientiousness* (.25) were significant predictors of job performance when comparing across all criteria and all occupational groupings. When analyzing each criterion across all occupational groupings Salgado found that *Emotional Stability* (supervisory ratings .18, training proficiency .12, and personal records .27) and *Conscientiousness* (supervisory ratings .26, training proficiency .39, and personal records .11) were good predictors for all three. *Openness to Experience* (.26) and *Agreeableness* (.31) were found to be good predictors of training proficiency. When analyzing by occupational grouping across all criteria, *Conscientiousness* was found to be a good predictor for four of four occupational groupings (police .39, managers .16, sales .18, and skilled labor .23). *Emotional Stability* was a good predictor for four of five occupational groupings (professionals .43, police .22, managers .12, and skilled labor .25). *Extraversion* was a good predictor for two of four groupings (police .20 and managers .05). *Openness to Experience* was a good predictor for two of the three groupings (police .18 and skilled labor .17). *Agreeableness* was a good predictor for three of five groups (professionals .14, police .14 and skilled labor .05).

Hurtz and Donovan (2000) conducted the first meta-analysis of the relationship between personality and job performance with data from studies that had used personality measures specifically designed to measure the dimensions of the FFM. Previous meta-analyses had used a post hoc assignment of non-FFM personality measures to FFM personality dimensions. As noted by Salgado (1997), different groups of researchers sometimes assigned the same personality scale to different FFM dimensions. Hurtz and Donovan suggest that the modest level of rater agreement reported for assignment of personality scales to FFM dimensions (as reported by Barrick & Mount, 1991, and Tett et al., 1991) reflects the difficulty of the task and lends support to the argument that significant numbers of personality measures may have been misclassified in these and similar studies.

Hurtz and Donovan (2000) were able to identify a total of 26 studies for their meta-analysis. Depending on the FFM dimension being analyzed, these studies yielded 35–45 samples with total sample sizes ranging from 5,525 to 8,083. Subjects from these samples were assigned to one of four occupational groupings (sales, customer service, managers, skilled, and semiskilled). The

outcome measures were assigned to the categories of job proficiency, training proficiency, task performance, job dedication, and interpersonal facilitation. The data were analyzed in three ways: (a) across criteria and occupational groupings, (b) by occupational grouping across criteria, and (c) by criterion across occupational groupings.

The analysis across criteria and occupational groups indicated that only two of the dimensions of the FFM were significant predictors of job performance (Hurtz & Donovan, 2000). As had been found by previous meta-analyses, *Conscientiousness*, with a mean correlation of .20, was the best predictor of performance. *Emotional Stability* was also a significant predictor, but with a substantially lower mean correlation (.13).

The analysis by occupational grouping across criteria found that none of the FFM dimensions were predictive of job performance for the skilled and semiskilled occupational grouping (Hurtz & Donovan, 2000). *Conscientiousness* was predictive of performance for sales (.26) and customer service (.25). *Emotional Stability* was predictive of performance for sales (.13), customer service (.12), and managers (.12). *Agreeableness* was predictive of performance for customer service (.15). *Extraversion* was predictive of performance for sales (.15) and managers (.12). *Openness to Experience* was predictive of job performance for customer service (.15).

The analysis by criterion across occupational groupings found that *Conscientiousness* was predictive of job proficiency (.22) and interpersonal facilitation (.16, Hurtz & Donovan, 2000). *Emotional Stability* was predictive of job proficiency (.14), training proficiency (.08), task performance (.13), job dedication (.13), and interpersonal facilitation (.16). *Agreeableness* was predictive of training proficiency (.18) and interpersonal facilitation (.17). *Extraversion* was predictive of training proficiency (.17) and task performance (.06). *Openness to Experience* was predictive of training proficiency (.13).

Summary

After several decades of being discounted, the relationship of personality and job performance is being embraced with renewed interest. Much of this enthusiasm is attributable to two advances: one methodological and the other theoretical (Hurtz & Donovan, 2000). The technique of meta-analysis provides researchers with an objective method to equate and summarize results across multiple studies. The Five-Factor Model (FFM) of personality provides researchers with an empirically supported and parsimonious framework within which to organize a wide range of personality constructs. An additional important reason for the renewed interest in the relationship between personality and job performance is that for selection purposes, personality assessment can add a relatively race- and gender-neutral increment to the predictive validity of cognitive assessment (Hogan & Roberts, 2001).

The most robust finding from the FFM meta-analyses is that *Conscientiousness* is predictive of a wide range of job performance criteria across a wide range of occupational groups. A number of meta-analyses have also found that *Emotional Stability* is broadly predictive of job performance. The remaining FFM dimensions appear to be predictive of fewer performance criteria for a narrower range of occupational groups.

To a certain extent, one wonders at the excitement. After all, these meta-analyses all found personality-job performance relationships around .20, a value very similar to that dismissed by earlier researchers. Moreover, it certainly comes as no surprise that a personality dimension characterized by dependability and an orientation toward achievement and another characterized by being calm, resilient, and self-reliant should both be positively correlated with job performance. In addition, the very modest validity coefficients for *Conscientiousness* only account for 4% to 5% of outcome variance. The validity coefficients for *Emotional Stability* account for even less. Although recognizing its theoretical importance, Hurtz and Donovan (2000) questioned the practical significance of predicting 5% of the outcome variance in job performance. Indeed, Mount and Barrick (1995) questioned the usefulness of predictors with validities lower than .30, given the existence of other predictors with higher validities.

All other things being equal, a predictor with a validity coefficient of .20 is certainly not one's first choice for selection purposes given the existence of other predictors with higher validities. However, all things are not equal. Cognitive testing continues to be the single best predictor of job performance, but has been demonstrated to have an adverse impact on the selection of minority group applicants (Sackett, Schmitt, Ellingson, & Kabin, 2003). Consequently, other measures, such as personality inventories, that account for additional, unique variance and that are relatively race and gender neutral can be used to incrementally add to the predictive validity of the selection process. The selection prediction tables prepared by Taylor and Russell (1939) provide an excellent illustration of how even a single predictor of low predictive validity, when used in conjunction with another predictor, can significantly improve the predictive validity of the selection process.

Another perspective on the use of personality measures for selection purposes may be offered by recalling that many of the scales used in psychology are constructed of items that individually correlate .2 to .3 with total scale score, but when aggregated may easily correlate .5 or higher with a criterion. By aggregating a number of low to moderate validity predictors, the predictive whole could indeed be greater than the sum of its parts. Conceptually, this is related to the use of composites of noncognitive predictors for selection discussed by Sackett et al. (2003).

As discussed earlier, the predictive validities of *Conscientiousness* and *Emotional Stability* have been established across a series of meta-analyses,

but their validity coefficients are so modest that their practical use has been questioned (Hurtz & Donovan, 2000; Mount & Barrick, 1995). It has been suggested that the dimensions of the FFM are so broad that the predictive power of these factors is blunted by their lack of a more precise focus (Tett et al., 1991). Mount and Barrick (1995) concluded that although the FFM model was able to predict overall job proficiency well, specific criteria were better predicted by more specific predictors. Therefore, future researchers would do well to ask more focused questions using more specific measures of personality.

It is in this same spirit that Tett et al. (1991) argued that it was time to move beyond purely empirical investigations of the personality—job performance relationship and to conduct more studies guided by theory and job analyses. This view was seconded by Goldberg (1993). Tokar, Fischer, and Subich (1998) also cautioned that future investigators may do well to limit themselves to instruments specifically designed to assess the dimensions of the FFM and its facets rather than to use measures that must be assigned to the FFM post hoc.

PERSONALITY AND JOB SATISFACTION

Research into the trait nature of job satisfaction has enjoyed a long, if somewhat erratic history. Seven decades ago, Fisher and Hanna (1931) noted that a considerable amount of employees' job dissatisfaction could be associated with their degree of emotional maladjustment. A few years later Hoppock (1935) reported a substantial correlation between the emotional adjustment of employees and job satisfaction. Curiously, after this hopeful start there was little further activity in this area for almost half a century (Judge, Heller, & Mount, 2002). However, in the last 20 years, a growing body of literature has accumulated giving support to the notion that job satisfaction is, in part, trait based. Unfortunately, as noted by Spector (1997), although a number of traits have been shown to correlate significantly with job satisfaction, there was little integration in the literature. Similar to the case of job performance, a major reason for this failure was the lack of a simple and theoretically coherent model of personality. As with the job performance literature, the FFM was to provide a remedy for this want. However, unlike the relationship between personality and job performance, which has been the subject of several major meta-analyses in the last 2 decades, it is only recently that the relationship between personality and job satisfaction has become the focus of a meta-analysis.

Guided by the earlier work of Barrick and Mount (1991) linking the FFM and job performance, Judge et al. (2002) conducted a meta-analysis of the relationship between personality and job satisfaction. A total of 163 independent

samples and 334 correlations were included in the analysis. Judge et al. reasoned that four (*Extraversion, Agreeableness, Conscientiousness, and Emotional Stability*) of the five personality dimensions of the FFM would be related to job satisfaction. The remaining dimension, *Openness to Experience*, was not expected to be significantly correlated with job satisfaction. Judge et al. also investigated several potential moderators of the relationship between personality and job satisfaction. The moderators considered in this study were research design (cross-sectional vs. longitudinal), whether or not the personality measures used in a study were specifically designed to measure FFM dimensions, and the job satisfaction measure used by the study.

The results of this meta-analysis showed the expected pattern of relationships between the FFM dimensions and job satisfaction (Judge et al., 2002). The largest mean correlation was found between *Emotional Stability* and job satisfaction (.29), followed closely by *Extraversion* (.25) and *Conscientiousness* (.26). The correlation between job satisfaction and *Agreeableness* was somewhat smaller (.17), but still significant. Finally, as expected, *Openness to Experience* was not significantly correlated with job satisfaction (.02).

Judge et al. (2002) further investigated the relationship between the FFM dimensions and job satisfaction by using regression analysis. This analysis is of particular importance to the discussion of the trait-based nature of job satisfaction as the regression model implicitly assumes that the casual direction of the personality–job satisfaction relationship is from personality to job satisfaction. This analysis found that *Extraversion, Conscientiousness, and Emotional Stability* were significant predictors of job satisfaction. A multiple correlation of .41 was found between the FFM dimensions and job satisfaction.

None of the moderator variables investigated by Judge et al. (2002) were found to significantly influence the relationship between personality and job satisfaction. There was little difference between cross-sectional and longitudinal studies. There was a slight tendency for job satisfaction to be more strongly correlated with personality in studies that used measures that were not specifically designed to assess the FFM dimensions. However, this difference was only found to be significant in the case of *Conscientiousness*. Finally, although there was some variability in the size of the correlations between personality and job satisfaction depending on the measure of job satisfaction used, the most noteworthy finding was that the previously unvalidated measures of job satisfaction appeared to be as predictive as the previously validated measures.

In summary, the findings of this meta-analysis indicate that the FFM dimensions of *Extraversion, Conscientiousness, and Emotional Stability* were significant, if moderate, predictors of job satisfaction. *Agreeableness* is relatively weakly correlated with job satisfaction and *Openness of Experience* appears to be uncorrelated with job satisfaction.

PERSONALITY AND WELL-BEING

According to Diener (2000), job satisfaction is a component of the broader construct of subjective well-being (SWB). Diener argues that SWB includes the components of global life satisfaction, satisfaction with important life domains (such as work), and experiencing high levels of positive affect and low levels of negative affect. The field of SWB focuses on how people assess their lives both at the moment and over longer periods (Diener, Oishi, & Lucas, 2003). The assessments of more immediate SWB include emotional reactions to events and recent mood states. The assessment of longer term SWB includes perceptions of life satisfaction, fulfillment, and satisfaction with important life domains such as work and family life.

Starting in the 1970s, researchers began to move from investigating the demographic correlates of SWB to focusing on personality as the primary determinant of SWB (DeNeve, 1999; Diener, 2000). The most commonly cited personality traits for the prediction of SWB are *Extraversion* and *Emotional Stability*. However, in their meta-analysis of the relationship between personality and SWB, DeNeve and Cooper (1998) showed that focusing exclusively on *Extraversion* and *Emotional Stability* may serve to oversimplify the complex pattern of associations between personality and SWB. In their literature review for this meta-analysis, DeNeve and Cooper identified studies containing 137 personality traits and 1,538 correlations between personality measures and SWB. These studies had 197 independent samples and a total sample size of 42,171 adult subjects. The 137 personality traits were each assigned to one of the personality dimensions of the FFM. This meta-analysis found that all of the FFM personality dimensions were positively correlated with SWB. In addition, a number of more specific personality traits had moderate correlations with SWB. These traits included defensive repressiveness (a tendency to avoid threatening information), trust, desire for control, heartiness, positive affectivity, and locus of control.

DeNeve and Cooper (1998) and DeNeve (1999) argue strongly that SWB should not be conceptualized only in terms of *Extraversion* and *Emotional Stability* for several reasons. First, positive emotionality is strongly related to SWB. Second, personality traits that facilitate the development of relationships are also important to SWB. For example, affiliation, trust, and sociability are all relationship-enhancing traits that facilitate SWB. Finally, individuals reporting higher levels of SWB tend to explain their life events in optimistic and adaptive ways. Stated differently, these individuals are resilient.

Given the linkage between job and life satisfaction, Judge et al. (2002) compared the findings from their meta-analysis of personality and job satisfaction with those from DeNeve and Cooper's (1998) meta-analysis of personality and SWB. DeNeve and Cooper found a mean correlation of .30 between life satisfaction and *Emotional Stability* as compared to the mean correlation of

.29 between job satisfaction and *Emotional Stability* found by Judge et al.; a mean correlation of .22 between life satisfaction and *Extraversion* as opposed to .25; a mean correlation of .18 between life satisfaction and *Openness to Experience* as opposed to .02; a mean correlation of .21 between life satisfaction and *Agreeableness* as opposed to .17; and a mean correlation of .28 between life satisfaction and *Conscientiousness* as opposed to .26. With the exception of *Openness to Experience*, these relationships are very similar. These results led Judge et al. (2002) to conclude that the factors leading to the relationship between personality and life satisfaction were likely very similar to those leading to the relationship between personality and job satisfaction.

In summary, personality traits do seem to account for a significant amount of variability in SWB. However, Christopher (1999) notes that it is important to recognize that definitions of well-being are culturally rooted. Therefore, any assessment of well-being cannot be free of these cultural values. Diener et al. (2003) suggest that culture moderates which variables most influence SWB. They argue that in addition to personality, life circumstances, culture, and the approach versus avoidance tendencies of societies, all influence long-term levels of SWB.

Person–Environment Psychology and Subjective Well-Being

Several theoretical traditions have made important contributions to our understanding of SWB in a vocational context. The theories all fall within the domain of person–environment psychology, an area that has its roots in Lewin's (1935) work suggesting that a person's behavior is a function of the person and the environment. Lewin's idea that the environment is as important as the individual, and that both must be analyzed to assess and understand behavior, continues to be a theoretical base for person–environment psychology today. In the decades since Lewin's initial articulation, person–environment theories have grown greatly in terms of sophistication and now speak in terms of personality types, environmental adaptation, and goal striving.

Most prominent among these theories is Holland's (1997) Theory of Career Types. Holland's theory postulates that work settings, jobs, academic environments, and an individual's personality may all be described in terms of six primary personality types (Walsh & Holland, 1992). Holland considers the choice of an occupation to be an expression of personality. Consequently, he argues that interest inventories should be considered personality inventories. Behavioral outcomes are a function of the interaction between the individual's personality (which includes abilities) and the environment.

According to Holland (1997), the workers in a particular work environment tend to have similar personalities, histories of personal development and coping strategies. Therefore, environments may be defined in terms of

the personalities of the incumbent workers in a given workplace. It is central to the theory that the most important interactions between the worker and the work environment are social and psychological in nature. Holland argues that a complimentary or congruent match between person and environment is reinforcing and will contribute to job stability, work quality, and SWB. A substantial amount of research, summarized in Holland (1997), Walsh and Holland (1992), and Spokane, Meir, and Catalano (2000), indicates that individuals tend to choose college majors and occupations that are consistent with their personality types. The evidence further suggests that congruence between the person and the work environment is related to job satisfaction, job stability, job involvement, work quality, productivity, and SWB.

In their meta-analysis of the relationship of personality and job satisfaction, Judge et al. (2002) also conducted an analysis exploring this relationship within the context of Holland's model. They reasoned that *Conscientiousness* would be most related to job satisfaction for individuals in both *Conventional* and *Realistic* occupations. They also expected that *Openness to Experience* would be most related to job satisfaction for *Investigative* occupations and that both *Agreeableness* and *Extraversion* would be related to job satisfaction for *Social* occupations. The analysis found that *Conscientiousness* was strongly related to job satisfaction for individuals in both *Conventional* and *Realistic* occupations. However, the other expected results were not supported by the analysis. Judge et al. suggest that one possible explanation for these findings is that the primary RIASEC codes, at the study level, are too gross to fully capture vocational type.

In another recent meta-analysis, Morris and Campion (2003) investigated the relationship between congruence (as defined in terms of Holland types) and job satisfaction and performance. This was the first such meta-analysis that corrected for unreliability in both the methods used to assign Holland types to the person (interest inventories) and in the outcome measures. Morris and Campion found a mean correlation between congruence and job performance of .29 and a mean correlation between congruence and job satisfaction of .24. Taken together with previous research, these results strongly suggest that persons in environments that are congruent with their personalities tend to be psychologically healthier, more satisfied, and more productive than are people in incongruent environments.

The Theory of Work Adjustment (TWA) views work as an interactive and reciprocal process between the individual and the work environment (Dawis & Lofquist, 1984). The individual fulfills the labor requirements of the work environment, in exchange for which the work environment fulfills a range of financial, social, and psychological needs for the individual.

Dawis and Lofquist (1984) articulated the TWA through a detailed series of propositions and corollaries that make specific predictions regarding the variables important to work adjustment and the processes by which work

adjustment is attained. For example, when the worker's abilities match the skill requirement of the workplace, the worker is deemed satisfactory by her or his employer. When the worker's reinforcement needs are well met by the workplace, the worker experiences job satisfaction. Both the worker and the employer must be satisfied for tenure to occur.

Dawis and Lofquist (1984) point toward the substantial body of work related to the development of the *Occupational Aptitude Profiles* (U.S. Department of Labor, 1970) to support their propositions related to congruence between worker abilities and job skill requirements. Consequently, the overwhelming majority of the research inspired by the TWA has investigated congruence between the needs of the worker and the reinforcers offered by the workplace. Twenty work-related reinforcer dimensions are used to operationalize the match between the work-related needs of the individual and the reinforcer offerings of the work environment (Dawis & Lofquist, 1984). Recently, these TWA need-reinforcer dimensions were incorporated into the Occupational Information Network (O*NET; U.S. Department of Labor, 1998), the electronic database that is the successor to the Dictionary of Occupational Titles (U.S. Department of Labor, 1991).

In their review of the large body of TWA literature investigating the relationship between need-reinforcer correspondence and job satisfaction, Lofquist and Dawis (1984) reported correlations that ranged from a low of .14 to a high of .55, with most values falling in the .3 to .45 range. In related work that compared several indices of fit and a variety of methods for describing workplace reinforcers, Rounds (1981) reported a median correlation of .33 between congruence and job satisfaction. More recently, Tinsley (2000) concluded that the TWA research offered the strongest evidence in the empirical literature of the relationship between congruence and job satisfaction.

Dawis and Lofquist (1984) suggested that the basic concepts of the TWA could be extended outside of the workplace and applied to personal counseling issues. Fulfilling this promise, Lofquist and Dawis (1991) proposed Person-Environment-Correspondence (PEC) theory. PEC theory conceptualizes most personal problems as arising from discorrespondence between an individual and his or her environment. Similar to the TWA, PEC theory is clearly articulated in a series of propositions and corollaries that directly point toward hypothesis testing opportunities for researchers and practical applications for practitioners. Although PEC theory has yet to generate the research base of the TWA, it provides a rich and dynamic framework within which to conceptualize the processes by which individuals attempt to achieve and maintain optimal correspondence with their environments.

Moos's social climate model provides a conceptual framework for assessing the fit of persons and environments across a wide range of settings (Moos, 1976, 1987). Similar to Holland's (1997) theory of career types, the social climate model assumes that environments, like people, have distinct

“personalities” and that the greater the congruence is between the personalities of persons and of environments, the more satisfactory the possible outcomes.

Moos (1987) found that relationship variables are central to the description of the social climate across a wide range of life domains. Moos (1984, 1987) have also found that how individuals perceive their social environments has important effects on personal growth and SWB. A significant research finding across a number of studies is that satisfying relationships facilitate personal growth and SWB. Stated differently, people tend to be more satisfied and productive in environments that are perceived to be relationship oriented.

A growing body of work by other researchers is lending support to Moos's findings. As was discussed earlier, DeNeve and Cooper (1998) found that personality traits, such as affiliation, trust, and sociability, which facilitate or enhance relationships, are important to SWB. Ryan and Deci (2000) noted the importance of warm, trusting, and supportive interpersonal relationships to SWB. Myers (1999) and Reis, Sheldon, Gable, Roscoe, and Ryan (2000) found that that positive relationships with others tends to be highly associated with SWB. Finally, Ryff and Singer (1998, 2000) investigated SWB within the context of a life-span theory of human flourishing. They consider positive relations with others to be a key dimension of SWB.

The work of Pervin (1992) focuses on understanding SWB from a transactional viewpoint. The research on Pervin's model suggests that when individuals interact with environments that they perceive to be relatively consistent with their self-concepts, they are happier and more satisfied. Pervin has concluded that self-environment similarity does contribute to SWB, but cautions that the transactions are complex. Pervin has found that people in environments that they perceive to be friendly, calm, interesting, and free tend to report higher levels of SWB and productivity. This finding is consistent with the research findings discussed earlier suggesting that positive relations with others is a key element in SWB (Moos, 1984, 1987; Ryff & Singer, 1998, 2000).

Barker's (1965, 1968, 1978) behavior-setting theory emphasizes the powerful impact environment has on behavior. Barker attempted to identify natural units of behavior-environment interaction. He called these units *behavior settings*. A behavior setting is a bounded, self-regulating, and ordered system in which replaceable human components interact to carry out an ordered sequence of events referred to as the *setting program* (Wicker, 1984). Barker argued that some behavior settings lend themselves much more to certain kinds of behaviors than do others. For example, a schoolroom lends itself far more to an algebra class than does a convenience store. Moreover, the behavior settings themselves tend to evoke different patterns of behavior. For example, a worship service evokes patterns of behavior very different from those at a basketball game.

In a sense, behavior settings may be thought of as shaping the behavior of those who inhabit them (Barker, 1965, 1968; Wicker, 1979, 1992). Behavior settings operate according to a set of structural rules that link actions with environments and situations. These sets of rules are referred to as *standing patterns of behavior*. Barker argues that people tend to be influenced by the behavioral rules of the settings that they are in, particularly if they find the setting reinforcing in some way.

To date, much of the research inspired by the behavior-setting theory has focused on an aspect of the theory referred to as *staffing*. Staffing refers to the number of people needed to maintain the activities of a behavioral setting (Barker, 1968). Behavior-setting theory holds that there are an optimal number of individuals needed to maintain the activities of a behavior setting. Containing too few (understaffing), as well as too many (overstaffing), individuals will effect how the setting responds to stressors (Wicker, 1984). Compared to individuals in overstaffed settings, persons in understaffed settings tend to be involved in a greater number of activities within the setting. Moreover, these activities tend to be at a higher level of responsibility, are more challenging to perform, and are more critical to the survival of the setting. Persons in understaffed settings report feeling more versatile, being more important to the functioning of the setting, having better quality and more frequent interactions with colleagues, experiencing higher morale and higher levels of satisfaction, and having greater productivity than persons in overstaffed settings.

In summary, research inspired by the behavior-setting theory has produced somewhat counterintuitive results. Although individuals in understaffed settings are busier and more challenged by their activities, they also report experiencing higher levels of variables associated with SWB than do individuals in overstaffed settings. Perhaps the explanation for this seeming contradiction lays in the research discussed earlier in this chapter that reported higher levels of SWB were found in environments that fostered interpersonal relations. In understaffed situations, to ensure the ongoing functioning of the setting, individuals have to interact with one another more frequently and rely on one another to a much greater degree than do individuals in overstaffed situations. Perhaps this forced reliance on one another yields results similar to those brought about by more positive environments using more relaxed team-building approaches.

Goals and Subjective Well-Being

Recent research from the SWB literature has focused on individual motivation and the pursuit of personally relevant goals. In this literature, the person is viewed as being primarily oriented toward individual, purposeful, and rational action. The setting is primarily regarded as the task environment within which goals or aspirations are pursued.

A large and growing body of research literature documents the relationships among goals, goal progress, and SWB. For example, evidence indicates that feeling confident with respect to valued goals is associated with enhanced job satisfaction and SWB (Carver & Scheier, 1999; McGregor & Little, 1998; Ryan & Deci, 2001). The evidence also indicates that goal progress is associated with enhanced SWB, particularly for goals that are evaluated as being important (Brunstein, 1993; Cantor & Sanderson, 1999; Ryan & Deci, 2001). However, the relationship between goals and SWB is more complex than simply assuming that purposeful behavior contributes to SWB (Robbins & Kliewer, 2000). The level of challenge presented by one's goals, the approach or avoidance motivational systems of goal activities, the environmental context, and the relative autonomy of personal goals all moderate the relationship between goal attainment and SWB. For example, when goals are either too easy or too difficult, positive affect is lowered (Csikszentmihalyi & Csikszentmihalyi, 1988; Ryan & Deci, 2001). Furthermore, expectations of failure have been associated with higher levels of negative affect (Emmons, 1986). In regard to motivational systems, Elliott and Sheldon (1997) found that pursuit of avoidance goals tended to be associated with poorer goal progress and lower SWB. Carver and Scheier (1999) presented evidence connecting approach goals to positive SWB outcomes and avoidance goals to negative SWB outcomes. Brunstein, Schultheiss, and Grassman (1998) have shown that progress toward need-congruent goals is positively related to SWB, whereas commitment to incongruent goals is negatively associated with SWB.

Diener (2000) noted that the environmental context within which one pursues goal attainment moderates the process by which goals influence SWB. Diener and Fujita (1995) found that individuals having higher levels of resources (e.g., money, physical attractiveness, or social skills) in areas related to their goals tend to attain higher levels of SWB than do individuals with fewer resources. Other evidence suggests that goals that are related to community participation and affiliation tend to be more positively related to SWB than are financial goals (Kassner & Ryan, 1993, 1996). In addition, other research suggests that there are multiple paths to SWB and that culture influences the sorts of goals and behaviors that are valued, the resources available to reach goals, and the context in which SWB is understood (Diener et al., 2003; Robbins & Kliewer, 2000).

Another important issue concerns the relative autonomy of personal goals (Ryan & Deci, 2001). Research indicates that the pursuit of self-endorsed goals and that of self-congruent goals tend to enhance SWB (Ryan & Deci; Sheldon & Elliott, 1999; Sheldon & Kasser, 1998). Individuals who attain more self-endorsed and self-congruent goals tend to report more need-satisfying experiences, higher levels of SWB, and personal growth. Goals that were poorly integrated with self, even when achieved, were associated with lower levels of SWB.

A volume edited by Sheldon and Schmuck (2001) contains some important findings related to goal perceptions and goal content. The authors in this volume conclude that goals that are perceived as having a long-term basis tend to be more positively associated with SWB than are short-term goals, which are primarily concerned with the particular moment in time in which they are generated (Lapierre, Bouffard, Dube, LaBelle, & Bastin, 2001; Zaleski, Cycon, & Kurc, 2001). However, given that life demands that we have both long-term and short-term goals, SWB is best served when our short-term goals are related to our long-term goals (Sheldon & Kasser, 1995). With regard to goal content, research suggests that superficial, self-enhancing goals (extrinsic goals such as money, fame, or beauty) are often associated with frustration and worry, and are associated with lower levels of SWB (Cohen & Cohen, 2001; Kasser & Ryan, 2001; Salmela-Aro, Pennanen, & Nurmi, 2001; Schmuck, 2001). In contrast, group-enhancing goals (intrinsic goals such as contributing to one's community or social life tasks) are associated with higher levels of SWB. For example, older individuals who pursued altruistic goals were also found to experience enhanced levels of SWB (Lapierre et al.).

In summary, the evidence suggests that individuals who pursue personal goals and projects that are self-selected and self-congruent tend to experience enhanced levels of SWB. The research also suggests that SWB is enhanced when we pursue goals that have a long-term orientation rather than goals that satisfy short-term needs. Finally, intrinsic goals that are group enhancing and focus on the contributions we can make to others tend to be more positively related to SWB than do more self-serving, extrinsic goals.

IMPLICATIONS

Recently, there has been renewed interest in the role that personality plays in job-related performance, satisfaction, and well-being. Much of this renewed interest is attributable to two advances: one methodological and the other theoretical (Hurtz & Donovan, 2000). The technique of meta-analysis provides researchers with an objective method to equate and summarize results across multiple studies. Over the last several decades, meta-analysis has evolved from a simple summing of effect sizes across studies into a complex statistical procedure requiring many well-informed decisions regarding corrections for error and bias in data sets.

A second reason for the renewed interest in personality measures was the emergence of the FFM of personality (Hogan & Roberts, 2001). The FFM provided a much-needed, empirically validated schema for classifying personality measures and imposing order on the confusing mass of personality and job performance and job satisfaction literature. The resulting order laid the foundation for new investigations of the relationship between personality and job

performance and job satisfaction. An additional important reason for the renewed interest in the relationship between personality and job performance is that for selection purposes, personality assessment can add a relatively race- and gender-neutral increment to the predictive validity of cognitive assessment (Hogan & Roberts).

It is in this context that we have explored the topic of vocational psychology and personality by first reviewing the meta-analytic studies focusing on personality and job performance; second, discussing meta-analytic studies focusing on personality and job satisfaction; and third, concluding with a review of relevant research focusing on personality and well-being.

In our review of the meta-analytic studies focusing on personality and job performance, the most robust finding is that *Conscientiousness* is predictive of a wide range of job performance criteria across a wide range of occupational groups. A number of meta-analyses have also found that *Emotional Stability* is broadly predictive of job performance. The remaining FFM dimensions appear to be predictive of fewer performance criteria for a narrower range of occupational groups. What this means is that a personality dimension characterized by dependability and an orientation toward achievement and another characterized by being calm, resilient, and self-reliant tend to be positively correlated with job performance. However, as we have noted, the validity coefficients for *Conscientiousness* and *Emotional Stability* only account for a small amount of outcome variance. Although recognizing its theoretical importance, Hertz and Donovan (2000) question the practical significance of predicting 5% of the outcome variance in job performance. It is in this context that Tett et al. (1999) have suggested that the dimensions of the FFM are so broad that the predictive validity of these factors is blunted by their lack of a more precise focus. Thus, as noted by Mount and Barrick (1995), future researchers would do well to ask more focused questions using more specific measures of personality.

Unlike the relationship between personality and job performance, which has been the subject of several major meta-analyses in the last 2 decades, the relationship between personality and job satisfaction has only recently become the focus of a meta-analysis. Guided by the work of Barrick and Mount (1991) linking the FFM and job performance, Judge et al. (2002) conducted a meta-analysis of the relationship between personality and job satisfaction. A total of 163 independent samples and 334 correlations were included in the analysis. In the results, *Emotional Stability* emerged as the strongest and most consistent correlate of job satisfaction. *Conscientiousness* displayed the second strongest correlation with job satisfaction and extraversion was also found to be a significant predictor. Drawing on the tripartite categorization of attitudes (Eagly & Chaiken, 1993), Judge et al. suggest that the FFM dimensions may influence job satisfaction through the cognitive, affective, and behavioral domains. For example, cognitively these dimensions may influence

how individuals interpret characteristics of their jobs. Affectively, these traits may influence job satisfaction through their effect on mood (Costa & McCae, 1980). Behaviorally, workers who are emotionally stable, extraverted, and conscientious may be happier at work because they are experiencing satisfying results at work (Judge et al., 2002). In a similar vein, DeNeve and Cooper (1998) suggested that *Emotional Stability*, *Conscientiousness*, and *Extraversion* may be key aspects of the "happy personality."

We next discussed significant research focusing on personality and well-being. Noting the linkage between job satisfaction and life satisfaction, Judge et al. (2002) compared the findings of their meta-analysis of personality and job satisfaction with those from DeNeve and Cooper's (1998) meta-analysis of personality and well-being. They concluded that factors leading to the relationship between personality and life satisfaction were likely very similar to those factors leading to the relationship between personality and job satisfaction.

In reviewing the relevant literature focusing on personality and well-being, we found that personality traits do seem to account for a significant amount of variability in subjective well-being. However, as noted by Christopher (1999), it is important to recognize that definitions of well-being are culturally rooted and any assessment of well-being cannot be free of these cultural values. Diener et al. (2003) suggest that culture moderates which variables most influence SWB. They argue that in addition to personality, life circumstance, culture, and the approach versus avoidance tendencies of societies all influence long-term levels of SWB.

It is important to point out that several theoretical traditions have made important contributions to our understanding of SWB in the vocational context. These theories fall within the domain of person-environment psychology, an area that has its roots in Lewin's (1935) work suggesting that a person's behavior is a function of the person and the environment. The theories discussed included John Holland's (1997) Theory of Career Types, Dawis and Lofquist's (1984) Theory of Work Adjustment, Moos' (1976) Social Climate Theory, Pervin's (1992) Transactional Model, and Barker's (1968) Behavior Setting Theory. Taken together, these theories and their related research, in one way or another, all suggest that persons in environments that are congruent with their personalities tend to be psychologically healthier, more satisfied, and more productive than do persons in incongruent environments.

Finally, we reviewed recent research from the SWB literature focusing on individual motivation and the pursuit of relevant goals. In this literature, the person is viewed as being primarily oriented toward individual, purposeful, and rational action. The setting is primarily regarded as the task environment within which goals or aspirations are pursued. In general, a large and growing body of research documents the relationship among goals, goal progress, and

SWB. Overall, the evidence suggests that individuals who pursue personal goals that are self-selected and self-congruent tend to experience enhanced levels of SWB. Research also suggests that SWB is enhanced when we pursue goals that have a long-term orientation rather than goals that satisfy short-term needs. Finally, intrinsic goals that are group enhancing and focus on the contributions we can make to others, more than self-serving goals, tend to be more positively related to SWB.

However, the relationship between goals and SWB is more complex than simply assuming that purposeful behavior contributes to SWB. The level of challenge presented by one's goals, the approach or avoidance motivational systems of goal activities, the environmental context, and the relative autonomy of personal goals all moderate the relationship between goal attainment and SWB. In addition, research suggests that there are multiple paths to SWB and that culture influences the sort of goals and behaviors that are valued, the resources available to reach goals, and the context within which SWB is understood.

In summary, we have attempted to explore vocational psychology and personality with a focus on job performance, job satisfaction, and SWB. Our review found *Emotional Stability*, *Conscientiousness*, and *Extraversion* to be important variables related to job performance and job satisfaction. As noted by Judge et al. (2002), workers who are emotionally stable, extraverted, and conscientious may be happier at work because they are more likely to experience satisfying results at work. In addition, there is indirect evidence that appears to suggest that *Emotional Stability*, *Conscientiousness*, and *Extraversion* are important to goal selection and SWB.

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Career Development in Organizations

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Many organizations operate career development programs for their employees. Organizations provide these services internally or, in many cases, contract with outside agencies. These services exist primarily to assist in meeting *the organization's* goals and objectives. Of course, career development in organizations also usually assists *individuals* in defining personal goals and objectives and in making and implementing plans to achieve them. But as Hall (1986) pointed out, the organization's activities are generally directed at the management of careers to meet the requirements of the organization, whereas the individual's activities are focused on planning his or her career. An organization can provide continuing career opportunities for its employees and leaders only to the extent that it is successful in the marketplace, and organizational success hinges on the talents and contributions of its workers. Accordingly, many organizations operate career management programs because the alternative is the hazardous route of failing to manage this key organizational resource—the workforce. Career development or career management services are provided in many large organizations, including corporations, universities, military organizations, and government agencies.

This chapter provides an overview of a broad range of career development activities in organizations. This overview illustrates that vocational psychologists, or other career professionals who become engaged in organizational career services, should often be equipped by training or experience for involvement in specialized activities that go well beyond providing traditional career counseling for individuals. A number of personnel functions related

to career management are excluded from the present chapter. These include such things as career services offered by unions or other associations to their membership, employee assistance programs; compensation and benefit systems; development and implementation of personnel policies; and personnel recruitment, hiring, and separation.

The first section reviews some of the organizational objectives of career development programs. These include (a) meeting the organization's future personnel needs, (b) fostering attachment to the organization or commitment to its goals, (c) improving organizational performance by enhancing individual performance, and (d) identifying and limiting human resources problems. Then a variety of strategies or vehicles for career development intervention in organizations are introduced in the second section. A final section discusses (a) challenges in delivering career assistance in organizations, (b) research on organizational career development, (c) formal training and continuing professional development for those who work in this field, and (d) adapting to change in the career arena.

OBJECTIVES OF ORGANIZATIONAL CAREER DEVELOPMENT ACTIVITY

Meeting Personnel Needs

Any successful organization must have personnel capable of doing the organization's work. Typically, workers with a range of talents and specialized knowledge or skills are required, and staffing an organization or system with the appropriate mix of personnel is an important function in any organization (Dunnette, 1966) or in the design of new systems (Chapanis, 1996). A technology company producing cutting-edge computer systems will require electrical and perhaps chemical engineers, software developers, mechanical engineers, technical support specialists, sales representatives, accounting personnel, office support workers (receptionists, secretaries, administrative assistants), marketing specialists, human resources specialists, supervisors, managers, and top organizational leaders. To continue to be successful, the organization must anticipate and plan for changes in the mix and number of personnel required—such as may be brought about by changes in market conditions, development of new products, or movement into new markets. This company must either recruit managers and top executives with the requisite combination of technical and managerial skills in the external labor market or develop future managers and executives by helping its employees acquire the needed combination of skills in its internal labor market. Accordingly, one career development function in organizations is managing the succession of work assignments and other learning experiences of employees

to meet the organization's future personnel needs (Morrison & Hock, 1986).

A number of instrumental objectives may be pursued in support of meeting personnel requirements. Among these instrumental objectives are the following:

- Information about the extent and distribution of existing talent within the organization's workforce
- Plans for leadership succession and contingency plans for unexpected succession requirements
- Intraorganizational development of personnel with the requisite mix of knowledge, skills, and experience
- A workforce with a diversity that matches the diversity of the markets in which the organization operates
- Plans to cope with personnel reorganization required by interorganizational mergers
- Employees who have planned and are managing their own career development in support of organizational staffing needs
- Plans and mechanisms to cope with organizational or unit downsizing.

Consideration of these organizational objectives should make it immediately apparent how the focus of organizational career development differs from more traditional individual-focused career development. The traditional concerns with an assessment of the *individual* and self-understanding in relation to occupational demands and the potential rewards of career alternatives are not supplanted in the organizational context, but the assessment of *organizational* requirements and organizational understanding in relation to organizational futures is often paramount. The adjustment of organization and workforce is a process that often requires a different level of analysis and intervention than the adjustment of an individual to work.

Fostering Attachment and Commitment to the Organization or Its Goals

The retention of productive workers and focusing workers' efforts on the achievement of the organization's goals is another objective of organizational career management programs. To grasp the importance of personnel attachment and commitment, consider the disastrous situation in many American urban school systems where breathtakingly high rates of teacher turnover (Ingersol, 2001) and poor personnel practices (Levin & Quinn, 2003) produce perennial staffing difficulties and concomitant inability of these systems to implement effective instruction. Or consider the high cost of training military personnel whose decisions to reenlist after an initial term will save

the organization huge amounts of recruitment, selection, and training costs. Accordingly, organizations often seek the following instrumental objectives through career development programs:

- A workforce whose members see pathways to meet their own personal or career goals within the organization
- Workers who are satisfied with and committed to their work units and the organization
- A workforce that is focused on the organization's mission, goals, and objectives.

Improving Worker Performance

Although an organization's recruitment, selection, and separation practices may be its most important mechanisms for developing a high-performing workforce, most organizations seek to maintain or improve the performance of their workers in their current jobs through interventions directed at in-service employees. Among the objectives of these career development interventions are the following:

- Enhancement of skills or competencies through training, skill building exercises, or placement of workers in developmental work roles
- Prevention or amelioration of individuals' work adjustment problems
- Employees who are motivated, feel rewarded for performance, and expect to be rewarded for future performance
- Workers whose interests, skills, knowledge, and abilities match the demands of the jobs they perform
- Safe and productive organizational or work designs that integrate technologies and ergonomic factors with the characteristics of suitably prepared workers.

Limiting Human Resources Problems

Interpersonal or intergroup problems in the workplace can thwart the efficient achievement of organizational goals and objectives, so a common objective of organizational career development activity is to prevent or ameliorate these problems in work groups. Interpersonal styles or insensitivities of employees are also often obstacles to their own further career advancement within the organization, and may also thwart efforts to achieve the attachment and commitment of all categories of workers. For example, hostile work environments, inconsiderate or demeaning supervision, inadequate or inept supervision or training can make it difficult for an organization to meet diversity objectives or to achieve a committed workforce. Or, for example, poor

communication or lack of cooperation among different parts of the organization (sales and engineering) or categories of personnel (nurses and physicians, faculty and administrative support personnel) can lead to poor organizational performance (lost sales opportunities, harm to patients, and overexpenditure of departmental budgets). Accordingly, among the objectives of organizational career development programs is the achievement of organizations and work units that:

- Have few interpersonal or intergroup tensions or other problems
- Quickly ameliorate the influence of tensions or other interpersonal or intergroup problems that emerge
- Resolve interpersonal or intergroup problems.

CAREER DEVELOPMENT OR CAREER MANAGEMENT FUNCTIONS AND STRATEGIES

Much career management and career development work can be organized according to three major functions: (a) planning and analysis, (b) assessment, and (c) learning or development interventions. The following discussion organizes descriptions of career management activity according to the major function involved. Naturally, many career development activities or strategies are related to more than one of these functions. In addition, career development services in organizations continue to be delivered using some traditional counseling and career-center-based arrangements.

Planning and Analysis Functions

The first set of common organizational career management or development strategies are directed at clarifying what the organization's human resources are, who in the organization has potential to move into roles that the organization will have to fill in the future, and what roles in the organization may be compatible future career destinations for the organization's workers. Three strategies employed in planning and analysis functions are described in the following paragraphs—succession planning, workforce assessment, and job analysis and classification. A full account of the state of the practice in carrying out these strategies is beyond the scope of the present overview. Accordingly, readers are directed to other literature for fuller accounts of specific kinds of career development intervention.

Succession Planning. The individuals who fill leadership and key technological positions in organizations are particularly important to the success of the organization. When vacancies occur in these positions, filling them

quickly with individuals who are fully prepared to assume the leadership roles is important. Succession planning (Hirsh, 1990) involves the identification of individuals with potential to move into these key roles and the identification of developmental experiences that will be required to prepare them for these future roles. Programmatic succession planning may identify positions several layers deep and involving a variety of distinct functions for which the organization should be developing replacements. Replacements will be required by retirements, deaths, voluntary movement of workers to other organizations, or unsatisfactory performance of incumbents. Especially for complex, high-level positions, succession planning may involve the deliberate rotation of potential replacements into a variety of roles to provide learning experiences and so that performance can be assessed. One part of an organization's succession planning activity may involve efforts to identify those individuals who appear to have promise as future leaders—efforts closely related to workforce assessment and skill inventorying which are discussed next.

Workforce Assessment and Skills Inventories. Surprisingly, many organizations lack ready access to information about the knowledge, skills, and personal objectives of their workers. Workforce assessment and skill inventorying (Kaumeyer, 1979) are approaches to providing this kind of information, which may be necessary for making decisions that will lead to the success or failure of new ventures, alternative production strategies, or military campaigns. Even in small organizations, leaders may lack information about skills of workers that could lead to organizational efficiencies or adaptations. The potential to overlook valuable worker contributions or to allocate personnel inefficiently is far greater in large organizations where decisions about product development or the entry into new markets, for example, may be made at several levels removed from the workers at the ground level. Accordingly, systematic efforts to assess workforce capability and to catalog the resulting information can have applications in team composition for development or research projects, assignment of sales personnel to market sectors, or making decisions about what forms of office automation or information technology to acquire. In contrast, a failure to assess the skills of the workforce can lead to costly or catastrophic results. For instance, one city child and family welfare agency adopted a computerized client information system that the city's child and family welfare workers lacked the skills to operate or maintain. The result is that the agency cannot even count the number of child welfare cases it handles each year, with probable negative outcomes for the children and for efforts to justify the agency's budget.

Job Analysis and Classification. Occupational analysis serves many functions. In the development of new technological or production systems, designers will generally have the opportunity to consider alternative

configurations that rely to different degrees on specific worker skills or that require different mixes of technology and of human performance (Chapanis, 1996). Accordingly, job analysis—conducted before the jobs exist—can guide decisions about the design of systems. Consider the implications of the availability of the stirrup as a technological innovation for the mix of personnel required by Charlemaign in planning the Norman invasion in 1066. The potential of highly effective mounted fighters meant that the campaign could be successful with far fewer soldiers than would have been required without this technology. But if horses had been in relatively short supply or were difficult to feed or deliver to the battlefield, a very different mix of personnel would have been required.

Job analysis and classification are also useful, of course, for the more mundane career planning and development functions in organizations. Most organizations classify positions for purposes of pay administration. The Equal Pay Act of 1963 had the effect of codifying job analysis in terms of skill, effort, responsibility, and working conditions, and the assessment of positions in terms of these “compensable factors” is central to many occupational analysis systems in organizations. A number of job analysis methods or inventories have been developed to meet the needs of compensation systems (e.g., Harvey, 1993; McCormick, Jeanneret, & Mecham, 1972). Generally, organizations also classify positions in terms of job families, grouping together positions that require similar *kinds* of skills or make similar *kinds* of demands on workers, with positions within each job family differing in level or pay grade. Job families in such position-classification systems may include clerical, trade or craft, managerial, technical, and similar groupings. The job families often resemble grouping found in the *Guide to Occupational Exploration* (U.S. Department of Labor, 1979) or the O*NET (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1999). Although such classifications are developed principally for pay administration, employees also use this kind of position classification system in their own career development activity—making plans to acquire experience required to move up in grade or seeking education required to change job family, for example.

Some organizations have begun to go beyond classification for pay administration to develop position classification systems specifically designed for internal career planning applications. The *Position Classification Inventory* (Gottfredson & Holland, 1991) is completed by incumbents, supervisors, or job analysts to classify positions in terms of Holland’s (1997) RIASEC occupational classification used with the most common approaches to measuring career interests (Harmon, Hansen, Borgen, & Hammer, 1985; Holland, Fritzsche, & Powell, 1994). Employees identify future career possibilities within the organization using a psychological classification of occupations related directly to their interests as well as to pay or complexity level.

Assessment Functions

Psychological assessment is used in executive selection, succession planning, leadership development planning, and to promote self-reflection and personal or career growth. The use of management development seminars or training experiences has been big business in recent decades, and many companies use the opportunity to participate in these experiences as a reward for good performance—underscoring the entertainment value of such experiences. Psychological testing and feedback are common in such programs.

Individual Assessment. The assessment of interests, personality, values, or interpersonal style is often a component of career development or management activities in organizations. Usually, assessment and feedback of personal information is integrated with a structure to assist the individual connect the feedback with its implications for career development, often by using a workbook or planning framework. For example, the Campbell Leadership Descriptor (Campbell, 2002) directs participants to plan activities or experiences that will lead to personal development in specific areas. Some structured assessment inventories used in these applications have venerable psychometric histories or well-documented psychometric properties (e.g., the Strong Interest Inventory or the Hogan Personality Inventory), whereas others are linked with some form of training and certification of career development workers to employ the assessments using a proprietary process and may lack well-documented psychometric virtues.

Assessment Centers. Developed as part of the Office of Strategic Services procedures for selecting counterespionage agents during World War II (Wiggins, 1973), assessment centers have evolved into a career management practice that tends to be limited to managerial and executive personnel. Termed assessment centers in a personnel selection context (Thornton, 1992), these are sometimes called development centers when the aim is to assist in career development. Participants in an assessment center engage in a variety of situations, such as an in-basket exercise, leaderless group problem solving, role-play, or simulations, and they may be assessed using a variety of personality inventories and be observed in social and other settings by assessors. Assessment centers and less elaborate assessment methods serve similar functions.

360-Degree Feedback. An intervention involving multiple sources of ratings and often multiple raters from each source (hence, an alternative name multisource multirater, or MSMR feedback) became popular in the past decade or so (Antonioni, 1996). This form of intervention involves obtaining ratings of an individual—often a supervisor or manager—from the perspective

of supervisors, subordinates, peers, and perhaps of others. The information is then organized and fed back to the participant as an aid in honing managerial skills or in formulating a development plan. The popularity seems not to be based on evidence of the effectiveness of this intervention but rather on its plausibility and seeming “objectivity” in integrating information from multiple points of view. A number of training or assessment organizations have assembled packages of assessment materials and provide feedback structures for use in 360-degree feedback interventions.

Learning and Development Interventions

Individual workers measurably differ in their orientation to work-related learning and development: Some strive to learn new methods or ideas and to improve their efficiency or effectiveness on the job, and others are more passive or disinterested in learning (Gottfredson, 1996). There is reason to believe that the orientation toward continuous learning in work may differ to some degree for different cultural groups (Wilson, Hoppe, & Sayles, 1996). However that may be, organizations frequently apply interventions intended to foster the learning or development of behavior or attitudes. Sometimes, these interventions are intended to induce workers to become committed to specific goals, or to alter personal characteristics that increase their disposition to seek organizational goals (e.g., self-efficacy expectations related to organizational goals or methods). In short, organizational learning or development interventions—sometimes called training and sometimes called professional development—may target not only skills but also attitudes, goals, or efficacy expectations related to goals. A rationale for such interventions is provided by goal theory (Locke & Latham, 1990, 2002) as well as by social learning theory (Bandura & Locke, 2003), because knowledge and skills are often insufficient to direct and sustain worker behavior in service of organizational goals.

Learning or development interventions may make use of techniques such as behavior modeling and control theory in the context of a process involving assessing needs, setting objectives, behavioral goal setting, practice, and generalization (Hellervik, Hazucha, & Schneider, 1992), or they may seek to encourage workers to engage in self-directed (London & Smither, 1999) learning or in a process of reconstrual of their experiences and interaction with work environments (Argyris & Schön, 1974) as part of a continuous developmental process.

A helpful account of training interventions (Campbell & Kuncel, 2001) reviews training design and implementation considerations. That account points to the fundamental importance of specifying what is to be learned in the design of interventions. Ironically, the central importance of what is to be learned is at odds with the more “developmental” perspectives on individual learning or development. When what is to be learned is determined

by the learner, a certain degree of indeterminacy in the learning process may undermine its usefulness to the organization and to the individual.

The following list illustrates the range of individual learning or development interventions. (a) *Individual performance management* refers to interventions to assist the individual—usually by providing behavioral objectives and a structure for planning learning experiences or tracking progress—in regulating his or her own performance. (b) *Manager or supervisor training in performance management* is directed at helping individuals who direct and evaluate the work of others assist their subordinates in achieving performance objectives. (c) *Coaching* involves a more experienced individual in advising, instructing, observing, and feeding back information on performance for a less experienced individual. The now tired neologism “*mentoring*” is sometimes used interchangeably with *coaching*—presumably recalling the role of Telemachus’s sage advisor Mentor in Homer’s *Odyssey*—but having now assumed to my ear a paternalistic assumption that certain categories of individuals are in special need of advice due to their ethnic, gender, or other backgrounds. (d) *Developmental assignments* are task, position, organizational unit, or country assignments—generally of a time-limited nature that an individual seeks or is assigned in order to develop skills, knowledge, or perspectives deemed valuable for the individual’s development. (e) *Learning organizations* is the catch phrase for aspirational organizational arrangements in which norms favor performance enhancement and in which individuals seek to develop their competencies and are open to feedback and assistance from others. (f) *Training* is now something of an old-fashioned word when applied to efforts to assist in the development of employed adults, having been replaced in the process of evolutionary semantic correctness in much the way that “*issue*” has replaced “*problem*” in the argot of counseling. Nevertheless, broadly construed it includes all of the approaches to learning and development applied today.

SOME TRADITIONAL COUNSELING AND CAREER DEVELOPMENT FUNCTIONS AND ARRANGEMENTS

Career development in organizations continues to be delivered in some traditional forms—career centers or units, career courses, individual assistance or counseling and outplacement or retirement services.

Some large organizations operate a career center to which employees may turn for assistance with career- or life-planning concerns. Observation suggests that career centers seem to be most common in circumstances where employee work adjustment problems are most acute or obvious—for example, when there is a great deal of turnover in certain parts of the organization or certain positions within it, when large-scale downsizing requires special

efforts to help exiting employees cope with the transition in an organized way, when workers or their families experience pervasive or serious stressors, or when there is a pressing organizational need to retain workers because they are difficult or expensive to recruit from outside the organization. For example, Arredondo et al. (2002) developed and evaluated a stress management program for police officers and their spouses who may have difficulty adjusting to the stressful work of policing, and military organizations rapidly organized extensive career assistance for the large number of personnel who were separated from service in after the end of the Cold War—many of whom had expected to continue their military careers until they reached retirement. These career units or centers may organize or offer career courses, provide information or job search resources, as well as provide individual assistance or counseling.

Organizational restructuring, downsizing, and outsourcing in recent years have spawned the emergence of a form of career assistance known as “outplacement.” This emergence has been accompanied by the formation of an organization of outplacement professionals and the appearance of books (Pickman, 1994) offering advice on the development and operation of outplacement services. Such services help individuals plan for a career transition outside of the organization. They often help employees assess their skills and interests and develop career goals; assist in networking and in obtaining information; provide workspace, computers, printers, and Internet resources to assist in the job search; and may provide motivational support for assisting employees or former employees to make career transitions. One application of job analysis using the Position Classification Inventory (Gottfredson & Holland, 1991) has been to help separating workers analyze the jobs they had performed, so that they can use the Holland classification to locate work outside the organization that is related to the work that is being eliminated in the firm.

Related Functions

The boundaries between different forms of career development in organizations are diffuse. There is much overlap between the aims and methods of traditional training in organizations and the application of learning structures intended to help employees set performance or career goals and develop and implement plans to achieve them. Similarly, assessment is often an element of a broader intervention intended to help individuals manage their careers through planning or seeking special experiences. These diffuse boundaries extend more broadly. Increasingly, career development in organizations and the professionals who provide career assistance are likely to find themselves involved in an array of related functions, ranging from personnel planning to organization development.

Personnel Planning. Planning is required to help meet the future personnel needs of organizations. This goes beyond the confines of succession planning for organizational leaders to include planning for the accession or training of workers who will be prepared to perform the work roles required by growth, new products or services, or new markets. Career development professionals with roles in position classification, professional development, and the implementation of programs to retain workers are naturally situated to also become involved in personnel planning. This may require the development of expertise in workforce forecasting, the development of career ladders, or of recruitment efforts.

Placement and Selection. Placement is the use of information about individual differences in the allocation of persons to jobs, and selection is the use of information about individual differences in the accession of individuals. When a position opening or anticipated opening occurs, an organization could approach filling the opening as a *selection* situation, attempting to recruit and fill the position by identifying a pool of eligibles and identify the best applicants within this pool. Or, an organization could approach filling the opening as a *placement* situation, using a pool of applicants for all positions and incumbents in other positions to identify the best candidates within this larger pool. Dunnette (1966) showed that when there is some degree of statistical independence in the measures of suitability for different positions, a selection–placement approach will produce better base rates for filling the open positions and is therefore superior to a pure selection approach. The implications of the value of placement for career management and planning in organizations are clear. Career development programs in organizations should be linked with selection and placement to fill openings and to plan to fill future openings. In short, the boundary between traditional career development and personnel roles and functions may become blurred; or put another way, career development and personnel functions should often overlap. This highlights once again the distinction between organizational career management that exists primarily to meet *organizational* goals (meeting individual goals in the process) and other career development activity where the primary aim is to meet *individual* goals.

Organization Development. Professionals who initiate and provide career development services in organizations often become engaged in a broader range of organization development (OD) services (French, Bell, & Zawacki, 2000). This is a natural extension of the career management function because so many organizational problems involve interpersonal skills or intergroup relations (Holland, 1976). Many of the work adjustment and career-related problems involve relations between employees and their supervisors, managers' difficulty in obtaining cooperation or productivity from

the employees for whom they are responsible, conflicts or lack of effective communication among work units or personnel of different types, or a lack of well-defined or agreed upon role expectations for different personnel. These work adjustment problems may be addressed using OD techniques, and accordingly OD merges to some degree with career management functions. A career management or OD professional may find himself or herself engaging in the analysis of organizational structure using classical organizational theory to diagnose communication problems, applying role analysis or role negotiation techniques to overcome intergroup or worker-manager difficulties, or using conflict-management team-building techniques to foster better relations among different work units or different categories of personnel. Similarly, career management professionals may engage in coaching or explicit training of supervisory or managerial personnel in interpersonal skills required to work with subordinates or peers using behavioral modeling techniques (Goldstein & Sorcher, 1974). These methods, and more, should be in the tool kit of the career management professional working in organizations.

Psychotherapy or Counseling for Persons with Work Dysfunctions. Career management interventions in organizations can also sometimes be difficult to distinguish from psychotherapeutic or counseling functions (Lowman, 1993) resembling those provided in employee assistance programs.

CHALLENGES OF CAREER DEVELOPMENT IN ORGANIZATIONS AND IMPLICATIONS FOR RESEARCH, TRAINING, AND ADAPTABILITY

Providing career development services in organizations presents some special challenges or requirements that are not as salient when individuals are the only client. The organizational context itself presents challenges and opportunities, as does the involvement of external career development professionals who may be contracted to provide the services or extend those made available internally. The organizational objectives and context also have implications for research in the organizational setting and for the training and continuing education and competency development of career development professionals. These issues are discussed in this section. Contemporary changes in the economy, organizations, and careers highlight the importance of adaptability of both individuals and career services. The final paragraphs discuss the adaptation of individuals and of organizational career services to the requirements of change.

Challenges

Balancing Organizational and Individual Service. In the organizational context, the primary client is usually the organization. Services are provided to individuals because the organization wants them to be provided—usually not simply to promote the welfare and career adjustment of individuals. Accordingly, those who provide career services in this situation should clearly and openly discuss with the individuals served such issues as the organizational objectives sought, limits on confidentiality that may apply, and how the individual's own objectives and needs may be served by participation in the institutional services. Generally, a discussion of the nature and availability of independently provided career services should also be discussed, with an indication of the ways those services might differ from those being offered by the organization. For example, if the career options emphasized in planning will highlight future possibilities within the organization, this should be disclosed initially and at the appropriate points during work with the individuals. The psychologist or counselor should be alert to circumstances in which the objectives of the organization and of the individual may be at odds, and call these to the attention of the individual or the organization. Finding the most appropriate ways to broach these topics may require skill, tact, and organizational savvy. Written organizational policies regarding these matters should be proposed if they do not already exist. Reference to the written policies can go a long way to reducing ambiguities in role relations that will arise. Lowman (1997) provided a useful casebook of ethical challenges in organizations.

Organizational Support. In any organization, an activity that is fully supported by leadership has a greater chance of success than does an activity that is opposed or merely tolerated. Leaders' support for career development or career management programs cannot be taken for granted. Those who develop or provide these services should be concerned with showing how they help the organization meet its objectives. It may seem obvious that an organization is better off when staffed by individuals who are committed to the organization and its goals, who have the requisite skills to perform their work, and who are able to overcome the interpersonal barriers to effective performance they encounter. But the connection between these desiderata and the success of the firm or its units may not be salient to an organizational leader whose primary concerns lie with product development, market share, or profitability. Accordingly, drawing these connections explicitly will likely be among the tasks of an organizational career development service. Making the connections in quantitative terms may be helpful. A review of the concerns industrial-organizational psychologists have had for the dollar value of a standard deviation in work performance (Judiesch, Schmidt, & Mount, 1992) is instructive. The implication is that career management is an investment in

the organization's human capital, and psychologists or counselors working in this area should not be reticent about making their contribution to human capital explicit.

A number of aspects of system support are important—including adequate and appropriate staffing, resources, space, and time. Consideration should be given to arrangements that will allow the timely provision of services at locations that do not provide unnecessary barriers to access by employees or in ways that may be stigmatizing. These arrangements are not limited to physical arrangements—although these are generally important—but also include social understandings of the nature of services. For example, if a career management unit provides training or coaching for department heads in the management of the performance of workers in their units, being selected for participation in such training can be seen as stigmatizing or undesirable unless characterized as a leadership development service that is a perquisite of occupying a leadership role in the organization.

Adequacy of staffing is important, particularly in the career development field where unqualified or quasi-qualified practitioners are spreading like weeds in a corn field. The current proliferation of persons “certified” by publishers in the use of a particular test or career planning method and of persons trained in professional clinical or counseling psychology programs should not be confused with a supply of persons with adequate broad preparation in the fundamentals of behavioral science theory and methods—including psychometric theory and methods, industrial-organizational psychology, and vocational psychology. Appropriate roles exist for individuals with narrower training and experience in the administration of tests or in assisting employees in carrying out prescribed career development activities, just as there exist appropriate roles for clerical personnel in a career development service. Generally, however, career development services should be overseen by one or more persons with broad training and experience in industrial-organizational and vocational psychology.

Anecdotal evidence implies that career professionals in organizations often have limited access to colleagues with similar background and professional concerns within the organization. Like external career consultants, these internal career professionals are also often estranged from research and academic literatures and associations. This suggests that one of the support arrangements desirable for the development and maintenance of quality career management programs in organizations is provision for career professionals to interact with and obtain support from peers in other organizations or in the broader psychological, counseling, and career management community. This includes the use of consultation, attendance at professional meetings, and supervision by more experienced practitioners while skills are developing. Workshops and continuing education participation may be especially important.

Research

As is true in many areas of practice in vocational psychology, the scope of practice extends beyond frontiers that have been well charted by research—relying on experience and advice about what appears to work as well as on the research that is available. To some degree, research in organizational career management lags because career practitioners are more interested and skilled in helping others than in conducting research. But organizational practitioners find themselves in an environment where research is not only feasible but also likely to be productive of program improvement. When organizations are willing to support research on career management—as they should be as one way of measuring the contribution of this activity to organizational productivity—research is far easier to conduct than it is in the contrived circumstances with which academic researchers are often faced. Some of the lines of inquiry likely to be productive are described in the following paragraphs.

Measurement and Classification Research. Classification and measurement are the foundations of career development practice. The roots of vocational psychology lie in the measurement of individual and occupational differences (Gottfredson, 2001), and organizational career development activity presents an opportunity to extend and further develop these foundations.

A common belief today is that the nature of careers is changing, with individuals having less commitment to the organizations in which they work and with increasingly fragmented careers as workers change “occupations” and firms with greater frequency than in the past (Arthur, Inkson, & Pringle, 1999; Hall, 2002). If so, careers in organizations provide a research-target rich environment. How do the careers, work performance, and satisfaction of individuals with more commitment to organizational goals and objectives differ from those less committed to those goals and objectives? How do learning cycles (Hall, 2002) early in a person’s career differ from learning cycles of more experienced workers? What personal competencies predict successful adjustment to transitory organizational attachments?

Another commonly uttered belief is that new occupations are emerging at a relatively rapid rate, and that old occupational categories or classifications may have decreasing value in understanding contemporary careers. This mantra is not new. In the 1960s and 1970s there was a belief that emerging technologies such as solar energy would spawn many new occupations and render many old occupations passé. To a large extent, however, the utilization of solar energy turned out to employ a familiar mix of trades and professions—glaziers, plumbers, and carpenters to implement solar heating systems in housing; chemical and electronics engineers to produce photovoltaic generation of electricity; and the continuation of the use of older technologies and

conventional trades. Determining whether jobs with new titles or occupations in emerging fields of commerce, service, and production are *new* occupations or are extensions and relabeling of older occupations requires occupational analysis and classification. The natural agents to conduct research on this are career management professionals and industrial psychologists who have responsibility for charting the new waters and helping to pilot people as they navigate them in the course of their careers. Useful inquiry would address such issues as the following: (a) Do newly emerging occupations involve worker functions or worker characteristics that existing job analysis techniques fail to measure? What functions or characteristics? Can these be dependably measured? (b) How should emerging occupations be classified? Are new taxonomies required? Or, are specific emerging occupations instances that can be accommodated by existing taxonomies? (c) What interests, abilities, or skills predict entry, persistence, or performance in emerging occupations. (d) Do the careers of people working in emerging technologies or areas of service show regularity in the sense that when they change jobs they move into psychologically related occupations as was characteristic of job transitions in the 1970s (Gottfredson, 1977)?

Implementation Research. Career development or management programs in organizations share with all other human service, health, and educational interventions the likelihood that they will fall short of expectations for level and quality of implementation (Gottfredson, 1984). The development of career interventions should often adopt an action research (Sanford, 1970) strategy involving pilot testing to learn about feasibility and a cycle of informal or formal evaluations to learn about barriers to implementation, components that employees and managers find acceptable and that appear helpful, and about the extent to which intended populations are actually served. Following an initial developmental cycle involving action research, more formal outcome evaluation is required to document outcomes and establish credibility within the organization and larger community.

Outcome Evaluation. Career practitioners ignore the evaluation of their interventions in terms of outcomes important to the organization at their peril. At some point, organizational leaders rightly ask, "Is this program worth what it costs?" Credible evidence showing that a career management program reduced employee turnover, retained valued workers within the firm, placed higher performing personnel in key positions, and stabilized staffing in problem organizational units goes a long way in showing that the career service is worth what it costs. Naturally, the outcomes measured will depend on the specific interventions applied and on their intended outcomes. Methods for translating outcomes such as reductions in turnover or the placement of higher performing personnel into dollar values that can be explicitly compared with

costs are available (Judiesch et al., 1992). Conducting outcome evaluations in organizational settings will often require career practitioners to employ many of the quasi-experimental methods that are available for producing evidence that is convincing to reasonable skeptics (Shadish, Cook, & Campbell, 2002).

Training and Continuing Professional Development

The complex mix of activities performed by career management professionals in organizations has implications for the initial preparation of practitioners as well as for their continuing learning. These implications are discussed in this last section.

Formal Education. Those currently working in career management in organizations have not come from any single well-defined field of education or training. Some were trained in business schools, some in counseling or counseling psychology programs, some in schools of social work, and some are industrial-organizational psychologists. But consideration of what is currently involved implies that competent practitioners should have training in vocational psychology; industrial-organizational psychology (particularly selection, placement, and organization development); human resources management (particularly leadership development and workforce analysis); evaluation research methods; ethics; and some exposure to counseling and training techniques. Because the skills required to navigate organizational environments in the implementation of career services are largely learned through experience, and because a naive approach to addressing organizational problems is unlikely to be seen as competent, some practicum or internship experience may be helpful—or entrants into this field can gain experience working in an established career service or under the supervision of a more experienced practitioner. Because graduates of the typical counseling, counseling psychology, or clinical psychology program lack the experience and some of the educational or training background that will be required, some form of formal or informal supervised transition into this field will help novices to enter it competently. Similarly, graduates of typical industrial-organizational psychology or human resources management programs will often lack background in counseling.

Continuing Professional Development. Discussions with career professionals working in organizational settings imply that they often wish to develop their competencies in research and program evaluation because of the importance of showing the benefits of the career services they deliver and the typical deficiency of their backgrounds in this area. Because career professionals are often somewhat isolated from others working in the same field, they may have to make deliberate efforts to develop their skills more

or less on their own. One way they do this is by reading. An industry of sorts has developed to provide training to career management professionals, most often connected to specific products or methods. Training workshops, sometimes accompanied by some form of "certification" are pursued in such things as the use of the Strong Interest Inventory, the Meyers-Briggs Type Indicator, the Personnel Decisions International (PDI) Profiler, or the Center for Creative Leadership's Benchmarks. These workshops are offered by publishers or developers of these products in part as a marketing technique. Not that there is anything wrong with that, but it would be desirable to see the evolution of university-based continuing professional development programs for career workers. At present, collegial exchanges in the form of workshops conducted at local, regional, or national meetings are among the ways organizational career development professionals learn of new methods or the ways others similar to themselves approach problems.

Adaptation and Adaptability

Hall (2002) has observed that the practice of career assistance in organizations has changed since his earlier (Hall, 1986) book on careers in organizations. In his view, the change involves less commitment of organizations to the career development of their workers. The emergence of a global economy; organizational mergers or downsizing, outsourcing, booms, and busts in one sector or another; and changes in technology, communication and transportation all produce change in the environments in which careers unfold and in which career assistance is delivered.

For individuals, this means that workers will often have to take more responsibility for managing their own careers. Savickas (1997) has shown how adaptability to change in work circumstances is a predictable requirement in most careers, so that a linear process implied by some earlier developmental perspectives on careers poorly describes the continuing need for people to work through recurrent developmental cycles. Morrison and Hall (2002) suggested that it is useful to distinguish between *adaptability* and *adaptation*. Adaptability refers to an individual's disposition to maintain identity and effectiveness while coping with change. Adaptation refers to the process of applying competencies in negotiating events or changes in role demands. Morrison and Hall suggested that a variety of common career development interventions, such as analysis of future worker requirements, assessment centers, career counseling, and coaching, can be useful in helping workers become successful adapters. Such approaches may help organizations cope with the problem that they may have selected workers for jobs of the past rather than for the jobs of the organizations' futures.

For career development professionals, economic and organizational changes require adaptation as well. For instance, economic cycles lead to

lean periods for many organizations. In recent years, strained balance sheets have evidently led to reductions in many organizations in many aspects of career development or management, but it has led to increases in outplacement services operated by or for organizations. If, as seems likely, the economy picks up, we may expect a shift back to organizational investments in internal career development. As a consequence, adaptability for those who deliver career services in or for organizations means the capacity to shift from one form of career assistance to another. The desirability of preparing future organizational career development professionals to be adaptive underscores the recommendation in the previous section that broad training in measurement, research, and practice is desirable.

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Vocational Rehabilitation: History and Practice

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Like many domains within vocational psychology, vocational rehabilitation is a dynamic enterprise, constantly evolving in response to contemporary issues, the changing demographics of the work force, and to alterations in health and public policy. Although psychologists have been involved in vocational rehabilitation for almost a century, the area is ultimately multidisciplinary, and professional psychology does not claim any unique dominion over any aspect of vocational rehabilitation. Other professions that borrow heavily from the psychological literature have been identified with the area for decades (e.g., rehabilitation counseling and vocational evaluation). Yet the dynamic and evolving nature of vocational rehabilitation and the relevance of psychological principles to the enterprise ensure a recurrent and influential role for many psychological specialties.

In this chapter, we review the various aspects of vocational rehabilitation that contribute to its dynamic nature, including the different professions, policies, and population trends that dictate changes. We provide a brief overview of the history of vocational rehabilitation in the United States that demonstrate the impact of public policy on its evolution. This will also incorporate the emergence of contemporary legislation that influences current changes in research and practice. We provide a concise overview of the theoretical perspectives and empirical research from a psychological perspective that represents major contributions from vocational psychology,

and then culminate with some observations about the present trends in vocational rehabilitation that illuminate new and emerging roles for psychology.

DEFINING VOCATIONAL REHABILITATION

Vocational rehabilitation (VR) traditionally refers to the provision of some type of service to enhance the employability of an individual who has been limited by a disabling physical condition. Physical disabilities, chronic diseases, congenital problems, and psychiatric conditions can adversely affect vocational opportunities and development in many ways. Individuals with these conditions may experience considerable mobility restrictions; have restricted access to certain environments essential for education, work performance, or training; or have limited educational and training opportunities during their childhood and youth that subsequently impair their preparation for work. In addition, persons are affected by whether they are perceived as having a disabling condition. Persons with these conditions often face financial hardship and people who are unemployed and who lack financial resources are at the highest risk for psychosocial problems among the unemployed (Price, 1992). Additionally, individuals with these conditions often have ongoing health care needs that require adherence to self-care regimens or routine monitoring to maximize daily health. They also encounter many stereotypic and negative attitudes from potential employers and peers that limit their vocational opportunities and integration into the workplace. Persons with mobility restrictions may also require job modifications to accommodate their abilities and limitations.

Historically, people with disabling conditions have attracted the attention of social and private agencies as they often face daunting obstacles to full participation in their communities including employment. Federal and state vocational rehabilitation agencies have endeavored to coordinate the provision of services as needed from different professions (e.g., medicine, education, and psychology) on an individual basis to prepare a client for work (Jenkins, Patterson, & Szymanski, 1997). Many professional disciplines may be involved in the rehabilitation process, representing fields in education (e.g., special education and vocational education), medicine (e.g., psychiatry), allied health disciplines (e.g., physical therapy and occupational therapy), and psychology (e.g., rehabilitation psychology and health psychology). Rehabilitation counseling is most often associated with the vocational rehabilitation process, given its association with legislation that created federal and state rehabilitation agencies; however, the case management model adopted by many in this profession has provided new avenues for practice in the private sector (Shrey & Lacerte, 1995).

HISTORY OF VOCATIONAL REHABILITATION IN THE UNITED STATES

Prior to the 20th century, precursors to vocational rehabilitation (VR) services were generally provided in some fashion by charitable organizations (e.g., the Salvation Army and the American Red Cross). Other services were formally provided by institutions that were founded or influenced by reformers of the era such as Thomas Gallaudet, Dorethea Dix, Samuel Gridley Howell, and Washington Gladden (Oberman, 1965; Rubin & Roessler, 2001; for more detailed reviews of the history of VR, see Jenkins et al., 1997; Martin & Gandy, 1999; Peterson & Aguiar, 2004). The focus of these efforts was often to make life easier for individuals with disabilities but often resulted in further isolation and stigmatization. By the end of the 19th century, the industrialization of the American workforce, combined with pressure mounting from immigration, urbanization, and advocacy from the Populist and Progressive political movements prompted a greater recognition of the complexity of social issues germane to the welfare and economy of the United States. This in turn contributed to a greater sense of government involvement in addressing and resolving social issues, particularly those detrimental to the labor force. These issues received federal attention at the turn of the century under the watch of a presidential administration responsive to greater involvement among the federal government, private enterprise, and social welfare.

Vocational Rehabilitation in the Early 20th Century

Social welfare concerns pressed into the federal agenda during the presidency of Theodore Roosevelt. Government involvement occurred at several levels: A presidential committee in 1908 concluded that public health was a responsibility of the federal government, and the responsibility was too great for private charities (Oberman, 1965; it should be noted that private agencies remained prominent; for example, Goodwill Industries and B'nai B'rith were both founded at the turn of the century). Particularly compelling were the high rates of industrial accidents that disabled workers who were often left without recourse to rehabilitation. Thus, worker's compensation legislation was enacted in 1908 in the Federal Employees Compensation Act to assist federal workers in hazardous occupations; this was expanded in subsequent state legislation that typically ruled workers need not assume responsibility for injuries resulting from work. Most states had enacted worker compensation legislation by 1921 to provide disabled workers with some form of compensation, to relieve charities of financial responsibility for these people, and to study causes for accidents to determine means of prevention.

The activity of organized labor and the increased urbanization of the labor force created a need for relevant training and vocation education programs.

Many workers often lacked skills or possessed skills that were rendered obsolete by new technology and industry. The Smith-Hughes Act of 1917 provided matching funds to states to develop vocation education programs, and the Federal Board of Vocation Education was created as a part of the legislation to administer VR programs.

International Conflicts and VR

Federal support for all aspects of rehabilitation—including educational, medical, and vocational—has accompanied the involvement of the United States in times of war (Larson & Sachs, 2000). World War I required the unprecedented infusion of vocational assessment to classify enlisted personnel; an increased need for VR efforts was required for the large number of veterans returning from the front with acquired physical disabilities. The Soldiers Rehabilitation Act (1918) provided funds to rehabilitate disabled veterans, and the Federal Board of Vocational Education was to administer these services. In 1921, the Veteran's Bureau was created; in time, this evolved into the Department of Veteran's Affairs.

The Disabled Veterans Act (1943) was passed during World War II to assist disabled service personnel to return to work. The Serviceman's Readjustment Act (1944) authorized further training and education for those whose education was interrupted by service. This was later expanded in the Veteran's Readjustment Assistance Act in 1952 to accommodate Korean-era veterans.

The Barden-Lafollette Act (1943) ensured services to persons with mental retardation and mental illness to improve their employability. Although this was not related to the provision of VR to service personnel, it was in part influenced by the labor needs to offset the labor shortage during wartime.

VR Legislation and Societal Change in the Mid-20th Century

Beginning with Public Law 236 (the Smith-Fess Act of 1920) the federal government initiated a series of acts that expanded VR services to citizens who were not affiliated with the government and who were not necessarily covered by worker compensation laws. Public Law 236 essentially ensured vocational education to persons with physical disabilities who were unable to work. This legislation was extended several times in later years. The Federal Social Security Act (in 1935) made the federal-state VR program permanent and provided benefits for persons who were incurred disabilities that prevented them from significant employment. Subsequently, the Randolph-Shepard and Wagner-O'Day Acts (in 1936) enhanced job opportunities on federal property for persons with visual impairments and established the National Industries for the Blind.

The period following World War II has been regarded as the "golden age" of VR (Rusalem, 1976). This period was initiated by the passage of the Vocational Rehabilitation Act of 1954, which provided funds to higher education to train rehabilitation professionals. Funds were also provided to expand rehabilitation facilities, to expand services available to persons with mental illness and mental retardation, and provide funds for research and to states to upgrade rehabilitation agencies. This legislation was extended in 1965 to address architectural barriers and to extend the length of services to individual clients. In 1967, legislation was again amended to address the needs of persons who were deaf-blind and to migratory agricultural workers and their families. Amendments in 1973 established a priority of services to eligible persons and required the use of individualized written plans for clients. These amendments also included Section 504 that required institutions or programs receiving federal assistance to be accessible to persons with disabilities, which in part set a stage for a civil rights agenda. This legislation allowed greater consumer input in the rehabilitation process and in 1978 was expanded to support independent living services. Similarly, PL 94-142 mandated individualized written education plans for school children with special needs. Generally, legislation during this period reflected a greater awareness of societal issues and paralleled the Civil Rights movement in its recognition of the rights of persons with disabilities.

Contemporary Legislation and VR

Obvious in this brief overview is the intricate link among VR, public policy, and the professions affiliated with VR. As federal and state support increased, VR grew and expanded. Several professional disciplines owe much of their identity to this support and the events that contributed to the need for these policies. Rehabilitation counseling was one discipline that benefited from this relationship as it was essentially created by the 1954 rehabilitation legislation. The legislation also dictated the model of vocational rehabilitation services in which the rehabilitation counselor was at the core as the primary coordinator. Many rehabilitation counseling programs flourished when federal support was provided to colleges and universities to train rehabilitation service providers and "qualified rehabilitation personnel" to administer and coordinate programs. Rehabilitation counseling has often been considered "synonymous with . . . the State-Federal rehabilitation program" (Jenkins et al., 1997, p. 1).

Federal involvement in VR also contributed to the medical specialization of psychiatry. Complex cases that involved disability, neurological trauma, and long-term medical management necessitated medical expertise in "physical medicine and rehabilitation," which was recognized in 1947 as a specialty board by the American Medical Association (Allan, 1958). Many of these

physicians served in the medical corps during the world wars and returned to work in hospital settings and advocate for the needs of the individuals they served. The relationship between psychiatry and the federal agencies that support training and research in disability continues.

Professional psychology also benefited from federal sponsorship of VR. Many psychologists were hired as vocational rehabilitation specialists for work in medical facilities operated by the Veterans Administration (Larson & Sachs, 2000). Furthermore, several federal agencies identified with VR—the Department of Health, Education, and Welfare (in 1958) and the Office of Vocation Rehabilitation (in 1959)—financially supported conferences for psychologists who shared interests in rehabilitation. These conferences provided the roots for the Division of Rehabilitation Psychology within the American Psychological Association (Larson & Sachs).

As the 20th century approached its end, the federal government took a new perspective of VR, driven in part by a greater recognition of individual rights and by a greater value on the role of the private sector. This perspective was also influenced by a greater realization of impending costs and financial burdens incurred by earlier legislation. This legislation reflected the changes that occurred with a more fiscally conservative electorate and like-minded presidential administrations. To a certain extent, legislation increased support for programs that enhanced the transition from school to work for students with disabilities, which resulted in increased funding for the Office of Special Education Rehabilitative Services (Hanley-Maxwell, Szymanski, & Owens-Johnson, 1997). The Individuals with Disabilities Education Act (in 1990) and the School-to-Work Opportunities Act (in 1994) increased the linkage between special education and work.

This political climate also fostered the development and passage of the Americans with Disabilities Act (ADA; 1990). Much of the impetus for passage of the ADA came from a broad coalition of groups made up of persons with disabilities often working together in an unprecedented manner. The ADA granted rights and protections to persons with disabilities previously accorded to women and minorities under the Civil Rights Act of 1964. The ADA is a highly significant act that affirms accommodation, equal opportunity, access, and protections from individuals and public and private institutions. Title II specifically prohibited discrimination based on disability in the employment arena.

A second major series of legislation appeared to simultaneously support individual choice in the rehabilitation process, facilitate reemployment of persons with disabilities, and reconfigure traditional links between public-sponsored VR and the professions created by VR legislation over the previous decades. Specifically, the Workforce Investment Act (WIA, 1998) placed provisions of the Rehabilitation Act into a more “mainstream” labor-oriented legislation. Although it may be too early to understand the full import for the

change, it theoretically fits the model that persons with disabilities are to be served in an inclusive and integral way. WIA operates under a “job fit” model rather than under a “full potential” model that has traditionally characterized the vocational rehabilitation process. The Ticket-to-Work/Work Incentive Improvement Act (TTW/WIIA; 1999) was designed to move individuals off financial support from social security disability programs to the ranks of the employed. This legislation was fueled in part by consumers and critics who argued that the bureaucratic “red tape” of many VR activities had “failed” many persons with disabilities (Cook, 1999; Olkin, 1999); thus, a consumer movement emphasized the need for greater input, direction, and choice in rehabilitative services outside the traditional VR programs (Kosciulek, 1999). Others argued that federally supported disability insurance programs (i.e., Social Security) provided economic incentives to stay unemployed; however, others have noted that the loss of health care coverage—provided by the disability program with SSA—was one of the major disincentives to return to work. Nevertheless, the specter of impending financial collapse of the Social Security Administration prompted legislators and policymakers to streamline their services and provide incentives for beneficiaries to enter the workforce (Growick, 2000). In the process, this legislation appears to signal the end of the ongoing—if not strict—reliance on the public sector to provide rehabilitative services to SSA beneficiaries (Growick, 2000).

VOCATIONAL PSYCHOLOGY AND VR

Less apparent in this overview is the scholarly drift of the “rehabilitation” professions—those that evolved from decades of federal and state sponsorship—from the larger core area of vocational psychology (Hershenson, 1988). In many ways, VR compelled practitioners to scrutinize their traditional scope of practice and understanding and demanded a greater sense of relevance that was not available in the typical study of undergraduates and theory development. Important as assessment is to VR, many psychometric instruments popular in the mid-20th-century were not easily administered to persons with physical, visual, or auditory impairments, and normative data were lacking. The incidence of many disabilities is such that it has been difficult over the years to obtain representative samples for developing norms for most instruments. Other tests useful in rehabilitation such as work samples and vocational evaluation tools were not necessarily of interest to mainstream academic researchers in psychology and education.

Thus, specialty journals devoted to rehabilitation topics were published and maintained, and many rehabilitation researchers found a scholarly home in these journals that were “out of the mainstream” (Shontz & Wright, 1980). Unfortunately, this eventually contributed to sense of isolation from traditional

areas of practice and from many training programs (Jansen & Eisenberg, 1982), and citation patterns in the *Rehabilitation Psychology* journal reflected this concern, as many researchers were relying on work published in medical outlets (Elliott & Byrd, 1986). Rehabilitation counseling, however, arguably had an established literature base (Wright, 1980). Citation patterns of authors contributing to this literature during this same era displayed a clear interest in the roles, functions, and competencies associated with the profession, and maintained an ongoing albeit decreasing interest in scholarly sources of vocational theory and research (e.g., *Journal of Vocational Behavior*; Elliott, Byrd, & Nichols, 1987; Elliott, Byrd, Nichols, & Sanderson, 1987).

During the "golden era" of VR, many mainstream counseling psychology training programs housed faculty who obtained VR funds to generate research germane to theory and practice in vocational psychology. For example, external funds sponsored in part the development and study of the Minnesota Theory of Work Adjustment (Dawis & Lofquist, 1984) at the University of Minnesota. Many of the instruments and initial tests of this model were conducted with VR clientele. Federal funds also supported counseling psychology faculty at the University of Missouri-Columbia in publishing one of the most influential documents defining the VR process and the rehabilitation counseling profession (McGowan & Porter, 1967). These works also supported graduate students who later made other significant scholarly contributions to vocational psychology.

In this formative era, VR brought many psychological disciplines under the rubric of rehabilitation psychology. This division within the APA was a loose confederacy of colleagues representing psychology, rehabilitation counseling, social work, and special education. Prominent among these disciplines was a contingent of social psychologists who shared the conviction that societal attitudes, discrimination, and stigma were believed by field theorists to be major culprits preventing the full integration of persons with disabilities (Wright, 1960). Proponents of this perspective maintained that environmental issues had as much impact on personal adjustment as personal traits, and disability characteristics accounted for very little variability in personal and social adjustment (Meyerson, 1988). Subsequent research examined the impact of attitudes toward persons with stigmatizing conditions in interpersonal interactions, relationships in school environments, job interviews and applicant evaluations, and attitudes of employers toward persons with disabilities, generally (Dunn, 1994; Yuker, 1988). This work also culminated in the empirical study of social issues such as misuse of parking spaces reserved for persons with disabilities (White et al., 1988) and attitudes of professional service providers toward persons with stigmatizing conditions (Eberly, Eberly, & Wright, 1981). In this respect, VR influenced research that presaged the social-clinical psychology interface (Snyder & Forsyth, 1991).

Similarly, VR required academicians in training programs to examine sensitive topics of race, ethnicity, and culture long before this area was recognized as a “third force” in psychology. For example, state and federal agencies provided funds to provide VR services on tribal reservations as early as 1947, and subsequent work over the years led to a greater recognition of the psychosocial barriers facing Native Americans, generally (Marshall, Johnson, & Lonetree, 1993). Other legislation mandated VR to consider acculturation in the rehabilitation process in the 1970s. With little available knowledge about this issue, several researchers in the rehabilitation counseling literature began to describe the different mannerisms, values, and interpersonal styles of migrant workers and their families (Hammond, 1971). Attempts were made to determine appropriate interventions for other disenfranchised workers from minority backgrounds (e.g., Smith & Hershenson, 1977). Disparities in racial and ethnic groups in their use of VR programs were identified (Atkins & Wright, 1980). Like many topical areas, these researchers did not attempt to devise some theoretical framework to understand these differences, but their observations and findings laid important groundwork for later theorists and for other influential statements on diversity and ethnicity in VR (Leal, Leung, Martin, & Harrison, 1988). The 1992 amendments to the Rehabilitation Act set aside a small percentage of the total appropriations to address underrepresented populations and to build capacity for ethnic or racial minority groups to develop relevant programs and research.

Many clinical researchers who embraced a field-theory perspective of rehabilitation—namely, that behavior is best understood as a function of the person and the environment—placed a greater premium on the study of personality characteristics in the adjustment process, particularly in the context of vocational adjustment. Pioneering researchers realized important patterns in vocational interest profiles indicative of personality characteristics and behavioral patterns that may have contributed in part to the onset of the disability (“accident proneness;” Kunce & Worley, 1966). Others found important distinctions between persons with disability who were being “productive” (including work-related activities) and those who were not as a function of goal orientation (Kemp & Vash, 1971). Eventually, some researchers bypassed the indirect assessment of personality characteristics to study these matters with measures of psychopathological personality patterns as they related to vocational outcomes (Fordyce, 1976). As we see in subsequent sections, this line of reasoning continues in several research programs in clinical and occupational health psychology.

The involvement of psychologists in medical rehabilitation also foreshadowed the contemporary areas of health psychology and behavioral medicine. Much of this involvement was confined to medical school departments of physical medicine and rehabilitation, and to services provided by medical centers in the Veterans Administration, these psychologists plowed new ground

in the study of acquired disability such as chronic back pain (Fordyce, 1976), spinal cord injury (Trieschman, 1980), and traumatic brain injury (Prigatano, 1986). Yet, for many rehabilitation psychologists the focus shifted away from issues of employability and work status and their research and practice was construed within a biomedical model. The almost exclusive focus on acquired disability apparently occurred at the expense of a broader perspective that embraced chronic disease and illness and primary and secondary prevention. Some observers suspect this in part accounted for the lack of growth in rehabilitation psychology and the rapid ascent of health psychology (Frank, 1999). Ironically, health psychologists have become more interested in vocational issues, and their interests are reflected in recent peer-review journals for their research (*Journal of Occupational Rehabilitation, Journal of Occupational Health Psychology*).

Consumer advocates have criticized rehabilitation psychology for its long-standing association with a biomedical perspective of disability and its perceived insensitivity to the culture of disability (Olkin, 1999). In 1982, it became apparent in survey research that rehabilitation psychologists were found most often in medical and independent practice settings, and over half of those surveyed reported few if any referrals from vocational rehabilitation agencies (Jansen & Fulcher, 1982). Unfortunately, it was also apparent that many accredited clinical and counseling psychology programs in this time period did not provide doctoral students with training in disability issues as recommended by Section 504 of the Rehabilitation Act of 1973 (Spear & Schoepke, 1981). The lack of exposure to disability and disability-related clinical experiences has been documented in other research as well (Leung, Sakata, & Ostby, 1990): Vocational rehabilitation was “never” addressed by 62.9% of the respondents from clinical psychology training programs, and 42.9% of the counseling psychology programs “seldom” addressed VR. Thus, many psychologists trained in accredited programs have little or no exposure to VR.

THE REHABILITATION PROCESS: BALANCING THE IDEAL AND THE REALITY

The concept of “total rehabilitation”—the title of a seminal text in the field (Wright, 1980)—conveys the aspiration of assisting an individual in attaining the highest possible level of function in personal, social, and vocational roles. To manage the VR process, then, the skills were required of “qualified rehabilitation personnel,” who could expertly coordinate and oversee a full array of services as needed, which could be provided by different medical, educational, and vocational specialties, depending on eligibility and the nature of a case. Given the long-standing association between rehabilitation counseling

and state-federal VR agencies, Wright regarded this profession most appropriate and uniquely qualified for coordinating VR services. Recognizing the academic roots of the profession in counseling psychology, Wright (p. 22) asserted that although counseling was an integral part of the VR process, the rehabilitation counselor was uniquely skilled to meet the needs of persons with disability and address the psychosocial issues they encountered.

The rehabilitation process can involve a sequential and interrelated set of activities that have to be initiated and coordinated. Upon referral, a prospective client is screened and evaluated for eligibility and appropriateness for VR. In the format characteristic of many state agencies, a referral may be directed to a rehabilitation counselor from any number of sources. The determination of provision of VR services to increase employability—and the extent of possible services and coverage—may be influenced by the severity of the disability, the prior psychosocial and legal history of the applicant, and the availability of funds remaining in the state VR budget for the fiscal year. Once determination is made for sponsorship, the assigned counselor ideally works with and on the behalf of the client to initiate, arrange, and coordinate services for the client.

Part of this process often requires the counselor to assess the client's occupational interests and specific job skills (e.g., skills operating equipment, general intelligence, range of physical motion, work values, temperament or personality characteristics, and worker traits such as dexterity and motor control). This assessment may be accomplished in part by the rehabilitation counselor; others whose services would be obtained by the rehabilitation counselor may conduct other assessments. Similarly, an evaluation of the client's transferable skills would be conducted (DeVinney, McReynolds, Currier, Mirch, & Chan, 1999). To be useful, this kind of information would best be used in the context of the local job market, and in the event of a prospective employer, with some knowledge of job analysis, work-site accommodation or modification, and job skills training (DeVinney et al.). Finally, rehabilitation counselors are often involved with employers and other job placement activities. In most state agencies, these activities—and the burgeoning caseload—typically left little time or expectation for the counselor to provide adjustment "counseling" (Thomas & Parker, 1981). It appeared that rehabilitation counseling, then, drifted away from the broader area of counseling toward a more distinct and separate profession characterized by administrative and managerial duties (Thomas & Parker, 1984).

In the years following the "golden era," VR encountered many new challenges during that altered many aspects of rehabilitation counseling as it was once envisioned, and new doors opened in the private sector for rehabilitation counselors. These challenges also ushered in new opportunities for other professions to become more active in the VR process. First, the 1980s witnessed a steady rise in the incidence of disability and work-related injury

and in chronic disease (and these increases continue to pose the greatest single challenge to health care service delivery systems). In part this trend accompanied the aging of the American public, but the rate and severity of chronic disease and illness (e.g., HIV, diabetes, and hypertension) eventually culminate in some disability (e.g., stroke, amputation, and blindness). As emergency medicine improved, more individuals survived trauma and then faced a life expectancy that approximated the average life span (e.g., spinal cord injury and traumatic brain injury).

These circumstances forced health care systems to reconfigure their payment systems and reimbursement programs, realized in prospective payment systems and in health maintenance organizations (HMOs). The 1980s saw an unprecedented era of job opportunities for psychologists who were needed in rehabilitation hospitals and facilities to provide direct services to individuals and their families (Frank, Gluck, & Buckelew, 1990). VR also responded, and programs embraced large and complex caseloads that necessitated considerable management expertise. Many rehabilitation counselors spent the bulk of their time in case management activities that did not permit time for counseling in the traditional sense (Shaw, Leahy, & Chan, 1999).

Opportunities flourished in the private sector during this time, as many industries worked with insurance companies to rehabilitate injured workers (Shaw et al., 1999). These roles were well suited for a case management model. The rehabilitation process in the private sector also encompassed vocational assessment and planning and awareness of psychosocial and functional issues and of community resources. It also required a working knowledge of employment- and disability-related legislation and regulations, and it opened new roles in expert witness testimony and life care planning (Shaw et al.).

THEORY AND RESEARCH IN THE VR LITERATURE

Psychological theory takes on many forms in applied psychology, and many influential leaders in VR were well grounded in the use of theoretical perspectives in psychometrics and assessment, personality, counseling, and social psychology (Lofquist, 1960). However, the day-to-day routines of the VR process—reflected in the previous section—gradually eroded practitioner confidence in the “academic” theories associated with psychological research, and many practitioners eschewed “psychologized” coursework in favor of training in labor market issues and job assessment, work evaluation, and placement (Olshanky & Hart, 1967). Research that addressed the practical, everyday concerns became more attractive to individuals in case management positions, or in situations in which face-to-face counseling in the more traditional forms became infrequent. Additionally, the multidisciplinary nature of

VR—which gathered practitioners from counseling, psychology, education, and medicine under one roof—did not tolerate lines of thought that were not easily communicated or understood by other colleagues invested in the VR enterprise. The decreased presence and interest in vocational theory in subsequent training and research was then no accident or oversight. Other than a firm reliance on sound psychometric properties in test development and assessment, much of the VR literature strayed from contemporary theoretical advancements in several areas germane to vocational psychology. Perhaps largely the drift away from its academic roots occurred in response to and dependency on federal legislation and accompanying financial support for VR (Hershenson, 1988).

Career Development

In the early years of the interface between VR and counseling psychology, existing theories of career development were not readily applicable to the study of and service delivery to persons with disabilities (Conte, 1983). The difficulties in translating these models into meaningful research and interventions became readily apparent to practitioners. Adults who acquire disabilities typically have crystallized interest patterns that developed well within the processes described by career development models applicable to people in general. These interests are quite stable over time as a person lives with a disability (Rohe & Athelstan, 1985; Rohe & Krause, 1998). The prevailing career development models do not address the subsequent issue of finding meaningful work and activity to match interest patterns and values after disability onset.

In other conditions, neurological damage may severely limit or obviate preinjury interest patterns and values. Alterations in brain-behavior relationships—common in moderate to severe traumatic brain injury—can adversely affect otherwise established patterns of workplace behavior. People who mature with congenital or childhood-onset disabilities, however, may lack social and educational opportunities that contribute to the development of career interests, values, and skills. These deficits would ideally be circumvented in school-based career education programs (Brolin & Gysbers, 1989; Szymanski, King, Parker, & Jenkins, 1989).

The best available career development model for conceptualizing work and career issues among persons with disabilities takes into account the complex ways characteristics of the person and environment interact with—and are influenced by—ongoing processes and activities (Szymanski, 2000). This particular model freely acknowledges the appropriateness of other theories of career development in certain circumstances, and suspects that no model should aspire to be unique to all persons with disabilities (a sentiment echoed by others; Beveridge, Craddock, Liesener, Stapleton, & Hershenson, 2002).

Yet the model appreciates the many ways various public and private entities can impinge or promote career trajectories among these individuals, and it recognizes the beneficial role of work and avocational activities in the well-being of persons with these conditions.

Work-Related Disability

Influential theorists openly found no connection between the type of disability and the preexisting or preinjury personality characteristics (Shontz, 1970; Wright, 1960). These pioneers placed a higher premium on the study and appreciation of the environment in the $B = f(P \times E)$ equation that served as the theoretical lodestar in the psychological branch of VR. However, some researchers held keen interest in the “person” aspect of this equation as it related to and interacted with the environment. Not surprisingly, psychologists in medical settings were among the first to pursue this line of inquiry. For example, Fordyce (1976) relied on an operant conditioning model to appreciate how some individuals may display greater functional impairment and work-related disability—independent of physical findings and objective indicators of physiological damage—as their “disabled” behavior received more attention, support, respite, and occasional financial reward than did nondisabled, functional behavior. This paradigm would explain in part why some individuals would not return to work, or resume routine, everyday tasks of daily living. Moreover, Fordyce maintained that these behavioral patterns were associated with distinct personality profiles detected on the Minnesota Multiphasic Personality Inventory (MMPI).

This line of inquiry grew rapidly with the increase in work-related musculoskeletal disability claims during the 1980s and the corresponding recognition that objective indicators of disability were poor predictors of employability (Fitzgerald, 1992). In contrast, many psychological and social characteristics were associated with disability claims and employability. The National Institute for Occupational Safety and Health (NIOSH) urged the study of risk factors that contribute to the onset of disability and impairment so that effective prevention programs could be implemented (NIOSH, 1986). Several research programs examined the link among personality characteristics, disability, and vocational outcomes.

Relying on pathological measures of personality administered during pre-employment screening, Bigos and colleagues (1991) found Scale 3 of the MMPI significantly characterized employees at Boeing who would incur a back injury and make a disability claim over the duration of a year. This was one of the first studies to demonstrate that certain preemployment personality characteristics may be prospectively predictive of work-related disability. Related studies have shown, too, that high scores on Scale 3 are significantly and prospectively predictive of persons who return to work after participating

in a chronic back pain rehabilitation program, and these relations have been found over 6 months (Gatchel, Polantin, & Kinney, 1995) and 1 year (Gatchel, Polantin, & Mayer, 1995). Persons who have higher scores on this scale were less likely to be employed in these studies. Although the mechanisms through which these personality characteristics contribute to the onset of an injury and return to work are unclear, there is some indication from the Boeing study that the psychological features of naivety and extreme self-centeredness assessed by Scale 3 may be more important than somatic symptoms that are also associated with this scale (Fordyce, Bigos, Battie, & Fisher, 1992). This research program suggests that certain behavioral and personality characteristics may place certain individuals at risk for work-related injuries and subsequent disability claims. Such information may well open new opportunities for vocational psychology in the private sector in anticipating and managing rehabilitative costs.

Job Training and Placement

Many different approaches have been used to guide job training and placement. Few of these have been construed within the framework of testable theoretical models. For example, cognitive-behavioral models have been used to explain environmental contingencies in work environments that might contribute to or prevent addictive behaviors among persons returning to work following alcoholism rehabilitation (Newton, Elliott, & Meyer, 1988). Cognitive-behavioral and operant principles are typically used to conceptualize external contingencies that might reinforce disabled behavior and discourage employability. These have also been used to develop some intervention strategies that motivate individuals to return to work (Franche & Krause, 2002).

Cognitive-behavioral elements have been incorporated into several popular job training and placement programs; although these techniques may not be explicitly described as such, nor are they routinely operationalized into testable propositions. Nevertheless, interventions like job clubs (Amrine & Bullis, 1985; Corrigan, Reedy, Thadani, & Ganet, 1995), job coaches (Cimera, Rusch, & Heal, 1998; Mautz, Storey, & Certo, 2001), and supported employment (Wehman, Bricout, & Targett, 2000) utilize psychoeducational techniques to instruct clients in a fashion common to many cognitive-behavioral treatments. Of these, supported employment has received considerable attention and acceptance among practitioners.

Supported employment entails the use of employment specialists to train individuals in job-related skills on site; thus, arrangements are made with work sites that accommodate staggered and intermittent work schedules for clients to gradually assume work duties (Wehman et al., 2000). This approach permits specialists to observe and correct problematic behaviors that can

compromise work adjustment, and it provides a flexible means of redirecting a client or finding another more suitable placement.

The basic features of supported employment can be labor intensive for individual cases, but they are well suited for use with individuals who have behavioral difficulties due to impairments in brain-behavior relationships (e.g., traumatic brain injuries). Typically, individuals with these conditions experience difficulties with inappropriate and impulsive behaviors, inadequate coping skills, and poor judgement that can be disruptive in interpersonal interactions and social situations. Specialists work individually with clients onsite, and efforts are directed toward immediate interventions for problems as they occur in the naturalistic setting (Wehman et al., 1989).

Supportive employment has also been used to assist persons with borderline to severe mental retardation, long-term mental illness, and physical and sensory disabilities, and this individualized approach to job placement produced employment rates greater than those observed for traditional group approaches (Kregel, Wehman, & Banks, 1989). In one of the more elegant empirical investigations to date, two supported employment approaches were compared among 152 unemployed, inner-city persons with severe mental disorders (Drake et al., 1999). Individualized placement and ongoing support was superior to an enhanced VR program, resulting in significantly more work hours and a higher rate of competitive employment. Generally, the extant literature—including eight randomized clinical trials—indicates supported employment is one of the few evidence-based practices available in VR, and it is generalizable to a wide range of populations and subgroups; but access to these programs and their relative cost-effectiveness is an issue for future research and policy (Bond et al., 2001).

Multidisciplinary programs for rehabilitating persons with chronic pain syndromes have shown considerable promise. Although these programs differ tremendously across clinics, an impressive program with documented success features a rigorous outpatient 3-week experience 57 hours per week, including work-hardening tasks, exercise, education, training in functional abilities, counseling, and skill building in stress management and self-regulation (Mayer, Gatchel, Mayer, Kishino, Keeley, & Mooney, 1987). This program also features follow-up training sessions at 5 weeks and 6 months. One study reported that clients of the program had an 87% success rate in return to work 2 years later, compared to a 41% rate among persons in an untreated group; the untreated group also had a significantly higher rate of reinjury and subsequent surgeries (Mayer et al.). Other intervention research from this group reported a 90% return to work success rate among clients 6 months after discharge (Gatchel et al., 1995). A study examining the generalizability of this program reported an 87% success rate in returning clients to work after 6 months (Vendrig, 1999).

THE SUCCESS OF THE VR ENTERPRISE

Critics of VR often point out that certain groups are inadequately served by state-federal agencies. Although there are many aspects of this argument that need to be explored, it should be noted that state VR agencies are mandated to serve individuals with the most "severe" disabilities, and to do so within the context of shrinking state budgets. Research indicates that the number of referrals to state VR agencies remained constant from 1978 to 1998, and during this time competitive employment outcomes increased from 71% to 88% (Walls, Misra, & Majumder, 2002). This rate is particularly impressive, given the priority to serve persons with severe disabilities; however, these authors also found that during this period the case service cost for clients tripled. Other study of a state VR system suggests further that persons with more severe impairments (among persons with traumatic brain injury) may benefit more from VR than persons with less severe deficits (Johnstone, Schopp, Harper, & Kosciulek, 1999).

The success of VR should not be judged strictly on the placement rates of state VR agencies. Many persons, particularly those with psychiatric disorders, are not served by many state VR agencies due in part to conflicting guidelines that often exist between state VR and state mental health agencies (Cook, 1999). Other individuals are not sponsored by state VR because their conditions do not qualify as "severe disabilities." The state VR program has documented evidence of success, but there is evidence to indicate that many traditional components—such as prevocational training—may not be necessary or essential in many cases. One study found a supported employment approach that by-passed prevocational training was more effective in placing persons with serious mental illness than a more traditional VR approach (Bond, Dietzen, McGrew, & Miller, 1995). Other research suggests that individualized supported employment is superior to traditional VR approaches in this population (Drake et al., 1999). In addition, there is considerable evidence that other job training and placement programs—often offered in fee-for-service models for injured workers—can be quite effective in returning these people to work (Mayer et al., 1987).

THE DYNAMIC TRAJECTORY OF VR

VR is now changing in response to current legislation and pressing social needs. As state VR agencies are mandated to serve persons with the most severe disabilities while simultaneously facing financial shortages and increased costs, more individuals will probably not qualify for VR services. Current legislation permits individuals who are social security disability recipients in

many states to assume some direction for their rehabilitation under the TTW program, which will undoubtedly open new opportunities for psychologists, nurses, physical therapists, and other health professions to develop and offer rehabilitation services. Largely, private-market forces may fundamentally reconfigure state VR programs over time.

Similarly, rehabilitation counseling—long associated with state VR—has witnessed a steady and fundamental change in its professional identity that emphasizes managerial and administrative duties, and deemphasizes counseling skills. Although this is more apparent in state VR agencies and private rehabilitation services, confusion and ambiguity have also resulted from the success of training programs like supported employment, which relies extensively on “employment specialists.” At alternating times, it might be difficult to distinguish among an employment specialist, a job coach, and the skills and expertise commonly associated with rehabilitation counseling (Szymanski & Parker, 1989).

New opportunities will be available to other professions in the programs that take advantage of TTW legislation. No single profession will have a corner market on the provision of expert VR services; in fact, it appears that in part the purpose of the legislation is to create more opportunities for service providers in rehabilitation. There is emerging evidence, for example, that alternative approaches outside the realm of VR have been successful in returning unemployed individuals to work and promote adjustment and prevent setbacks in the process (Vinokur, Price, & Schul, 1995; Vinokur & Schul, 1997). These alternative models may be well suited for the expanding opportunities for other professions and agencies to participate in the new legislative incentives to return unemployed workers to a “best fit” job.

However, this scenario is occurring within the context of greater consumer involvement, consonant with a “new paradigm of disability” that construes disability as a cultural minority, worthy of rights and free choice (Olkin, 1999). This empowerment movement has already had considerable impact on federal entities like the NIDRR (1999), as it integrated this paradigm into its long-range plan. The degree to which this consumer involvement will alter current state VR practices is unknown; it is difficult to imagine that this empowerment movement would have a substantive effect in poor and rural regions, or in private rehabilitation programs. Nevertheless, individuals who live optimally with a chronic disease or disability exert considerable control in all aspects of their daily life, and in order to better assist and provide strategic services, it is essential that service providers form partnerships that recognize individual choice and address concerns specific to the individual (Elliott, 2002).

Moreover, the current premium consumers place on competitive employment outcomes has additional benefits. Individuals with mental illness who received competitive employment placement in their VR program displayed fewer symptoms and reported more self-esteem and satisfaction with leisure,

finances, and vocational services than did persons in minimum work and no-work categories (Bond et al., 2001). Individuals in sheltered work placements did not have any significant patterns in their nonvocational outcomes.

Work-site accommodation and assistive technologies are two areas that represent the potential yet real conflicts between VR services and consumer empowerment (Scherer, 2002). Many elegant devices are currently available that can bring substantial improvements to quality of life; very few individuals can purchase these expensive items, and there are some health care plans that do not provide coverage for the purchase of wheelchairs. Most state VR budgets lack the funds to purchase expensive assistive technologies for most clients. Similarly, interactive virtual reality technologies can be used to train VR clients in work samples and tasks of daily living (e.g., cooking, driving, and training; Schulteis & Rizzo, 2001). The expense and availability of these technologies will be issues for most VR programs. Although the ADA expects work-site accommodation, it is likely that current and future challenges to this important landmark legislation will be designed to erode some of the financial obligations incurred by the private sector for accommodations, or to alter the definition of "reasonable accommodation." These issues will be negotiated and influenced by the economic health of the nation.

Other contemporary social issues will require ongoing scrutiny in VR. Despite the long history of diversity in VR, evidence suggests that many persons of ethnic and minority status have different vocational outcomes and experience differential treatment in rehabilitation programs (Elliott & Uswatte, 2000). The degree to which rehabilitation programs address these issues will likely depend on the relative sensitivity by frontline service providers and administrators of service delivery programs. The changing demography of the U.S. labor force will necessitate more informed research on acculturation processes in disability, adjustment, and VR, generally (Leung, 1993). Survey research indicates that attempts to meet these changes according to the 1992 amendments to the Rehabilitation Act have been slow (Whitney, Timmons, Gilmore, & Thomas, 1999); there are also data to indicate that VR clients from European American backgrounds have higher rates of competitive employment placement than do African American clients (Olney & Kennedy, 2002). European Americans may be more likely to be accepted for VR services than are persons from ethnic minorities (Wilson, 2002). Other research implies that once education level, gender, work status at application, and primary support at application are taken into consideration, African Americans may be accepted for VR services at a higher rate than would European Americans (in a national sample; Wilson, Alston, Harley, & Mitchell, 2002).

Academic interests in research and in training programs will, in turn, reflect and embrace a greater intellectual diversity. With the emergence of employment specialists more opportunities may result for personnel with basic undergraduate preparation; psychologists and counselors may gravitate

toward more administrative and support roles in resource allocation, program development, and service provision without being frontline service providers. Moreover, it is probable that VR will be influenced by areas other than traditional sources (counseling, special education, and psychology; occupational therapy and nursing) as other professions become interested and invested in the rehabilitation enterprise. Such lines of thinking will likely move beyond biomedical and biopsychosocial models to address issues of labor relations, health service administration, design, and engineering (Ameli & Kumar, 2002; Butler, 2000; Schultz, Crook, Fraser, & Joy, 2000).

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PART FOUR

CAREER COUNSELING

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Professional Issues in Vocational Psychology

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Vocational psychology within the profession of counseling psychology suffers from the Rodney Dangerfield neurosis: "I get no respect." Career counseling has consistently been rated by students as the least desirable type of counseling requiring the least skills (Fitzgerald & Osipow, 1986; Hepner, O'Brien, Hinkelman, & Flores, 1996; Pinkney & Jacobs, 1985). On many university campuses personal counseling is provided by doctoral-level psychologists, many of whom are licensed. Career counseling, however, is more often provided by masters-level counselors and sometimes by counselors with no more than a bachelors degree. The organizational hierarchy places career counselors at a lower point on the pecking order than personal counselors. Personal counseling is often performed under medical auspices (with the prestige that the medical profession brings with it), whereas career counseling is administered by the student services office. The two organizations are often housed in different facilities and may have relatively little contact with each other.

Why is it that career counseling has such little prestige? Is it that career counseling is a simple task requiring little skill? Is it that the consequences of unsuccessful counseling are not particularly serious? Is it that studying to be a career counselor requires taking boring classes? Is it that clients feel they should be able to resolve their career issues quickly while acknowledging that personal issues may take months or years to resolve?

We would answer an emphatic "No" to each of the previous questions and argue that career counseling is complex, serious, fascinating, intertwined with personal issues, and relevant across the life span—we would further

state that career counseling is more important than ever, given that the world we live in has become more complex and chaotic.

Should we make distinctions between the work of vocational psychologists and the work of career counselors? A possible distinction is that vocational psychologists conduct research and theorize about career development issues, whereas career counselors are engaged in the practice of helping clients with specific career concerns. However, that distinction presupposes that career counselors never theorize or conduct research and that vocational psychologists never help clients. The reality is that there is considerable overlap in the responsibilities of people who may prefer one title rather than the other. We will shortly propose that the term *career counseling* should be replaced with *transition counseling*.

Furthermore, what is the purpose of the research and theory that are being produced? The purpose is to generate ideas and knowledge that improve the practice of career counseling. In an applied profession, knowledge only has value when it affects the quality of practice. John Holland's work in factor analyzing vocational interests was a major contribution to the field because the six RIASEC factors (Realistic, Investigative, Artistic, Social, Enterprising and Conventional) he identified are now being used to help clients think about groups of occupations in which they might want to work. His research has had a major impact on practice. So in this article we do not want to draw a sharp distinction between vocational psychologists and career counselors. Both are concerned about finding ways of providing more valuable help to clients with career and personal concerns. We use both terms in this article, but we are thinking of them almost as synonyms, not as discrete, categories—with transition counseling on the horizon.

CAREER COUNSELING IN AN AGE OF CHANGE

The world is in constant flux and uncertainty. The very nature of work is changing before our eyes, particularly with contingent factors such as the global economy, technology, and the changing demographics of America. There has been a discernible shift in the work environment today from linear, predictable, and traditionally bounded career paths to uncertainty and flexibility (Littleton, Arthur, & Rousseau, 2000).

It will be imperative that workers respond constructively to these changes and that career counselors contribute their expertise in adapting to change.

Adapting to change requires many important decisions on the part of the career counseling profession. So what are the issues on which the profession needs to make some important decisions? Acknowledging that other authors might well identify completely different issues, we shall forge ahead and list three big issues that deserve our attention and require some decisions:

1. How shall we state the goal of vocational psychology?
2. What is the scope of work for vocational psychologists?
3. How can vocational psychologists help people make meaning in their lives?

HOW SHALL WE STATE THE GOAL OF VOCATIONAL PSYCHOLOGISTS?

The Society for Vocational Psychology states its purpose like this: "Its purpose is to encourage, promote, and facilitate contributions to research, teaching, practice, and public interest in vocational psychology and career interventions" (<http://www.div17.org/vocpsych/>). That is a fine statement for the Society, but it does not state the purpose of the "career interventions." When vocational psychologists counsel their clients, what are they trying to accomplish? How do they tell whether they have been successful? When is their work finished? We believe that career counseling requires even more skill than personal counseling provided that the goal of vocational counseling is appropriately worded.

The Traditional Goal

For years the most consistently stated goal of vocational psychologists has been to help people make a career decision—or to help them to overcome career indecision.

Career indecision, which may be defined broadly as the inability to select and commit to a career choice, is a common problem among college students, with some estimates as high as 50% (see Gianakos, 1999; Sepich, 1987). A large body of research has suggested that career-undecided individuals may experience a number of associated problems, including greater anxiety, lower self-esteem, less career decision-making self-efficacy, and less effective self-appraised problem solving, to a greater extent than their less undecided counterparts (Betz & Serling, 1993; Chartrand, Robbins, Morrill, & Boggs, 1990; Chartrand, Rose, Elliott, Marmarosh, & Caldwell, 1993; Luzzo, 1993; Betz & Taylor, 1983). Given the prevalence and seriousness of career indecision, additional research is needed to understand more completely the psychological factors that may contribute to difficulties with career decision making. (Tokar, Withrow, Hall, & Moradi, 2003, p. 3)

Historically we can trace the origin of career decision making as a goal to Frank Parsons (1909). He originated the three-step model of know yourself, know occupations, and use true reasoning to make the match. Under the Parsons model, if career counselors cannot find a match that the client will

accept, counseling is automatically deemed to be a failure. Typically the failure of a counseling experience is then blamed on the client's indecision. Over the years a long list of names has been proposed to label clients who refuse to follow Parsons' advice (Gordon, 1998). Just a few of the many labels include the following:

- Informed indecisive
- Unstable decided
- Decided uncomfortable
- Tentatively undecided
- Indifferent decided
- Developmentally undecided
- Transitional indecisive
- Seriously undecided
- Chronically indecisive
- Anxious undecided
- Planless avoidant.

We propose that no one needs to be blamed. The absence of a career decision cannot be blamed on either the client or the counselor. The real difficulty lies in working within a counseling model that specifies an unrealistic goal.

Although specifying a future occupation is unrealistic in the sense that no one can predict the future with much certainty, naming a future occupation is amazingly simple:

“What should I be when I grow up?”

“Be a plumber.”

“Oh, OK, thanks.”

If the end product of career counseling is simply a client's agreeing to the name of a future occupation, then the process could be exceedingly easy assuming the client buys into it. Some clients will buy into it just to finish the painful process of planning an unknown future. If clients do not have to do anything right away, they can easily agree to a one-word occupational title now and figure out what to do later.

One of the reasons career counseling is said to be simplistic is because it *is* simplistic. No wonder our other counseling colleagues consider our work to require little training. The difficulty is not with the nature of the job. The difficulty is not with our colleagues' perceptions. The difficulty is that the stated goal is not all that important and can easily be faked.

An Alternative Goal for Vocational Psychologists

We ask you to consider a quite different view about the goal of counseling. We think that career indecision is not a problem at all. On the contrary, we think

that “career indecision” is the most sensible approach that people can take—though we would prefer to label it as “open-mindedness.” Why should you ever commit to a career choice? The career choice is not committed to you. You could commit, for example, to operating a department store elevator, manufacturing spittoons, or repairing mechanical calculators; but how would your commitment be honored as customs and technology change? Your loyalty to an occupation would engender absolutely no return loyalty to your welfare.

Expecting people to decide on a lifetime career and commit to that choice is a formula for personal disaster. Circumstances change, economic cycles have their booms and busts, technology advances, and people’s interests change over time. Remaining ever open-minded is the smartest way to adapt to changing circumstances. Unswerving loyalty to any occupation is almost certain to be detrimental to the success and happiness of many people. Now we might well want to help people explore some interesting directions to try next, but why would we ever expect them to make an occupational choice to which they were committed?

But what about the argument that career-undecided individuals may experience a number of associated problems? First, let us be careful that we do not confuse correlation with causation. Even if career indecision is correlated with low self-esteem, we do not know whether career indecision caused the low self-esteem or whether the low self-esteem made it more difficult to make a decision. The correlation may even be due to some third factor—perhaps a societal expectation that everyone should declare an occupational goal, an expectation that some clients intuitively know to be unwise.

We live in a society where decisiveness is admired and indecisiveness is a sign of weakness, but these values may provide children with a poor strategy for dealing with a changing work world. It is common to ask children, “What do you want to be when you grow up?” We want them to answer with the name of some specific occupation, for example, pediatrician, veterinarian, firefighter. We are generally not happy with the I-don’t-know answer. And we would probably be especially displeased with any child who had read this article and answered, “It is ridiculous for you to expect me to answer a question like that when I don’t know what occupations will be available when I grow up nor how my interests will change between now and then.” Yet that child’s answer would be the most sensible one to give.

Because refusing to name a future occupational commitment receives social disapproval from childhood on, would it not be reasonable to assume that the self-esteem of these “undecided” people would suffer? They have been diagnosed with a serious problem—career indecision. They would naturally feel anxiety about this presumed “inability” on their part. They are further diagnosed with a low score on “career decision-making self-efficacy”—meaning that they know that they have not been able to make a career decision. Instead of calling them “low in career decision-making self-efficacy,” it would make

more sense to label them as “high in open-mindedness.” That might then serve to enhance their self-esteem.

A better way of stating the goal of vocational psychology would point up its realism, the complexity of the process, and its integration with all of psychology:

The goal of vocational psychology is to help the clientele take action to achieve a satisfying career and personal life.

Note some key words in this goal statement:

Clientele. The clientele can be defined differently for different psychologists. For some, it can be individuals who are troubled by the way their lives are proceeding. For others the clientele may be the entire student population of a university. For big thinkers it could be the population of a city, state, nation, or the entire world.

Take action. It will not be enough to contemplate the alternatives. Effective action will be required—for example, informational interviewing, researching attractive companies, establishing a network of contacts who know of your interests, joining clubs and organizations whose members share some of your interests, or volunteering to work at companies or agencies you admire.

Satisfying. What is satisfying for your clientele? Each person may have a different idea of what constitutes a satisfying life. The goal is to help them increase their feelings of satisfaction.

Career and personal. Separating career from personal concerns is a big mistake. The two are inextricably intertwined. Counselors need training to deal with a broad array of complex problems that arise when career and personal concerns intersect (Krumboltz, 1993).

Life. The problems of life are not solved by making one career decision. The transitions of life continue for a lifetime. Counselors need to be ready to intervene at any point to help people deal with whatever concerns they are facing at that moment and to teach them skills they can apply to future problems.

Implications for the Profession

With a goal this broad no one could accuse transition counselors of having a simplistic task. Being able to deal successfully with both career and personal problems requires far more knowledge than does either one alone. Dealing with the inevitable transitions at all ages of life presents additional complexities. Finding ways to help clients increase their satisfaction with their lives will present a new challenge with each new client.

Helping clients to figure out the next action step will require great interpersonal skill and knowledge about resources and potential consequences. It is important to note that the emphasis is on action, not on decision making. Ibarra (2002) summarized the point succinctly: "We like to think that the key to a successful career change is knowing what we want to do next, then using that knowledge to guide our actions. But studying people in the throes of the career change process (as opposed to afterward, when hindsight is always 20/20) led me to a startling conclusion: Change actually happens the other way around. Doing comes first, knowing second" (p. 5).

It is popular to advocate that one should "follow your dream" or "discover your true self" and then you will be on the path of enlightenment and happiness. Ibarra describes the typical process of identifying our previous likes and dislikes and states:

... this practice is rooted in the profound misconception that it is possible to discover one's "true self," when the reality is that none of us has such an essence. . . . Intense introspection also poses the danger that a potential career changer will get stuck in the realm of daydreams. . . . starting out by trying to identify one's true self often causes paralysis. While we wait for the flash of blinding insight, opportunities pass us by. To launch ourselves anew, we need to get out of our heads. We need to *act*. (p. 6)

This broadened goal for vocational psychologists and career counselors would clearly mean that our scope of work would expand. It also suggests the possibility of a name change from "career counselor" to "transition counselor."

WHAT IS THE SCOPE OF WORK FOR VOCATIONAL PSYCHOLOGISTS?

If the goal of counseling is to help people achieve a satisfying life in this complex world, then there are innumerable transition points that must be mastered in every life. Here we can only discuss a few major transitions, but Schlossberg, Waters, and Goodman (1995) have written a beautiful analysis of the transitions faced by adults and the strategies that counselors can use in dealing with them. Important transitions occur throughout life. Here are some of them with just a few recent illustrative references:

- From home to kindergarten (Fox, Dunlap, & Cushing, 2002; Stormshak, Kaminski, & Goodman, 2002; Troup & Malone, 2002)
- From elementary school to middle school (Lochman & Wells, 2002)
- From childhood to adolescence (Freeman & Newland, 2002; Fuligni & Pedersen, 2002; Spring, Rosen, & Matheson, 2002)

- From high school to college (Janiga & Costenbader, 2002)
- From education to work (Bullis & Fredericks, 2002; Phillips, Blustein, Jobin-Davis, & White, 2002; Solberg, Howard, Blustein, & Close, 2002)
- From incarceration to freedom (Bullis, Yovanoff, Mueller, & Havel, 2002)
- From employment to unemployment (Busacca, 2002)
- From married to divorced (Wade & DeLamater, 2002)
- From young adulthood to the midlife crisis (Horton, 2002)
- From couple to parent (Feinberg, 2002; Kluwer, Heesink, & van de Vliert, 2002; Paley, Cox, Harter, & Margand, 2002; Simpson & Rholes, 2002)
- From parent to grandparent (Crosnoe & Elder, 2002)
- From one country to another (Goldin, 2002)
- From employed to retired (Dentinger & Clarkberg (2002)
- From life to death (Rainer & McMurry, 2002)

The transitions from one status to the next cannot be assumed to be similar for males and females, for people from different ethnic groups, or for any two individuals no matter how similar their backgrounds may appear to be. Sensitivity to individual and cultural differences will be required in counseling people going through every transition. Let us consider just a few transitions in a little more detail.

The Transition to Employment

Being able to contribute something to the welfare of others and receiving at least some financial compensation for so doing is an important component in achieving a satisfying life. Every occupation contributes to the welfare or happiness of one or more other individuals. Every product and service is valued by someone: That is the reason you get paid.

Searching for a good way to make this contribution and get paid for it involves a major transition for which vocational psychologists have long assumed some responsibility. Traditionally, their responsibility has ended when the client made a career decision. However, the work of finding and maintaining a satisfying career is a lifelong concern. Any number of events can interrupt a career path that may at first have seemed desirable—for example, layoffs due to economic downturns, disagreements with an employer, the development of new interests, disabilities due to illness or accidents, discontent due to job burnout, technological obsolescence. If vocational psychologists subscribe to the goal of helping to build career and life satisfaction, their work is never done. People and the environments in which they reside are constantly changing, and adaptation to these changes frequently benefits from professional intervention.

The nature of these professional interventions needs rethinking, however. Instead of trying to determine the optimum future occupation in advance,

vocational psychologists should be helping their clients take constructive actions to find and try out interesting activities (Krumboltz, 1998; Krumboltz & Levin, 2004; Mitchell, Levin, & Krumboltz, 1999). Chance events play a big role in everyone's career. New opportunities are being created by events that no one could have predicted. Learning to find and take advantage of unexpected opportunities is a skill that transition counselors can help to engender. Instead of asking, "What do you want to be?" transition counselors should be asking, "What would be fun to try next?" and "What's the first step you are going to take to find out?"

The Transition From Work Back to School

Many adults return to educational settings, having become disenchanted with their work or perhaps after a period of unemployment. Some 30% to 50% of college students are estimated to be adults who have returned to college after a taste of the real world (Griff, 1987; Hirschorn, 1988; Rathus & Fichner-Rathus, 1997).

Are the returning adults in need of career counseling? Citing Healy, Mitchell, and Mourton (1987), Healy and Reilly (1989), Luzzo (1993) and McCaffrey, Miller, and Winston (1984), Luzzo (2000) makes the point "... that returning adult and graduate students are not so advanced in their career development that they need considerably less guidance in career planning and decision making" (p. 196). Although generalizations about groups must not be used to diagnose individuals within those groups, it is interesting to note that on average the career planning process seems to be approached with a greater sense of security by the older students, whereas the younger students are still caught up in feelings of anxiety (Blustein, 1988; Healy et al., 1987; Healy & Mourton, 1987; Luzzo, 1993). We might hypothesize that younger students labor under the myth that they must make a decision that commits them to one path for the rest of their lives, whereas older students have learned from their own experiences and the very fact that they can return to school after leaving it that any new path is a temporary experiment.

Arthur and Hiebert (1996) studied the demanding tasks faced by males and females of different ages as they coped with the postsecondary educational environment. They found that female students reported more family and relationship demands than did males. Older students coped with the academic demands by reducing the time they spent in competing activities, whereas the younger students were more likely to withdraw (actively and mentally) from the academic demands.

Whether anxious or secure, young or old, all students can benefit from the opportunity to talk over their thoughts and concerns with a wise transition counselor. Scott (2002) has emphasized the diversity of adult student needs and the importance of integrating personal and social issues with their career

needs. Arthur and Hiebert (1996) suggest that counselors need to explore the idiosyncratic meanings associated with each student's demands, provide more visible resources, and utilize existing student strengths without interfering with currently effective coping strategies.

The Transition From Single Careers to Dual Careers

A major cultural shift has occurred in the past generation. Not too long ago it was customary—and in some circles, mandatory—for the husband to be gainfully employed and financially supporting a wife who worked at home. Now that has changed drastically. It is now customary—and in some circles, mandatory—for both husband and wife to be gainfully employed and to share in performing the domestic chores.

The change is not without its problems, and several excellent books have addressed the major issues (Gilbert, 1993; Silberstein, 1992; Stoltz-Loike, 1992). Some of the research findings have implications for how transition counselors deal with dual-career couples. For example, men's feelings of success were higher if they had stay-at-home wives than if their wives were employed (Osherson & Dill, 1983). Having similar expectations for gender roles in a marriage seems to help the relationship, and couples in troubled marriages reported greater differences (Nettles & Loevinger, 1983). The implication here is that counselors need to help premarital couples reach agreement on their respective role responsibilities prior to marriage as well as to mediate mutually satisfying roles between those already married.

Some research (Hochschild, 1989) found that women in dual-career marriages were still shouldering the bulk of domestic chores. Farmer (1997) has described counseling for the special concerns of women who have faced inequities in both education and work settings, sexual harassment, and a greater career-family role conflict and states that "Equitable sharing of homemaking and parenting is still very rare" (p. 285). She has developed an assessment device called the Home-Career Conflict measure that could be useful in counseling dual-career couples. Research on the instrument "indicated that significantly higher home-career conflict scores were related to perceived traditional sex-role attitudes of significant others" (Tipping & Farmer, 1991, p. 111).

Transitions for Defined Populations

Although there is no end to ways in which specific target populations can be defined, it may be useful to describe a few which have attracted the attention of researchers.

The Disabled. Cain (1995) has reviewed the literature on transition counseling for students with disabilities. She has pointed out the need for

coordination between special education programs in schools and vocational rehabilitation agencies that promote employment and successful adult living.

Wadsworth, Harper, and McLeran (1995) have called attention to the needs of mentally or developmentally disabled adults who are reaching retirement age. They summarize some research studies that indicate that this population is poorly served and experiences "...retirement as a negative experience which involves a decrease in activity and loss of opportunities to socialize" (p. 46).

Cult Members. Susceptibility to cult memberships seems to be associated with major life transitions, particularly among young adults who are trying to establish complete independence from their families (Schwartz & Kraslow, 1979; Whitsett, 1992). Robinson and Bradley (1998) have described efforts to prevent cult membership and to help former cult members who have been able to sever their connection with a cult. The transition out of a cult is difficult because most cults attempt to provide an isolated support system for their members. Disaffiliation tends to be associated with a variety of physical and psychological symptoms. Counselors can help former cult members identify their personal strengths, develop a new support system, relearn decision-making skills, and pinpoint irrational messages they had previously accepted uncritically.

Immigrant Students. The problems of people coming to a new country with different cultural expectations and a different language are both challenging and at times overwhelming. Transition counselors can play a positive role, but additional research will be needed to test the most effective interventions. For example, Cardenas, Taylor, and Adelman (1993) described a school-based transition support group that organized group discussions arising from the members' stated concerns and also included didactic presentations to share information and develop skills. Criteria for the effectiveness of the support group included number of school dropouts and transfers, grade point average, days absent, and number of visits to the health center. Comparisons with two control groups produced no significant differences, but the comparison groups were small and not randomly assigned from the same population. The authors concluded that support groups can help but that "...considerable work needs to be done before their promise can be fulfilled and appropriately evaluated" (p. 209).

Retired Athletes. The transition from sports hero to retirement is not easy at any age. Constantine (1995) described the problems of intercollegiate female athletes who retired from their sports for various reasons. She described a support group for them which consisted of eight sessions each 90 minutes long. Discussion topics included grief and loss issues, outside

support systems, self-esteem improvement, career development, stress, and goal formulation. A postgroup evaluation (no control group) revealed a high level of satisfaction with their experiences in the group.

HOW CAN TRANSITION COUNSELORS HELP PEOPLE MAKE MEANING IN THEIR LIVES?

One potential consequence of living in this chaotic modernity is the dissolving of belief or hope in the “true self” and meaning (O’Doherty & Roberts, 2000). They argue that whereas career had been used by individuals as a “traditional ritual” to make meaning, and “fill the inevitable void,” it can no longer do so in the “nihilistic and entropic conditions of late modernity.” Understandably, during such times of chaos, dissolution, and uncertainty, people gravitate toward and seek new ways of making meaning and stability. It is within this quest for meaning and fulfillment that transition counselors can play a critical role in helping clients survive and thrive in this new millennium.

One of the ways in which people are making meaning out of chaos is through spiritual and religious practices. The popularity of spiritual, religious, and other healing practices is, not coincidentally, at an all-time high at this present age. This “New Age” movement has become such a significant ground-force in the world that it has even elicited a response from the Roman Catholic Church. The Vatican recently issued a 90-page booklet entitled a “Christian Reflection on the New Age” to address the relationship of spiritual practices such as yoga and feng shui to contemporary Catholic faith (*The New York Times*, 2003). Certainly, it is important to note that religious and spiritual practices have always played an important role in people’s lives. One study of thousands of people from 13 countries found that common top priorities were providing for basic needs as well as experiencing spiritual fulfillment (Cantril, 1965).

The words “spirituality” and “religion” are often used interchangeably; however, we maintain that they are separate but related concepts. Spirituality and religiosity are connected but are not dichotomous polarities. A person could be spiritual but not religious, another could be religious but not spiritual, whereas yet another person could be both religious *and* spiritual. For Westgate (1996), one key distinction between the two concepts is that religiosity is public and is often expressed through an institution, whereas spirituality is private and may or may not be expressed in a public or institutional fashion. Definitions of spirituality abound, with some focusing on a relationship with the transcendent, others emphasizing existential or humanistic aspects. For the purposes of our discussion on spirituality and career counseling, we propose a broad definition of spirituality as an inner drive and valuing of love, meaning, connectedness, and compassion in life (adapted

from "Summit Results," 1995, cited in Fukuyama & Sevig, 1999). An individual's spirituality may or may not be shaped by his or her religious beliefs; spirituality can also be developed from other moral, ethical, or philosophical traditions (Stoltz-Loike, 1997). Stoltz-Loike notes that spirituality can be an "...organizing principle for the way we function, anchoring us and helping us to place the choices we make and the balance we create within our lives in a meaningful perspective" (p. 152).

The role of spirituality in people's lives has not been fully addressed in mainstream psychology, in large part because of the impetus in psychology to establish itself as an objective, empirically based social science. However, noted theorists from Jung to Seligman have acknowledged the vital role of spirituality in human growth and actualization (Westgate, 1996). The importance of considering spirituality in the worldview of our clients cannot be overestimated. Far more people in America and in the world turn to religion for support and guidance than to counselors or therapists (Pederson, 1998; Worthington, 1989). Given the centrality of spirituality in so many people's lives, it behooves transition counselors, at the very least, to acknowledge its presence. Indeed, overlooking the importance of religion or spirituality in the client's worldview may result in a serious misconstrual or an incomplete understanding of the client's values, beliefs, and innermost concerns.

There are different ways in which spiritual concerns intertwine with work concerns. As Hansen (1993) has pointed out, "career decisions have a great deal to do with *spirituality*, a sense of purpose, and a sense of meaning in one's life ..." (p. 20). Spiritual concerns of clients can be incorporated into career counseling so as to enrich and empower interventions for both counselor and client. Of course, given the myriad of ways in which people experience spirituality, not all of these would apply to every client.

Spiritual Call

The intertwining notions of "vocation" and "call" are evident in the linguistic roots of the word "vocation," which is derived from the Latin infinitive "vocare," "to call." Some people subscribe to the idea that the call to work is most meaningfully understood as a *spiritual* call; that is, they believe that they have special role or purpose in life through which they can make a unique contribution to the world. The implications of this belief are profound because of the intimate connections made among the self, the purpose of the self, and work. This notion of the "call" can be energizing for some, but paralyzing for others. Difficulty in actualizing this belief may be especially painful for the client because of the personal nature of the spiritual call as well as its intense significance for the individual. Some clients may not even experience a call but feel internal pressure to have one; others may feel helpless by the very notion of the call; still others do not assume there is a call but still

want to formulate a purpose in life. Each of these client expressions can be a differential source of stress. Transition counselors can be instrumental in this area by guiding people in finding ways to express their callings through work, or by normalizing some people's experience of not having a call. Transition counselors can also be tremendously helpful in working with those who do *not* believe in this notion of a call—such clients might find it beneficial to discuss and formulate a conception of what is meaningful and important to them.

Spirituality and Multiculturalism

Other chapters in this book have discussed the importance of addressing issues of multiculturalism and diversity in career counseling. Spirituality is an important, yet often overlooked, avenue through which culture is expressed. There is a close connection between the two—discussions about spirituality can easily be infused with cultural beliefs and values; likewise, conversations about culture can be platforms for significant revelations about spirituality. For instance, the valuing of kinship and community in African American groups (Fukuyama & Sevig, 1999; Sue & Sue, 1999) is often intimately linked with their spiritual beliefs regarding interpersonal connectedness (Newlin, Knafel, & Melkus, 2002).

Fukuyama and Sevig (1999) propose that understanding the intersection of culture, spirit, and counseling can be empowering for both client and counselor. By attending to issues of culture and spirituality, counselors can gain a larger, more holistic sense of both the cultural and the spiritual values of their clients that may shape their attitudes and aspirations regarding work. Conversely, ignoring such issues may lead to a gross misunderstanding of the client's deepest aspirations, values, and beliefs. This danger looms particularly large in cross-cultural counseling encounters, where the client and counselor may be operating from vastly different philosophical orientations toward the world.

For instance, a central tenet of the American attitude toward life, as expressed in The Declaration of Independence, is that "All men are created equal, that they are endowed by their Creator with certain unalienable Rights, that which among these are Life, Liberty and the pursuit of Happiness." This famous line underscores the pursuit of happiness as a worthy goal. However, this fundamental belief directly contradicts a Buddhist tenet that recognizes the centrality of suffering in life. Hence, a counselor working on the assumption of happiness as an essential pursuit may be seriously at odds with a client who does not share this belief. Similarly, the values of White Anglo-Saxon Protestant culture equate work and productivity with personal rectitude and esteem (Fukuyama & Sevig, 1999), but these work and spiritual values are not shared by all cultures.

Spirituality as Social Justice

Spirituality may also manifest itself in one's work identity through a powerful desire to make a difference in the world. It is important to remember that there is a close interaction between the individual's interests, deeply held values, and the work world—as Savickas (1997) puts it beautifully: "Interests are not in us; they are in situations. Interests relate individuals to their context by connecting personal needs to environmental goals and communal values. Interests focus the quest for self because they reveal how the individual plans to become more complete and how he or she envisions using the world of work as a context for further development" (p. 16). The client may express an avocation toward using his or her talents and gifts as a contribution to the local or global community. The challenge for the counselor in such a case would be to help clients determine how they can use their particular subset of skills and the type of workplace or community where they can make a difference. Too often, hard-nosed or hard-pressed counselors bent on pigeonholing their clients into "practical" occupations may miss the mark with such clients. We advocate a spirit of creativity and respect in the counselor's working alliance with the client. We believe that mutual respect and understanding between counselor and client can be especially helpful in brainstorming a range of viable career and job options, from nonprofit work to jobs in socially responsible corporations. Likewise, Highlen and Sudarsky-Gleiser (1994) advocate that a counselor be flexible and proactive so clients can navigate around impediments that block them from fulfilling their potential. In addition, clients with a passion for social justice might not view the identification of one career or job as the end goal for counseling. Writes Savickas: "Career counseling that cares for the spirit does not end when clients understand how to turn preoccupations into occupations. It continues by focusing on how clients can use the solution to make a social contribution" (p. 22). We would add that additional goals might entail teaching clients to build on their knowledge and skill base, on learning how to take action and create opportunities for themselves.

Spirituality as Connectedness and Community

Spirituality is sometimes interpreted as being connected with others in a meaningful way. For some, such connectedness occurs through being a member of an established religious group; for others, connectedness takes on a broader meaning and has connotations of fellowship with all living beings. Unfortunately, this sense of fellowship and belonging that occurred naturally in agrarian economies and communal situations is now rapidly disintegrating with our fast-paced, transient, and stressful lifestyles. Ironically, as traditional communities and group memberships erode, the need for community, relationships, and personal contact have become all the more important.

Networking, meeting people, maintaining contacts, and having “face time” are vitally important and valuable in this faceless world of technology and computers. Relationships continue to be the best source for career information, industry knowledge, networking contacts, and continual learning opportunities. In addition, social relationships provide enduring links in a world where change and chaos are the norm. Transition counselors can play a role in helping clients find a renewed sense of community and connectedness in work and work relationships. This is a rich area for transition counselors to provide services such as polishing interpersonal skills (the so-called “soft” skills), creating a career network, and initiating a job support group. Counselors can also be of tremendous value in helping clients use technology to enhance and maintain their connections with people, such as using e-mail to elicit an informational interview or browsing the Web to learn about industry leaders.

Spirituality, Values, and Attitudes Toward Work

Spirituality can be an inspirational as well as a transformational force in a person’s attitude toward work. One research study found that spirituality is one of the most important predictors of organizational performance, and that people who are more spiritually involved tend to produce better results in the workplace (Mitroff & Denton, 1999). Although this link is correlational and not causal, it is possible that spiritual values can influence a person’s integrity, passion, and commitment to themselves and to their work.

Spirituality can also infuse work with a multitude of meaning. For instance, some might believe work to be a vocation, whereas others might view the act of working as a spiritual value in and of itself (Fukuyama & Sevig, 1999).

One qualitative study of the meaning of life from 195 eminent people (including 11 spiritual leaders such as Ghandi, Billy Graham, Martin Luther King, Jr., Mother Teresa, and the Dalai Lama) found the following common themes in their writings and sayings: creating meaning in life, self-actualization as the main task of life, contributing to something greater than the self, serving or worshipping God, loving or serving others. Most notably, the most frequently endorsed conceptualization of the meaning of life was to “enjoy life” (Kinnier, 2001).

Huntley (1997) identified four interpretations of work in Christian theology:

- Work as a necessary part of life and as an essential part of the human experience
- Work as being an intrinsically good activity; that is, work can be an avenue through which God is experienced
- Work as a calling or a vocation
- Work as a creative effort, in which the human and God are “co-creating”

Transition counselors have traditionally focused on “work values” when doing career assessments. However, a sole focus on “work” values may provide an incomplete picture for some clients, particularly those who desire a consistency of internal and spiritual values over all their life roles (Chartrand & Walsh, 2001). One proposed vocational model that incorporates spirituality is the Co-Essence Model of Vocational Assessment for Racial and Ethnic Minorities (CEMVA-REM; Highlen & Sudarsky-Gleiser, 1994), which emphasizes the centrality of spirit, the interdependence of life, and positive interpersonal relationships as important concepts in working with racial or ethnic minorities.

By addressing the issue of spiritual values when appropriate, transition counselors can thus gain a more complete and richer understanding of the client’s heartfelt desires and aspirations. Such a discussion can also greatly benefit clients by making them feel more fully validated and affirmed as complete human beings. There are many ways in which such a discussion can be facilitated. Even simple questions such as “What do you believe is the meaning of your life?” and “How do your spiritual values impact the work you hope to do?” may generate a complex discussion of clients’ deepest hopes and aspirations for their future. Savickas (1997) suggests asking clients to describe their life theme(s) and their role models in order to get a sense of their inner spirits and motivations. Bloch (1997) suggests that clients can use their own spiritual practices (such as meditation or prayer) to facilitate their thoughts and feelings surrounding their career journey. Of course, we are not advocating that spiritual interventions be pushed onto clients. As always, commonsense and sensitivity should be guidelines in choosing interventions appropriate for the particular and unique needs of each client.

Sensitivity to any of these different spiritual attitudes and beliefs can qualitatively change a person’s approach to even a routine job (Fukuyama & Sevig, 1999). This connection between the inner spirit and the outer work has been noted by many great poets and thinkers. The poet Kahlil Gibran beautifully observed, “Work is love made visible.” Martin Luther King, Jr., said, “If a man is called to be a street sweeper, he should sweep streets even as Michelangelo painted, or Beethoven composed music, or Shakespeare composed poetry. He should sweep streets so well that all the hosts of heaven and earth will pause to say, ‘Here lived a great street sweeper who did his job well.’”

CONCLUSION

For the past 50 years or so, career counselors have been doing good work helping people identify their interests and skills and find suitable occupations and careers. Sadly, such good work has not been given its due respect and

recognition. We suggest that a major reason for this lack of respect is the narrow and limited ways in which both counselors and clients perceive the possibilities for career counseling. The lack of legitimacy accorded to career counseling is especially problematic given the challenges of coping in a world where work is constantly changing.

A renewed vision for career counseling is needed: one that not only encompasses our global, technology-driven work world, but also embraces it. We advocate a radical change from *career* counseling to *transition* counseling. Five specific types of changes are needed:

1. *Expand the goal.* The goal is no longer merely to help clients make a career decision. The goal should be to help clients create satisfying lives for themselves.
2. *Include all aspects of life.* Career counselors can no longer ignore personal and family concerns. Careers have profound influences on friendships, families, and a sense of purpose in life. The whole package should be grist for the transition counselor of the future.
3. *Make training more comprehensive.* The training of future transition counselors needs to be far more comprehensive including the ability to deal sensitively and effectively with clients from varied cultures who have complicated social, financial, and interpersonal problems.
4. *Deal with all transitions.* Career counseling has typically dealt with only one transition—from school to work. Real life consists of dozens of major transitions and an uncountable number of minor transitions. In the future, transition counselors will need to help with transitions, for example, from work to unemployment, from single to married, from married to divorced, from married to widowed, from limited responsibilities to major leadership responsibilities, from work to retirement, and from life to death.
5. *Build a long-term relationship.* Now the typical career client comes in for at most three sessions with the counselor. When the career decision is reached, counseling is over. Under the new model, counseling involves an ongoing relationship. As long as life continues, people face new problems and challenges and need someone to help them think through the alternatives, plan a course of action, and then take action. Just as we go to our dentist every 6 months for a dental checkup, we will want to contact our transition counselor periodically to review ways of dealing with present and future transition concerns. Actions have consequences, not always the consequences that were intended. A constant process of experimentation and evaluation is needed to guide one through the joys and sorrows of life. Transition counseling will not be a one-shot affair but a continuing process throughout life as needed by the client.

The shift in these fundamental assumptions about the nature of transition counseling transforms it into a form of counseling that is both unique and challenging. As trained professionals who help people with many life transitions, transition counselors can provide continuity and stability through much of an individual's developmental life span. By doing so, transition counselors will be helping people to find and make meaning in all aspects and times of their lives.

It has become a truism to say that this is an age of rapid global and technological change. Despite the almost commonplace nature of this observation, many helping fields like career counseling have yet to make the leap into this new age. However, career counseling is exactly poised to make this leap and become transition counseling at this current time. We believe that transition counseling can address these paradigm-shifting changes in the world. We also believe that counselors are well equipped for this challenge and that counseling will gain the respect it deserves if we can adaptively position ourselves to be of even better use in this changing world.

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Integrated Career Assessment and Counseling: Mindsets, Models, and Methods

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"Don't you have some test that can tell me what I am supposed to be?!"

(Undergraduate student to a college counselor)

"Isn't career counseling just giving a bunch of tests to tell someone what career they should enter?"

(Graduate counseling student to a professor)

Such questions, asked frequently of counselors and educators, reflect the pre-eminent role of assessment in vocational psychology. A massive body of scholarly literature, including chapters in previous editions of the *Handbook of Vocational Psychology*, scores of journal articles, and the *Journal of Career Assessment (JCA)*, as a periodical devoted entirely to the subject, considers assessment relative to a full range of topics. These topics include career assessment and vocational interests (Savickas & Spokane, 1999; Zytowski & Borgen, 1983), work values (Dawis, 1991; Sagiv, 2002; Super & Nevill, 1985; Zytowski, 1994a), career maturity (Savickas, Briddick, & Watkins, 2002; Westbrook, 1983), career choice content and process variables (Betz, 1992; Crites, 1969; Hackett & Watkins, 1995), career decision making (Savickas, 2000; Slaney, 1988), computer-assisted career guidance (Gati, 1996; Rayman, 1990), special populations (Subich & Billingsley, 1995), women (Hackett & Lonborg, 1994), cultural context (Leong, 1995), the Internet (Chartrand & Oliver, 2000), and innovations in career assessment (Chartrand & Walsh, 2001; Savickas & Walsh, 1996), just to name a few. A comprehensive review of the career assessment literature also appears biennially in *JCA*, with special issues

of the journal devoted periodically to selected topics in career assessment. Literature reviews appearing in other periodicals, such as *Journal of Vocational Behavior* and *The Career Development Quarterly*, as well invariably address career assessment.

Questions like those posed here also reflect the enduring fixity of career assessment in the public understanding about what career counseling comprises. At the core of such questions rests a belief nested in a misconception of career counseling as testing. This belief, in part fueled by the tremendous and sustained scholarly attention to the topic, leads the public, consumers of career counseling services, graduate counseling students, and professionals both within counseling and in other disciplines unaware of vocational psychology's richness and place in the field of psychology to misconstrue career assessment and counseling essentially as a straightforward, simple, and mundane match-making enterprise (cf. Krumboltz, 1994; Patterson, 1964). For many clients, students, and even educators and counselors, assessment has been and remains synonymous with career counseling. It would likely not be hyperbole to state that most lay people believe career assessment *is* career counseling, or at least forms a major component of it. Certainly, we know that various forms of assessment, from observational to psychometric, pervade the comprehensive web of career services that counselors provide and that includes career education, vocational guidance, career counseling, therapy, occupational placement, and position coaching (Savickas, 1996). Each one of these services deals with a specific domain of career problems and uses assessment to assist individuals and groups with specific aspects of their educational or vocational pursuits, ranging from issues of identity to career decision making, occupational choice, and work adjustment.

Two contemporary, yet long-standing and fundamental issues in vocational psychology that I address in this chapter pertain to a conception of career counseling as testing *viz.* psychometric paper-and-pencil instruments. The first issue concerns the underlying philosophical perspective on assessment that vocational psychology has largely espoused throughout its nearly 100 years as a basic and applied scientific discipline. The second issue concerns the extent to which assessment has been embedded within the process of career counseling and how it has been used to assist individuals to deal with their work- and career-related concerns. Articulating and advancing a perspective on career assessment and counseling that conveys a fresh understanding of these integral components of vocational psychology may ultimately prompt prospective consumers, counseling graduate students, and professionals in other disciplines to recognize what we already know; that is, that "the greatest strength of vocational psychology is that its core subject matter is of central importance in the lives of individuals in virtually all modern societies and of critical importance to the welfare of families, communities, and nations" (Vondracek, 2001, p. 253). We also know that advances

in assessment and counseling have provided the means by which vocational psychology has assisted individuals to develop their lives through work.

In addressing these two contemporary philosophical and practice issues, I endeavor to formulate an answer to questions such as those posed previously; an answer that derives from the extensive scholarly literature on career assessment and counseling and one that hopefully leads us ultimately to fostering a new mindset about vocational psychology within the discipline itself, among other fields of psychology and counseling, and among the lay public. Taking my bearings from chapters that deal with assessment in previous editions of the *Handbook of Vocational Psychology* and the profuse career assessment literature, I use the present chapter to consider and advance a role for career assessment, an imposing and daunting topic and arguably vocational psychology's signature element, that encompasses multidimensional models and methods and positions it firmly within the fabric of the counseling process.

The chapter begins with a discussion of philosophical issues basic to the science and practice of career assessment. These issues resonate with and respond to questions about the roles of career assessment and counseling within vocational psychology. I then consider models and methods for merging guiding philosophies and practices within vocational psychology in an integrated career assessment and counseling approach. These analyses culminate in conclusions about career assessment and counseling intended to prompt further inquiry and knowledge production to advance the science and practice of career assessment.

CAREER ASSESSMENT AND COUNSELING: PHILOSOPHICAL ISSUES

Mindsets

For many people, career counseling entails *prima facie* taking "the test," and doing so represents a prime expectation of clients who seek career services (Galassi, Crace, Martin, James, & Wallace, 1992). Invariably, the test represents an interest inventory that individuals assume capable of providing definitive plans for their work lives, which they will then be obliged to follow (Krumboltz & Vosvick, 1996; Lewis & Gilhousen, 1981; Nevo, 1987). Interest and other psychometric inventories certainly have contributed greatly to advancing individual career development. However, their use and misuse have also promoted misunderstandings and misguided views of career counseling. Asserting this point relative to vocational interest assessment, Zytowski (1999) noted that individuals often misconstrue their assessment results as mandates for *the* occupations they *should* enter, or *the* career paths they

should follow. He addressed this mistaken notion in describing proper use of assessment instruments, including appropriately communicating results to promote accurate client recall of those results. Thereby, Zytowski joined a host of scholars, such as Crites (1981a), Seligman (1994), Tinsley and Bradley (1986), and Watkins (1990), who have recognized and swiftly dispelled what Lewis and Gilhousen (1981) described as the “crystal ball” myth of career assessment. Frequently believed by the lay public, students, and many helping professionals alike, the crystal ball myth maintains that psychometric career assessment results produce precise plans for individuals’ work lives.

That clients and others expect and perceive career counseling to essentially constitute psychometric assessment reflects a “career-counseling-as-testing” mindset. This mindset owes largely to two factors: (a) the predominant and long-standing role of psychometric assessment in vocational psychology (Betz, 1992; Crites, 1969; Parsons, 1909; Seligman, 1994; Subich & Billingsley, 1995; Super, 1983a) and (b) the widespread use (and misuse) of tests, inventories, and scales in counseling (Hood & Johnson, 2002; Tinsley & Bradley, 1986; Tinsley & Chu, 1999). Unfortunately, the prevailing career-counseling-as-testing mindset both reflects and perpetuates the rhetoric of career versus personal counseling (cf. Blustein & Spengler, 1995; Subich, 1993); contributes to dissuading graduate students from pursuing careers in vocational psychology because they perceive it as less prestigious, less attractive, and less sophisticated than psychotherapy (cf. Gottfredson, 2001; Krumboltz, 1994; Patterson, 1964; Richardson, 1996; Tinsley, 2001); and, perhaps most importantly, constrains the perceived significance and usefulness of vocational psychology as a discipline that deals with a subject of virtually universal human import (Richardson, 1993; Vondracek, 2001).

Epistemologies

The career-counseling-as-testing mindset persists despite considerable work, particularly over the later years of the 20th century and now early in the 21st century, to advance vocational psychology from the position of a postmodern epistemology. This work, cogently synthesized by Savickas (1995a) in the second edition of the *Handbook of Vocational Psychology*, portends and holds promise for the emergence of a new mindset about career assessment and counseling. Yet, to date, it remains merely an undercurrent in vocational psychology, career counseling, and in the public awareness about these domains of science and practice.

Historically, career assessment has been grounded in the individual differences and psychometric traditions within psychology, which reflect a logical positivist philosophy of science (Chartrand & Oliver, 2000; Savickas, 1992). Logical positivism, the hallmark of the modern era of social science, has predominated vocational psychology since the founding of the discipline

(Savickas, 1995a). Career assessment based in logical positivism emphasizes objective measurement of quantifiable person variables, or traits such as aptitudes, interests, values, and personality. This approach has yielded a multitude of paper-and-pencil tests, inventories, and scales as well as computer and World-Wide-Web-based versions of psychometric career assessment instruments and guidance systems (cf. Kapes & Whitfield, 2001; Reile & Bowsley, 2000; Zunker, 1994). Psychometric career assessment tools steeped in a positivist epistemology have without question exerted a tremendous influence on and significantly advanced vocational psychology. By emphasizing normative standards and objective, verifiable realities, however, they often inhibit fully comprehending individuals within the context of their social-historical-political-economic and other life circumstances (Fouad, 1993; Leong & Gim-Chung, 1995). The predominance of the trait-and-factor model and its reliance on psychometric methods have also been criticized for perpetuating stereotypes about career assessment and counseling as boring, lacking prestige, and requiring low-level skill (Krumboltz, 1994). These stereotypes persist despite considerations of trait-and-factor career counseling as a form of psychotherapy (Rounds & Tracey, 1990).

As a complementary and alternative means of conducting career assessment, then, approaches based in a postmodern epistemology have been advanced. Phenomenology, the guiding philosophical perspective on social science in the postmodern era, emphasizes exploring clients' subjective, qualitative, and personal career realities (Savickas, 1992, 1995a). From this position, assessment best occurs using primarily idiographic strategies such as narratives (Cochran, 1997; Jepsen, 1990, 1994), early recollections (Savickas, 1997), life themes (Super, 1954; Super, Savickas, & Super, 1996), and gathering life-history data. Career assessment within a phenomenological framework involves a client-counselor collaborative endeavor to imbue work and career with personal meaning. In so doing, it includes a focus on environment variables, such as social status, ethnicity, and gender, which can thereby add incremental validity to the assessment process for people across cultural groups (Fitzgerald & Betz, 1994; Leong, 1997).

In his chapter, Savickas (1995a) summoned readers to join the discourse about whether vocational psychology should use postmodern thought to advance theory, research, and practice, and "move beyond logical positivism as *the* philosophy of science" for the discipline (p. 1). My response concerns not so much whether we should do so. Rather, it deals with the additional question of how doing so could transform the predominant conception of career assessment and counseling from a "match-making" to a "meaning-making" mindset. In practice, adopting a postmodern epistemology transforms career counseling from a straightforward, logical pursuit to a complex, therapeutic endeavor to inscribe individual work lives with meaning and satisfaction. I argue that such a transformation reflects what the field of vocational psychology

has sought for some time (cf. Blustein, 1987; Carter, 1940; Crites, 1981a; Fryer, 1931; Krumboltz, 1994; Patterson, 1964; Richardson, 1996; Rounds & Tracey, 1990; Savickas, 1995a). Most recently, Walsh (2001) advised that we expand career assessment beyond traditional psychometric approaches "to consider idiographic, qualitative, and other creative approaches to assessing multiple aspects of both people and contexts" (p. 271). Subich (2001) similarly underscored the need for a fusion of methodologies that, applied to assessment, would combine actuarial and constructivist approaches. Melding traditional and alternative models and methods should better represent career assessment and counseling as a profession, enrich individuals' experiences of the counseling process, and attract more students to the discipline.

Furthering progress in this transformation necessitates endeavoring to foster a different mindset. Therein, I enter the dialog framed by Savickas (1995a) from the position that augmenting the venerable matching model and its foundation in a positivist philosophy of science, with a paradigm that emphasizes context and interpretivism grounded in phenomenology, invigorates the career assessment and counseling process. Support for my position derives from a number of scholars who have advocated for a melding of philosophies, paradigms, and practices (e.g., Blustein, 2003; Crites, 1981a; Leong & Leung, 1994; Patterson, 1964; Richardson, 1993, 1996, 2001; Savickas, 1995a; Subich, 1996; Subich & Billingsley, 1995; Super et al. 1996; Walsh, 2001). A merging of modern and postmodern perspectives on assessment considers classic person variables as well as environment variables and context (Savickas, 1995a). It also advances the goal for career assessment and counseling to attend appropriately to cultural context (Leong, 1995; Leong & Hartung, 1997). Ultimately, emphasizing counseling process and giving increased emphasis to environment variables diminish the predominant career-counseling-as-match-making via testing mindset and bolster a career-counseling-as-meaning-making via multiple assessment methods mindset.

Making Matches and Making Meaning

Career assessment and counseling as *match-making*, by psychometric test interpretation to develop self-knowledge and by providing occupational information to foster world-of-work knowledge, represented the grand narrative of 20th-century vocational psychology (cf. Parsons, 1909; Savickas, 1993, 1995a; Super, 1983a). Patterson (1964) commented that a story line within this narrative at one point in time even expressed "an underlying hope that eventually measurements of the individual would become precise enough, and the requirements of jobs would be specified clearly enough, so that matching could be handled by machines" (p. 435)! Despite efforts and some progress toward rewriting this narrative (e.g., Cochran, 1997; Jepsen, 1990, 1994; Peavy, 1997; Savickas, 1995a, 1995b, 1995c; Super, 1983b), as I have argued to this point,

the legacy of the “test-and-tell” paradigm pervades career counseling practice and the public perception of it. This fact remains as the matching model has both transformed itself to better attend to issues of person and context and further secured its central place within vocational psychology and counseling practice (cf. Chartrand, 1991; Crites, 1981b; Rounds & Tracey, 1990; Spokane, Meir, & Catalano, 2000; Swanson, 1996; Tinsley, 2000; Walsh & Chartrand, 1994).

Contemporary streams in vocational psychology endeavor to supplant the match-making narrative with a fresh account that also comprehends career assessment and counseling as *meaning-making* (Carlsen, 1988; Cochran, 1997; Jepsen, 1990, 1994; Savickas, 1995a, 1995b, 1995c; Super, 1983b). A long-standing, yet largely subordinate narrative within vocational psychology concerns integrating traditional and alternative assessment approaches within the practice of career counseling to make the process more personal, fluid, and contextual. As noted, this narrative has emerged at various points in the history of vocational psychology, with scholars such as Parsons (1909), Fryer (1931), Carter (1940), Patterson (1964), Goldman (1972, 1994), Crites (1981a), Subich (2001), Super (1954, 1983a, 1983b), Wrenn (1988), and Walsh (2001) arguing for combining objective and subjective assessment approaches to yield quantitative and qualitative data useful for and firmly embedded within the process of counseling.

Scores and Stories

Psychometric and other forms of assessment clearly remain central to vocational psychology nearly a century after the founding of the discipline (Betz, 2001; Chartrand & Walsh, 2001). Psychometric career assessment involves objective measurement via tests, inventories, and scales that produce scores to indicate quantity of a particular trait or other variable (cf. Kapes & Whitfield, 2001). Other forms of career assessment entail subjective appraisal via interviews, life histories, and narratives that yield stories to reveal life patterns or themes (e.g., Cochran, 1997; Jepsen, 1990, 1994; Peavy, 1997; Savickas, 1995b, 1995c; 1997; Super, 1954). Scholars have aptly characterized both psychometric instruments particularly and career assessment generally as, respectively, “an asset whose potential value is immense” (Vondracek, 2001, p. 254) and one of the “cornerstones of our field” (Betz, p. 281). As noted earlier herein, the preeminence of assessment and testing as a topic of rich scientific inquiry in vocational psychology and as a vital component of career counseling practice without question continues today. This fact remains despite its often misunderstood and sometimes maligned role, as evidenced in all-too-familiar questions such as those posed at the outset of this chapter and as discussed in various writings on the topic (cf. Goldman, 1972, 1994; Hood & Johnson, 2002; Tinsley & Bradley, 1986; Zytowski, 1994b).

Decades after the rise and subsequent establishment of the use of psychometric instruments to assist people with work- and career-related problems, beginning with the efforts of psychologists during World War I, vocational psychology now stands poised to innovate and update the role of assessment in career counseling to better articulate and more fully maintain its location in the discipline. Long construed as a rather direct, static, and routine process of deriving inventory and test scores to match people and occupations, assessment is optimally viewed as integral to the process of comprehensive career counseling that incorporates use of both inventory scores to make matches and personal stories to construct meaning. An optimum approach to career assessment and counseling, then, involves merging methods that yield quantitative and qualitative data. Such an assertion, indeed, is not new as many scholars have advanced and articulated frameworks for what I refer to here as integrated career assessment and counseling (Carter, 1940; Fryer, 1931; Savickas, 1995a, 2002; Super, 1983b; Super et al., 1996; Walsh, 2001; Watkins & Savickas, 1990; Wrenn, 1988). Nevertheless, career assessment continues to be guided by logical positivism as its predominant philosophy of science and test interpretation as its predominant method of practice (Peavy, 1997). Incorporating both modern and postmodern epistemologies, as well as actuarial and constructivist methods within the process of counseling, offers us the means for achieving integrated career assessment and counseling. The next part of the chapter outlines four traditions within vocational psychology, each one of which emphasizes a particular perspective on assessment and uses specific assessment methods. It then considers the issue of assessment as a component of counseling and reviews several schemes that have been proposed for conducting integrated career assessment and counseling. These schemes draw from aspects of the four assessment traditions within vocational psychology.

INTEGRATED CAREER ASSESSMENT AND COUNSELING: PRACTICE ISSUES

At the level of practice, counselors dispel the career-counseling-as-testing mindset and enrich the career counseling experience by taking an approach that both enhances and extends it beyond a strictly match-making enterprise. One central practice issue concerns the extent to which we draw from diverse models and methods in conducting career assessment. A second issue pertains to the degree to which career assessment is infused within the counseling process. In practice, counselors conduct integrated career assessment and counseling via a synthesis of career assessment models and methods that reflect both positivist and phenomenological epistemologies and that incorporate both objective and subjective perspectives (Watkins & Savickas, 1990). Accomplishing an integrated approach further involves situating

career assessment within the process of counseling. Two basic components of integrated career assessment and counseling, then, include (a) using multiple models and methods of assessment and (b) embedding these multiple models and methods within the process of counseling.

Career Assessment Models and Methods

Adopting Osipow's (1990) categorization of career choice and development theories, career assessment can be considered in terms of four fundamental approaches. These approaches represent differential, dynamic, reinforcement-based, and developmental theoretical models. A summary of these four assessment models appears in Table 14.1.

TABLE 14.1
A Summary of Four Dominant Career Assessment Traditions
in Vocational Psychology

<i>Assessment Model</i>	<i>Emphasis</i>	<i>Methods</i>	<i>Key Questions</i>
<i>Differential</i>	Objective P × E matching	Psychometrically derived scores, test interpretation	What traits does the person possess?
<i>Dynamic</i>	Subjective meaning-making of personality patterns, motives, and drives	Personally derived stories, pattern recognition, structured interviews, projective techniques, autobiography	How can the individual use the traits that they have, and what meaning can they inscribe on them?
<i>Reinforcement based</i>	Objective appraisal of learned career beliefs and cognitions	Psychometric scores, test interpretation	What does the person believe and think about self and environment?
<i>Developmental</i>	Subjective and objective appraisal of personality, career concerns, and mechanisms of development	Psychometric scores, career style assessment, constructivist techniques, narratives	How can the individual develop what they possess in terms of their concept of self and environment?

Adapted from M. L. Savickas (1992). New directions in career assessment. In D. H. Montross & C. J. Shinkman (Eds.), *Career development: Theory and practice* (pp. 336-355). Springfield, IL: Thomas.

Differential Assessment. Career assessment within a *differential* framework matches traits, such as values, interests, aptitudes, personality, and skills, to educational or occupational factors. The differential approach derives from Parsons' (1909) original formula for the wise choice of a vocation—self-analysis, occupational analysis, and true reasoning—and is the hallmark of vocational guidance, which takes an objective perspective on career assessment and counseling. Assessment based in a differential model uses psychometric methods to determine what traits an individual possesses and career information to fit worker traits to suitable occupations (Savickas, 1992). Psychometrically derived scores and test interpretation serve as the primary techniques for objectifying an individual's traits to promote match making.

Person-environment (P-E) matching constitutes the principal focus of career assessment in the differential tradition, which emphasizes the objective perspective (Holland, 1997; Lofquist & Dawis, 1991; Parsons, 1909; Rounds & Tracey, 1990). P-E matching translates in practice as fitting individuals to occupational criterion groups based on scale and inventory score comparisons. Interest assessment, the predominant P-E fit method (Savickas & Spokane, 1999), matches individuals to modal members of occupational groups presumed to be homogeneous. A relatively recent innovation of the P-E fit method, known as person matching, adds the subjective perspective and considers occupational group heterogeneity, or within-group differences (Kuder, 1977). The basic premise of person matching is that the number of ways to perform any given occupation, be it artist, bricklayer, or sales representative, equals the number of individuals who work in that occupation. Person matching constitutes an idiographic measurement approach designed to fit persons to persons via matching an individual's profile scores to the closest matching profile scores of particular individuals in a criterion group of workers. Person matching links the objective and subjective perspectives because a central component of the procedure involves the person being matched considering the life-career histories of individuals whom they most closely resemble. A recent review of the theoretical and empirical literature on person matching indicated some support for the procedure, which has been incorporated into formal interest assessment (Zytowski, 2001).

Dynamic Assessment. Career assessment within a *dynamic* or personality-focused framework emphasizes developing an individual's awareness and understanding of their personality patterns, motives, and drives (Watkins & Savickas, 1990). Psychodynamic approaches emphasize the subjective perspective to conceptualize career choice and development as a function of early parent-child relationships, childhood memories, family dynamics, and the personal meaning of work and career. Dynamic career assessment aims to help clients address how they can use the traits that

they possess and what meaning they can give to their lives and identities through work as well as through other domains. Personally derived stories and pattern recognition provide the primary vehicles for subjectifying an individual's life-career to foster meaning making (Savickas, 1995b, 1997).

Watkins and Savickas (1990) reviewed psychoanalytic, Eriksonian, and Adlerian dynamic-based models and considered specific applications of these models to career assessment and counseling. They noted that many psychodynamic assessment techniques have been adapted for use in career assessment and that counselors can use these techniques to add the subjective perspective on vocational behavior. Four techniques that Watkins and Savickas considered include structured interviews, projectives, autobiographies, and card sorts. Structured interviews allow the counselor to elicit life themes and patterns by asking an organized series of questions. Projective techniques prompt clients to complete sentences or tell stories that, in effect, reflect their own subjective realities and life patterns. Savickas' (1989) own career-style assessment and counseling method, which evokes narrative information about role models, favorite magazines and books, avocational interests, mottos, school subjects, and early recollections, comprises both structured interview and projective techniques. Autobiographical methods involve responses to open-ended questions or stimulus statements that reveal envisionings of the future and self- and other perceptions of personal identity. Vocational card sorts constitute a structured interview technique in which counselors assist clients to search and actively construct their own perspectives on themselves and the world of work (Slaney & MacKinnon-Slaney, 1990). Card sorts enable clients to identify their own preferences and the specific reasons for and how they organize those preferences.

Reinforcement-Based Assessment. Career assessment within a *reinforcement-based* model focuses on appraising what individuals believe or think about themselves and the world of work (Savickas, 1992). Reinforcement-based assessment approaches rely primarily on techniques that embody the psychometric and individual differences traditions to consider how observations about self and the world influence career aspirations, attitudes, beliefs, choices, and satisfactions. Assessment is used to consider how social learning, reinforcement patterns, and cognition shape trait development, such as skills, interests, and personality, as well as mental representations of self and work. Assessments derived from social-learning (Krumboltz, 1996), social-cognitive (Lent, Brown, & Hackett, 1996), and cognitive-information processing (Peterson, Sampson, & Reardon, 1996) perspectives on career development specifically emphasize measurement of vocational choice process variables such as career beliefs, career self-efficacy, and career thoughts.

Developmental Assessment. The *developmental* model of career assessment comprises a comprehensive and multidimensional approach that examines how individuals can develop what they possess relative to the meaning and beliefs they give to themselves (Super, 1983b; Super et al., 1996). Career assessment within a developmental framework incorporates both the objective and subjective perspectives. It accomplishes this by using psychometric as well as constructivist assessment techniques to appraise and consider four components of career development: dispositional personality traits, contextualized career concerns, career narratives, and mechanisms of development (Savickas, 2001). Assessment to examine dispositions involves adopting primarily psychometric methods, as in the differential approach, to measure vocational personality style, optimally in terms of Holland's (1997) RIASEC typology. Assessment of career concerns deals with psychometric and qualitative appraisal of cultural context, life stages, and social roles in the developmental tradition (Hartung, 1998; Hartung, Vandiver, Leong et al., 1998; Savickas, 2002; Super et al., 1996). Career narrative assessment entails constructivist techniques, as in the dynamic model, to elicit life stories that articulate and explain life's purpose and meaning for an individual (Peavy, 1997; Savickas, 1995b, 1995c, 1997, 2002; Super, 1954). Career assessment to examine mechanisms of development focuses on vocational process variables, such as learning and cognition, as in the reinforcement-based approach, as well as decision-making attitudes, competencies, and barriers (Gati, Krausz, & Osipow, 1996; Marco, Hartung, Newman, & Parr, 2003; Savickas & Hartung, 1996). Decisional readiness, an indicator of subjective knowledge about self and the world of work, constitutes a central process variable to assess prior to objective test- and inventory-based matching for career choice content within the developmental approach. That is because as Super (1983b) commented, "match-making is hardly likely to last unless those being matched are ready and willing" (p. 557).

In sum, using both psychometric and constructivist assessment methods allows the counselor to appraise both *what* an individual possesses and *why* they evidence the career status that they do. As Seligman (1994) noted:

Only by integrating test data with other information and insights obtained during the counseling process can answers be provided to the *why* questions that will really lead to effective career planning. Results of tests and inventories, then, should always be considered in a holistic context, in combination with other data about the person [*italics added*]. (p. 66)

Drawing from all four of these assessment traditions—differential, dynamic, reinforcement based, and developmental—promotes integrated career assessment and counseling that aims to make the process more complete and meaningful for individuals. Integrated career assessment and counseling means

supplementing the traditional matching model and methods derived from it with alternative approaches to better explicate and account for myriad factors involved in career development such as vocational choice readiness (Toman & Savickas, 1997), career decision making (Phillips, 1997), life-career narratives (Cochran, 1997), cultural identity (Hartung et al., 1998), and contextualism (Vondracek, Lerner, & Schulenberg, 1986). Integrated career assessment and counseling also means embedding assessment within the process of career counseling.

Integrating Assessment Into Counseling

The scholarly literature that deals with career assessment and its use in career counseling, particularly by test interpretation, contains many calls for infusing career assessment into the process of counseling rather than holding it out as a separate, adjunctive activity (Crites, 1981a; Patterson 1964; Subich & Billingsley, 1995; Super, 1983b; Tinsley & Bradley, 1986; Tyler, 1953). For example, more than 20 years ago Crites (1981a) argued for a synthesis between counseling and testing in proposing an integrative model of test interpretation that melds the objectivity of trait-and-factor counseling with the subjectivity of client-centered counseling. Crites' (1981a) integrative model echoed Patterson's (1964) thesis, reiterated by Seligman (1994), that the optimum way to address problems of work in people's lives involves taking a holistic counseling approach that attends to both the content of vocational choice and the personal-social-emotional dynamics, or context of the individual. Patterson's analysis also portended considerations of the personal-career counseling nexus and a shift in emphasis from career, or vocational counseling to counseling and psychotherapy for work concerns (Blustein, 1987; Blustein & Spengler, 1995; Richardson, 1996; Rounds & Tracey, 1990; Subich, 1993).

Following in the line of work by scholars such as Crites and Patterson, Tinsley and Bradley (1986) contended in their analysis of the use of tests in counseling that "test interpretation must be integrated into the flow of counseling" (p. 462). Writing in the second edition of the *Handbook of Vocational Psychology*, Subich and Billingsley (1995) revisited this point in their review of the career assessment literature by considering linkages between testing and counseling as practiced relative to a wide spectrum of client populations. A few years earlier, in his synthesis of the literature on testing in counseling practice, Watkins (1990) concluded that "for tests to be used most effectively, counselors must first realize that tests indeed can be facilitative of the counseling process and then seriously focus on how best to integrate them into the work of counseling" (p. 476). Efforts have been made by scholars within vocational psychology that, indeed, represent serious endeavors to provide useful schemes for achieving such an integration. These efforts have produced models that reflect traditional and alternative perspectives on assessment and that

place assessment firmly within the process of counseling. Examples of these integrated career assessment and counseling models include Crites' (1981a) integrative test interpretation model, Super's (1983b) career-development assessment and counseling model, Leong and Hartung's (1997) integrated cross-cultural career assessment model, and Savickas' (2002) constructivist assessment and counseling model.

Integrative Test Interpretation

Responding to concerns expressed about the relative merits of using tests in counseling, Crites (1981a) advanced integrative test interpretation as a synthesis of career counseling and testing. Crites' integrative approach combines the strengths of two approaches to test interpretation: (a) the P-E fit approach, steeped in the differential tradition and emphasizing the outer reality of characteristics of the individual and environment; and (b) the person-centered counseling approach, which focuses on the inner reality and self-concept of the individual, as incorporated in the dynamic and developmental traditions. In his integrative model, Crites proposed that counselors involve clients actively and appropriately in selecting any assessment measures to be used. The counselor then indicates to the client that results of tests they select collaboratively will be introduced at suitable times during the counseling process, rather than all at once, to help them further explore and discuss the client's career concerns, decisions, and plans. Prior to each counseling session the counselor reviews the available test results. During each session the counselor infuses data and information from the tests used into the natural course of the interview using nontechnical language. Crites indicated that this approach aims to prize and maintain the client-counselor relationship, embed testing within the process of counseling, and maximize the client's self-awareness and recall of the data for use in future career decision making. Integrative test interpretation supports Tinsley and Bradley's (1988) recommendation that counselors prepare themselves and clients for test interpretation and solicit as much client feedback as possible to integrate assessment data within the client's self-conception.

Career-Development Assessment and Counseling

Integrating differential, developmental, and constructivist methods, the Career-Development Assessment and Counseling (C-DAC) approach constitutes a comprehensive scheme for exploring life roles, developmental stages and tasks, career attitudes and knowledge, values and interests, and themes and patterns within an individual's unique life context (Super, 1983b). Like Crites' (1981a) model, the C-DAC approach infuses career assessment throughout each one of its four stages of the counseling process. The four C-DAC stages include (a) a *preview* of the client's record and an initial

interview to examine level of work-role salience; (b) a *depth-view* to psychometrically appraise relevant career choice process and content variables such as life roles, readiness, career stage, interests, and values; (c) *data assessment* to review all information gathered; and (d) *counseling* via a narrative approach to explore with the client what the data mean, relate those data to identified life themes and patterns, and connect the subjective career story to the objective occupational world (Super et al., 1996). An elaboration of the C-DAC approach added formal cultural identity assessment to step one of the model and addressed the importance of attending to cultural context throughout the career assessment and counseling process (Hartung et al., 1998).

Integrated Cross-Cultural Career Assessment and Counseling

To specifically address cultural context within the process of career assessment and counseling, Leong and Hartung (1997) proposed a five-stage integrative-sequential conceptual model. The five-stage process begins with, first, a client's recognizing a career problem and, second, contemplating seeking help to deal with it as a prospective client. Cultural differences in values, norms, and expectancies will affect whether an individual perceives a problem and seeks help for it. If they do recognize and seek help for a career problem they reach the third stage of the process, which involves an intake interview to evaluate and assess the client's problem. This typically prompts formal assessment via psychometric and other forms of appraisal in Stage 4, which must include attention by the counselor to potential or actual cultural biases inherent in themselves, any assessment technique they use, and in the particular way in which they might use it. The counselor interprets assessment data cautiously, intimating potential meanings and encouraging the client to confirm, clarify, or offer alternative interpretations based on their own worldview and comprehension of the data. Finally, Stage 5 pertains to achieving desirable client outcomes by using culturally appropriate process and setting appropriate goals in the previous stages (cf. Leong, 1993).

Constructivist Career Assessment and Counseling

Incorporating aspects of the other three models described previously, constructivist approaches intend to assist individuals to chart a career path that reflects their self-concept and connects them to their social world (Peavy, 1997; Savickas, 2002). Peavy's Sociodynamic counseling approach entails a collaborative, dialogical encounter between counselor and help seeker to identify and chart life projects. Five components of constructivist career assessment and counseling as described by Savickas deal with the individual's life space, career adaptability, vocational self-concept and career themes,

vocational identity, and integrating data and interpreting narrative. The first two dimensions of this approach focus on assessing process variables involved in career construction; namely, the salience of work and other life roles as lived within a cultural context and adaptive fitness for coping with career concerns presented. Subsequently, assessment turns to gaining perspective on an individual's present vocational self-concept as well as on past, present, and future life-career themes. Assessment techniques in the dynamic tradition, including structured interviews, card sorts, and career autobiographies, provide the methods for such appraisal. After subjectifying the individual's life-career story, assessment and counseling then involves objectifying vocational identity using traditional differentially based procedures to inventory vocational interests. These data are then all combined into an integrative, client-counselor collaborative interpretation to narrate a comprehensible and cohesive career story.

Case Studies

The literature contains many useful case studies that demonstrate how integrated career assessment and counseling as described in the preceding four approaches proceeds. For example, to illustrate integrative test interpretation within comprehensive career counseling, Crites (1981b) described the case of "Karen," a 17-year-old high school senior who self-referred for counseling. Karen presented with uncertainty about her career choice options of teaching, social work, and music. Counseling began with open-ended questions intended to prompt Karen's further problem exploration. These questions led the counselor and Karen to identify her problem as indecision about a future choice rather than uncertainty about a choice already made. Exploring the family dynamics related to Karen's concerns suggested that she acquiesced to her parent's wishes over her own desires and possessed heightened anxiety and conflict about making a decision that would satisfy both her mother and her father. To assist Karen to gain self-knowledge and begin to alleviate her indecisiveness, the counselor reviewed with Karen several career assessment instruments. Together they chose three psychometric inventories that could help clarify her career choice readiness, vocational interests, and aptitudes. Results of these assessments were introduced at key points in subsequent sessions for Karen and the counselor to consider together. Using the assessment data within the context of counseling helped Karen to better comprehend the family dynamics underlying her lack of decisional readiness, her vocational preferences and abilities, and move toward developing more self-confidence and assertiveness in making a career decision that would satisfy her within the context of her family and peer relationships.

Examples of the C-DAC approach abound in the literature in the form of individual case study reports (e.g., Hartung, 1998; Hartung et al., 1998;

Niles & Usher, 1993; Super et al., 1996; Taber & Hartung, 2002) and a textbook devoted to a description and illustrations of the method (Osborn, Brown, Niles, & Miner, 1997). Super, the principal developer of the C-DAC approach, and his colleagues (1996) present arguably the premier illustration of the C-DAC model in the case of "Joan," a 46-year-old temporary administrative secretary at a university who reported feeling very stuck and disappointed that her position would not become permanent. Career development assessment and counseling began by listening carefully to Joan's opening statement, which indicated that she structured her life with few and unfulfilling roles and moved in the world in exaggerated ways. The counselor attended carefully to Joan's opening words and used them to pattern the assessment data. After appraising Joan's life structure, counseling focused on her career development status in terms of her life stage and developmental task concerns. Interview and psychometric assessment data indicated that Joan experienced difficulty stabilizing in jobs, became paralyzed, and quit. Counseling encouraged Joan to develop hope and willpower to sustain herself in the work role. Joan and the counselor then used interest assessment data to comprehend her vocational identity and personality style, and dynamic assessment data to make meaning of her occupational self-concept and life themes, which Joan and the counselor interpreted as her being trapped by her own anxiety about becoming independent. Using narrative techniques such as metaphor and life-script analysis to comprehend Joan's life story, the counselor and Joan moved to help her take control of her career direction.

Case examples related to integrated cross-cultural career assessment and counseling also appear in several sources (e.g., Arbona, 2002; Fouad & Tang, 1997; Vandiver, 2002). Case studies such as these describe the importance of attending to issues of diversity, race, ethnicity, acculturation level, and cultural value orientation in an integrated counseling and assessment process. Consistent with the integrated cross-cultural approach, for example, Arbona responded to the case of "José," a 15-year-old ninth-grade Mexican American boy at risk for leaving school and disengaged in career planning. José did not recognize a career problem and his involvement in counseling would only occur consequent to a mandate by the school. Therefore, much of the counseling with José would involve exploring his cultural and family background relative to his belief system about and his avoidance of engaging in the career planning process. After working with José to better understand his negative attitudes and resistant behaviors in the context of his ethnic and racial identity and family system, counseling would turn to assessment interventions to increase his motivation to continue in school and plan for his future.

Examples of constructivist career assessment and counseling demonstrate how counselor and client work collaboratively to make meaning of an individual's life-career story (cf. Peavy, 2002; Savickas, 1995b, 1995c). Most recently, Savickas (2002) applied constructivist career assessment and counseling

to two cases. The first case involved "K," a 17-year-old Japanese-Chinese-American male high school graduate with uncertain career plans and a history of procrastinating behavior in work, school, and other domains. In the second case, "E," a 20-year-old female college sophomore majoring in history and religion, sought counseling to narrow her occupational choices. In both instances, the constructivist approach emphasized melding subjective and objective assessment data to comprehend and co-construct each individual's career path. For K, this meant first recognizing and dealing with his avoidant style and underdeveloped sense of career concern and confidence. It also meant working to understand his vocational identity as vacillating between fear and excitement and developing the conviction that he can take initiative to explore, learn, take risks, and gain a sense of control over his career direction. E possessed appropriate concern about her career and feelings of control and competence. Constructivist career assessment and counseling for E focused on helping her to understand and resolve the conflict she experienced over wanting to construct a career path that would allow her to take on social advocacy roles as well as uphold tradition and not alienate important people in her life.

CAREER ASSESSMENT AND COUNSELING COMPETENCIES

Effective integrated career assessment and counseling, using any of the methods just described or others, ultimately requires competency in areas identified in professional standards documents. These documents have been published by professional associations, such as the American Psychological Association, the American Counseling Association, and the National Career Development Association. These groups comprise psychologists and counselors who conduct research on and practice in career assessment and counseling. In their recent chapter on changes and trends in career assessment, Chartrand and Walsh (2001) reviewed a variety of issues related to testing standards and responsibilities for the proper and ethical use of career assessment. In this realm, they noted that "clearly, there is no shortage of written material or standards to guide professionals who practice assessment" (p. 241). Their work offers a useful framework for discussing key concerns related to competent and ethical career assessment and counseling.

Individuals who conduct career assessment and counseling must be properly qualified to administer and interpret psychometric tests and inventories, as well as to use constructivist assessment methods effectively in counseling. Knowledge of test construction, test use, and test interpretation is prerequisite to appropriate and competent psychometric-based career assessment. Similarly, understanding of the methods, techniques, and interpretive

complexities of using constructivist methods is necessary for effective assessment and counseling based on this approach. Such knowledge must be acquired through appropriate professional training and subsequently maintained and updated often through continuing education activities focused on career assessment.

Chartrand and Walsh (2001) identified three principal assessment competency areas that are emerging for counselors in contemporary practice. One emerging area of competency concerns keeping up with advances in quantitative methods of assessment, such as modern test theory, and in statistical analyses applied to test development, such as confirmatory factor analysis and cluster analysis. Another area of competency pertains to multicultural career assessment and the ability to work effectively with people of diverse backgrounds. The third area of competency emerging for counselors today involves developing facility with computerized career assessment systems, ranging from independent desktop computerized guidance systems to Internet career assessment applications. Effectively conducting subjective appraisals will further require counselor competency in qualitative assessment methods. Effectively conducting subjective appraisals will further require counselor competency in qualitative assessment methods.

CONCLUSION

Contemporary vocational psychology seeks to identify and advance fresh perspectives on career assessment and counseling that enhance the usefulness of the predominant matching paradigm. Career assessment and counseling has long been viewed as a straightforward process of matching people and occupations by applying true reasoning. Supplementing the traditional, modernist perspective on career assessment and counseling that emphasizes match-making with an alternative, postmodern view that emphasizes meaning-making and that attends to the sociocultural dimension of workers in complex societies can make the counseling and assessment process more complete.

As we reconfigure our models and methods of career assessment, we aim to better account for the role of the social contexts and opportunity structures within which people develop their lives through work and other roles. Establishing linkages between career assessment and counseling perspectives and ways to supplement the traditional matching model toward better explicating and accounting for myriad factors involved in career development can lead to comprehending how a synthesis of these models and methods could equip counselors to more effectively assist individuals with career choice, development, and work adjustment. Ultimately, an integrated career assessment and counseling approach that uses contemporary viewpoints to build on established models and perspectives advances the prospects for the future

of career assessment and counseling theory, research, and practice. Intervention studies that examine the validity of integrated career assessment and counseling could provide important and needed empirical information about the usefulness of such an approach.

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Career Assessment with Culturally Diverse Individuals

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The focus of this chapter is the current state of research on career assessment. With that in mind, literature from approximately 1994 to the present has been reviewed. In particular, I have chosen to address how well some of the most commonly used career assessment methods meet the challenge of the *Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists* (American Psychological Association [APA], 2003). Specifically, the *Guidelines* state with regard to psychological research that “researchers should strive to be knowledgeable about a broad range of assessment techniques, data-generating procedures, and standardized instruments whose validity, reliability, and measurement equivalence have been investigated across culturally diverse sample groups” (p. 389). They further state with regard to practice that “multiculturally sensitive practitioners are encouraged to be aware of the limitations of assessment practices . . . to have knowledge of a test’s reference population and possible limitations of the instrument with other populations” (p. 391).

Consonant with these guidelines, a number of authors in the Fall 2000 special issue of the *Journal of Career Assessment* on “Career Assessment in the New Millennium” highlighted the need to recognize the limits of our career assessment methods and to think more broadly about such assessment in the future. For example, Tinsley (2000) noted the dramatic changes in the demographics of the U.S. population with regard to age and racial composition that have occurred in the last century and stated “models and assessment practices based on them are ill-suited to the labor market and employment

experiences that will prevail in the 21st century" (p. 343). Brown (2000) addressed this same issue when he noted that "In contemporary times, vocational professionals seeking to understand and intervene in the career lives of women and non-Whites began to recognize that standard assessment information . . . sometimes failed to convey adequate understanding" (p. 371). He went on to highlight the need to examine the role of "socio-structural realities" in the 21st century.

In this same special issue, Blustein and Ellis (2000) called for more culturally sensitive vocational assessment and presented ideas for how instrumentation that incorporates generalizability theory and item response theory may offer promise for more "culturally affirming career assessment." Leong and Hartung (2000) added to this conversation with their analysis of the extent to which the vocational assessment literature addresses the issues of measures' cultural validity and specificity. They were encouraged by the research supporting measures derived from Holland's model, but urged researchers to expand and deepen this avenue of inquiry and to develop new instruments to more fully "incorporate cultural variables." Finally, Fouad and Zao (2000) called for more "culturally relevant assessment" and speculated that in the 21st century multiple intragroup differences (in addition to intergroup differences) will need to be understood. They argued for the continuing relevance of interest assessment, but suggested its mode of delivery and timing may change. They also noted the growing importance of assessment of vocationally relevant attitudes and values.

Similarly, in a 2001 special issue of the *Journal of Vocational Behavior* that focused more broadly on the "Future of Vocational Psychology," numerous authors chose to discuss the continued importance of vocational assessment to the field (e.g., Fouad, 2001; Gottfredson, 2001; Walsh, 2001) and the need to consider individual differences in vocational psychology research and practice (e.g., Betz, 2001; Blustein, 2001; Fouad; Gottfredson; Lent, 2001; Russell, 2001; Subich, 2001). In particular, Fouad speculated on the continuing importance of assessment of values, interests, and self-efficacy for diverse individuals in the 21st century, and Gottfredson especially encouraged continued research efforts to investigate methodically the generalizability of vocational measures to members of diverse groups. Clearly, the authors tapped to share in this special issue their insights regarding the future of vocational psychology felt strongly about the continuing relevance of vocational assessment and the importance of ascertaining the generalizability of vocational measures.

Finally, in a review of the 2002 literature on career counseling and development, Flores et al. (2003) discussed advances in the career assessment literature and concluded that support was garnered for many commonly used self-report measures. They encouraged career counselors, however, to "continue

considering whether the assessment instruments were sufficiently sensitive to gender and racial and ethnic differences . . ." (p. 111).

The remainder of this chapter addresses the call of Flores et al. (2003) and others to consider in our research and practice the utility and validity of commonly used career assessments for men and women of different racial and ethnic backgrounds. Although Eby and Russell (1998) offered a broad overview of career assessment tools they thought were applicable to the issues faced by diverse persons, they noted the limited information available on use of some of the measures across members of diverse groups. Leong and Hartung (2000) reviewed more specifically empirical literature on cross-cultural career assessment, but ultimately presented only a selection of what they found. Consequently, a more systematic review of recent literature on the applicability of commonly used career assessments to diverse persons seems warranted. This goal is accomplished herein with a critical review of the last decade of empirical literature regarding use of selected measures of interests, values, self-efficacy beliefs, and career decision status with persons of diverse racial and ethnic groups.

INTERESTS

Clearly the two most widely used and researched interest assessment tools are the Strong Interest Inventory (SII) and the Self-Directed Search (SDS). The SII (Harmon, Hansen, Borgen, & Hammer, 1994) is a sophisticated, computer-scored inventory that assesses interests related to Holland's (1997) six interest domains (the General Occupational Themes [GOTs]), interests in a number of general content areas (the Basic Interest Scales), and interest profiles associated with a large number of occupations (the Occupational Scales). Ample evidence for its reliability and concurrent and predictive validity (based primarily on data obtained from Caucasian samples) is presented in the SII manual.

The SDS (Holland, Fritzsche, & Powell, 1994) serves as Holland's own measure of his six interest domains (Holland, 1997), and is a self-administered and scored tool. It consists of sections that address the respondent's interests in activities and occupations, and perceptions of competencies and skills. It has associated materials that facilitate further vocational exploration and decision making. Its manual also summarizes much supportive reliability and concurrent validity data and provides normative data by which to evaluate respondent scores (again based mostly on data from Caucasian samples).

As questions have been raised as to the cultural validity of our assessment tools (Fouad & Spreda, 1995; Leong & Hartung, 2000), it seems important to examine how the SII and SDS perform when used with diverse individuals. As

is evident in the subsequent summary of recent literature on these two measures, there is great variation in the scope and results of such investigations.

The Strong Interest Inventory

Research on the SII with racial and ethnic group members has focused in three primary domains in the last decade: interest structure, group differences in interests, and criterion-related validity. The most extensive literature addresses the question of whether the GOT interests measured via the SII are structured similarly for members of racial and ethnic groups. This research is a response to the fact that much of the long history of research on the SII involved primarily Caucasian samples. Consequently, in 1997, Fouad, Harmon, and Borgen (1997a) explored the structure of the GOT data for male and female African American, Asian American, Latino-Hispanic, and Caucasian American SII respondents. These individuals were part of the norm sample for the 1994 version of the SII, and all were employed adults who were satisfied with their jobs. The sample sizes for the ethnic minority groups ranged from almost 700 to about 800, with the Caucasian American sample being much larger (i.e., 36,000).

Using multidimensional scaling (MDS) and a randomization test, Fouad et al. (1997a) found support for both a circular structure and a Realistic-Investigative-Artistic-Social-Enterprising-Conventional (RIASEC) ordering of interests across all groups. A more specific equidistant hexagonal model of interests fit no group well, but was least ill-fitting for the Caucasian American sample. Although African American women's RIASEC intercorrelations were significantly different from a random ordering ($p = .05$), their correspondence index value (CI = .46) was modest in comparison to those of the other groups (CI range = .63-.92). These data suggest that although the SII interests were distributed somewhat similarly in terms of circular arrangement and order for members of all groups, group variation was evident as well. In particular, MDS plots suggested that the structure of interests for Caucasian American and Latino-Hispanic American men was most similar to Holland's (1997) hexagon, and that women in general made less of a distinction between R and I and E and S than did men. Further, Asian American men's interests had a triangular arrangement, with C, E, and S interests grouped together, and R and I interests grouped together, and A interests distinct. These differences suggest a need for caution in assuming all SII respondents view similarly the structure of interests.

In 2002, Fouad revisited this issue of SII interest structure with a focus on employed adults and students who identified as American Indians, and African Americans, Asian Americans, Hispanic Americans, and Caucasian Americans. Her employed sample was similar to that used in 1997, but a 10% random sample of Caucasian Americans was drawn so as to make sample sizes more

comparable across the groups. Student data were drawn from the SII database and were obtained in 1999.

To assess fit of the RIASEC intercorrelations with the assumptions of a circular RIASEC arrangement, a randomization test again was used. The results indicated that for all but American Indian professional women, the pattern of intercorrelations was significantly different from a random ordering. Excluding this group, the range of correspondence indices ranged from .56 (male American Indian students) to .93 (female Caucasian American professionals), with most in the high .60s and .70s. Similar to the conclusions drawn by Fouad et al. (1997a), these results suggest that interests measured by the SII are structured similarly and in accord with Holland's theory for members of most racial and ethnic groups. American Indian professional women were the exception in this study, and these individuals were not included in the earlier research by Fouad et al.

Hansen, Scullard, and Haviland (2000), however, looked specifically at the structure of interests on the SII for Native American students and found good fit with a randomization test and MDS procedures. For somewhat smaller samples, the CI for the college men was .69 and for the college women the CI was .81. These indices are ten points higher than those found by Fouad (2002) and suggest a good fit to the circular RIASEC arrangement. Further, the MDS solution reported for the women in this research indicated a distinct hexagonal arrangement, whereas Native American men's MDS solution suggested a more dichotomous arrangement where R, I, and A clustered together and C, E, and S clustered together. This research suggests that at least for this sample of Native American college students, the SII may reflect an interest structure comparable to that observed with members of other racial and ethnic groups.

Most recently, Armstrong, Hubert, and Rounds (2003) examined the structure of interests on the SII with a method called circular unidimensional scaling. They suggested that this method is an improvement over prior methods, as it simultaneously assesses order and distance between interest domains. Using data from Fouad et al. (1997a), Armstrong et al. reexamined the SII interest data obtained from employed adult African Americans, Asian Americans, Caucasian Americans, and Hispanic Americans.

Data from men and women were analyzed separately, and the variance accounted for by constrained (equal distances between points) versus by unconstrained (distances between points free to vary) circumplex models was compared. In every case more variance was accounted for with the unconstrained model (range = 76%–95%) than with the constrained model (range = 43%–72%). Yet the differences in variance accounted for between the two models for Caucasian American and Asian American men and women were not different from what might be expected due to chance. The differences for African American and Hispanic American men and women, however, were greater than what would be expected due to chance. Armstrong et al. (2003)

speculated that the structure of interests reflected in SII responses may fit the constrained model for employed Asian American and Caucasian American adults, but interest structures of employed African American and Hispanic American adults may differ. Figures presented by Armstrong et al. indicate that for African American men and women R and I are relatively closely spaced, as are E and S interests across the circumplex, with C and A interests opposite one another and distinct from other interests. This pattern is replicated for Hispanic American men and women, except that A interests are especially isolated from all other interests.

Overall, examinations of the structure of interests reflected in SII scores indicate that SII GOT scores for members of U.S. ethnic minority samples are ordered as a circumplex in a manner similar to those of Caucasian Americans, but that some variation in fit of an equidistant model is evident across studies. Armstrong et al. (2003) have introduced a sophisticated new technique for assessing interest structure, and it remains to be seen whether others who use their technique will find that interests of African Americans and Hispanic Americans on the SII have a different underlying structure than those of Asian Americans and Caucasian Americans. If so, practitioners and researchers may need to consider the implications for occupational choice and change when little differentiation exists among individuals' perceptions of E and S, or R and I interests.

Other investigations of the SII with diverse groups have focused on group differences in scores. Davison Aviles and Spokane (1999) administered the SII to urban middle school youth and found few between-group differences for the African American, Hispanic American, and Caucasian American students. Of concern, however, is that the data from these respondents are suspect given their age ($M = 12.7$ years) and the fact that the SII is not recommended for use with such young individuals.

Fouad (2002), however, examined group differences in SII GOT scores for American Indian and African American, Asian American, Hispanic American, and Caucasian American college students and professionals. She found only a small effect for ethnicity, but found a large effect for gender. Only the Investigative GOT differed across ethnic groups, with Asian American professionals scoring higher than did members of other ethnic groups. The large gender effect was due mostly to men's higher Realistic scores, and to some extent to women's higher Artistic and Social scores. A similar finding of few ethnic group differences in SII GOT scores was reported by Chartrand, Borgen, Betz, and Donnay (2002). Their data were obtained from the test publisher's database, and their sample consisted of almost 20,000 students and adults who had taken the SII.

Chartrand et al. (2002) also reported data on the intercorrelations of SII GOT interest scores and Skills Confidence Inventory (SCI) self-efficacy scores for members of different ethnic groups. These data offer a look at the

comparability of the construct validity of SII interest scores across diverse groups. Overall, regardless of RIASEC domain, few differences in SII interest and SCI self-efficacy correlations were noted for African Americans, Asian Americans, Hispanic Americans, and Caucasian Americans. These data suggest that interests measured with the SII relate similarly, and as expected, to self-efficacy regardless of respondent ethnicity.

Perhaps the most impressive evidence for the validity of the SII across members of diverse ethnic groups, however, is the work of Lattimore and Borgen (1999). These researchers explored the concurrent criterion-related validity of the SII with employed African Americans, Asian Americans, Caucasian Americans, Hispanic Americans, and Native Americans who were part of the norm group for the 1994 SII. Lattimore and Borgen explored the ability of SII GOT scores to predict concurrent job RIASEC category membership.

They reported that individual GOT scores were able to differentiate among occupational group membership in all cases except for Enterprising scores for Native Americans; this single discrepancy may be reflective of the small overall size of the Native American sample available ($N = 77$). Further, when GOT scores were used together in discriminant function analyses to predict RIASEC job family for members of each ethnic group, significant prediction equations were obtained for all groups. The percentage of variance accounted for ranged from 43% to 71%, with the small Native American sample showing best. The percentage of variance accounted for by the set of GOT scores and the percentage of direct hits (accurate prediction of job family) for African Americans were 48% and 42%, respectively. These percentages were 43% and 43% for Asian Americans, 48% and 41% for Caucasian Americans, 56% and 45% for Hispanic Americans, and 71% and 55% for Native Americans. Again, the data for Native Americans must be viewed as relatively less stable due to the small sample size.

Lattimore and Borgen (1999) concluded that the SII GOT scores predict comparably the RIASEC category of a person's current job regardless of the individual's ethnicity. That is, most employees in Social occupations will have their highest SII GOT score in the Social domain, and employees in Investigative occupations will have their highest SII GOT score in the Investigative domain regardless of whether they are African American, Asian American, Caucasian American, Hispanic American, or Native American. Their evidence of concurrent criterion-related validity for the SII clearly supports its use with members of diverse ethnic groups.

Overall, the research on the SII indicates good support for its use across members of diverse U.S. ethnic groups. Researchers have found evidence for a common circumplex structure and RIASEC ordering of interests on that circumplex. Although there is emerging evidence that the actual location of the interests relative to one another may differ across groups (with the models for Asian Americans and Caucasian Americans being relatively similar to one

another and different from the models of African Americans and Hispanic Americans, whose models are somewhat similar), there seem to be relatively few group differences in SII GOT scores or criterion-related validity for members of U.S. ethnic groups.

The Self-Directed Search

Research on the cultural validity of the SDS over the last 10 years has addressed many of the same topic areas (i.e., interest structure, group differences, and validity data) as has research on the SII, but with international samples more often than with members of U.S. racial and ethnic groups. For example, research on the structure of interests reflected in SDS responses has been carried out with Chinese, Bolivian, South African, and Icelandic respondents. This research provides some insight into the issue of cultural validity of the instrument and may assist with evaluations of the utility of using the SDS with diverse persons.

Yu and Alvi (1996) explored use of the SDS with 409 Chinese secondary school students who were enrolled in fields such as computer science, fine arts, accounting and teacher education. The students took a Chinese version of the SDS and the researchers examined intercorrelations of the six RIASEC summary scores as well as within group differences. Specific to interest structure, Yu and Alvi reported solid support for Holland's calculus assumption. Adjacent type scores correlated .58 to .67 and opposite type scores correlated .27 to .30, and this pattern was similar for male and female students.

Less supportive results were found, however, with a sample of Bolivian university students. Glidden-Tracey and Parraga (1996) used a Spanish version of the SDS with a group of 98 Bolivian students and used a randomization test to determine whether the interest structure reflected that posited by Holland (1997). Results did not support Holland's proposed structure nor did they support two alternative structures. When multidimensional scaling was used to explore the spatial representation of interests reflected in the data, a two-dimensional solution emerged that contrasted Investigative interests with Enterprising and Conventional ones, and Realistic interests with Social and Conventional ones. The order of interests was RISCEA rather than RIASEC. Glidden-Tracey and Parraga concluded that despite the exploratory nature of their research, it seems prudent to be cautious about cross-cultural use of the SDS.

In contrast, when Einarsdottir, Rounds, Aegisdottir, and Gerstein (2002) explored interest structure among 438 Icelandic university students who had sought services at a university counseling center, support was provided for the RIASEC circumplex. The authors used a randomization test to assess fit with Holland's (1997) predictions and the CI values for men and women were significant at $p < .05$, indicating that the theme scores related largely as

expected. Follow-up multidimensional scaling analyses, however, suggested that the RIASEC ordering was clearer for women than for men. Icelandic male students' interests were ordered RISAEC with little distance between Enterprising and Conventional interests. This difference in randomization and MDS results for Icelandic men suggests the need for further study of their interest structure to determine whether it represents a meaningful variation. Overall, however, these data from Iceland tend to support the cross-cultural utility of the SDS.

Finally, du Toit and de Bruin (2002) gathered SDS data from two black South African student samples (i.e., North West Province and Eastern Cape Province) and examined the structure of interests reflected in students' responses. Although the sampled students ($N = 1,032$ and 386 , respectively) spoke different native languages, they all took the SDS in English as that is the language used in South African secondary schools. The researchers found somewhat disappointing results from their randomization tests for both samples. The CI values for men and women from the Eastern Cape were $.49$ and $.48$, respectively; those for men and women of the North West were $.35$ and $.32$, respectively. The authors noted that these values fell well below the U.S. benchmark value of $.70$ reported in the literature.

Subsequent multidimensional scaling analyses resulted in quite divergent plots for men and women from the two samples. Most similar were the plots for North West and Eastern Cape women. Both had interests ordered as RISAEC rather than the expected RIASEC, but Conventional and Enterprising interests were not well differentiated for Eastern Cape women and Investigative interests were distant from all other interests for North West women. Men from the Eastern Cape had interests arrayed IRASEC with Investigative and realistic interests proximal to one another. Men from the North West, however, had a somewhat more unexpected configuration of RISCEA with Investigative and Realistic interests isolated from their remaining interests. The low CI values and unexpected plot results led du Toit and de Bruin (2002) to question whether cultural value differences or SES of respondents may have contributed to the failure to find the expected SDS interest structure.

Overall, the cross-cultural literature regarding the structure of interests reflected in SDS results offers a rather mixed picture. Data from China and Iceland indicate support for use of the SDS, but data from Bolivia and South Africa raise doubts about it. Most of the present studies had relatively large samples (the exception being the Bolivian data set with $N = 98$), but the issue of whether the present data are representative will remain until additional research is conducted to verify the findings (and their implications) within each culture. The data from South Africa are especially intriguing due to the quite divergent within-country results. Caution in using and interpreting the SDS seems warranted based on these studies, at least until more data are available.

These conclusions are consistent with those drawn by Rounds and Tracey (1996) in their large-scale analysis of international data on interest structure with a variety of measures including the SDS. They reported poor fit to the RIASEC structure for varied international samples for all measures examined, including the SDS. They also noted that comparably weak structural fit was found for the SDS in research with two U.S. African American samples carried out in the early 1990s.

Similar to work with the SII, group difference data are a second SDS research front, and the limited work here has examined U.S. racial and ethnic samples. In the SDS Manual (Holland et al., 1994), it is noted that gender differences are the most salient group difference and that racial and ethnic group differences are minor in comparison. Indeed, the pattern of men scoring higher on Realistic interests and women scoring higher on Social interests is quite pronounced and cuts across racial and ethnic groups. When high point codes are examined by gender and race and ethnicity, however, it can be seen that Asian American men are more likely than are men in other groups to have a Realistic code, Asian American women are overrepresented in the Artistic code relative to members of all other groups, African American women are underrepresented and African American men are overrepresented relative to women and men of other groups in the Social code, and White American and Asian American women are underrepresented, whereas African American and Hispanic American women are overrepresented, in the Conventional code. All of these patterns must be considered tentative, however, due to the small samples of African American men ($n = 84$) and women ($n = 125$), Asian American men ($n = 51$) and women ($n = 42$), and Hispanic American men ($n = 60$) and women ($n = 113$). Further, the Native American samples are so small (14 women and 13 men) that any generalizations seem inadvisable.

Park and Harrison (1995) reported additional data on SDS scores for 184 Asian American and 130 Caucasian American college students. They found Asian American students to score higher on Investigative and Conventional interests and lower on Social interests. Further, from a validity perspective, they noted that acculturation correlated positively with Enterprising interests and negatively with Investigative and Conventional interests. These latter findings seem reasonable given the consistency of I and C domains, and inconsistency of the E domain, with some Asian American cultural values.

Finally, two studies examined the validity of the SDS, one with Chinese high school students in China (Yu & Alvi, 1996) and one with Chinese high school students in Hong Kong (Leung & Hou, 2001). Yu and Alvi examined congruence of students' SDS code and their intended field of study. They found computer science students tended to be Investigative types, fine arts students tended to be Artistic types, education students tended to be Social types, management students tended to be Enterprising types, and accounting students tended to be Conventional types. When SDS scores were examined,

significant group differences following this same pattern were noted. Overall, Yu and Alvi interpreted strong support for the concurrent validity of the SDS for their Chinese sample.

Leung and Hou (2001) surveyed 456 female and 321 male students with the standard form of the SDS. They found the internal consistency reliabilities for the SDS scales to be a bit lower than manual U.S. norms, but still in the range of .72 to .79 for men and women. When scores for students in science versus arts tracks were compared, science students scored significantly higher on Investigative and Realistic interests and arts students scored higher on Artistic, Social, and Enterprising interests. They also noted gender differences in scores that were consistent with other SDS research. Finally, the researchers examined hit rates of high point codes for university majors and career choices. Hit rates for men, but not for women, were lower than those for comparable U.S. samples. Nevertheless, there was a trend for SDS codes of students regardless of gender or track to match or fall into the adjacent type for their major and career choice. Direct hits for major ranged from 31% to 48%, and those for career choice ranged from 27% to 42% for men and women in arts and sciences school tracks.

Overall, these primarily international data on use of the SDS with individuals from diverse racial and ethnic backgrounds indicate the need for cautious use of the instrument. The structure of interests reflected in respondents' SDS scores seems somewhat inconsistent with an equidistant RIASEC circumplex, raising concerns as to whether it is reasonable to assume a similar perception of the world of work. In addition, despite relatively comparable theme scores, some racial and ethnic group differences in high point codes are evident and may be important to consider in conjunction with the aforementioned structural issue. Yet, validity of the SDS with Chinese samples appears reasonable given the many factors that might be expected to intervene between a young person's interests and choices. What is perhaps most disappointing in the recent literature on the SDS is the lack of data on U.S. racial and ethnic minorities. Although the SDS manual summarizes some normative data, most of the recent literature on the relation of culture to the SDS has focused on international samples. Such work can inform us in a general manner as to the strengths and weaknesses of using the SDS with members of diverse U.S. racial and ethnic groups, but it is critical to obtain information from larger U.S. samples as well.

VALUES

Values frequently are addressed in the vocational literature. In much of the research on values, however, values assessment is accomplished via idiosyncratic measures designed for particular projects, making cross-study

comparisons difficult. That said, the most commonly used, standardized measure of values relevant to the vocational context is the Values Scale (VS; Super & Nevill, 1985). The VS, by virtue of its development as part of the multinational Work Importance Study, was conceived and refined with an eye to the role of cultural factors. Indeed, Nevill and Kruse (1996) pointed out in their overview of the VS that it can be scored for either national or cross-national comparisons, and Niles and Goodnough (1996) indicated that in order to be sensitive to cultural differences, slightly different sets of values are represented in each of the various national versions of the VS.

Nevill and Kruse (1996) reported on the psychometrics of the VS and summarized some of the research done with it. Published data suggest support for the sensitivity of the various forms of the measure to socioeconomic influences, cultural differences (e.g., between Portuguese and American high school students), and gender differences among respondents. Indeed, much of the extant literature since 1994 that has used the VS has addressed questions regarding how individual difference variables relate to responses to the scale.

For example, Vacha-Haase et al. (1994) examined VS responses of over 300 African American and Hispanic American high school and college students enrolled in summer enrichment programs for persons interested in the health professions. The authors did not report scores separately by ethnicity, but presented intercorrelations, means, and standard deviations separately for men and women. They also described their scores in comparison to the VS norms.

Vacha-Haase et al. (1994) noted that some of their VS score patterns differed from the patterns found in the VS norms, and they suggested that the differences might be linked to culture. Specifically, male students in their sample reported stronger values for people- and aesthetically oriented pursuits than did the female students; this is the reverse of what is observed in the VS norms. Also, both male and female students in their sample expressed a stronger value for being able to express their cultural identity in their work than did the respondents in the VS normative samples. These differences may be attributable to Hispanic American and African American cultural influences, or alternatively, to the students' common interests in health-related careers and participation in a summer enrichment program. At a minimum, these data suggest the importance of remaining open to the potential interaction of culture and gender in the formation of work values.

The cultural utility and validity of the VS also have been explored via international research. Duarte (1995) examined responses of a sample of adult, employed Portuguese men on the VS, as well as measures of career concerns and role salience. He reported descriptive data on all three measures and noted that the VS's reliability and validity with this sample were upheld. The utility and validity of the VS were similarly supported in research by Sverko (1999) on changes in student values over time in Croatia. Sverko found values

shifts that seemed consistent with sociopolitical shifts that had occurred in Croatia. These studies, although relatively narrow in scope, suggest that the VS performed as expected within varied cultural contexts.

Two additional studies found within the sampled time frame add further to the support for the sensitivity of the VS to cultural influences. First, Carter, Gushue, and Weitzman (1994) reported very modest relations between VS scores and White American racial identity in a sample of college students. They noted that values consonant with a traditional European American "work ethic" were associated with greater identification with "White superiority" attitudes. Similarly, Miller Lewis and Hardin (2002) found modest overlap between students' Christian religious values and work values (measured with the VS). Specifically, they found that extrinsic religious values correlated positively with extrinsic work values. Interestingly, strength of Christian religious commitment did not correlate with VS scores. These studies support the ability of at least some VS subscale scores to discriminate among persons with divergent backgrounds, beliefs, and experiences.

Overall, although limited research exists on use of the VS with diverse samples, the extant evidence suggests that it is sensitive to cultural influences. Given its origin in the Work Importance Study, this is perhaps not unexpected. Further, based on the data available, it seems prudent to be cautious in using VS norms with other than White Americans. Hispanic American and African American men and women may respond somewhat differently than did the VS normative sample, at least on some scales. Indeed, the clear theme in the VS data from 1994 to 2003 is that there is both convergence and divergence when one compares the scores of persons from different cultural backgrounds. It would be of substantial benefit in the future to document further the reliability and validity and utility of the VS with persons of different backgrounds and experiences.

SELF-EFFICACY BELIEFS

In the years since the construct of self-efficacy was first applied to vocational behavior by Betz and Hackett (1981), a multitude of research on its measurement and functioning has accumulated. The introduction of Social Cognitive Career Theory in 1994 (SCCT; Lent, Brown, & Hackett) served to increase exponentially the amount of research on self-efficacy for vocationally related tasks. Although Bandura (1977, 1986) specified that self-efficacy measurements should be specific to the domain under investigation, consequently spawning a vast number of idiosyncratic measures of vocationally relevant self-efficacy, there are a small number of measures that appear repeatedly in the literature. Specifically, the Career Decision Self-Efficacy Scale (CDSE; Taylor & Betz, 1983) and the Skills Confidence Inventory (SCI; Betz, Borgen,

& Harmon, 1996) appear to be among the most frequently used self-efficacy measures in vocational research and practice.

The CDSE scale is the older of the two measures; it assesses a person's confidence in completing tasks necessary to arrive at a career decision and has a substantial history of use in research and practice. Betz and Luzzo (1996) overviewed the origins, development, and psychometric properties of the CDSE and its companion short form (the CDSE-SF). They noted that both versions have evidence of high internal consistency reliability and solid criterion-related and construct validity, and provided some evidence that reliability for African American and Hispanic American respondents was comparable to that for Caucasian American samples. Finally, Betz and Luzzo noted that racial and ethnic differences in CDSE scores have been reported in at least one study, with African American students obtaining greater CDSE scores than did Caucasian American, Asian American, and Native American students, and Caucasian American and Hispanic American students scoring higher than Native American and Asian American students.

The SCI emerged as a companion measure to the SII in 1996. It assesses an individual's self-efficacy for the RIASEC interest domains and was constructed with attention to reliability and validity issues. Harmon et al. (1996) reviewed the construction and psychometric properties of the SCI and noted that its scales have high internal consistency and test-retest reliability. Further, they reported evidence for the construct validity of the measure with employed adults and college students. Parsons and Betz (1998) and Betz, Harmon, and Borgen (1996) provided additional supportive data for the SCI, but in both cases the samples consisted of largely (> 80%) Caucasian Americans, and breakout analyses of other ethnic or racial groups were not possible. Recently, Betz et al. (2003) introduced an expanded version of the SCI with 17 scales, but again development occurred primarily with Caucasian American samples.

Other measures of vocationally relevant self-efficacy that exist in the literature include tools to assess self-efficacy for coping with barriers (Luzzo & McWhirter, 2001), for career search behavior (Solberg et al., 1994), for the college experience (Solberg, O'Brien, Villareal, Kenner, & Davis, 1993), and for math and science careers and courses (e.g., Betz & Hackett, 1983). All of the self-efficacy measures mentioned previously share an adherence to Bandura's underlying construct but operationalize it in terms of very different foci. This fact makes a review of the general applicability of vocationally relevant self-efficacy measures to members of diverse racial and ethnic groups a challenge.

Nevertheless, in reviewing the last decade of literature on this topic, three studies emerged that offer information as to how self-efficacy measures perform for mixed groups of ethnic and racial minority students (i.e., African-American, Asian American, Hispanic American, and Native American students) as compared to White/European American students. First, Gloria

and Hird (1999) examined CDSE-SF scores for these two groups and found internal consistency reliability for the ethnic and racial minority students ($n = 98$) was .97, and for the White European American students ($n = 589$) it was .95. They further found that for both groups, ethnic variables (i.e., ethnic identity and other group orientation) and nonethnic variables (i.e., trait anxiety and major) were significant predictors of CDSE-SF scores, but that (not surprisingly) ethnic variables accounted for more variance for the ethnic and racial minority students.

Also exploring the CDSE, Brown, Darden, Shelton, and Dipoto (1999) found group differences in scores for urban and suburban ethnic and racial minority and Caucasian American high school students. Specifically, urban minority students ($n = 122$) scored highest on the CDSE scale, followed by suburban ($n = 179$) and then urban ($n = 46$) Caucasian American students. Suburban minority students ($n = 17$) scored lowest on the CDSE scale.

Last, Luzzo and McWhirter (2001) explored the function of coping self-efficacy for educational and career barriers among a mixed sample of ethnic and racial minority students ($n = 32$) and a sample of European American students ($n = 254$). The self-efficacy measures were developed for the study but were reported to have good internal consistency reliability and test-retest reliability for the combined sample. Luzzo and McWhirter reported that their groups differed significantly on both coping self-efficacy scores, with the ethnic and racial minority students reporting less coping self-efficacy for educational and career barriers.

Looking specifically at the applicability of SCCT to African American college students, Gainor and Lent (1998) explored mathematics course self-efficacy with a sample of 164 first-year students. Their measure of mathematics course self-efficacy had very good internal consistency reliability (.93), and scores on it related as expected to math interests and choice intentions. Further, Gainor and Lent indicated that the overall results of their model testing supported the SCCT model, including the role of self-efficacy, for these African American students. These latter findings may be construed as support for the construct validity of the self-efficacy measure used in this research.

Gwilliam and Betz (2001) also focused on self-efficacy measurement with African American students, but their focus was efficacy for scientific and technical fields. They gathered data from 111 African Americans and 252 Caucasian Americans on their self-efficacy for Investigative interests, for scientific and technical fields, and for mathematics. Gwilliam and Betz reported strong and equivalent evidence across racial groups for the internal consistency reliability of all measures; the lowest alpha estimate for a scale was .78, but most fell into the mid .80s to low .90s. Further analyses of gender and race differences resulted in evidence of large and typical gender differences across African American and Caucasian American students, but in little evidence for race effects. Most intercorrelations for the different scales supported their

validity regardless of group, and regressions to predict science relatedness of college major and intended occupation indicated the self-efficacy measures predicted equivalently and as expected for male and female African American and Caucasian American students. In sum, reliability and construct and criterion-related validity of the measures examined seemed well supported for this African American sample.

Subsequently, Betz and Gwilliam (2002) reported on self-efficacy for the six Holland (1997) themes among the same African American and European American college students described previously. Three measures of this self-efficacy were examined for reliability, group differences in scores, and convergent validity. Betz and Gwilliam reported internal consistency coefficients for the measures to be comparable for African American (range across measures .74-.92 with most in the .80s) and Caucasian American (range across measures .65-.91 with most in the .80s) students. Scores on two of the measures differed by race, with African American students reporting more self-efficacy for the Artistic, Social, and Enterprising domains. Convergent validity coefficients were comparable for African American and Caucasian American students, but questions emerged about the measures' discriminant validity when used with African American students. Overall, this work represents a careful and thorough examination of the psychometric characteristics of a set of related self-efficacy measures when used with African American students. Similar studies of other measures and with other groups are critically needed in the vocational literature.

Finally, Chung (2002) surveyed 61 Black American and 70 White American college students with the CDSE. He reported an internal consistency reliability estimate of .93 for the total sample, and a significant group difference in scores with Black American students reporting greater self-efficacy for career decision making than did White American students. Chung also noted that the correlation between the CDSE and a measure of career commitment was significant and positive for both groups, thereby supporting the validity of the measure with both samples.

Less literature is available on vocationally relevant self-efficacy among Asian Americans. Asian American students of varied cultural backgrounds completed a measure of self-efficacy for college and for behaviors needed to attain a college degree in a study by Gloria and Ho (2003). The internal consistency reliability coefficient for the former measure was .88, and the coefficient for the latter measure was .93. Students of Chinese, Filipino, Japanese, Korean, Pacific Islander, and Vietnamese heritage were found to differ in their levels of college and degree behavior self-efficacy, suggesting within-group differences in these beliefs. Correlations of self-efficacy with comfort in the university environment and with persistence decisions were significant and positive as expected, but self-efficacy was not found to contribute incrementally to persistence decisions beyond other variables (i.e., social support and

comfort). Overall, these data support the reliability and construct validity of these measures with a mixed sample of Asian Americans, while raising the issue of the need to examine further within-group variation. Although there has been some support in the cross-cultural literature for the reliability and validity of self-efficacy measurement with international Asian samples (e.g., Mau, 2000), little additional literature was found over the last 10 years with U.S. Asian samples.

Flores and O'Brien (2002) provided data on the self-efficacy of young Mexican American women for nontraditional occupations in the context of a larger study of SCCT. They assessed the self-efficacy of 364 Mexican American high school women with a scale previously used in the literature and reported correlations between it and background variables, and career interests and aspirations. Their measure had an internal consistency reliability coefficient of .81 and correlated as expected with career interests and aspirations. It did not correlate as expected, however, with the background factors of maternal education and occupational traditionality or feminist attitudes and acculturation. Consequently, these data support somewhat the reliability and validity of the self-efficacy measure with this sample, but leave open some questions about the precursors of self-efficacy for these young women. Although one additional study in the 10-year period covered by this review reported favorably on the reliability and validity of a middle school self-efficacy measure with Hispanic and Latino students (Fouad, Smith, & Enochs, 1997b), there was a general lack of empirical literature on the measurement of vocationally relevant self-efficacy with Hispanic Americans.

Finally, one study was located that addressed self-efficacy beliefs of Native American students. Gloria and Robinson Kurpius (2001) surveyed 83 American Indian undergraduates (81% women) regarding their college and degree behavior self-efficacy beliefs and other vocationally relevant constructs. Internal consistency reliability of the measure of college self-efficacy was modest (.72) with this sample, but that for educational degree behaviors was high (.93). When the authors examined correlations of the self-efficacy measures to self-esteem, comfort in the college environment and nonpersistence decisions, the coefficients were significant and in the expected directions. These data, thus, support the self-efficacy measures' use with American Indian respondents.

Overall, the varied literature that addresses self-efficacy measurement with members of diverse ethnic and racial groups seems to support the reliability of such measures with these group members. Only in the work by Gloria and Robinson Kurpius (2001) was reliability modest for one self-efficacy measure; in all other reported instances, alpha coefficients were quite robust. Further, positive inferences about the validity of the various measures can be drawn from this literature because in the vast majority of cases self-efficacy scores correlated as expected with other measures of vocationally relevant constructs.

The only cause for concern may be the group differences found in some cases. Yet, findings that African American students expressed greater self-efficacy for Artistic, Social, and Enterprising domains or that ethnic and racial group members expressed less coping self-efficacy than their Caucasian American student counterparts may reflect the reality of different learning experiences or value systems. In general, it appears that when theoretically and methodologically sound measurement procedures are followed, self-efficacy can be assessed in a reliable and valid manner with members of racial and ethnic groups.

CAREER DECISION STATUS

Career indecision and career maturity are two areas of assessment related to career decision status. Career indecision is perhaps most commonly assessed in practice and research with the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1976, 1987). This short (18-item) measure has been shown to have good psychometric properties (Osipow & Winer, 1996) and has some evidence for its use with diverse cultural groups. Osipow and Winer indicated that it has been used effectively in a number of English-speaking countries (e.g., Canada, South Africa, and Australia) and that there is evidence for its utility with members of U.S. ethnic minority groups (in particular with African American college students). Indeed, Rojewski (1994) explored career indecision among at-risk African American and White American adolescents with the CDS and other measures. He identified three subtypes of indecision that were consistent with prior theoretical and empirical literature. He also determined that the composition of his indecision groups did not differ by gender, race, or SES status.

Similarly, McCowan and Alston (1998) gathered data on indecision (via the CDS), racial identity and African self-consciousness from 212 first-year and senior African American college students at two Southern universities. The authors found differences between first-year and senior students at the universities on the CDS. Consistent with theory and prior work with the CDS, senior students obtained higher scores on the CDS than did first-year students. The authors further noted that CDS scores were not strongly associated with either racial identity or African self-consciousness. They interpreted this as evidence that a stronger and clearer cultural identity does not necessarily translate into greater career decidedness.

The sparse data on the use of the CDS with African American students suggest that the data seem to function as would be expected based on prior theory and on prior research with primarily Caucasian American samples. It is unfortunate that the research reviewed did not contain information on the reliability of, or additional validity information on, the measure. Nor were

studies found which used it with members of other ethnic minority groups (e.g., Asian American or Hispanic American individuals).

Career maturity is a second construct relevant to career decision status and it has been assessed most often with the Career Maturity Inventory (CMI-R; Crites & Savickas, 1995) and the Career Development Inventory (CDI; Super, Thompson, Lindeman, Jordaan, & Myers, 1981). The CMI was first published in 1978, but was revised substantially in 1995 in order to shorten it and make it more relevant to employed persons (Crites & Savickas, 1996). A substantial literature supporting the psychometric properties of the original CMI exists according to Crites and Savickas, and the 1995 revision maintained as much item consistency as was reasonable in order to capitalize on this prior literature.

Powell and Luzzo (1998) used the CMI-R to assess career maturity of 253 male and female students in four southern urban high schools. Two thirds of the students were African American. Powell and Luzzo reported finding no differences in CMI-R scores for African American and European American students, but cautioned that their results need to be considered in light of the very modest internal consistency reliabilities observed for the two CMI-R subscales (i.e., .59 and .60). Somewhat surprisingly, there also was no correlation between CMI-R scores and age in their sample.

These results contrast with work by Naidoo, Bowman, and Gerstein (1998) in which the original version of the CMI (Crites, 1978) was used. Naidoo et al. assessed the career maturity, role salience, and causality attributions of 288 African American college students. They reported an overall internal consistency reliability estimate of .72 for the CMI, and correlations between the CMI and level of education, and commitment to and values realized through the work role. These correlations were in the directions expected by theory and prior research, and seemed to support the use of the CMI with African American students.

Hardin, Leong, and Osipow (2001) similarly explored use of the original CMI, but with a sample of 182 Asian American and 235 European American college students. They reported comparable internal consistency reliability estimates for CMI total scores for members of these two groups, .72 and .71, respectively. They also reported mean differences in CMI total scores with low and medium acculturated Asian American students scoring lower than did the European American students. The authors suggested that their observed relation of acculturation to career maturity may indicate the culture-specific nature of the construct as it is operationalized in the CMI, and the need to be cautious in interpreting CMI scores with Asian Americans.

The CDI also addresses the construct of career maturity, and it was introduced in 1981 and is reported to have good reliability and validity (Savickas & Hartung, 1996). It has been translated into a number of languages and seems to hold up well in terms of its psychometrics in other cultures (e.g., Austria, Britain, and The Netherlands). Savickas and Hartung reported

further that very limited evidence did not indicate CDI score differences among U.S. adolescents of diverse cultural backgrounds. This latter report is supported by the work of Jackson and Healy (1996), who found that African American ($n = 61$) and Latino American ($n = 81$) college students did not differ in their CDI scores, as well as by the work of Smallman and Sowa (1996), who reported no CDI score differences between their male African American ($n = 30$) and Caucasian American ($n = 94$) college athletes.

Lundberg, Osborne, and Miner (1997) explored the CDI scores of 122 Latino American and 167 Anglo American high school students. They noted that these two groups of adolescents differed in scores for the CDI Decision-Making and World of Work Information subscales, but not for the Career Exploration and Career Planning subscales. Specifically, Anglo American students scored substantially higher on the former two subscales than did Latino American students.

Finally, Carter and Constantine (2000) reported on research with the CDI and measures of racial and ethnic identity with a sample of 113 African American and 68 Asian American college students. They did no comparison of CDI scores between the two groups of students, but did report on the relations of racial or ethnic identity and CDI scores for each group. No relation between these measures was found for African American students, but a significant canonical correlation was found for Asian American students. Specifically, Asian American students who were more informed about the intersections of race, culture, and vocations scored higher in career maturity. Their findings further support the premise that ethnic identity must be considered in interpreting career maturity assessment results.

Overall, the literature related to the assessment of career decision status neither clearly contraindicates nor clearly supports use of the CDS, CMI, and CDI. The major difficulty is the paucity of recent research on these measures with members of varied U.S. racial and ethnic groups. The minimal literature available offers adequate support for the CDS and CDI in particular. It is more difficult to characterize the CMI literature due to the somewhat conflicting findings regarding the functioning of the CMI and the newer CMI-R. Rather than the newer measure performing better, it seems the original measure has an advantage when used with members of racial and ethnic minority groups. Further work is clearly needed on the reliability and validity of all of these measures before firm conclusions about their utility can be drawn.

SUMMARY

There is guidance to be drawn from the recent empirical literature regarding the reliability, validity, and utility of the previously reviewed measures of interests, values, self-efficacy, and career decision status with members of diverse

groups, but this literature overall tends to be spotty and less than deliberate. Consequently, it seems premature to draw firm conclusions about the applicability of these measures to members of particular racial and ethnic groups. Further, with perhaps the exception of the relatively intentional program of research that has focused on use of the SII with members of diverse racial and ethnic groups, much of the information that was gleaned about the functioning of the present measures emerged from reports of projects and analyses where the primary purpose was not to address the psychometric properties of the measures.

If we are to meet the challenge posed by the new *APA Multicultural Guidelines* (APA, 2003) to our vocational assessment practices, it will be essential to explore more intentionally the applicability of our measures to persons of diverse backgrounds. Research that focuses deliberately on determining the reliability and validity of our most commonly used measures with representative samples of members of diverse groups is one obvious avenue for future endeavors. It also would be useful, however, if all researchers whose samples included reasonable numbers of persons from diverse groups consistently provided group means and standard deviations and internal consistency reliability coefficients for their measures. In this way a body of evidence could be accumulated relatively efficiently and conclusions could be drawn regarding the advisability of using a measure with members of a particular group. Only through such broad and coordinated efforts at the professional level will we be able to make informed and ethical measurement choices in our research and practice.

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