Romance and Sex in Adolescence and Emerging Adulthood

Risks and Opportunities

Edited by
Ann C. Crouter • Alan Booth

Romance and Sex in Adolescence and Emerging Adulthood: Risks and Opportunities

THE PENN STATE UNIVERSITY FAMILY ISSUES SYMPOSIA SERIES

Series Editors
Alan Booth and Ann C. Crouter
Pennsylvania State University

Booth/Dunn: Stepfamilies: Who Benefits? Who Does Not?

Booth/Dunn: Family-School Links: How Do They Affect Educational Outcomes?

Booth/Crouter/Landale: Immigration and the Family: Research and Policy on U.S. Immigrants

Booth/Crouter: Men in Families: When Do They Get Involved? What Difference Does It Make?

Booth/Crouter: Does It Take a Village? Community Effects on Children, Adolescents, and Families

Booth/Crouter/Clements: Couples in Conflict

Booth/Crouter: Just Living Together: Implications of Cohabitation on Families, Children and Social Policy

Crouter/Booth: Children's Influence on Family Dynamics: The Neglected Side of Family Relationships

Crouter/Booth: Work-Family Challenges for Low-Income Parents and Their Children

Booth/Crouter: The New Population Problem: Why Families in Developed Countries are Shrinking and What It Means

Romance and Sex in Adolescence and Emerging Adulthood: Risks and Opportunities

Edited by

Ann C. Crouter
Alan Booth
The Pennsylvania State University

LEA
2006 LAWRENCE ERLBAUM ASSOCIATES, PUBLISHERS
Mahwah, New Jersey London

Lawrence Erlbaum Associates, Inc., Publishers
10 Industrial Avenue
Mahwah, New Jersey 07430
www.erlbaum.com

Cover design by Tomai Maridou

Library of Congress Cataloging-in-Publication Data

Romance and sex in adolescence and emerging adulthood : risks and opportunities / edited by Ann C. Crouter, Alan Booth.
p. cm. (LEA's Family Issues Symposia Series).

Includes bibliographical references and index.

ISBN 0-8058-5390-1 (cloth : alk. paper)
ISBN 0-8058-5391-X (pbk. : alk. paper)

CIP information for this volume can be obtained by contacting the Library of Congress

Books published by Lawrence Erlbaum Associates are printed on acid-free paper, and their bindings are chosen for strength and durability.

Printed in the United States of America
10 9 8 7 6 5 4 3 2 1

Contents

This page intentionally left blank

Preface

Today's young people encounter markedly different choices about family formation than their parents' generation did. Looking ahead, adolescents see a different set of norms about what may constitute "family life" when it is time for them to form families: Cohabitation is on the rise; divorce continues to affect almost half of all unions; and families are having fewer children. These demographic trends are yoked in important ways and provide a backdrop against which young people form and maintain romantic and sexual relationships in adolescence and emerging adulthood. Looking around them, adolescents see a wider range of options for romantic relationships than was true for their parents' generation. Although teenage pregnancy is not new, it is much less likely today that a pregnant teenager will see marriage and childbearing as the natural next step than it was a generation or two ago. Dating has taken on new aspects as well. While local newspapers still showcase homecoming dances, proms, and other traditional symbols of adolescent romance, the media has also seized upon the image of adolescent "friends with benefits," relationships that combine friendship and sex in ways that may be not only confusing for youth but leave them open for exploitation and heartache.

Adolescents are negotiating these important relationship transitions at a time in development that is characterized by many other changes, including physical maturation, identity development, negotiation of more reciprocal and autonomous relationships with parents, and the unfolding of educational plans and ideas about work and career. An understanding of the conditions that give rise to romantic relationships and sexual behavior in adolescence and young adulthood, as well as the consequences of adolescent decisions in this area, requires a multidisciplinary approach. With this in mind, we invited some of the best scholars working in this area to participate in a two-day symposium entitled, "Romance and Sex in Adolescence and Emerging Adulthood: Risks and Opportunities," held on the campus of the Pennsylvania State University, October 12–13, 2004. The symposium was the twelfth in a series of annual interdisciplinary symposia focused on family issues. This edited volume is the culmination of those two days of stimulating and provocative papers and discussions.

The focus of this volume is threefold. The first goal is to better understand the nature and origins of contemporary patterns of sexual and romantic relationships, including the broad evolutionary, cultural, and historic roots of these behaviors. Within this context, the ways in which early family and peer relationships give rise to romantic relationships in the late adolescent and early adult years are examined. The second goal is to illuminate how early romantic and sexual relationships influence individuals' subsequent development and life choices, including family formation and educational and occupational achievement. A third goal is to explore whether or not current trends in romantic and sexual relationships in adolescence and emerging adulthood are problematic for individuals, families, and communities, and, if so, to identify effective ways to address these issues. The book is divided

into four sections, each on a different aspect of the topic. Each section includes a chapter by the lead authors, followed by shorter chapters by discussants.

In the first section of the volume, anthropologist Helen Fisher sets the stage for the entire volume by looking at the evolutionary origins of contemporary patterns of romantic and sexual relationships among young people. Her paper presents how the brain may be "wired" for relationships and why young people may react so strongly when romantic relationships are broken off. Other chapters in this section by developmental psychologist Bonnie Barber, evolutionary psychologist David Schmitt, and sociologist Pepper Schwartz build on—or challenge—Fisher's broad sweeping vision of the biological underpinnings of adolescent romantic and sexual relationships.

In the second section of this volume, attention turns to more recent history, and specifically the role played by adolescents' own relationship histories in their families of origin with regard to the quality of their romantic relationships in adolescence and young adulthood. Developmental psychologists and students of close relationships, W. Andrew Collins and Manfred van Dulmen, provide a masterful overview of the developmental processes that link early and later relationships, weaving in some of their own findings from the Minnesota Longitudinal Study of Parents and Children. In their related chapters, sociologist Stephanie Coontz, sociologists Kara Joyner and Mary Campa, close relationships researcher Chalandra Bryant, and adolescent development expert Bradford Brown provide complementary perspectives that fill in the picture of how these important developmental processes may work.

The implications of romantic relationships and sexual behavior in adolescence and young adulthood for young people's subsequent development are the theme of the third section of this volume. Here, sociologist and criminologist Peggy Giordano, along with Monica A. Longmore and Wendy D. Manning, outline knowledge in this area, drawing from their ongoing Toledo Adolescent Relationships Study, a longitudinal, multi-method study of youth. Implications for young people's development are further discussed by Velma McBride Murry, a family scholar who studies low-income, minority populations (with Tera R. Hurt, Steven M. Kogan, and Zupei Luo), Tasha Snyder, a family scholar and rural sociologist, and Wyndol Furman, a clinical psychologist who has studied adolescent peer relations, friendships, and romantic relationships with his colleague, Laura Shaffer Hand.

The fourth section of the volume focuses on the challenges that contemporary adolescent romantic and sexual relationships pose for communities and for society at large and what can be done to address those challenges. Jennifer Manlove and Kristin Moore, Kerry Franzetta, and Suzanne Ryan, social scientists at the highly regarded nonprofit, nonpartisan research organization, "Child Trends," provide a broad brush-stroke portrait of what we know about this area, including the kinds of programs that are being tried and appear to work. Economist Joseph Hotz, and Dawn Upchurch and Yasamin Kusunoki, sociologists with strong interests in public health, round out the multidisciplinary discussion in this section.

The final chapter is an integrative commentary by Marni Kan and Alison Cares, graduate students at Penn State in Human Development and Family Studies and Sociology, respectively. This interdisciplinary team deftly summarizes the themes woven throughout the volume and suggests next steps for research.

Acknowledgments

The editors are grateful to the many organizations at Penn State that sponsored the 2004 symposium and this resulting volume, including the Population Research Institute, the Children, Youth, and Families Consortium, the Prevention Research Center, the Center for Human Development and Family Research in Diverse Contexts, the Center for Work and Family Research, and the Departments of Economics, Human Development and Family Studies, Labor and Industrial Relations, History, Anthropology, Psychology, and Sociology, and the Women's Studies Program. The editors also gratefully acknowledge essential core financial support in the form of a five-year grant from the National Institute of Child Health and Human Development (NICHD), as well as ongoing, substantive guidance and advice from Christine Bachrach and Lynne Casper of NICHD. We acknowledge the ongoing support and commitment of Lawrence Erlbaum Associates, and especially of Bill Webber, in publishing the volumes in this growing series. The ongoing support of all of these partners has enabled us to attract excellent scholars from a range of backgrounds and disciplines—the sort of group on whom the quality and integrity of the series depends.

A lively, interdisciplinary team of scholars from across the Penn State community meets with us annually to generate symposia topics and plans and is available throughout the year for brainstorming and problem solving. We appreciate their enthusiasm, intellectual support, and creative ideas. We are especially grateful to Paul Amato, Janis Jacobs, Denise Solomon, and Eva Lefkowitz for presiding over symposium sessions. The many details that go into planning a symposium and producing a volume cannot be over-estimated. In this regard, we are especially grateful for the assistance of our administrative staff, including Tara Murray, Kim Zimmerman, and Sherry Yocum. Finally, we could not have accomplished this work without the incredible organizational skills, hard work, and commitment of Ann Morris and Barbara King. Their attention to the many details that go into organizing a good conference made it possible for us to focus on the ideas, a luxury many book editors do not enjoy.

—Ann C. Crouter
—Alan Booth

This page intentionally left blank

I

What Are the Evolutionary Origins of Contemporary Patterns of Sexual and Romantic Relationships? Where Does Evolution Leave Off and Where Do History and Culture Begin?

This page intentionally left blank

1

BROKEN HEARTS: THE NATURE AND RISKS OF ROMANTIC REJECTION

Helen Fisher
Rutgers University

"Oh, tell me the truth about love," poet W. H. Auden wrote. Poems, dramas, novels, songs, stories, myths, legends, and men and women around the world have attempted to describe love. The earliest love poems come from ancient Sumeria some 4,000 years ago (Wolkstein, 1991). But our forebears probably mused about love since they evolved the rudiments of language and spoke across their campfires over a million years ago. Love means many different things to many different people. But this multi-faceted experience is becoming understood.

Neuroscientists currently believe that the basic human emotions and motivations arise from distinct circuits or systems of neural activity (Davidson, 1994; Panksepp, 1998). Among these neural systems, humanity has evolved three distinctly different yet interrelated brain systems for courtship, mating, reproduction, and parenting (Fisher, 1998). These are lust, romantic love, and male/female attachment.

Lust, characterized by the craving for sexual gratification, is associated primarily with the androgens in both men and women (Edwards & Booth, 1994; Sherwin, 1994; Van Goozen et al., 1997). Studies of human sexual arousal that use functional magnetic resonance imaging (fMRI) show that specific networks of brain activation are associated with the sex drive (Arnow et al., 2002; Beauregard, Levesque, & Bourgouin, 2001; Karama et al., 2002).

Romantic love, characterized by elation, heightened energy, mood swings, focused attention, obsessive thinking, craving for emotional union with a beloved, goal-oriented behaviors, and intense motivation to win a preferred mating partner, is associated primarily with dopaminergic pathways in the reward system of the brain (Aron et al., 2004; Bartels & Zeki, 2000, 2004; Fisher et al., 2003).

Male/female *attachment* (or companionate love), characterized by the maintenance of proximity, affiliative gestures, and expressions of calm and contentment when in social contact with a long-term mating partner and "separation anxiety" when apart, is associated with the neuropeptides, oxytocin and vasopressin, and related brain systems (Carter, 1992; Carter et al., 1997; Lim, Murphy, & Young, 2004; Lim & Young, 2004; Pitkow et al., 2001; Young, Wang, & Insel, 1998; Young et al., 1999).

Each primary brain system for loving—lust, romantic love and attachment—produces a different constellation of thoughts, feelings, and behaviors. Each evolved to play a different role in courtship, mating, reproduction, and parenting (Fisher,

1998; Fisher et al., 2002a; Fisher et al., 2002b; Fisher, 2004). The sex drive evolved to motivate our ancestors to seek coitus with a *range* of partners. Romantic love evolved to motivate individuals to select among potential mates, prefer a *particular* individual, and focus their courtship attention on this favored mating partner, thereby conserving precious courtship time and energy. The brain system for male/female attachment evolved primarily to enable our forebears to sustain this affiliative connection long enough to rear a single child through infancy together (Fisher, 1992).

In this chapter I discuss the most powerful of these three neural systems—romantic love. I illustrate some of the ways in which romantic love interacts with feelings of lust and attachment, and explore the biology, feelings, adaptive functions, and risks of a broken heart.

Almost no one in the world escapes the craving, depression, fear, and rage that rejection can create (Baumeister & Dhavale, 2001). Among college students at Case Western Reserve, 93% of both sexes reported having been spurned by someone they adored. Moreover, 95% said they had rejected someone who was deeply in love with them (Baumeister, Wotman, & Stillwell, 1993). Through an understanding of the biology of romantic love, the range of psychophysiological feelings associated with romantic rejection and the possible ways to alleviate the pain of spurned passion, educators, parents, and friends can help teenagers and young adults cope with this painful and dangerous experience—lost love.

Romantic Love: Psychophysiological Properties

Intense attraction, commonly known as romantic love, is recorded in all human societies for which data are available (Jankowiak & Fischer, 1992). This experience is associated with a specific constellation of emotions and motivations (Fisher 1998, 2004; Harris, 1995; Hatfield & Sprecher, 1986; Tennov, 1979).

Romantic love begins as an individual comes to regard another as special, even unique. As a love-stricken American man remarked, "The world has a new center and that center is Maryanne." The lover then intensely focuses his/her attention on this preferred individual, aggrandizing and adoring the beloved's good traits and overlooking or minimizing their flaws. Characteristically, the lover also experiences extreme energy, hyperactivity, sleeplessness, euphoria, mood swings, goal-oriented behaviors, and a strong motivation to win the beloved. Adversity heightens their passion. This is known as the "Romeo and Juliet Effect" or "frustration attraction" (Fisher, 2004). Lovers become emotionally dependent on the relationship; many experience separation anxiety; many reorder their daily priorities to remain in contact with their sweetheart; most feel a powerful sense of empathy for their amour; and many report that they would even die for their beloved. A striking property of romantic love is "intrusive thinking"—the smitten lover thinks obsessively about the beloved. Most important, the lover craves

emotional union with his/her sweetheart. And although the love-stricken individual feels intense sexual desire for their special other, as well as intense possessiveness of him or her, the lover's craving for emotional union takes precedence over their longing for sexual contact. Last, romantic passion is involuntary and difficult, even impossible, to control.

This constellation of psychophysiological traits suggests that romantic love is associated with many brain systems. However, two neurotransmitters may be primary contributors—elevated activity of dopamine and decreased activity of serotonin—largely because these monoamines, in particular concentrations, produce many of the above traits associated with romantic love (Fisher, 1998).

Elevated activity of central dopamine has been associated with focused attention, extreme energy, hyperactivity, sleeplessness, elation, mood swings, craving, emotional dependence, goal-oriented behaviors, and strong motivation to pursue and win a preferred reward (Abbott, 2002; Colle & Wise, 1988; Kiyatkin, 1995; Post, Weiss, & Pert, 1988; Robbins & Everitt, 1996; Salamone, 1996; Schultz, Dayan, & Montague, 1997; Wise, 1988, 1996). All of these traits are characteristic of romantic love.

Low activity of central serotonin is most likely also involved, because obsessive thinking is central to the experience of being in love and obsessive thinking is currently thought to be due to decreased activity of this neurotransmitter (Flament, Rapoport, & Berg, 1985; Hollander et al., 1988; Thoren, Asberg, & Bertilsson, 1980).

So I have hypothesized that romantic love is associated with elevated activities of central dopamine and decreased activity of central serotonin (Fisher, 1998). "Being in love" takes a variety of graded forms, however, ranging from romantic love that is returned to unrequited love. These gradations of romantic attraction are most likely associated with varying ratios of dopamine and serotonin, as well as many other brain systems (Fisher, 1998, 2004; Fisher et al., 2002).

Brain Scanning Studies of Romantic Love

Recent data indicate that at least one of these neurotransmitters, dopamine, is involved in romantic love.

Using functional magnetic resonance imaging (fMRI), Fisher and colleagues Lucy Brown, a neuroscientist at the Albert Einstein College of Medicine; Arthur Aron, a research psychologist at State University of New York at Stony Brook; and others studied the brain activity of seven men and ten women who had "just fallen madly in love"(Aron et al., in preparation; Fisher et al., 2003). Participants reported being in love an average of 7.4 months (median = 7; range 1–17 months); they ranged in age from 18 to 26.

The experiment consisted of four tasks. Each subject looked at a photograph of his/her beloved, as well as the photograph of an emotionally-neutral acquaintance, inter-spersed with a "distraction task". The distraction task consisted of looking at a large number, such as 8,241, and (beginning with this number) counting backwards in increments of seven. This task was designed to wash the mind clean of all emotion between looking at the positive and neutral stimuli. Hence the protocol consisted of (1) positive stimulus (30 seconds); (2) distraction task (40 seconds); (3) neutral stimulus (30 seconds); and (4) distraction task (20 seconds). This process (or its reverse) was repeated six times; the experiment lasted about 12 minutes.

The results indicated that central dopamine is associated with feelings of romantic passion.

When looking at the positive image (the beloved), subjects showed increased activity in many brain regions. Most pertinent, however, was activity in the right ventral tegmental area (VTA) of the midbrain and several regions of the caudate nucleus. The VTA is rich in cells that produce and distribute dopamine to many brain areas, including the caudate nucleus. Moreover, the VTA is part of the brain's "reward system" (Breiter et al., 2001; Fiorillo, Tobler, & Schultz, 2003; Martin-Soelch et al., 2001; Schultz, 2000; Schultz et al., 1997; Volkow et al., 1997; Wise, 1996), the network that controls general arousal, sensations of pleasure, focused attention and motivation to pursue and acquire rewards (Delgado et al., 2000; Elliot et al., 2003; Gold, 2003; Schultz, 2000).

The caudate nucleus is also associated with motivation and goal-oriented behaviors and is central to the reward system. The caudate plays a role in reward detection and expectation, the representation of goals, and the integration of sensory inputs to prepare for action to win a reward (Martin-Soelch et al., 2001; Schultz, 2000). Some 80% of receptor sites for dopamine reside in the caudate nucleus.

Using functional magnetic resonance imaging (fMRI), Bartels and Zeki also investigated brain activity in seventeen young men and women who reported being "truly, deeply, and madly in love" (Bartels & Zeki, 2000, p. 3829). Eleven were women; all looked at a photograph of their beloved and photos of three friends of similar age, sex, and length of friendship. In this study, individuals were in love an average of 2.3 years, however. Thus, the love relationships of these individuals were considerably longer than the love relationships in the study by Fisher and colleagues. These individuals were also less intensely in love (Aron et al., in preparation). This was established because both groups of subjects were administered the same questionnaire prior to scanning, the Passionate Love Scale (Hatfield & Sprecher, 1986).

In spite of these differences in protocol, Bartels and Zeki (2000, 2004) also found that feelings of romantic love were associated with a region of the caudate nucleus and the ventral tegmental area (as well as several other brain regions).

These data support the hypothesis that mesolimbic dopamine pathways in the reward system of the brain play a central role in the euphoria, mood swings, energy, sleeplessness, focused attention, emotional dependence, craving, motivation, and goal-oriented behaviors associated with romantic love (Fisher, 1998).

A recent study also supports the hypothesis that decreased activity of central serotonin is associated with the obsessive thinking so characteristic of romantic love. In this experiment 20 men and women who had fallen in love in the previous six months, 20 who suffered from unmedicated obsessive-compulsive disorder (OCD), and 20 normal (control) individuals who were not in love were tested for concentrations of serotonin transporters in blood platelets (Marazziti et al., 1999). Both the in-love participants and those suffering from OCD had significantly lower concentrations of platelet serotonin transporters than did the controls. Thus, it is likely that decreased activity of central serotonin contributes to the lover's obsessive thinking. Decreased activity of central serotonin is also associated with impulsivity, another trait of romantic love.

The Drive to Love

Psychologists distinguish between emotions and motivations—brain systems oriented around planning and pursuit of a specific want or need. Our colleague, Arthur Aron, had proposed that romantic love is not an emotion but a motivation system designed to enable suitors to build and maintain an intimate relationship with a preferred mating partner (Aron & Aron, 1991; Aron, Paris, & Aron, 1995). Because the above-mentioned experiments indicate that this passion emanates from the VTA and caudate nucleus, Aron's hypothesis was proven correct: motivation and goal-oriented behaviors are involved in romantic love. These findings then suggested to me that romantic love is a *primary* motivation system—a fundamental human mating drive (Fisher, 2004).

Neuroscientist Donald Pfaff defined a drive as a neural state that energizes and directs behavior to acquire a particular biological *need* to survive or reproduce (Pfaff, 1999, pp. 7, 40). Like drives, romantic attraction is tenacious; emotions come and go (you can be happy in the morning and angry in the afternoon). Like drives, romantic love is focused on a specific reward, the beloved, in the same way that hunger is focused on food. Emotions, such as disgust, pin themselves instead to an immense variety of objects and ideas. Like drives, romantic love is not associated with any particular facial expression; all of the primary emotions (such as anger, fear, joy, surprise, and disgust) have stereotypic facial poses. Like drives, romantic love is exceedingly difficult to control. It is harder to curb thirst, for example, than to control anger. And like all of the basic drives (Pfaff, 1999), romantic love is associated with the elevated activity of central dopamine.

Drives lie along a continuum (Fisher, 2004). Some, like thirst and the need for warmth, cannot be extinguished until satisfied. The sex drive, hunger, and the maternal instinct can often be redirected, even quelled. Falling in love is evidently stronger than the sex drive because when one's sexual advances are rejected, people do not tend to kill themselves or someone else. Rejected lovers, on the contrary, sometimes commit suicide or homicide.

Romantic love exhibits all of the primary traits associated with drives (Fisher, 2004). Moreover, on the continuum of drives, it appears to be basic. So I have hypothesized that romantic love is a primary mating drive.

Animal Attraction

This drive appears to be ubiquitous among avian and mammalian species (Fisher, 2002a; Fisher, 2004). No bird or mammal will copulate with any conspecific; they all have preferences. In fact, this drive to pursue *specific* mating partners is so common that the ethological literature regularly uses several terms to describe it, including "mate choice," "female choice," "individual preference," "favoritism," "sexual choice," and "selective perceptivity." This mate preference is associated with many of the same characteristics associated with romantic love, including heightened energy, focused attention on a preferred mating partner, obsessive following, sleeplessness, loss of appetite, possessive "mate guarding," affiliative gestures, goal-oriented courtship behaviors, and intense motivation to court and win a specific individual (Fisher, 2004).

Moreover, data from animal studies indicate that, similar to humans, elevated activities of central dopamine play a primary role in mammalian mate preference. In rats, blocking the activities of dopamine diminishes specific proceptive behaviors, including hopping and darting (Herbert, 1996). An increase in central dopamine is associated with mate attraction in female sheep (Fabre-Nys et al., 1998). When a female lab-raised prairie vole is mated with a male, she forms a distinct preference for him, a preference associated with a 50% increase of dopamine in the nucleus accumbens, a region of the brain's reward system (Gingrich, Liu, Cascio, Wang, & Insel, 2000). In fact, when a dopamine antagonist is injected into the accumbens, the female no longer prefers this partner; and when a female is injected with a dopamine agonist, she begins to prefer the conspecific who is present at the time of infusion, even if she has not mated with this male (Gingrich et al., 2000; Wang et al., 1999).

Hence the brain system associated with mate preference is associated with the same catecholamine in several mammalian species, including human beings. This brain system for "animal attraction" unquestionably operates in tandem with myriad other neural networks, including the sex drive and specific sensory circuits for mate discrimination, as it does in *Homo sapiens*. But it is parsimonious to suggest that animal attraction evolved for the same adaptive reason that romantic love evolved in humans: to enable individuals to *prefer* potential mating partners

who advertise superior genes, better resources and/or more parental investment and motivate them to focus their courtship attention on these individuals, thereby conserving courtship time and energy (Fisher, 1998, 2004; Fisher et al., 2002b).

In most species of mammals, this excitatory state is brief. In fact, the human phenomenon of "love at first sight" probably stems from instant attraction among mammals. This expression of attraction most likely lasts only minutes in rats, days among elephants, and weeks among foxes (Fisher, 2004). In humans, the neural mechanism for attraction is more developed, forming the physiological basis of what is commonly known as romantic love.

Nevertheless, the considerable data on mate *preference* in mammalian and avian species, including humans, and the association of this mate preference with subcortical dopaminergic pathways in other mammals as well as humans suggests that attraction is a specific brain system; this neural system is associated primarily with central pathways for dopamine and serotonin; romantic love is best characterized as a drive; and this mating drive evolved to facilitate pursuit of preferred mating partners.

The brain system for human romantic love most likely evolved from the neural mechanism for animal attraction along with the general development of the hominid brain some two million years ago (Fisher, 2004). *Hence all teens and young adults have inherited this powerful biological network for reproduction.* And just about all of these young people are susceptible to being emotionally (and physically) swept away by romantic love at times that are incompatible with their school, social, and family responsibilities.

Moreover, the biological system for romantic love is integrally connected with a range of other neural systems, including the brain system for the sex drive and the neural circuitry for attachment. These interactions can cause additional psychological, social, and familial problems for teens and young adults (as well as for the rest of us).

Romance Triggers Lust

Few people in Western societies confuse the ecstasy, obsession, and longing of romantic love with the mere appetite for sexual gratification (Hatfield & Rapson, 1996; Tennov, 1979). Evidence indicates that this distinction is also easily made in an array of traditional societies (Bell, 1995; Harris, 1995; Jankowiak, 1995; Rebhun, 1995). Nevertheless, people who fall in love generally begin to find their beloved enormously sexually attractive.

This positive association between romance and lust may be due, in part, to the biological link between these two brain systems. Dopamine, associated with romance, can stimulate a cascade of reactions, including the release of testosterone, the hormone of sexual desire (Hull et al., 1995; Hull, Lorrain, & Matuszewick, 1997; Kawashima & Takagi, 1994; Szezypka, Zhou, & Palmiter, 1998; Wenkstern, Pfaus,

& Fibiger, 1993; Wersinger & Rissman, 2000). In fact, data indicate that elevated acivity of dopamine generally elevates the sex drive, sexual arousal, and sexual performance in humans (Clayton et al., 2000; Fabre-Nys, 1998; Heaton, 2000), even in men and women who are depressed. When depressed people take antidepressant drugs that elevate the activity of central dopamine, their sex drive and sexual performance improve (Ascher et al., 1995; Coleman et al., 1999; Walker et al., 1993).

So when teens and young adults fall in love, they can also become biologically motivated to seek sexual activity with their beloved.

This sexual activity may have a positive chemical effect on young women. Seminal fluid has been shown to have antidepressant properties (Gallup, Burch, & Platek, 2002). In a sample of 293 individuals, college women filled out written questionnaires designed to measure aspects of their sexual activity, including frequency of intercourse and types of contraceptive used; these women also completed a widely used questionnaire measuring the symptoms of depression. Of this study, Gallup and his colleagues reported that "females who had sex without condoms, and therefore would be more likely to have semen in their reproductive tract, evidenced significantly fewer depressive symptoms than those who used condoms" (Gallup et al., 2002, p. 291). Further, "Females who engaged in sexual intercourse but did not use condoms also evidenced significantly lower levels of depressive symptoms than those who abstained from sexual intercourse" (Gallup et al., 2002, p. 290).

Gallup and his colleagues did many other correlations that supported their hypothesis that seminal fluid has antidepressant properties. Most remarkable they found a positive correlation between the frequency of condom use and the frequency of attempted suicide. They concluded that semen has antidepressant properties because it contains several mood-altering chemicals, including testosterone, estrogen, follicle-stimulating hormone (FSH), luteinizing hormone (LH), prolactin, and prostaglandins (Gallup et al., 2002). They also concluded that "semen may act to promote further sexual activity" (Gallup et al., 2002, p. 292).

So the teenager who falls in love may feel an urge to copulate with his/her partner, and sexual intercourse with this partner may lead to *more* sexual intercourse with this partner—and perhaps to sexual interactions with other partners, too.

None of the interactions between the brain systems for lust and romantic love are direct or simple, however. And the dosage of many chemicals, as well as the timing of their release, makes a difference in their psychological impact. But generally speaking, dopamine can spark sexual desire, most likely by elevating levels of testosterone. No wonder teenage lovers can stay awake all night caressing. These youth most likely often wish to adhere to specific codes of social conduct. And each has a unique upbringing and ability to control and direct their impulses. Nevertheless, the chemistry of romance can ignite sexual desire and arousal.

This chemical connection between romantic love and lust makes evolutionary sense: if romantic love evolved to stimulate courtship and mating with a preferred individual, it *should* trigger the drive to pursue sex with this beloved as well. More

important to the discussion in this chapter, a teenage romantic "crush" can lead to sexual activity, creating psychological and social complications as well as risks to health.

Lust Brings Romance?

But is the reverse true; can lust stimulate amour? Can a young man or woman climb in bed with "just a friend" or stranger and then suddenly fall in love with him or her?

Many teens and young adults have copulated with "just a friend" and never fallen in love. But it can happen, perhaps because increasing activity of testosterone associated with the sex drive can elevate the activity of dopamine (Hull et al., 1999), one of the neurotransmitters associated with romance. This positive correlation also occurs in other animals: sexual activity can increase the brain activity of dopamine (Damsma et al., 1992; Pleim et al., 1990; Yang et al., 1996). Even without sexual activity, however, the increasing activity of testosterone can elevate levels of dopamine (Hull et al., 1999), as well as suppress the activity of serotonin (Gonzalez et al., 1994; Netter et al., 1998; Sundblad & Eriksson, 1997). In short, the hormone of sexual desire can produce the combination of brain chemicals associated with romantic passion: elevated activity of central dopamine and lower activity of central serotonin. Hence teens and young adults who copulate with "just a friend" are biologically susceptible to falling in love.

Women may be particularly vulnerable to falling in love with a casual sex partner because seminal fluid also contains dopamine and tyrosine, a building block of dopamine (Burch & Gallup, in press). Although these chemicals do not pass across the blood-brain barrier, elevated activities of dopamine and tyrosine may affect brain physiology through other complex interactions. In fact, people report that sex can lead to romantic love. The natives of rural Nepal even use an off-color term for this phenomenon, saying "Naso pasyo, maya basyo," or "the penis entered and love arrived" (Ahearn, 1998).

Once again, this biological link between lust and romantic love is not direct or simple. Athletes who inject synthetic androgens to build muscle do not fall in love. When middle-aged men and women inject androgens or apply testosterone cream to stimulate their sex drive, their sexual thoughts and fantasies increase (Sherwin & Gelfand, 1987; Sherwin, Gelfand, & Brender, 1985). But neither do these individuals become enamored.

Nevertheless, the chemical interactions between testosterone and dopamine and the chemical changes that accompany sexual arousal suggest that those who engage in sexual intercourse are more likely to fall in love; their threshold for this passion is lowered. And women who engage in sex without a condom may be even more susceptible to romantic passion. Hence teens and young adults who pursue "casual sex" with a friend or stranger can become enamored with their sexual partner even when they have no intention of beginning a romance.

Lust Can Trigger Attachment

Sexual activity can also trigger the brain system for attachment. In humans, orgasm elevates the activitiy of oxytocin and vasopressin (Carmichael et al., 1987; Young et al., 1998); and these neuropeptides are associated with attachment in people and other animals (Wang, Ferris, & DeVries, 1994; Williams et al., 1994; Young et al., 1998).

Hence, teenagers who engage in casual sex can trigger the brain system for attachment (as well as that for romantic love), leading to complex, unanticipated emotional entanglements with psychologically and socially unsuitable mating partners.

Lust, Romance, and Attachment

Despite the interactions between these three brain systems—lust, romantic love, and attachment—these mating drives can also act independently. You can feel profound attachment for a long-term partner *while* you feel romantic passion for someone else *while* you feel the sex drive for a range of other individuals.

The independence of these three motivation/emotion systems most likely evolved to enable ancestral men and women to opportunistically engage in several reproductive relationships simultaneously. Perhaps a million years ago many formed a socially sanctioned partnership with one mate at a time, along with one or more clandestine "extra-pair" relationships, as is characteristic of men and women cross-culturally today (Fisher, 1992, 2004).

But the neural independence of these three motivation/emotion systems almost surely contributes to our contemporary worldwide patterns of adultery and divorce, the high incidence of sexual jealousy, and the prevalence of homicide, suicide, and clinical depression associated with naïve expectations and disappointments in love.

Teens and young adults are just as vulnerable to these conflicting appetites as everybody else. And because regions of the prefrontal cortex associated with decision making do not mature until the mid-teens, young men and women may have less impulse control as well. Thus for teens and young adults, the complex interactions between these three basic brain systems can contribute to unrealistic expectations of romance and sexual activity, unstable and inappropriate romances and attachments, philandering, and broken hearts.

And a broken heart is a far more serious condition than many scientists, educators, and parents realize. As Emily Dickinson wrote, "Parting is all we need to know of hell."

Protest: The First Stage of Rejection

In 2001 I and my colleagues used functional Magnetic Resonance Imaging (fMRI) to investigate the brain activity associated with rejection in love. We used the same protocol that had been followed among our subjects who were happily in love, but this time we collected data on those who had recently been "dumped." Each participant looked at a photograph of his/her rejecting partner, as well as a photo of an emotionally neutral individual, interspersed with the same distraction task, mentally counting backwards from a large number in increments of seven.

This study is in progress. But we anticipate we will once again find activity in the ventral tegmental area and associated regions of the caudate nucleus because lovers generally remain "in love" for weeks, months, or years after they have been rejected. We may find activity in many other brain regions as well, because romantic rejection is a complex experience.

Psychiatrists divide romantic rejection into two phases: "protest" and "resignation/ despair" (Lewis, Amini, & Iannon, 2000). During the protest phase, abandoned lovers are generally dedicated to winning their sweetheart back. They obsessively dissect the relationship, trying to establish what went wrong; and they doggedly strategize about how to rekindle the romance. Disappointed lovers often make dramatic, humiliating, even dangerous entrances into a beloved's home or place of work, then storm out, only to return to berate or plead anew. They visit mutual haunts and shared friends. And they phone, e-mail, and write letters, pleading, accusing, and/or trying to seduce their abandoner.

Psychiatrists Lewis, Amini, and Iannon (2000) argued that this "protest response" is a basic mammalian reaction to the rupture of any social tie. Moreover, they hypothesized that this protest response is associated with the elevated activity of dopamine and its close chemical relative, norepinephrine. Elevated activities of these chemicals, they argued, produce heightened alertness and stimulate the abandoned animal to call for help and search for its abandoner, generally its mother.

The biology of this "protest response" lends some insight into why romantically rejected teens and young adults can engage in dangerous, even humiliating behaviors as they attempt to win their beloved back.

Frustration Attraction

Associated with abandonment and protest is a related biological phenomenon: as adversity intensifies, so does romantic passion. As the Roman poet Terence wrote, "The less my hope, the hotter my love." This phenomenon is so common in the psychological literature that I refer to it as "frustration attraction" (Fisher, 2004). When romantic love is thwarted, the lover just loves harder.

Frustration attraction may be a direct result of the protest response: As abandonment elevates the activity of central dopamine during protest, this rising catecholamine simply intensifies one's passion. Another brain mechanism may

contribute to frustration attraction: the stress system. As stress increases, it triggers the production of dopamine (and norepinephrine) and suppresses serotonin activity (Kapit, Macey, & Meisami, 2000; Nemeroff, 1998), the cocktail of neurotransmitters associated with romantic love.

Frustration attraction may also be due, in part, to another brain response associated with abandonment: the neural reaction to a delayed reward. When an expected reward is delayed in coming, reward-expecting neurons prolong their activities (Schultz, 2000). These neurons are central components of the brain's dopaminergic reward system, the pathways associated with romantic love.

Hence the teenager or young adult who has been rejected is susceptible to a host of socially compromising and psychologically debilitating feelings, behaviors, and desires, including impulsive and inappropriate show-downs and intense craving for a departed beloved. The protest phase of rejection may also trigger activity in the brain's panic system, the network associated with "separation anxiety" (Panksepp, 1998). So the youngster may panic, too.

How each individual copes with these reactions of protest, frustration-attraction, stress, and panic will vary with his/her idiosyncratic biological make-up, experiences, and cultural milieu. Nevertheless, rejected lovers (of any age) suffer a complex array of intense emotions and motivations. And young adults may be particularly vulnerable due to their inexperience and lack of impulse control.

Abandonment Rage

Yet another brain system often becomes active as the rejected lover protests the departure of a beloved: rage. Even when the departing individual severs the partnership with honesty and compassion and honors his/her social obligations to the relationship, many rejected lovers swing violently from heartbreak to fury. Psychologist Reid Meloy called this reaction "abandonment rage" (Meloy 1998, 1999). I use the term "love hatred" as well. Abandonment rage is a curious reaction. Unlike protest and frustration attraction, hate and rage are not likely to entice an abandoning mate to return to the partnership. Why does love turn to hate and rage?

Love and hate/rage are linked in the brain (Fisher, 2004). The primary rage system is closely connected to centers in the prefrontal cortex that anticipate rewards (Panksepp, 1998). Animal studies have shown how intimately these reward and rage circuits are intertwined. Stimulate a cat's reward circuits and it feels intense pleasure; withdraw the stimulation and it bites (Panksepp, 1998). This common response to unfulfilled expectations is known as "frustration-aggression" (Panksepp, 1998). Thus, romantic love and love-hatred are well linked in the brain. And when the drive to love is thwarted, the brain can rapidly turn this passion into fury.

Rage elevates blood pressure, stresses the heart, and suppresses the immune system (Dozier, 2002; Panksepp, 1998). So this response must have evolved to solve some crucial reproductive problem. Perhaps abandonment rage emerged to enable jilted lovers to extricate themselves more swiftly from a dead-end relationship so they could renew the vital courting process sooner (Fisher, 2004). Abandonment rage most likely also motivates people to fight for the welfare of their offspring (Fisher, 2004). This occurs in divorce proceedings: otherwise well-adjusted men and women become diabolical to acquire custody of and resources for their children.

But abandonment rage does not extinguish romantic love. In a study of 124 dating couples, psychologists Bruce Ellis and Neil Malamuth found that romantic love and feelings of hate/rage can operate simultaneously (Ellis & Malamuth, 2000). Hence, you can be terribly angry at a rejecting sweetheart but still very much in love. In fact, the opposite of love is not hate but indifference.

The mixture of violent emotions and motivations associated with rejection in love, including feelings of protest, frustration attraction, stress, panic, and abandonment rage, as well as a host of social emotions (not discussed in this paper) such as embarrassment, shame, and jealousy can unquestionably produce a psychobiological upheaval in almost anyone, and certainly in teens and young adults.

Resignation/Despair: Phase Two of Rejection

The rejected lover's problems can get worse. With time the spurned individual gives up pursuit of the abandoning partner. Then he or she must deal with intensified feelings of helplessness, resignation, and despair. Drugged by sorrow, most cry, lie in bed, stare into space, drink too much, or hole up and watch TV. Feelings of protest and anger resurface intermittently; but rejected lovers mostly just feel profound melancholy. In 1991, sociologists assessed 114 people who had been rejected by a sweetheart within the past eight weeks. More than 40% were clinically depressed; of these, 12% were suffering moderate to severe depression (Mearns, 1991). Some people in the despair phase of rejection kill themselves. Some die of a broken heart. Broken-hearted lovers expire from heart attacks or strokes caused by their depression (Nemeroff, 1998; Rosenthal, 2002). Resignation and despair are well documented in other mammalian species. When infant mammals are abandoned by their mother, first they protest and panic. Later they exhibit the "despair response" (Panksepp, 1998).

In humans, the despair response has been associated with several different networks in the brain—among them, the reward system. As the abandoned partner realizes that the expected reward will never come, dopamine-making cells in the midbrain decrease their activity (Schultz, 2000). Diminishing levels of dopamine produce lethargy, despondency, and depression (Panksepp, 1998). The stress

system also plays a role. As stress wears on, it suppresses the activity of dopamine and other monoamines, contributing to feelings of depression (Kapit et al., 2000; Nemeroff, 1998).

Like abandonment rage, the despair response seems counterproductive. Why waste time and energy moping? But depression may have evolved as a coping mechanism. Several scientists have proposed theories regarding depression as an adaptive mechanism (see Fisher, 2004). Among them, anthropologist Edward Hagen, biologists Paul Watson and Paul Andrews, and psychiatrist Andy Thomson argue that the high metabolic and social costs of depression are actually its benefits: depression is an honest, believable signal to others that something is desperately wrong (Hagen, Watson, & Thomson, in preparation). Depression is a cry for help in a time of intense need that compels friends and relatives to provide aid.

Depression may be adaptive for another reason: it provokes insight. Depression enables individuals to make more honest assessments of themselves and others (Watson & Andrews, 2002). Even severe depression can push a person to face unpalatable truths and make difficult decisions that ultimately promote their survival and reproductive success (Nesse, 1991; Rosenthal, 2002). So the intense depression that many rejected teens and young adults suffer is most likely deeply embedded in the brain.

Not everyone suffers from romantic rejection to the same degree, of course. Some make secure attachments as children and have the self-esteem and resilience to overcome a romantic setback relatively quickly. Others grow up in loveless homes fraught with tension, chaos, or rejection, leaving them "clingy" or defenseless in other ways (Ainsworth et al., 1978; Bowlby, 1969; Chisholm, 1995; Hazan & Shaver, 1987). Then as boys and girls mature, each develops new feelings of competence or incompetence, different sorts of romantic expectations, different sensitivities to rejection, and different coping mechanisms that affect how they will weather lost love (Downey & Feldman, 1996; Downey et al., 1998; Leary, 2001).

Moreover, some people have more mating opportunities so they easily replace an abandoning lover with amorous distractions that mitigate their feelings of protest and despair. And different people have different basic biological response patterns; some are less angry, less depressed, more self-confident, and more relaxed about life's traumas in general or about romantic rejection in particular. Myriad biological, psychological, and social circumstances surrounding one's romantic disappointment contribute to his/her ability to withstand the trauma of rejected love.

On average, men and women express some differences in how they handle rejection, too. Men are often more dependent on their romantic partners (Baumeister et al., 1993; Buss, 1994), probably because men have fewer ties to relatives and friends. Perhaps as a result, men are more likely to turn to alcohol, drugs, or reckless driving than to pals and kin when they have been dumped (Hatfield & Rapson, 1996). Men are also less likely to reveal their pain (Taffel, 1990; Tavris, 1992). There are exceptions: men are three to four times more likely than women to

commit suicide after being rejected (Hatfield & Rapson, 1993). And men are far more likely to stalk a rejecting partner, as well as to batter or kill her (Dozier, 2002; Fremouw, Westrup, & Pennypacker, 1997; Gugliotta, 1997; Meloy, 1998; Meloy & Gothard, 1995; Meloy, 2001; Wilson & Daly, 1992).

Rejected women report more severe feelings of depression, particularly hopelessness (Mearns, 1991). They are more likely than men to cry, lose weight, sleep too much or not at all, lose interest in sex, become unable to concentrate, forget things, and contemplate suicide (Hatfield & Rapson, 1996). Women are more verbally expressive, too. Many write about their feelings of loss; many more talk for hours with friends, reviewing their disappointments. These lengthy discussions are not always healing. As a woman dwells on the dead relationship, she can inadvertently retraumatize herself (Hatfield & Rapson, 1996).

Many biological, psychological, and social forces contribute to the degree and duration of a rejected lover's grief. But all human beings appear to be intricately wired to suffer when they have been spurned, for good evolutionary reasons. Rejected men and women have often wasted significant courtship time and metabolic energy. For many, their reproductive future has been jeopardized, along with their social alliances, personal happiness, self-esteem, and reputation as well.

Adolescents may be particularly vulnerable because these men and women are at a crucial phase in their development, attempting to make social and breeding relationships that will ensure their genetic future. In fact, the direct link between romantic rejection and the loss of significant social benefits and reproductive opportunities may partially account for the high rate of suicide among teens and young adults today.

Addicted to Love

Because of the central role of romantic love in pair formation, reproduction, and parenting, teens and young adults may be particularly susceptible to becoming addicted to a sweetheart, too.

Romantic love has all of the primary characteristics of an addictive substance (Fisher, 2004). Like drug addicts, the lover craves contact with the beloved. Like drug addicts, the lover also expresses increasing tolerance to the sweetheart. In the beginning of the relationship, the lover is often content to see the beloved irregularly; with time, however, the lover seeks to interact with the beloved more and more. Like drug addicts, the lover displays inappropriate, even dangerous behaviors when s/he senses physical or emotional barriers to the relationship. They are inclined to skip school or work, alienate teachers, employers, family, or friends to be near their sweetheart, spend money on things they cannot afford, even risk their lives to impress or see their beloved.

Moreover, if the beloved breaks off the relationship, the lover also shows the common signs of drug withdrawal, including depression, crying spells, lethargy, anxiety, insomnia or hypersomnia, loss of appetite or binge eating, irritability, and

chronic loneliness (Panksepp, 1998; Rosenthal, 2002). Indeed, a recent neuroimaging study indicates that emotional pain induced by social exclusion affects some of the same primary brain regions as does physical pain (Eisenberger, Lieberman, & Williams, 2003). So the physical pain that many rejected lovers report is real.

Rejected lovers also relapse the way drug addicts do. Long after the romantic relationship has ended, events, people, places, even songs associated with the beloved can trigger the lover's craving and initiate obsessive thinking and/or compulsive calling or writing to achieve contact with the beloved.

Even the primary brain chemical and brain region associated with romantic love are similar among drug addicts. Directly or indirectly, all "drugs of abuse" affect a single pathway in the brain, the mesolimbic reward system, associated with dopamine (Abbott, 2002; Leshner, 1997; Robbins & Everitt, 1996; Rosenthal, 2002; Schultz et al., 1997; Wise, 1989, 1996, 1998). Romantic love stimulates the same pathways with the same neurotransmitter (Aron et al., in preparation; Bartels & Zeki, 2000; Fisher et al., 2003). In fact, when neuroscientists Andeas Bartels and Semir Zeki compared the brain scans of their lover-stricken subjects with those of men and women who had injected cocaine or opioids, they found that many of the same brain regions become active (Bartels & Zeki, 2000). And animal studies of cocaine addiction (David et al., 2004; Kalivas & Duffy, 1998; McBride, Murphy, & Ikemoto, 1999; Wise & Hoffman, 1992), as well as fMRI studies involving cocaine injection in humans, indicate that activity in the VTA is associated with addiction (Breiter et al., 1997) as well as with romantic love.

Because romantic love is regularly associated with intensely focused attention, euphoria, craving, obsession, compulsion, distortion of reality, emotional and physical dependence, personality changes, and loss of self-control, psychologists regard romantic love as an addiction (Carnes, 1983; Findling, 1999; Griffin-Shelley, 1991; Halpern, 1982; Hunter, Nitscheke, & Hogan, 1981; Liebowitz, 1983; Mellody, Miller, & Miller, 1992; Peele, 1975; Schaef, 1989; Tennov, 1979). This passion is a positive addiction when the lover's adoration is returned and a horribly negative fixation when the lover's passion is spurned.

In short, among adolescents (and the rest of us), romantic rejection is an addictive state with high risks to the sufferer, including severe psychobiological distress, social problems in school, work and family life, and potential physical and emotional harm to one's self and/or others.

Controlling Love

Because of the biological and behavioral affinities between romantic addiction and drug addiction, it might be prudent to employ some of the basic tenets of the "12-step" approach (used in Alcoholics Anonymous) to relieve some of the symptoms of romantic rejection.

Most important, avoid all possible contact with the rejecting partner. Sunlight, exercise, and a balanced diet can help stabilize brain physiology (Rosenthal, 2002). Dopamine neurons innervating the prefrontal cortex are stimulated during exposure to a novel environment (Tassin et al., 1980). New activities with family and friends can raise dopamine activity and potentially alleviate some of the pain of romantic withdrawal. "Talking therapy" and/or short-term use of antidepressant medications may be suitable for some disappointed lovers. Long-term use of serotonin-enhancing medications may jeopardize the individual's potental to fall in love again, however, because of their negative effects on neural dopaminergic pathways (Fisher, 2004; Fisher & Thomson, in preparation). Therefore, it is not advised that teens or young adults use this drug over the long term.

Most important, parents, siblings, teachers, and friends should regard romantic rejection as a serious, even life-threatening emotional and physical condition, and help the teen or young adult by listening, expressing concern, engaging the suffering individual in mind-absorbing activities, and excusing some of the rejected lover's inappropriate behaviors as they weather this utterly painful, although temporary, mental and physical malaise.

Future Research

Being in love is perhaps the most powerful psychobiological constellation of feelings experienced by a human being. Moreover, "cupid's fiery shaft" as Shakespeare called romantic love, can trigger the reward system in the brain at any time of life. Children aged five and seniors in their 70s report this passion (Hatfield & Rapson, 1987; Purdy, 1995). But this panoply of emotions and motivations may be particularly significant among young men and women because their romantic passion can play a central role in their reproductive future. In fact, in a study of 37 societies, men and women ranked love, or mutual attraction, as the primary criterion for choosing a spouse (Buss, 1994).

Even when romantic love is not linked with reproduction, this passion can provide a teen or young adult with some exceptional personal and social benefits, including exhilarating joy, increased energy and optimism, feelings of intimacy, self-esteem, inclusion in health-giving social groups, exercise, social and personal support, and crucial practice in the skills of building a long-term partnership—skills they will need to make the most important social contract of their reproductive lives. And when a love affair is ruptured, romantic rejection can lead to one of humanity's most dangerous sorrows—a broken heart.

Love matters. Yet little is currently known about the specific health benefits and risks of this primary mating drive, how and why people vary in their ability to fall in love, how the brain system for romantic love interacts with other neural

mechanisms, or why some rejected people kill themselves or someone else while others seem to weather this storm with a minimum of rage and sorrow. There is much to be learned about this central aspect of human personal and social life.

For example, in this chapter I have suggested biological ways in which the brain system associated with romantic love affects the sex drive and feelings of attachment. Further, I have maintained that imbibing serotonin-enhancing antidepressants can suppress dopaminergic pathways, jeopardizing one's ability to feel romantic passion (Fisher, 2004; Fisher & Thomson, 2004). But the brain chemistry of romantic love most likely interacts with many other brain systems, including those for pain and impulsivity, even perhaps with territoriality, risk, curiosity, and creativity. These many biological interactions should be explored.

It is also currently unknown why some people fall in love regularly while others fall in love far less often. Childhood and adolescent experiences undoubtedly play a role. But genes may also be a factor. Baseline levels of testosterone are inherited (Meikle et al., 1988); baseline brain levels of dopamine and serotonin are inherited as well (Gibbons, 2004; Lesch et al., 1996). Eventually scientists will establish how genetic variants construct these monoaminergic brain systems slightly differently in different individuals and associate different genetic variants with different patterns of loving.

It would also be valuable to explore how differences in lifestyle affect one's susceptibility to romantic love. For example, daily drug use can alter the structure and function of the brain's reward system for weeks, months, or years after the last "fix" (Nestler & Malenka, 2004). So one could investigate how drug addicts and alcoholics, risk takers, novelty seekers, schizophrenics, individuals suffering from Parkinson's Disease, and others with altered dopaminergic pathways vary in their threshold for romance.

Environmental and social circumstances may also play a role in romantic susceptibility. Men's levels of testosterone are highest in the autumn, while women's levels of testosterone peak at the middle of the menstrual cycle (Van Goozen et al., 1997), and men's and women's daily levels of testosterone are highest around dawn (Edwards & Booth, 1994). Because testosterone levels affect dopamine activity, perhaps men and women have cyclic susceptibilities to romance.

Interesting research suggests that novel situations can increase one's susceptibility to romantic love (Aron & Aron, 1996; Dutton & Aron, 1974; Norman & Aron, 1995), most likely because novelty raises levels of central dopamine (Fisher, 2004). But more could be done to understand how to stimulate and maintain romance in a long-term partnership. Although some work has been done on the psychology of the rejector (Baumeister et al., 1993; Baumeister & Wotman, 1992), more needs to be known about the emotions, motivations, and biology of the rejector as well.

Myriad environmental, social, psychological, and biological forces work together to trigger romantic passion, enable one to accept the romantic advances of another, and sustain romantic passion. Even timing is important. But almost everyone experiences this passion (Tennov, 1979). The oldest love letter resides in

the Archaeology Museum in Istanbul, written in cuneiform on a lump of clay some 3,500 years ago. People live, sing, pray, work, kill, and die for love. As Walt Whitman wrote, "I would stake all for you." It is time to explore the kaleidoscopic variations of this powerful and primordial human drive.

References

Abbott, A. (2002) Addicted. *Nature, 419*, 872–874.

Ahearn, L. M. (2001). *Invitations to love: Literacy, love letters and social change in Nepal*. Ann Arbor, MI: The University of Michigan Press.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., &Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Hillsdale, NJ: Erlbaum.

Arnow, B. A., Desmond, J. E., Banner, L. L., Glover, G. H., Solomon, A., Polan, M. L., Lue, T. F. , & Atlas, S. W. (2002). Brain activation and sexual arousal in healthy, heterosexual males. *Brain 125*, 1014–1023.

Aron, A., & Aron, E. N. (1991). Love and sexuality. In K. McKinney & S. Sprecher (Eds.), *Sexuality in close relationships* (pp. 25–48). Hillsdale, NJ: Erlbaum.

Aron, E., & Aron, A. (1996) Love and expansion of the self: The state of the model. *Personal Relationships, 3,* 45–58.

Aron, A., Paris, M., & Aron, E. N. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology*, *69*, 1102–1112.

Aron, A., Fisher, H., Mashek, D., Strong, G., Li, H., & Brown, L. (in preparation). *Neural systems in intense romantic attraction*: *An fMRI study*.

Ascher, J. A., Cole, J. O., Colin, J. N., Feighner, J. P., Ferris, R. M., Fibiger, H. C., Golden, R. N., Martin, P., Potter, W. Z., Richelson, E., & Sulser, F. (1995). Bupropion: A review of its mechanism of antidepressant activity. *Journal of Clinical Psychiatry, 56*, 396–402.

Bartels, A., & Zeki, S. (2000). The neural basis of romantic love. *NeuroReport. 2*, 12–15.

Bartels, A., & Zeki, S. (2000). The neural basis of romantic love. *Neuroreport*, *11*, 3829–3834.

Bartels, A., & Zeki, S. (2004). The neural correlates of maternal and romantic love. *NeuroImage, 21*, 1155–1166.

Baumeister, R. F., & Dhavale, D. (2001). Two sides of romantic rejection. In M. R. Leary (Ed.), *Interpersonal rejection* (pp. 55–71). New York: Oxford University Press.

Baumeister, R. F., Wotman, S. R., & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness and humiliation. *Journal of Personality and Social Psychology*, *64*, 377–394.

Baumeister, R. F., & Wotman, S. R. (1992). *Breaking hearts: The two sides of unrequited love*. New York: Guilford Press.

Beauregard, M., Levesque, J., & Bourgouin, P. (2001). Neural correlates of conscious self-regulation of emotion. *Journal of Neuroscience, 21*, RC165.

Bell, J. (1995). Notions of love and romance among the Taita of Kenya. In W. Jankowiak (Ed.), *Romantic passion: A universal experience?* New York: Columbia University Press.

Bowlby, J. (1969). *Attachment and loss: Attachment (Vol. 1)*. New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Separation (Vol. 2)*. New York: Basic Books.

Breiter, H. C., Aharon, I., Kahneman, D., Dale, A., & Shizgal, P. (2001). Functional imaging of neural responses to expectancy and experience of monetary gains and losses. *Neuron, 30*, 619–639.

Breiter, H. C., Gollub, R. L., Weisskoff, R. M., Kennedy, D. N., Makris, N., Berke, J. D., Goodman, J. M., Kantor, H. L., Gastfriend, D. R., Riorden, J. P., Mathew, R. T., Rosen, B. R., & Hyman, S. E. (1997). Acute effects of cocaine on human brain activity and emotion. *Neuron, 19*, 591–611.

Burch, R. L., & Gallup, G. G., Jr. (in press). The psychobiology of human semen. In S. Platek & T. Shackelford (Eds.), *Female infidelity and paternal uncertainty*. Cambridge: Cambridge University Press.

Buss, D. M. (1994). *The evolution of desire: Strategies of human mating*. New York: Basic Books.

Carmichael, M. S., Humbert, J., Dixen, G., Palmisano, W. G., & Davidson, J. M. (1987). Plasma oxytocin increases in the human sexual response. *Journal of Clinical Endocrinology and Metabolism, 64*, 27–31.

Carnes, P. (1983). *Out of the shadows: Understanding sexual addiction.* Minneapolis: CompCare.

Carter, C. S. (1992). Oxytocin and sexual behavior. *Neuroscience and Biobehavioral Reviews, 16*, 131–144.

Carter, C. S., DeVries, A., Taymans, S. E., Roberts, R. L., Williams, J. R., & Getz, L. L. (1997). Peptides steriods, and pair bonding. In C. S. Carter, I. I. Lederhendler, & B. Kirkpatrick (Eds.), *The integrative neurobiology of affiliation. Annals of the New York Academy of Sciences, 807* (pp. 260–272). New York: The New York Academy of Sciences.

Chisholm, J. S. (1995). Love's contingencies: The developmental socioecology of romantic passion. In W. Jankowiak (Ed.), *Romantic passion: A universal experience?* New York: Columbia University Press.

Clayton, A. H., McGarvey, E. D., Warnock, J., et al. (2000). *Bupropion as an antidote to SSRI-induced sexual dysfunction*. Poster presented at the New Clinical Drug Evaluation Unit Program (NCDEU), Boca Raton, FL.

Coleman, C. C., Cunningham, L. A., Foster, V. J., Batey, J. R., Donahue, R. M. J., Houser, T. L., & Ascher, J. A. (1999). Sexual dysfunction associated with the treatment of depression: a placebo-controlled comparison of buproprion sustained release and sertraline treatment. *Annals of Clinical Psychiatry, 11*, 205–215.

Colle, L. M., & Wise, R. A. (1988). Facilitory and inhibitory effects of nucleus accumbens amphetamine on feeding. In P. W. Kalivas & C. B. Nemeroff (Eds.), *The mesocorticolimbic dopamine system. Annals of the New York Academy of Science, 537*. New York: The New York Academy of Sciences.

Damsma, G., Pfaus, J. G., Wenkstern, D. G., Phillips, A. G., & Fibiger, H. C. (1992). Sexual behavior increased dopamine transmission in the nucleus accumbens and striatum of male rats: Comparison with novelty and locomotion. *Behavioral Neuroscience, 106*, 181–191.

David, V., Segu, L., Buhot, M. C., Ichaye, M., & Cazala, P. (2004). Rewarding effects elicited by cocaine microinjections into the ventral tegmental area of C57BL/6 mice: involvement of dopamine D(1) and serotonin(1B) receptors. *Psychopharmacology (Berl), 34*. 171–200.

Davidson, R. J. (1994). Complexities in the search for emotion-specific physiology. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions.* New York: Oxford University Press

Delgado, M. R., Nystrom, L. E., Fissel, C., Noll, D. C., & Fiez, J. A. (2000). Tracking the hemodynamic responses to reward and punishment in the striatum. *Journal of Neurophysiology, 84*, 3072–3077.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*, 1327–1343.

Downey, G., Freitas, A. L., Michaelis, B., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology, 75*, 545–560.

Dozier, R. W. (2002). *Why we hate: Understanding, curbing, and eliminating hate in ourselves and our world*. New York: Contemporary Books.

Dutton, D. G., & Aron, A. (1974). Some evidence of heightened sexual attraction under conditions of high anxiety. *Journal of Personality and Social Psychology, 30*, 510–517.

Edwards, J. N., & Booth, A. (1994). Sexuality, marriage, and well-being: The middle years. In A. S. Rossi (Ed.), *Sexuality across the life course*. Chicago: University of Chicago Press.

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An FMRI study of social exclusion. *Science, 302*, 290–292.

Elliott, R., Newman, J. L., Longe, O. A., & Deakin, J. F. W. (2003). Differential response patterns in the striatum and orbitofrontal cortex to financial reward in humans: A parametric functional magnetic resonance imaging study. *Journal of Neuroscience, 23*, 303–307.

Ellis, B. J., & Malamuth, N. M. (2000). Love and anger in romantic relationships: A discrete systems model. *Journal of Personality, 68*, 525–556.

Fabre-Nys, C. (1998). Steroid control of monoamines in relation to sexual behaviour. *Review of Reproduction, 3,* 31–41.

Findling, R. (1999). *Don't call that man!: A survival guide to letting go*. New York: Hyperion.

Fiorillo, C. D., Tobler, P. N., & Schultz, W. (2003). Discrete coding of reward probablility and uncertainty by dopamine neurons. *Science, 299*, 1898–1901.

Fisher, H. E. (1992). *Anatomy of love: The natural history of monogamy, adultery and divorce*. New York: W.W. Norton.

Fisher, H. E., Thomson, J. A. (in press). Lust, attraction, attachment: Do the sexual side effects of antidepressants jeopardize romantic love and marriage? In S. Platek (Ed.), *Evolutionary cognitive neuroscience.* Cambridge, MA: MIT Press.

Fisher, H. E., & Thomson, J. A. (2004). *Do the sexual side effects of most antidepressants jeopardize romantic love and marriage*? Paper presented at the Annual Meeting of the American Psychiatric Association (May 1).

Fisher, H. E. (1998). Lust, attraction, and attachment in mammalian reproduction. *Human Nature, 9*, 23–52.

Fisher, H. E., Aron, A., Mashek, D., Li, H., Strong, G., & Brown, L. L. (2002a). The neural mechanisms of mate choice: An hypothesis. *Neuroendocrinology Letters, 23,* 92–97.

Fisher, H. E., Aron, A., Mashek, D., Strong, G., Li, H., & Brown, L. L. (2002b). Defining the brain systems of lust, romantic attraction and attachment. *Archives of Sexual Behavior*, *31*, 413–419.

Fisher, H. E., Aron, A., Mashek, D., Strong, G., Li, H., & Brown, L. L. (2003). *Early stage intense romantic love activates cortical-basal-ganglia reward/motivation, emotion and attention systems: An fMRI study of a dynamic network that varies with relationship length, passion intensity and gender.* Poster presented at the Annual Meeting of the Society for Neuroscience, New Orleans, November 11.

Fisher, H. E. (2004). *Why we love: The nature and chemistry of romantic love*. New York: Henry Holt.

Flament, M. F., Rapoport, J. L., & Berg, C. L. (1985). Clomipramine treatment of childhood obsessive-compulsive disorder: A double-blind controlled study. *Archives of General Psychiatry, 42*, 977–986.

Fremouw, W. J., Westrup, D., & Pennypacker, J. (1997). Stalking on campus: The prevalence and strategies for coping with stalking. *Journal of Forensic Sciences, 42*, 664–667.

Gallup, G. G., Jr, Burch, R. L., & Platek, S. M. (2002). Does seme have antidepressant properties? *Archives of Sexual Behavior, 13*, 289–293.

Gibbons, A. (2004). Tracking the evolutionary history of a "warrior" gene. *Science, 304*, 818–819.

Gingrich, B., Liu, Y., Cascio, C., Wang, Z., & Insel, T. R. (2000). D2 receptors in the nucleus accumbens are important for social attachment in female prairie voles (Microtus ochrogaster). *Behavioral Neuroscience, 114,* 173–183.

Gold, J. I. (2003). Linking reward expectations of behavior in the basal ganglia. *Trends in Neuroscience*, *26*, 12–14.

Gonzalez, M. I., Farabollini, F., Albonetti, E., & Wilson, C. A. (1994). Interactions between 5-hydroxytryptamine (5-HT) and testosterone in the control of sexual and nonsexual behaviour in male and female rats. *Pharmacology of Biochemical Behavior, 47,* 591–601.

Griffin-Shelley, E. (1991). *Sex and love: Addiction, treatment and recovery*. Westport, CT: Praeger.

Gugliotta, G. (1997). The stalkers are out there. *The Washington Post Weekly Edition*. Dec. 8, p. 35.

Hagen, E. H., Watson, P. J., & Thomson, J. A. (in preparation). Love's labours lost: Major depression as an evolutionary adaptation to obtain help from those with whom one is in conflict.

Halpern, H. M. (1982). *How to break your addiction to a person*. New York: McGraw-Hill.

Harris, H. (1995). Rethinking heterosexual relationships in Polynesia: A case study of Mangaia, Cook Island. In W. Jankowiak (Ed.), *Romantic passion: A universal experience?* New York: Columbia University Press.

Hatfield, E., &Rapson, R. (1987). Passionate love/sexual desire: Can the same paradigm explain both? *Archives of Sexual Behavior*, *16*, 259–278.

Hatfield, E., & Rapson, R. (1993). Historical and cross-cultural perspectives on passionate love and sexual desire. *Annual Review of Sex Research, 4*, 67–98.

Hatfield, E., & Rapson, R. (1996). *Love and sex: Cross-cultural perspectives*. Needham Heights, MA: Allyn and Bacon.

Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relationships. *Journal of Adolescence, 9*, 383–410.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.

Heaton, J. P. (2000) Central neuropharmacological agents and mechanisms in erectile dysfunction: The role of dopamine. *Neuroscience & Biobehavioral Reviews, 24*, 561–569.

Herbert, J. (1996). Sexuality, stress and the chemical architecture of the brain. *Annual Review of Sex Research, 7*, 1–44.

Hollander, E., Fay, M., Cohen, B., Campeas, R., Gorman, J. M., & Liebowitz, M. R. (1988). Serotonergic and noradrenergic sensitivity in obsessive-compulsive disorder: Behavioral findings. *American Journal of Psychiatry, 145*, 1015–1017.

Hull, E. M., Du, J., Lorrain, D. S., & Matuszewich, L. (1995). Extracelular dopamine in the medial preoptic area: Implicatons for sexual motivation and hormonal control of copulation. *Journal of Neuroscience, 15*, 7465–7471.

Hull, E. M, Lorrain, D. S., Du, J., Matuszewick, L., Lumley, L. A., Putnam, S. K., & Moses, J. (1999). Hormone-neurotransmitter interactions in the control of sexual behavior. *Behavioural Brain Research, 105*, 105–116.

Hull, E. M., Du, J., Lorrain, D. S., & Matuszewick, L. (1997). Testosterone, preoptic dopamine, and copulation in male rats. *Brain Research Bulletin, 44,* 327–333.

Hunter, M. S., Nitschke, C., & Hogan, L. (1981). A scale to measure love addiction. *Psychological Reports, 48*, 582.

Jankowiak, W. R., & Fischer, E. F. (1992). A cross-cultural perspective on romantic love. *Ethnology, 31*, 149.

Jankoiwiak, W. (1995). Introduction. In W. Jankowiak (Ed.), *Romantic passion: A universal experience?* New York: Columbia University Press.

Kalivas, P. W., & Duffy, P. (1998). Repeated cocaine administration alters extracellular glutamate in the ventral tegmental area. *Journal of Neurochemistry, 70*, 1497–1502.

Kapit, W., Macey, R. I., & Meisami, E. (2000). *The physiology coloring book*. New York: Addison Wesley Longman, Inc.

Karama, S., Lecours, A. R., Leroux, J. M., Bourgouin, P., Beaudoin, G., Joubert, S., & Beauregard, M. (2002). Areas of brain activation in males and females during viewing of erotic film excerpts. *Human Brain Mapp*ing, *16*, 1–13.

Kawashima, S., & Takagi, K. (1994). Role of sex steroids on the survival, neuritic outgrowth of neurons, and dopamine neurons in cultured preoptic area and hypothalamus. *Hormone Behavior, 28*, 305–312.

Kiyatkin, E. A. (1995). Functional significance of mesolimbic dopamine. *Neuroscience & Biobehavioral Reviews*, *19*, 573–598.

Leary, M. R. (Ed.) (2001). *Interpersonal rejection*. New York: Oxford University Press.

Lesch, K. P., Dengel, D., Heils, A., Sabol, S. Z. , Greenberg, B. D., Petri, S., Benjamin, J., Muller, C. R., Hamer, D. R., & Murphy, D. L. (1996). Association of anxiety-related traits with a polymorphism in the serotonin transporter gene regulatory region. *Science*, *274*, 1527–1531.

Leshner, A. I. (1997). Addiction is a brain disease, and it matters. *Science, 278*, 45–47.

Lewis, T., Amini, F., & Lannon, R. (2000). *A general theory of love*. New York: Random House.

Liebowitz, M. R. (1983). *The chemistry of love*. Boston: Little Brown.

Lim, M. M., Murphy, A. Z., & Young, L. J. (2004). Ventral striatopallidal oxytocin and vasopressin V1a receptors in the monogamous prairie vole (*Microtus ochrogaster*). *Journal of Comparative Neurology*, *468*, 555–570.

Lim, M. M., & Young, L. J. (2004). Vasopressin-dependent neural circuits underlying pair bond formation in the monogamous prairie vole. *Neuroscience,* in press.

Marazziti, D., Akiskal, H. S., Rossi, A., & Cassano, G. B. (1999). Alteration of the platelet serotonin transporter in romantic love. *Psychological Medicine, 29*, 741–745.

Martin-Soelch, C., Leenders, K. L., Chevalley, A. F., Missimer, J., Kunig, G., Magyar, S., Mino, A., & Schultz, W. (2001). Reward mechanisms in the brain and their role in dependence: evidence from neurophysiological and neuroimaging studies. *Brain Research Reviews, 36*, 139–149.

McBride, W. J., Murphy, J. M., & Ikemoto, S. (1999). Localization of brain reinforcement mechanisms: Intracranial self-administration and intracranial place-conditioning studies. *Behavior and Brain Research, 101*, 129–152.

Mearns, J. (1991). Coping with a breakup: Negative mood regulation expectancies and depression following the end of a romantic relationship. *Journal of Personality and Social Psychology, 60*, 327–334.

Meikle, A., Stringham, J., Bishop, D., & West, D. (1988). Quantitating genetic and nongenetic factors influencing androgen production and clearance rates in men. *Journal of Clinical Endocrinology Metabolism, 67*, 104–109.

Mellody, P., Miller, A. W., & Miller, J. K. (1992). *Facing love addiction*. New York: HarperCollins Publishers.

Meloy, J. R. (Ed.) (1998). *The psychology of stalking: Clinical and forensic perspective.* New York: Academic Press.

Meloy, J. R. (1999). Stalking: An old behavior, a new crime. *Forensic Psychiatry, 22*, 85–99.

Meloy, J. R., & Gothard, S. (1995). A demographic and clinical comparison of obsessional followers and offenders with mental disorders. *American Journal of Psychiatry, 152*, 258–263.

Meloy, J. R. (2001). When stalkers become violent: The threat to public figures and private lives. *Psychiatric Annals, 33*, 658–665.

Nemeroff, C. B. (1998). The neurobiology of depression. *Scientific American, 278*, 42–49.

Nesse, R. (1991). What good is feeling bad—The evolutionary benefits of psychic pain. *The Sciences: Journal of the New York Academy of Sciences, 31*, 30–37.

Nestler, E. J., & Malenka, R. C. (2004). The addicted brain. *Scientific American*, March, 32.

Netter, P., Hennig, J., Meier, B., & Rohrmann, S. (1998). Testosterone as an indicator of altered 5-HT responsivity in aggressive subjects. *European Psychiatry, 13*, 181.

Norman, C., & Aron, A. (1995). *The effect of exciting activities on relationship satisfaction: A laboratory experiment*. Paper presented at the International Network Conference on Personal Relationships, Williamburg, VA.

Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.

Peele, S. (1975). *Love and addiction*. New York: Taplinger Publishing Company.

Pfaff, D. W. (1999). *DRIVE: Neurobiological and molecular mechanisms of sexual motivation.* Cambridge, MA: The MIT Press

Pitkow, L. J., Sharer, C. A., Ren, X., Insel, T. R., Terwilliger, E. F., & Young, L. J. (2001). Facilitation of affiliation and pair-bond formation by vasopresin receptor gene transfer into the ventral forebrain of a monogamous vole. *Journal of Neuroscience*, *21*, 7392–7396.

Pleim, E. T., Matochik, J. A., Barfield, R. J., & Auerbach, S. B. (1990). Correlation of dopamine release in the nucleus accumbens with masculine sexual behavior in rats. *Brain Research, 524*, 160–163.

Post, R. M., Weiss, S. R. B., & Pert, A. (1988). Cocaine-induced behavioral sensitization and kindling: Implications for the emergence of psychopathology and seizures. In P. W. Kalivas & C. B. Nemeroff (Eds.), *The mesocorticolimbic dopamine system* (pp. 292–308). *Annals of the New York Academy of Sciences, 537*. New York: The New York Academy of Sciences.

Purdy, M. (1995). A sexual revolution for the elderly. *The New York Times*. November 6, p. A16.

Rebhun, L. A. (1995). Language of love in northeast Brazil. In W. Jankowiak (Ed.), *Romantic passion: A universal experience?* New York: Columbia University Press.

Robbins, T. W., & Everitt, B. J. (1996). Neurobehavioural mechanisms of reward and motivation. *Current Opinion in Neurobiology, 6*, 228–268.

Rosenthal, N. E. (2002). *The emotional revolution: How the new science of feelings can transform your life*. New York: Citadel Press Books.

Salamone, J. D. (1996). The behavioral neurochemistry of motivation: Methodological and conceptual issues in studies of the dynamic activity of nucleus accumbens dopamine. *Journal of Neuroscience Methods*, *64*, 137–149.

Schaef, A. W. (1989). *Escape from Intimacy: The psseudo-relationship addictions.* San Francisco: Harper & Row.

Schultz, W., Dayan, P., & Read Montague, P. (1997). A neural substrate of prediction and reward. *Science, 275*, 1593–1598.

Schultz, W. (2000). Multiple reward signals in the brain. Nature reviews. *Neuroscience, 1,* 199–207.

Sherwin, B. B. (1994). Sex hormones and psychological functioning in postmenopausal women. *Experimental Gerontology, 29*, 423–430.

Sherwin, B. B., Gelfand, M. M., & Brender, W. (1985). Androgen enhances sexual motivation in females: A prospective cross-over study of sex steroid administration in the surgical menopause. *Psychosomatic Medicine*, *7*, 339–351.

Sherwin, B. B., & Gelfand, M. M. (1987). The role of androgen in the maintenance of sexual functioning in oophorectomized women. *Psychosomatic Medicine, 49*, 397.

Sundblad, C., & Eriksson, E. (1997). Reduced extracellular levels of serotonin in the amygdala of androgenized female rats. *Eur Neuropsychopharmacol, 7*, 253–259.

Szezypka, M. S., Zhou, Q. Y., & Palmiter, R. D. (1998). Dopamine-stimulated sexual behavior is testosterone dependent in mice. *Behavioral Neuroscience*, *112*, 1229–1235.

Taffel, R. (1990). The politics of mood. *The Family Therapy Networker,* 49–53.

Tassin, J. P., Herve, D., Blanc, G., & Glowinski, J. (1980). Differential effects of a two-minute open field session on dopamine utilization in the frontal cortices of BALB/C and C57 BL/6 Mice. *Neuroscience Letters, 17*, 67–71.

Tavris, C. (1992). *The mismeasure of woman*. New York: Simon & Schuster.

Tennov, D. (1979). *Love and limerence: The experience of being in love*. New York: Stein and Day.

Thoren, P., Asberg, M., & Bertilsson, L. (1980). Clomipramine treatment of obsessive disorder: Biochemical and clinical aspects. *Archives of General Psychiatry, 37*, 1289–1294.

Van Goozen, S., Wiegant, V. M., Endert, E., Helmond, F. A., & Van de Poll, N. E. (1997). Psychoendocrinological assessment of the menstrual cycle: The relationship between hormones, sexuality, and mood. *Archives of Sexual Behavior, 26*, 359–382.

Walker, P. W., Cole, J. O., Gardner, E. A., et al. (1993). Improvement in fluoxetine-associated sexual dysfunction in patients switched to bupropion. *Jounal of Clinical Psychiatry*, 54, 459–465.

Wang, Z, Yu, G., Cascio, C., Liu, Y., Gingrich, B., & Insel, T. R. (1999). Dopamine D2 receptor-mediated regulation of partner preferences in female prairie voles (Microtus ochrogaster): a mechanism for pair bonding? *Behavioral Neuroscience, 113*, 602–611.

Wang, Z. X., Ferris, C. F., & De Vries, G. J. (1994). The role of septal vasopressin innervation in paternal behavior in prairie voles (*Microtus ochrogaster*). *Proceedings of the National Academy of Sciences* (USA), *91*, 400–404.

Watson, P. J., & Andrews, P. W. (2002). Toward a revised evolutionary adaptationist analysis of depression: The social navigation hypothesis. *Journal of Affective Disorders, 72*, 1–14.

Wenkstern, D., Pfaus, J. G., & Fibiger, H. C. (1993). Dopamine transmission increases in the nucleus accumbens of male rats during their first exposure to sexually receptive female rats. *Brain Research, 618*, 41–46.

Wersinger, S. R., & Rissman, E. F. (2000) Dopamine activates masculine sexual behavior independent of the estrogen receptor alpha. *Journal of Neuroscience, 20,* 4248–4254.

Williams, J. R., Insel, T. R., Harbaugh, C. R., & Carter, C. S. (1994). Oxytocin administered centrally facilitates formation of a partner preference in female prairie voles (Microtus ochrocaster). *Journal of Neuroendocrinology, 6*, 247–250.

Wilson, M., & Daly, M. (1992). The man who mistook his wife for a chattel. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of sculpture.* New York: Oxford University Press.

Wise, R. A. (1988). Psychomotor stimulant properties of addictive drugs. In P. W. Kalivas & C. B. Nemeroff (Eds.), *The mesocorticolimbic dopamine system* (pp. 228–234). *Annals of the New York Academy of Science, 537*. New York: The New York Academy of Sciences.

Wise, R. A (1996). Neurobiology of addiction. *Current Opinion in Neurobiology, 6*, 243.

Wise, R. A. & Hoffman, D. C. (1992). Localization of drug reward mechanisms by intracranial injections. *Synapse, 10*, 247–263.

Wolkstein, D. (1991). *The first love stories*. New York: Harper Perennial.

Yang S. P., Pau, K. Y. F., Hess, D. L., & Spies, H. G. (1996). Sexual dimorphism in secretion of hypothalamic gonadotropin-releasing hormone and norepinephrine after coitus in rabbits. *Endocrinology, 137*, 2683–2693.

Young L. J., Lang, Z., & Insel, T. R. (1998). Neuroendocrine bases of monogamy. *TINS, 21,* 71–75.

Young, L. J., Nilsen, R., Waymire, K. G., MacGregor, G. R., & Insel, T. R. (1999). Increased affiliative response to vasopresin in mice expressing the V1a receptor from a monogamous vile. *Nature*, *400*, 766–768.

2

TO HAVE LOVED AND LOST: ADOLESCENT ROMANTIC RELATIONSHIPS AND REJECTION

Bonnie L. Barber
Murdoch University

Fisher (this volume) has written a provocative chapter about romantic love and rejection. She brings into her writing work from a number of fields to explain the origins and manifestations of romance and the consequent risks of rejection. Her major contribution in this chapter is her ability to lead us to focus our attention on the neuroscience of social emotions. In our efforts to measure and study love and romance, we often focus on subjective interpretations recorded in interviews or surveys, without consideration for underlying biological experiences. Fisher reminds us that this focus on cognitive constructions of the emotions and motivations for sex and social bonding provides an incomplete view.

Here, I take several approaches to the topic of adolescent romantic relationships and rejection. First, I examine neuroimaging studies focused on romantic love and consider the evidence for the psychophysiological properties of romantic love as a distinct drive system. Although I suggest that the data do not clearly show that romantic love is a distinct biological system, I agree with Fisher that rejection is both common and painful, and a topic of central importance in the study of adolescent romantic relations and sexuality. Relationship break-ups also may offer opportunities for personal growth. In support of these ideas, I conclude this chapter with data on sequelae of adolescent relationship break-ups.

Is the Reward System in the Brain Activated Uniquely by a Romantic Partner?

One of Fisher's important contributions in her chapter is her focus on the biological aspects of love, and in particular, on potential brain systems that are activated when we think about a romantic partner. Fisher begins with the premise that humans have three different yet interrelated brain systems for lust, romantic love, and attachment. Her chapter's basis on the assumption that romantic love is a primary drive system and is uniquely patterned in the brain led me to seek more information about the data for that assumption. In particular, how is the reward system activated uniquely by a romantic or sexual partner? Are there other dyadic relationships, such as parent-child attachments, sibling relationships, or friendships, in our lives with similar properties? Diamond has described passionate friendships (Diamond,

Savin-Williams, & Dubé, 1999) characterized by intensity similar to that in romantic relationships, high levels of reciprocal intimacy, and the potential for jealousy and separation anxiety, but without a sexual component. Would such a dyadic relationship trigger brain activity similar to that linked to a romantic partner?

Neuroimaging Studies of Romantic Love

Brain-scanning studies using fMRI are offered in Fisher's chapter as one line of evidence for links between levels of dopamine and feelings of romantic love. Some readers may be unfamiliar with the neuroimaging studies cited by Fisher in her chapter, so I will briefly describe the data available on this point, examining contrasts between viewing images of the loved partner and images of friends and children. Unfortunately, data are not reported in these studies on the intensity or intimacy of the friendships that are used as comparisons for the loved partner.

Bartels and Zeki (2000) studied romantic love using fMRI to measure brain activity. They showed 17 volunteers (ages 21–37) pictures of their loved partner, and of three friends of similar age, sex, and duration of friendship as the partner (to control for familiarity, friendly feelings, and visual input), and then mapped the functional activation of specific regions of the brain. In response to photos of the loved partner, activations were found in the medial insula and the anterior cingulate cortex, and subcortically in the caudate nucleus and the putamen. These regions did not show the same activation in response to photographs of friends.

Following up on their previous work, Bartels and Zeki (2004) conducted a similar study with 20 mothers who had a mean age of 34 (range 27–49), viewing photographs of their children who were 9 months to 6 years old (median = 20 months). The contrasts for those analyses were photographs of another child of the same age with whom they had been acquainted for about the same length of time, of their best friend, and of another acquaintance. For comparison to these mothers, Bartels and Zeki examined the romantic partner study data, separating the 11 female volunteers from the 6 males, allowing for female-only comparisons to the maternal data. The overlapping activated regions for both romantic and maternal love included the striatum (caudate nucleus, globus pallidus, and putamen), ventral tegmental area (VTA—posterior part likely active for maternal love), anterior cingulate cortex (dorsal), and middle insula. The activated regions common between romantic love and motherhood belong to the reward system and are known to contain a high density of receptors for oxytocin and vasopressin. The Fisher, Brown, and Aron collaborative fMRI study (described in Fisher, this volume) of 17 adults who had "fallen madly in love" also indicated elevated activity in the VTA and the caudate nucleus, offering support to the idea that romantic and maternal love share substantial neuroanatomical activation.

The deactivated regions of the brain were the same in the Bartels and Zeki maternal study as in the loved partner study (middle prefrontal, inferior parietal, and middle temporal cortices, amygdala, and temporal poles), although the deactivations were weaker for mothers than for romantic partners (Bartels & Zeki, 2004). In part, this might be due to the mothers' very positive feelings about the acquainted children who were the contrast picture for their own child. These deactivated areas have been associated with critical social judgments and assessments of trustworthiness (Bartels & Zeki, 2004) and may therefore suggest that we do not cognitively process loved partners or children with suspicion. It seems that an important future direction for this work will be to consider whether trusted others to whom we are attached, such as parents, siblings, and perhaps passionate friends, elicit this same pattern of activation and deactivation.

Bartels and Zeki concluded that the similarity of the results for the mother-child dyads and the romantic partnerships was striking, and described their data as focusing on attachment-specific emotions. Not surprisingly, a few regions were specific to each form of attachment. In romantic love only, the dentate gyrus/hippocampus and hypothalamus (linked to sexual responsiveness) increased in activity. In maternal love only, the lateral orbito-frontal cortex and, subcortically, the periaqueductal gray (PAG) and the post-ventral part of the thalamus were activated. The PAG has traditionally been considered a region linked with defensive strategies, fear, and endogenous pain reduction. A review of the anatomical and functional organization of the PAG suggests that it coordinates coping strategies for dealing with escapable and unescapable environmental demands (Bandler & Shipley, 1994). How these operations are linked to maternal bonds and emotions will need to be further articulated.

Overall, in summarizing their data, Bartels and Zeki suggested that the reward structures that were activated revealed a general, modality independent network that is specialized to mediate attachment. Some of the structures activated in common across their two studies respond to food and drink reward and also to cocaine. These types of studies are provocative in that they identify active regions of the brain, but cannot yet examine the mechanisms that connect emotions and relationships to neural processing and neurotransmitters. Clearly, this type of work deserves further study.

Psychophysiological Properties of Romantic Love

There appear to be neuroanatomical correlates to attachment—can this be extended to include a neurochemical drive system for romantic love? Fisher posits dopamine as a central feature of romantic love, but without supporting research evidence we must regard this idea with caution. It appears that her evidence for this connection is indirect—behaviors that are associated with elevated dopamine levels (energy, sleeplessness) are also linked to behaviors that may manifest in romantic love.

Even if we are convinced of a biological aspect to romantic love, does it need to be a *unique* "drive" system? Could it be that positive romantic experiences are rewarding, and we therefore respond to our beloved as we do to other family members with whom we are socially bonded, or to cocaine, good wine, or chocolate cake? It is not clear to me that there is evidence to support distinct "primary" brain systems for loving as separate from lust and attachment. Of course, in humans, cognition can intervene between neuropeptides or endorphins and sexual behavior. Perhaps the "romantic love" system is a combination of lust and attachment emotions, and the cognitive experiential features of romantic love are socially, culturally, and interpersonally constructed.

It does seem more parsimonious to consider two evolved biological systems—one for sexual arousal and lust, and one for nurturance and social bonding—while at the same time recognizing the similarities of these two systems. Both of these social feelings share neurochemical features, such as links to oxytocin and vasopressin, though in different parts of the brain and in distinct ways for males and females (Panksepp, 1998). As previously described, the neuroimaging data are consistent with a representation of these two systems as sharing many features, but with some distinct aspects.

Gender and Sexual Orientation

We need to remember that substantial gender differences in our biological systems influence sexuality. Male and female brains develop and respond differently in the areas of sex and attraction. We also have little knowledge about how these processes are similar or different for those who have same-sex attractions. I would note here that the relationships of gay and lesbian youth are invisible in Fisher's chapter. The presumption of heterosexuality is troubling, as it does not consider the neural mechanisms or neurotransmitters involved in same-sex romance. If we mapped the minds of gay men or lesbians who are madly, deeply in love, would we expect to see the same reward system active in their brains? Only through extending our research to include both same- and opposite-sex romantic attachments will we fully understand the phenomenon. The heterocentric referral to mate choice, mating drive, and mating opportunities leaves little room for consideration of the biological, or evolutionary, underpinnings of same-sex romantic love and homosexuality.

Rejection

Frustration attraction, abandonment rage, and stalking are individual reactions to rejection that are extreme and certainly not universal. It is important to know what makes someone kill their ex-partner or child because if we could predict which non-residential parents would take their children and kill them while committing suicide themselves, we could prevent tragedies. Developing this capability is not the same as understanding the impact of rejection in general.

Inappropriate responses to rejection may be socially learned, not biologically based. Previous relationship experiences and accompanying schemas for romantic involvement may predispose some rejected lovers to especially unhealthy responses. Rejection sensitivity may be one direction in which to look for such individual differences. The need for acceptance may compromise rejection-sensitive adolescents' judgment in selecting partners and their ability to maintain relationships, and place them at risk for depression (girls) or abusiveness (boys) (Downey, Bonica, & Rincon, 1999).

Despite these individual differences, there are shared aspects to our response to rejection. Fisher argues that we are wired to suffer when we are rejected by a beloved, but it is also likely that because we are wired to be social beings, social rejection is more generally hurtful. One of my questions is, how does romantic rejection compare to the more global work on social rejection being conducted by Matthew Lieberman and his colleagues at UCLA on the shared neural system for physical and social pain? They reported last year in *Science* that fMRI scans revealed that social exclusion (simulated using a virtual ball-tossing game) was related to activation in the dorsal anterior cingulate cortex (dACC). This region is one of those identified by Bartels and Zeki (2004) as active when viewing pictures of one's romantic partner or one's child. Lieberman and Eisenberger (in press) explained that the dACC, which is connected to the experience of social pain, is also linked to the detection of conflict, and that it may therefore create attention-getting emotional states. They also have argued that the experience of social and physical pain overlaps in our neuroanatomy (Eisenberger & Lieberman, in press). Panksepp (1998) also questioned whether social reward processes exist independently of the neurochemistry of separation distress. This connection of more general social rejection to social pain and distress is consistent with Fisher's argument, but it broadens it to include relationships other than romantic partners.

In the second phase of rejection, Fisher posits that "Drugged by sorrow, most cry, lie in bed, stare into space, drink too much or hole up and watch TV" (this volume, p. 15). How is Fisher's discourse about adult rejection and its aspects of protest and despair relevant to adolescents? Are these experiences common after teen break-ups? To what extent do youth infuse their partnerships with such emotional investment? Certainly dating and breaking up are normative aspects of adolescence (Carver, Joyner, & Udry, 2003), and we should not trivialize the importance of adolescent romance. From an adult perspective, it seems obvious that youth romance is likely to be short-lived, but the pain accompanying rejection merits our consideration. The balance of this chapter will examine adolescent experiences with relationship dissolution in a longitudinal local-area study.

Adolescent Romantic Relationship Dissolution

Study Design and Sample

The data come from the Michigan Study of Adolescent Life Transitions (MSALT), a longitudinal study that began with 6th graders drawn from ten school districts in southeastern Michigan in 1983. The majority of the sample came from White, working- or middle-class families. Longitudinal survey data from approximately 1,000 MSALT participants were used for the analyses reported in this chapter. These data were collected in 1988 in 10th grade (Wave 5) and in 1990 in 12th grade (Wave 6).

Participants were asked if they had broken up with a boyfriend or girlfriend in the previous six months (direction of rejection is unspecified, so we do not know if they were rejecting or rejected). In the 10th grade, 62% of females and 52% of males reported experiencing a relationship break-up ("Breakup5") in the previous six months. In the 12th grade, 55% of females, and 48% of males had recently broken up ("Breakup6").

Measures

Psychological adjustment was measured at Waves 5 and 6 using scales with responses ranging from 1 = "never" to 7 = "daily." *Depressed Mood* had three items such as "how often do you feel unhappy, sad, or depressed?" *Social Isolation* was measured with two items about how often the participant felt lonely and had trouble fitting in with others. We also collected information on drinking and bringing alcohol or drugs to school at Waves 5 and 6 for the previous six months with the following scale: 1 = "none," 2 = "once," 3 = "2–3 times," 4 = "4–6 times," 5 = "7–10 times," 6 = "11–20 times," and 7 = "21 or more times." For complete descriptions of the psychological adjustment and substance use variables and their trajectories of change over time in this sample, see Barber, Eccles, and Stone (2001).

Results

A 2 (Gender) x 2 (Wave 5 Breakup) x 2 (Wave 6 Breakup) x 2 (time) repeated measure MANOVA was performed for each dependent variable, nesting the 2-level "time" component within subjects.

Depressed mood. As we have reported previously, a significant time effect reveals that depressed mood decreased over time, and this downward linear effect was more marked for females (Barber, Eccles, & Stone, 2001). The linear decline is also moderated by a within-subjects Breakup5 by Breakup6 by time interaction that approaches significance, $F(1, 584) = 3.55$, $p = .06$ (see Figure 2.1), with those who had broken up in the 10th grade, but had not in the six months preceding the 12th-grade survey (represented by solid circles with solid line), experiencing the

steepest decline in depressed mood across the two years. There was also a significant difference in the Breakup5 between-subjects factor, $F(1, 584) = 4.72$, $p = .03$, revealing that those who experienced a break-up in the 10th grade (represented by circles) experienced more depressed mood than those who had not (represented by squares).

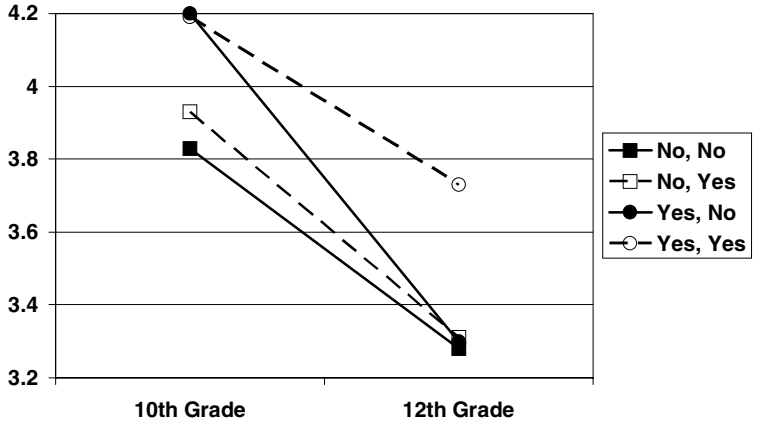


Figure 2.1. Depressed mood by break-up status in 10th and 12th grades.

I also wanted to examine a longer-term indicator of maladjustment. Those who broke up in the six months preceding the 12th grade survey were significantly more likely to say they had tried to commit suicide when we resurveyed them at age 21 (13%) than those who did not experience a break-up in the 12th grade (8%). These data do not allow us to infer causal direction, as it is certainly plausible that relationship dissolution may be both a cause and a consequence of depressed mood and poor psychological adjustment. However, an examination of the means in Figure 2.1 does suggest that the groups who will break up in the 12th grade (hollow markers) are not distinguishable in the 10th grade in level of depressed mood from those who will not break up (solid markers), within each 10th-grade break-up status.

Substance use. As reported previously (Barber, Eccles, & Stone, 2001), there was a significant linear effect of time, with drinking increasing across time ($M_5 = 2.5$, $M_6 = 3.9$). Those who did not break up at Wave 5 reported drinking less frequently overall (M=2.9) than those who did break up at Wave 5 (M=3.4), $F(1, 500) = 12.08$, $p = .001$, but their rate of increase was steeper between grades 10 and 12 ($M_5 = 2.0$, $M_6 = 3.6$) than those who did break up at Wave 5 ($M_5 = 2.8$, $M_6 = 4.1$), as indicated by a significant time*Breakup5 interaction, $F(1, 500) = 4.60$, $p = .03$. Although they increase relatively more quickly across the high school years, it is important to note that they do not catch up to those who did experience a break-up in the 10th grade.

In the more serious area of bringing alcohol or drugs to school, there is a time*Breakup6 interaction, $F(1, 541) = 4.47$, $p = .04$, with those who broke up in 12th grade experiencing an increase in bringing alcohol or drugs to school (see Figure 2.2). This is consistent with other prospective analyses of longitudinal data, in which Overbeek and colleagues (2003) reported an increase in young adult substance use disorders following relationship break-up. There is also an interaction of between-subjects factors Breakup5 and Breakup6, $F(1, 541) = 4.92$, $p = .03$, such that those who have a break-up in the 12th grade (represented by hollow markers) bring alcohol and drugs to school more frequently than those who did not break up in the 12th grade (represented by solid markers), but only if they did not have a break-up in the 10th grade (see the dashed line in Figure 2.2 with hollow square markers).

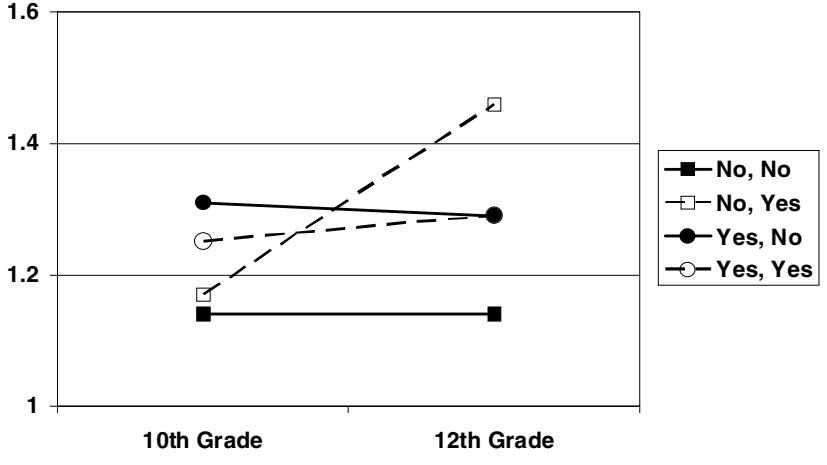


Figure 2.2. Frequency of bringing alcohol or drugs to school by break-up status in 10th and 12th grades.

Social isolation. Social isolation decreased across time (see Barber, Eccles, & Stone, 2001). The within-subjects interaction of time by Breakup5 by Breakup6 was significant, $F(1, 583) = 4.59$, $p = .03$, indicating that although all groups decline in isolation over time, the declines varied by the pattern of break-up experiences. A comparison of those who had not had a recent break-up in the 10th grade (represented by the square markers in Figure 2.3) reveals that those who subsequently had a break-up in the 12th grade (hollow squares) declined more in social isolation than those who did not (solid squares). This might be related to a connection between dating and break-ups, with some adolescents only being spared break-ups because they are missing out on socially normative dating experiences and therefore report feeling more lonely. This pattern is the reverse of the more expected pattern for

those who experienced a break-up in the 10th grade (represented by the circles) with the steepest decline being among those who had broken up in the 10th grade and had not had a recent break-up in the 12th grade (represented by the solid circles).

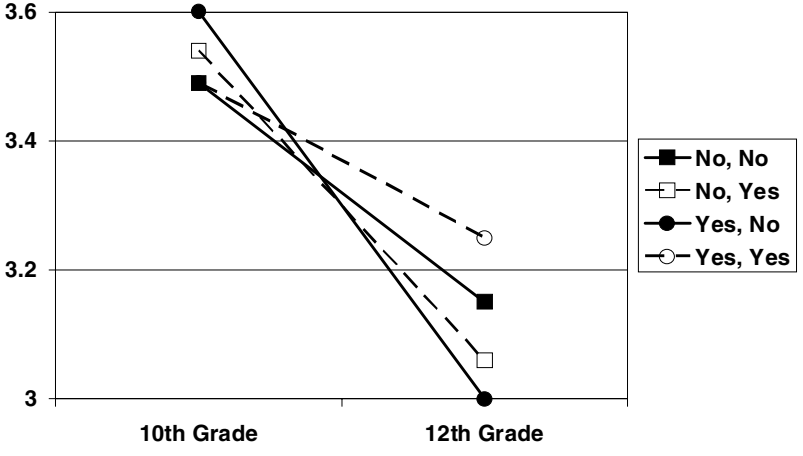


Figure 2.3. Social isolation by break-up status at 10th and 12th grades.

Relationship satisfaction. The favorable position of those who had experienced a break-up in the 10th grade, but not in the 12th grade, led me to wonder about the quality of their relationships in the 12th grade. Adolescents responded to the following question: How satisfied are you with the emotional support you get from your romantic partner? Because we have this measure from 12th-grade participants only, a univariate ANOVA was conducted. Results indicated a significant main effect of Breakup5, $F(1, 545) = 4.58$, $p = .03$, with those who had broken up at Wave 5 reporting *higher* satisfaction in Wave 6 ($M = 5.2$) than those who had not broken up at Wave 5 ($M = 4.9$). There was also a significant interaction of Breakup5 and Breakup6, $F(1, 545) = 8.98$, $p = .003$, such that those who broke up in the 10th grade, but did not report a recent break-up in the 12th grade, were especially satisfied with the support they received from their romantic partners (see Figure 2.4). These are the same individuals who had the steepest decline in social isolation, suggesting that going through a break-up may ultimately offer some benefits to youth.

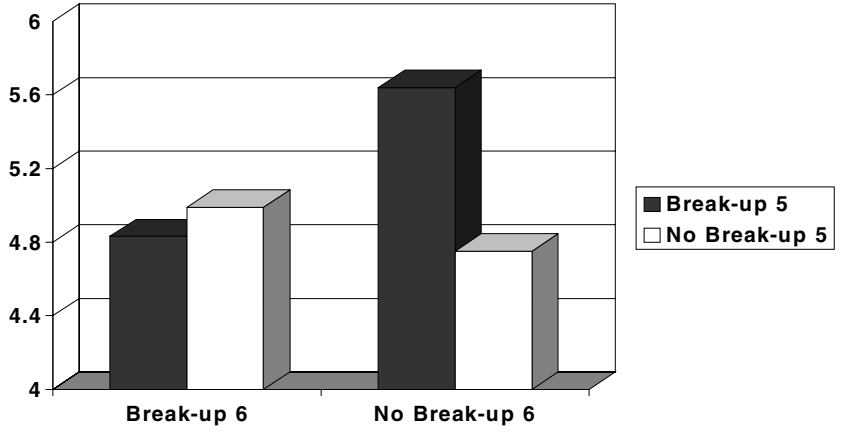


Figure 2.4. Satisfaction with romantic partner support in grade 12 by break-up status in 10th and 12th grades.

Conclusion

Romantic relationships have been suggested as an important avenue for the formation of identity in adolescence (Brown, Feiring, & Furman, 1999; Furman & Shaffer, 2003). The heightened emotions that accompany romance offer opportunities to grapple with strong feelings and learn emotion regulation skills, including managing the positive and negative emotions likely to accompany these partnerships throughout life (Diamond, 2003; Larson, Clore, & Wood, 1999). Dating relationships typically provide challenges to emotional well-being, particularly with regard to issues related to infidelity and break-ups (Welsh, Grello, & Harper, 2003). After learning which coping strategies work to help one get through a break-up, subsequent break-ups may be less difficult or at least managed better. One may also develop insight that facilitates selecting a more compatible and supportive partner in the future. Perhaps, as Alfred Lord Tennyson said, "Tis better to have loved and lost than never to have loved at all."

Clearly, break-ups are important to adolescents. Whether that is attributable to biology, brain activation, or social construction, or most likely a combination of all three, adolescent relationship dissolution is an important area for us to examine more closely. As Fisher points out, some youth suffer especially dramatically, and understanding those individual differences will be important as we look ahead to develop interventions for those who lose their loves.

Acknowledgments

This effort was supported by several generous colleagues who offered suggestions and guidance: I thank David Butler for his insight about relevant evolutionary and neuroscience literature; Iain Walker for making me aware of the neuroimaging work on social rejection; Peter Drummond for guidance in my reading on functions of brain regions; Cindy Rankin for advice about neuroendocrinology; and Stephen Russell for general comments on issues for sexual minority youth. The original data in the chapter are the result of my 20-year collaboration on the Michigan Study of Life Transitions with Jacquelynne Eccles. That study has been supported by grants from the William T. Grant Foundation, the Spencer Foundation, and the National Science Foundation, and currently is funded by the Office of Adolescent Pregnancy Prevention. Data analyses for this chapter were conducted by Margaret Stone and James Hunt. I also wish to thank the following people for their contributions over the years to this project: Carol Midgley, Allan Wigfield, David Reuman, Harriet Feldlaufer, Douglas MacIver, Janis Jacobs, Constance Flanagan, Christy Miller Buchanan, Andrew Fuligni, Deborah Josefowicz, Pam Frome, Lisa Colarossi, Amy Arbreton, Laurie Meschke, Kim Updegraff, Kristen Jacobson, Miriam Linver, Mina Vida, and Sun-A Lee.

References

Bandler, R., & Shipley, M. T. (1994). Columnar organization in the midbrain periaqueductal gray: Modules for emotional expression? *Trends in Neuroscience, 17*, 379–389.

Barber, B. L., Eccles, J. S, & Stone, M. R. (2001). Whatever happened to the Jock, the Brain, and the Princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16,* 429–455.

Bartels, A., & Zeki, S. (2000). The neural basis of romantic love. *Neuroreport, 11*, 3829–3834.

Bartels, A., & Zeki, S. (2004). The neural correlates of maternal and romantic love. *NeuroImage, 21*, 1155–1166.

Brown, B. B., Feiring, C., & Furman, W. (1999). Missing the Love Boat: Why researchers have shied away from adolescent romance. In W. Furman, B. Bradford Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). Cambridge: Cambridge University Press.

Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 23–56). Mahwah, NJ: Erlbaum.

Diamond, L. M. (2003). Love matters: Romantic relationships among sexual minority youth. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 85–107). Mahwah, NJ: Erlbaum.

Diamond, L. M., Savin-Williams, & Dubé, E. M. (1999). Sex, dating, passionate friendships, and romance: Intimate peer relations among lesbian, gay, and bisexual adolescents. In W. Furman, B. Bradford Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). Cambridge: Cambridge University Press.

Downey, G., Bonica, C., & Rincon, C. (1999) Rejection sensitivity and adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 148–174). Cambridge: Cambridge University Press.

Eisenberger, N. I., & Lieberman, M. D. (in press). Why it hurts to be left out: The neurocognitive overlap between physical and social pain. In K. D. Williams (Ed.), *The social outcast: Ostracism, social exclusion, and bullying*. Cambridge: Cambridge University Press.

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 3–22). Mahwah, NJ: Erlbaum.

Larson, R. W., Clore, G. L., & Wood, G. A. (1999). The emotions of romantic relationships: Do they wreak havoc on adolescents? In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence*. Cambridge: Cambridge University Press.

Lieberman, M. D., & Eisenberger, N. I. (in press). A pain by any other name (rejection, exclusion, ostracism) still hurts the same: The role of the dorsal anterior cingulate cortex in social and physical pain. In J. Cacioppo, P. Visser, & C. Pickett (Eds.), *Social neuroscience: People thinking about people*. Cambridge, MA: MIT Press.

Overbeek, G., Vollebergh, W., Engels, R. C. M. E., & Meeus, W. (2003). Young adults' relationship transitions and the incidence of mental disorders: A three-wave longitudinal study. *Social Psychiatry and Psychiatric Epidemiology, 38,* 669–676.

Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions.* New York: Oxford University Press.

Welsh, D. P., Grello, C. M., & Harper, M. S. (2003). When love hurts: Depression and adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 185–211). Mahwah, NJ: Erlbaum.

3

SHORT- AND LONG-TERM MATING STRATEGIES: ADDITIONAL EVOLUTIONARY SYSTEMS RELEVANT TO ADOLESCENT SEXUALITY

David P. Schmitt
Bradley University

Fisher (this volume) argues that the human brain contains three neural systems designed, in part, to adaptively guide individuals through the sociosexual process of courtship and reproduction. *Lust* functions to motivate the sex drive in general and involves androgenic brain systems. *Romantic Love* is intended to focus sexual interests on one individual and primarily involves dopaminergic systems. *Attachment* is designed to maintain sexual interests over time, at least long enough to rear a child, and involves oxytocin and related brain systems. The evidence reviewed by Fisher here and elsewhere (Fisher, 1992, 1998; Fisher et al., 2002) is compelling. These three fundamental systems likely evolved within the human brain (though perhaps not solely for reproduction, per se), and they probably exert the kinds of predictable influences on adolescent sexuality postulated by Fisher and her colleagues.

I would argue, however, that this three-system view of sexual evolution is rather limited, and that additional evolutionary perspectives on human mating are necessary to fully understand the adaptive process of moving from courtship to reproduction. In particular, a considerable body of work suggests that humans evolved two psychologically distinct strategies involving courtship and reproduction: *long-term* mating strategies and *short-term* mating strategies (Buss & Schmitt, 1993; Kenrick et al., 1990). Moreover, the way humans pursue each of these mating strategies differs across gender, ovulatory status (among women), and ecological context (Gangestad & Simpson, 2000). Without acknowledging the fundamental differences between long-term mating and short-term mating psychologies, and how these differences are moderated by gender and context, any explanation of adolescent sexuality remains incomplete.

Long-Term Mating Strategies

According to Fisher (1992), the attachment system of the human brain functions to maintain relatively long-term mateships, lasting around four to seven years and ultimately designed to yield serial monogamy as humanity's fundamental mode of

reproduction. This viewpoint of human sexuality brings up several questions. With whom does one maintain this monogamous relationship? Fisher suggests that we maintain bonds discriminately, mating only with those who elicit infatuation via the romantic love system. But again, who tends to elicit the love system, and what type of person might elicit sexual desire via the lust system to begin with? Are there sex differences in the elicitors of each system? Finally, if lust does not lead to romantic love or long-term attachment, is it necessarily a failure of our evolved psychology or are humans designed in some ways to adaptively pursue short-term mateships?

According to Sexual Strategies Theory (Buss & Schmitt, 1993), those who elicit sexual desire and romantic love, and those with whom we stay closely attached over time, tend to possess characteristics that help solve the adaptive problems humans faced throughout human evolutionary history. This is true for both men and women, and for both long- and short-term mating strategies. In long-term mating, for example, men needed to solve the problem of choosing fertile and reproductively valuable mating partners (i.e., women likely to produce the most children in the future). Men who chose otherwise left relatively fewer progeny behind. As a result, human males of today, including adolescents, tend to place a greater mate choice premium on signals of fertility and reproductive value, such as a woman's youth and physical appearance (Cunningham et al., 1995; Jones, 1995; Singh, 1993).

Women, in contrast, place a greater premium on a man's status, resources, ambition, and maturity—cues that were relevant to solving women's adaptive problem of securing a man's long-term provisioning *ability*. Women also find appealing a man's generosity and emotional openness—cues to his *willingness* to provision women and their children (Ellis, 1992; Feingold, 1992). Of course, in our ancestral past men and women often faced similar problems of mate choice, leading to little or no sex differences in desires for attributes such as a good sense of humor and overall similarity (Buss & Schmitt, 1993). Without acknowledging the adaptive problems faced by men and women, and the psychological mate preference adaptations that resulted from these selective forces, Fisher's theory of courtship and reproduction is somewhat limited.

Short-Term Mating Strategies

According to Sexual Strategies Theory, both sexes also can reap reproductive rewards from engaging in short-term mating (i.e., brief affairs, one-night stands, mate poaching) under certain circumstances (see also Schmitt et al., 2004). Similar to long-term mating, the adaptive problems faced by men and women when pursuing short-term mateships were somewhat different, resulting in sex-specific psychological adaptations. For men, one of the most important adaptive problems when short-term mating involved gaining access to large numbers of sexual partners

(Symons, 1979; Trivers, 1972). In order to solve this problem, a distinctive short-term mating psychology evolved in men, including a greater desire for a variety of sexual partners (Buss & Schmitt, 1993). This desire functions to help solve men's adaptive problem of obtaining large numbers of short-term partners.

Recently, Schmitt and his colleagues (2003) documented evidence of this mating adaptation across ten major regions of the world. For instance, when people from North America were asked, "Ideally, how many different sexual partners would you like to have in the next month?", over 23% of men, but only 3% of women, indicated that they would like *more than one* sexual partner in the next month. This finding confirmed that many men desire sexual variety in the form of multiple sexual partners over short time intervals, whereas very few women express such desires. Similar degrees of sexual differentiation were found in South America (35.0% vs. 6.1%), Western Europe (22.6% vs. 5.5%), Eastern Europe (31.7% vs. 7.1%), Southern Europe (31.0% vs. 6.0%), the Middle East (33.1% vs. 5.9%), Africa (18.2% vs. 4.2%), Oceania (25.3% vs. 5.8%), South/Southeast Asia (32.4% vs. 6.4%), and East Asia (17.9% vs. 2.6%). Moreover, when men and women who were actively pursuing short-term mates were asked whether they wanted more than one partner in the next month, over 50% of men, but less than 20% of women, expressed desires for multiple sexual partners (Schmitt et al., 2003). This finding supports the view that men's short-term mating strategy is very different from women's and is based in part on obtaining large numbers of sexual partners. Some women also pursue short-term mates. However, when women seek short-term mates they are more selective and tend to seek out men who are physically attractive and intelligent, and otherwise possess high-quality genes (Gangestad & Thornhill, 1997).

Women's sexual desires also fluctuate across their ovulatory cycles in ways that suggest they, too, are designed for short-tem mating in certain contexts. In general, women's desires for sex tend to peak during the late follicular phase, just before ovulation when the odds of becoming pregnant are maximized (Regan, 1996). It was once thought that this shift in desire evolved because it increased the probability of having conceptive intercourse in our monogamous female ancestors. However, several studies have documented the changes in many aspects of women's mating strategies over the cycle, with short-term desires for men who are physically attractive and intelligent, and possess high-quality genes peaking in the highly fertile days just before ovulation (Gangestad, 2001; Gangestad & Thornhill, 1997).

Women who are interested in short-term mating, for example, tend to prefer men who are high in dominance and masculinity, as indicated by testosterone-related attributes such as prominent brows, large chins, and other features of facial masculinity (Penton-Voak & Chen, 2004). Short-term-oriented women may prefer these attributes because facial markers of testosterone are honest indicators of immunocompetence quality in men (Thornhill & Gangestad, 1999). During the late

follicular phase, women's preferences for men with masculine faces conspicuously increase (Penton-Voak & Perrett, 2000), precisely as though women were shifting their mating psychology to follow a more short-term-oriented strategy.

A similar ovulatory shift can be seen in women's preference for symmetrical faces. Women who generally pursue a short-term mating strategy express strong preferences for male faces that are symmetrical, perhaps because facial symmetry is indicative of low mutation load (Gangestad & Thornhill, 1997). During the late follicular phase, women's preference for symmetrical faces increases even further (Gangestad & Cousins, 2001), again as though they have shifted their psychology to that of a short-term mating strategist. It also has been shown that women who are nearing ovulation find the pheromonal smell of symmetrical men more appealing than when women are less fertile (Thornhill & Gangestad, 1999), that women who mate with more symmetrical men have more frequent and intense orgasms (Thornhill, Gangestad, & Comer, 1995), and that men with attractive faces have qualitatively better health (Shackelford & Larsen, 1999) and semen characteristics (Soler et al., 2003). Finally, women appear to dress more provocatively when nearing ovulation (Grammer, Renninger, & Fischer, 2004).

Overall, there is compelling evidence that women's mating strategies shift from a long-term mating psychology to a more short-term-oriented mating psychology precisely when they are the most fertile. It is possible that these shifts reflect women seeking high-quality genes from extra-pair copulations while maintaining a long-term relationship with a heavily investing partner (Gangestad, 2001). In terms of Fisher's three-system view of sexuality, women seem to be designed for maintaining long-term attachments with marital partners while feeling lust and perhaps romantic love for men of high genetic quality. It appears that men of high quality are those with whom some women, especially pre-ovulatory women, have short-term affairs.

Culture and Human Mating Strategies

In addition to sex differences in the psychology of lust or short-term mating, evolutionary perspectives also predict that entire cultures will shift from long-term to short-term mating orientations depending on local ecological conditions (Belsky, 1999). For example, Pedersen (1991) predicted that cultures with disproportionately more men than women (i.e., a high sex ratio) would be driven, via the powers of sexual selection, by women's evolved desires for monogamous, long-term mating. In cultures with more women than men (where men are rare and are able to exert their desires for short-term mating), cultures should be more oriented toward short-term mating. In a recent cross-cultural study, Schmitt (in press) found this to be the case. Cultures with more men than women were more oriented toward long-term mating, whereas cultures with more women than men were short-term-oriented and engaged in higher rates of mate poaching (see Schmitt et al., 2004).

Conclusion

The evidence that humans have three neural systems dedicated to different stages of mating is compelling (Fisher, this volume). However, these brain systems may not be designed to function as a rigid cycle, with lust always preceding love and love always proceeding attachment. We may be designed to form long-term attachments with some mates while pursuing short-term sex with others. These short-term relationships are not failures of the monogamous neural systems outlined by Fisher, but are instead a fundamental part of our pluralistic reproductive design (Gangestad & Simpson, 2000; Schmitt, in press).

According to Sexual Strategies Theory (Buss & Schmitt, 1993), the attributes that give rise to short-term lust may be different than the attributes that give rise to long-term feelings of attachment. In addition, men and women differ in how and why they pursue short-term mateships. In general, men focus more on physical appearance in long-term mating. However, women are more discriminating when it comes to physical attractiveness in short-term mates (especially before ovulation), preferring men who possess high-quality genes. For men, short-term mating is largely about obtaining high numbers of partners, and men's greater desires for sexual variety when short-term mating appear to be culturally universal.

Finally, the reproductive systems of lust and attachment in humans appear designed to react to features of local ecology. When the local population has more women than men, the mating strategies of men and women shift toward short-term mating. In cultures with more men than women, humans become more monogamous and oriented toward long-term mating. It seems doubtful that the brains of men and women have a different design across cultures. Instead, the human sexual brain is designed to functionally respond to local circumstances and activate the lust, love, and attachment systems differentially depending on ecological conditions.

The pursuit of long-term versus short-term mating strategies is highly related to adolescent problems. Desires for multiple sex partners, for example, serve as a key risk-factor for HIV/AIDS, teen pregnancy and poverty (Lancaster, 1989), sexual aggression and rape (Malamuth, 1996), and infidelity, jealousy, and domestic violence (Buss, 2000). By increasing our basic understanding of how gender and ecology influence short-term mating, evolutionary perspectives may place researchers in a better position to control these often problematic features of adolescent sexuality.

References

Belsky, J. (1999). Modern evolutionary theory and patterns of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment* (pp. 141–161). New York: Guilford.

Buss, D. M. (2000). *The dangerous passion*. New York: The Free Press.

Cunningham, M. R., Roberts, R., Barbee, A. P., Druen, P. B., & Wu, C. (1995). Their ideas of attractiveness are, on the whole, the same as ours: Consistency and variability in the cross-cultural perception of female attractiveness. *Journal of Personality and Social Psychology, 68*, 261–279.

Buss, D. M., & Schmitt, D. P. (1993). Sexual Strategies Theory: An evolutionary perspective on human mating. *Psychological Review, 100*, 204–232.

Ellis, B.J. (1992). The evolution of sexual attraction: Evaluative mechanisms in women. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 267–288). New York: Oxford University Press.

Feingold, A. (1992). Gender differences in mate selection preferences: A test of the parental investment model. *Psychological Bulletin, 112*, 125–139.

Fisher, H. E. (1992). *Anatomy of love: The natural history of monogamy, adultery, and divorce*. New York: W.W. Norton.

Fisher, H. E. (1998). Lust, attraction, and attachment in mammalian reproduction. *Human Nature, 9,* 23–52.

Fisher, H. E., Arthur, A., Mashek, D., Li, H., & Brown, L. L. (2002). Defining brain systems of lust, love, and attachment. *Archives of Sexual Behavior, 31*, 413–419.

Gangestad, S. W. (2001). Adaptive design, selective history, and women's sexual motivations. In J. A. French, A. C. Kamil, & D. W. Leger (Eds.), *Evolutionary psychology and motivation* (pp. 37–74). Lincoln, Nebraska: University of Nebraska Press.

Gangestad, S. W., & Cousins, A. J. (2001). Adaptive design, female mate preferences, and shifts across the menstrual cycle. *Annual Review of Sex Research, 12*, 145–185.

Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences, 23*, 573–644.

Gangestad, S. W., & Thornhill, R. (1997). The evolutionary psychology of extrapair sex: The role of fluctuating asymmetry. *Evolution and Human Behavior, 18*, 69–88.

Grammer, K., Renninger, L., & Fischer, B. (2004). Disco clothing, female sexual motivation, and relationship status: Is she dressed to impress? *Journal of Sex Research, 41,* 66–74.

Jones, D. (1995). Sexual selection, physical attractiveness, and facial neoteny: Cross-cultural evidence and implications. *Current Anthropology, 36*, 723–748.

Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality, 58*, 97–116.

Lancaster, J. B. (1989). Evolutionary and cross-cultural perspectives on single-parenthood. In R. W. Bell & N. J. Bell (Eds.), *Interfaces in psychology* (pp. 63–72). Lubbock: Texas Tech University Press.

Malamuth, N. M. (1996). Sexually explicit media, gender differences, and evolutionary theory. *Journal of Communication, 46,* 8–31.

Pedersen, F. A. (1991). Secular trends in human sex ratios: Their influence on individual and family behavior. *Human Nature, 2*, 271–291.

Penton-Voak, I. S., & Chen, J. Y. (2004). High salivary testosterone is linked to masculine male facial appearance in humans. *Evolution and Human Behavior, 25*, 229–241.

Penton-Voak, I. S., & Perret, D. I. (2000). Female preference for male faces changes cyclically—Further evidence. *Evolution and Human Behavior, 20*, 295–307.

Regan, P. C. (1996). Rhythms of desire: The association between menstrual cycle phases and female sexual desire. *The Canadian Journal of Human Sexuality, 5,* 145–156.

Schmitt, D. P. (in press). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences.*

Schmitt, D. P., Alcalay, L., Allik, J., Angleiter, A., Ault, L., Austers, I., et al. (2004). Patterns and universals of mate poaching across 53 nations: The effects of sex, culture, and personality on romantically attracting another person's partner. *Journal of Personality and Social Psychology, 86*, 560–584.

Schmitt, D. P., Alcalay, L., Allik, J., Ault, L., Austers, I., Bennett, K. L., et al. (2003). Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology, 85*, 85–104.

Shackelford, T. K., & Larsen, R. J. (1999). Facial attractiveness and physical health. *Evolution and Human Behavior, 20*, 71–76.

Singh, D. (1993). Adaptive significance of female physical attractiveness: Role of waist-to-hip ratio. *Journal of Personality and Social Psychology, 65*, 293–307.

Soler, C., Nunez, M., Gutierrez, R., Nunez, J., Medina, P., Sancho, M., Alvarez, J., & Nunez, A. (2003). Facial attractiveness in men provides clues to semen quality. *Evolution and Human Behavior, 24*, 199–207.

Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford University Press.

Thornhill, R., & Gangestad, S. W. (1999). The scent of symmetry: A human sex pheromone that signals fitness? *Evolution and Human Behavior, 20*, 175–201.

Thornhill, R., Gangestad, S. W., & Comer, R. (1995). Human female orgasm and mate fluctuating asymmetry. *Animal Behaviour, 50*, 1601–1615.

Trivers, R. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man: 1871–1971* (pp. 136–179). Chicago: Aldine.

This page intentionally left blank

4

WHAT ELICITS ROMANCE, PASSION, AND ATTACHMENT, AND HOW DO THEY AFFECT OUR LIVES THROUGHOUT THE LIFE CYCLE?

Pepper Schwartz
University of Washington

Fisher (this volume) would like us to understand the biological substratum that creates or influences our romantic, sexual, and affiliative behavior and feelings. If I were a devout social constructionist, I would be offended. Orthodox social constructionists would reinterpret Fisher's findings as a cultural interpretation of biological and social data according to the meanings our culture has given palpitations, brain waves, and states of mind, rather than interpreting those states of mind as productive of states of being. The social construction of desire would be based more on the famous W. I. Thomas dictum, "What is seen as real, is real in its consequences". We define sweaty palms, increased heart rate, and nervousness as a sign of love rather than as a sign of, say, fear of rejection, and create a scale of emotions based on our initial category system.

While I am not an orthodox constructionist, I would qualify as an occasional attendant at its place of worship. However, I do not see this theory as being in mortal combat with Fisher's biological and evolutionary theories. Rather, I would accept the general proposition that humans who can bond, bond passionately, bond cooperatively, and bond sexually have some evolutionary advantage. (The last is a particularly obvious conclusion.) Love, attachment, and desire are powerful emotions that exist among quite a few mammals, not just humans. Anyone who has spent time around dogs, for example, knows that it is not anthropomorphic to speak of a dog's devotion, love, possessiveness, jealousy, desire, and affectionate need for companionship for another dog (and often a human). Whatever debate that statement provokes, however, will have to wait for another manuscript.

The question for me is not whether we as humans are or are not hard-wired for romance, passion, and attachment, but rather what elicits those emotions and how do they affect our lives throughout the life cycle? As a behavioral scientist my concerns center not only about the feelings that are elicited but also the social response: when do we label the feelings/behaviors that Fisher describes as love, attachment, or lust—and when do we attach different meanings to emotion-states such as sweaty palms, obsessive focus, and intense sexual desire and call those reactions sociopathic, trivial, disturbed, or inappropriate? The social context attracts my attention—the interpersonal nexus. Who and what cause these reactions to surface? Then, how are they defined in one of Fisher's triumvirate? Moving to the social-psychological level, what unique interpersonal experiences arouse those

emotions for a particular person? The sociological question involves seeking to ascertain the social and cultural forces that help create romantic and sexual appetite and the social and cultural factors that sustain those feelings (or not). In other words, once we know about our plumbing, secretions, and synapses, we are only just entering the labyrinth of love…the sea of sexuality.

Fisher's theory is that there is a tri-part system comprised of lust, romantic love, and attachment. The first is sheer desire; the second entails impulsive, intrusive, even obsessive thoughts of the other and need for union; and the third involves a need for companionship, affiliation, and emotional contentment in the presence of the other. As Fisher sees it, the power of these emotional connections causes physiological reactions that in turn create heightened feelings. This system functions as it does, in evolutionary logic, to build and maintain mating relationships and is a primary motivational equivalent of other types of drives. Once the emotional system is activated, the individual is literally drugged in a hormone cocktail. Should the activator be removed, the whole physiological system tilts.

Anyone who has experienced passionate love and attraction—especially the loss of a loved person while that love and attraction were still at fever pitch—would have a hard time contradicting the fact of these emotional states and the precipitating factors in their creation and demolition. However, there is the question of passion, love, and attachment in general: is this a physiological inevitability or is there a social aspect in the creation of these feelings? In other words, does everyone, no matter what their behavioral background, experience this system, or is it dependent on socialization? Surely we could say without a doubt that everyone has felt fear and hunger. These drives are life-and-death capabilities. But does everyone love, lust, and attach in the same way? Certainly, there is some evidence that we do not. To start with, there is the considerable literature on attachment formulated first by Bowlby (Bowlby, 1969) and elaborated by a great deal of research. The basic idea of this body of scholarship is that the emotional construction of the psyche is heavily influenced by early childhood experience .Bowlby and his followers believed that a child who is insecurely attached to the mother at the beginning of life will show the impact of that insecurity in later life in a myriad of ways. A child's adult interaction will be influenced by whether s/he is insecurely attached, ambivalently attached, or securely attached (Bowlby, 1969). If this is true or true for some individuals, do the physiological responses described by Fisher cause the same kind of responses in insecurely or ambivalently attached people? Is intense physiological arousal interpreted as frightening or anxiety-producing?

Indeed, we do not need to focus on early childhood development to know that the same physiological arousal system can have differential interpretations depending on situational or cultural context. Work in the 1980s (e.g., "Psychology makes the heart grow fonder," *Psychology Today*, 1972) by Walster and Bercheid (1972) (among others) showed how general arousal from fear or anxiety could be interpreted as attraction, love, or desire, if enough situational cues were given about how someone should interpret their feelings. A classic study by Aron and

Aron, for example (as cited in Hatfield & Rapson, 1993) demonstrated the impact of physiological arousal on attraction. Young male students crossed two different bridges—one bridge was stationary in high winds, the other was unstable. At the end of each bridge, the same attractive young woman asked young men who crossed a few questions and then produced a phone number "in case they had questions". The study showed that the young woman got far more calls on the unstable bridge than the stable one. Anxiety or some other kind of heightened physiological reaction to the swinging bridge helped create attraction or desire when a suitable attractive woman was present. Without general systemic arousal, however (as on the stable bridge), the urge to date or mate was not generally present.

According to numerous examples, however, dopamine is not destiny. For instance, to use one of Fisher's examples, rejected lovers, suffering under the profound physiological assault of withdrawal of rewarding hormones, sometimes committed mayhem or suicide. But most do not. Are the people who are less violent or sad less hormonally driven? Differently wired? Do they have less effective receptors to hormones or produce less dopamine? Or are they evolutionarily deficient, possibly possessing a less aggressive mating drive? These are all possible explanations, but so is the possibility that different socializing factors in their biographies made them react differently to loss of love, withdrawal of desire, or need for attachment.

This conundrum could be investigated a bit further; aside from individual differences—it is probable that there are systematic social differences in how the triad of desire, romance, and attachment operate. For example, we assume, but haven't really compared, the argument that age makes a difference in how people act and experience love, lust, and commitment. But is "puppy love" really any different than the adult experience of the same emotion, albeit with different social ratifications? Are the costs and benefits ascribed to love or companionship different for adolescents and adults—or is it just that adult society attaches different values to adult needs over adolescent ones? Psychologists will posit that teenagers are emotionally different from adults but quite honestly, most of this commentary seems ad-hoc and clinically, rather than research-, based to me. Perhaps these emotions are received more similarly than we might care to concede; it is their cultural and chronological expression that plays out quite uniquely.

Fisher alludes to this commonality. But she also briefly mentions how hormone-saturated affiliations might be different among adolescents since young people's capacity for love, lust, and attachment occur very early before the self is secure, wisdom in choices is learned, and perspective is available. (Of course, we are all thinking to ourselves as we read this, when, if ever, do these capacities develop in adults?) In any case, Fisher has two concerns. The first, that the elevated levels of dopamine that occur when teens and young adults fall in love, will encourage them to engage in sexual intercourse before they are emotionally capable of handling the consequences of these desires or disciplined enough to be responsible about

prophylactic health behaviors. Fisher also worries that copulation will lead to more copulation since seminal fluid contains two hormonal aphrodisiacs—dopamine and tyrosine.

Noting these comments leads me to make three observations. First, might the motivation to repeat the experience be lessened if condoms are used? I have my doubts of course—but it might help parents be more enthusiastic about public condom campaigns! Second the pleasure from the first experience would be motivation enough for the second, fluids or no fluids. Third, given that either of the first two reasons would predict increased sexual activity once sex began at all, the data indicate that sexual intercourse among teenagers is actually quite sporadic. Thus, while the physical reinforcement seems to be there, cultural conditions (such as who it is okay to have sex with, or the desire not to be in a relationship at a given time) modify what biologic data predict to be an almost certain replication of the first time shortly after its occasion (Lauman, Gagnon, Michael, & Michaels, 1994).

Fisher's second worry has to do with "hooking up" (although she does not call it by that name). She wonders if lust can turn climbing into bed with a friend into a full-blown love affair. Many magazines cite studies of hooking up to prove that these really are the most casual of sexual encounters (McGinn, 2004) but some of these frivolous forays become relationships. Fisher says the reason is that the "increasing activity of testosterone associated with the sex drive can elevate the activity of dopamine"—which by now we know is the *real* Love Potion No. 9. I do not doubt it but I am not sure that's bad—and if it is, I'm not sure it's unique to teens. This leads me to elaborate more on my previous remarks about the possible similarity of teens and adults vis-a-vis Fisher's tripart system of romantic interaction.

I'm not sure that any of this hormone-induced or hormone-reactive emotion is unique to adolescents. What seems to be unique is that when we put the words, teens, love, sex, and even attachment together, our social construction is to immediately problemitize them. But if we follow the information given to us by Fisher, clearly our bodies were designed to get us into lustful and emotionally intense relationships as early or earlier than puberty. Our bodies do not know about waiting for marriage, or getting through college, or making sure the person we lust after is in our social class. Our minds do—but they often have a minority vote. Thus, we are designed to have sex when we do not wish to become pregnant; to make attachments to someone even if it's the wrong person; and to make time for human emotions even when that time might be more productively used in harvesting rice.

Furthermore, the whole idea of a psychology of teenagers is probably a social invention. I do not think we become smarter about sex as we age—only less likely to cycle in and out new partners. We give names to teenage sexuality and decision making about relationships that describe exactly the same phenomena we see in adults, but we withhold the opprobrium for the grown-ups. According to Fisher, "teenagers who engage in causal sex can trigger the brain system for attachment,

leading to complex, unanticipated emotional attachments with psychologically and socially unsuitable mating partners" (Fisher, this volume, p. 12). This is certainly true for the rest of us, too. The United States has almost a 50% divorce rate, with approximately 33% of marriages being a remarriage and an almost 20% of those second marriages going under, with a substantial rate for divorce on the third time around (Cherlin, 2003). I do not think most of those people are teenagers. Adults have the same confusions about love, lust, and the need for attachment (physiological and practical)—these confusions are anything but scientifically calibrated at any age.

Due to our social construction of teens, we treat their mistakes as if unwise choices or total preoccupation with someone were a direct consequence of age rather than of being human and engaged in decision making that has a high likelihood of disappointing results. Much distress is expressed about teenage use of condoms and irregular use of contraception in general, for example (Berman & Hein, 1999). However, if we look at condom use and contraception among adults who *have the same irregular sexually active patterns* as teens, we might find more similarities than differences. (Although older women may have a harder time getting pregnant, have more access to abortion services, and have a less romantic view of child-raising than teens and therefore have lower statistics for out-of-wedlock births, etc.) Anecdotally, many years ago, in the late 1980s, a group of my friends were talking about their sex lives at a "ladies night". About half the group was married and half were single. The married women were intent on hearing about the single women's dating stories, now nostalgic about the erotic drama of the mating and dating period of their own lives. The single women were more than happy to share. Four of the single women had had a sexual encounter, the first in many months. They were open about how sex starved this long, chaste period had left them. All four had found someone worthy and were ready, but all four had met resistance from their dates about using condoms. Even though this was definitely during the AIDs era—and before there were drug "cocktails" that managed the disease for many people—the men, giving one reason or another, all said they could not have sex, or doing so was not worthwhile to them, if they had to use a condom. All four of the women, avoiding eye contact with the rest of us, were embarrassed but honest when they told us they had caved in to their partner's demands, preferring to take their fairly benign statistical chance at getting a disease (or getting pregnant) rather than miss a longed-for sexual opportunity. Their ages at the time they made these impulsive, risky decisions? Between 35 and 45.

The murkiness of relationships—the often revolving door of love, lust, and attachment—certainly has its biological underpinnings. Fisher gives us the biological support for human ability to feel lust for another while still maintaining "profound attachment for a long-term partner" (Fisher, this volume, p. 12), all the while maintaining romantic passion for still a third! (Reactions to this facility for non-monogamy or emotional polygamy vary from moralistic anger and a desire to punish such people, to envy or wistfulness at the awesome ability of anyone able

to have three significant passionate "outlets" at once.) But is this more difficult or more ruinous for teens than for adults? Fisher believes that, "the independence of these three brain systems can cause even more psychological and social chaos for teens and young adults" (Fisher, this volume, p. 16). Really? It is difficult to believe that it could be more chaotic than the stories of lust, love, and betrayal enacted by adults on soap operas or in the criminal trials of wives who shot their husbands or husbands who shot their wives for having other wives, paramours, or double lives of various sorts. In fact, the opposite of Fisher's position might be argued. The teens who grew up in my household gave me weekly renditions of who was in love with whom, who left whom for someone else, who hooked up last night but now that was over and they were with someone new, and on and on and on. I thought at the time how much more resilient these teens were about these various tales of betrayal and loss than I could imagine hearing in an adult population. In fact, it seemed this Peyton Place they were describing would exhaust and depress any adult in a second, but the teens who told stories of their own exploits or those of others seemed to take most of this drama as ordinary and occasionally mundane.

Fisher's work is smart, creative, and heuristic, but leads me to refocus the behavioral concomitants of her data on my own thesis—that teenagers have been "wired" to have exactly the same strength of desire, love, and attachment that older men and women do. One difference, however, occurs because the two generations are often in the same household—as the teenager's emotional intensity ramps up, the adults start to wane a bit. Adults, after all, are for the most part settled into long-term relationships; there is nothing like pattern, redundancy, and easy fulfillment to tame even the most rabid drives, including those for food, sex, etc. Parents often distance themselves from their hottest emotions either by choice or by lack of opportunity. At the same time, they are observing their children as these emotions sizzle and flame. Many parents are totally uncomfortable with the idea of all teenagers, much less their own children, having sexual activity of any kind and thus easily join the cultural mantra that social policy should be adopted to inhibit adolescents from having any kind of genital contact before marriage. Given my thesis, built on Fisher's work, that the biology of teens is creating intense drives for connection and sexual expression, how reasonable is it for our society to deny this reality and insist on a "just say no" policy for adolescent romance, sexuality, and attachment? Why would we even try? Why have we not seen a more permissive or accepting view of teenage sexual behavior in the United States, much as we have seen in some of the European and Scandinavian countries?

There are a number of reasons for this decreased permissiveness but I would point to a few social and cultural circumstances. First of all, because of extended schooling for a great and greater percentage of the population, we have lengthened dependence and therefore childhood (Zelitzer, 1985). We now consider young people children far after adolescence, even though their spatial independence occurs earlier (and therefore gives them more privacy). Because we have relatively small families, and a number of parents with discretionary income, we indulge

these young people with goods and services and tie them to the household longer (since they do not want to move out of the home until they can afford a similar life style). Our over-indulgence and extended co-residence may also be caused in part by the size of the families and the desire to keep our children connected to us as long as possible. Thus, except in impoverished families, we no longer have teenagers essentially out of the house and on their own in the teenage years. Teenagers are no longer seen as young adults, but rather as children still under the moral authority and guardianship of their parents.

Second, we have professionalized and lengthened parenthood so that parents concern themselves with every aspect of their children's lives and invade adolescent privacy. Sexual conduct, once unknown and unobserved, is covered in books, by the press, and in widely disseminated studies on teenage sexual behavior and teen culture. Parents who might have been naive in another generation have knowledge about teen sexual conduct that frightens them—and statistics on teen pregnancy and STDs encourage parental activism.

Third, because we have delayed marriage until after extensive schooling for a large number of teens in the country, we no longer associate teenage sexuality with marriage. When a good number of adolescents married during their teen years, sexuality was not considered such a problem. Now that sexuality occurs at the same ages, but outside of wedlock, teenage sexuality is seen as less necessary and less legitimate. (Coontz, 1992; Luker, 1996).

Fourth, the use of sexual imagery and erotica in adolescent and adult music, advertising, literature, film, and theater has created a sexually charged atmosphere that makes parents fight all the harder to keep their child from being changed by the sexually charged culture. As a result, from these and other factors, parents try to ignore puberty, restrain sexual exploration, and even prohibit comprehensive sex education at the same time their children are displaying their sexuality to others with the subtlety of a male peacock. Parent groups condemn performers like Brittany Spears' "slut fashion" and body piercing, but girls throughout the world are interested in almost nothing else. We no longer have 12-year-old girls flocking to "The Hardy Girls"—if movies and MTV videos are not about sex or love (in some form or another). they will be unlikely to be commercially viable.

Are these American girls hormonally different than the girls who grew up in Victorian England? Unlikely. Evolution does not happen that quickly. Girls are culturally created—and the biological system that could be activated by visual and cognitive stimuli went into hyper drive. Could we turn back the clock? Only if we turn it back for adults, too.

The real issue for me is whether we can reconcile ourselves to teens, even young teens, as sexual creatures. Granted, some teens do not become interested in sexuality until late in their teens or early twenties. But what about the great majority who are in full display, looking for each part of the Fisher love triad? The data are very clear—while there has been some downward direction in the number of teenagers who have had premarital sex by age 17 (mostly boys), almost half of all

teenagers have had intercourse at that age. By the end of their teenage years, nine out of ten American teenagers have been sexually active (Santelli et al., 2000). Fisher does not address this large percentage of young people who are having intercourse (not to mention the ones who are engaging in genital contact, oral sex, and other sexually intimate behaviors), but she would not be surprised to hear the number. She indicates that very young teens may have less impulse control because their brain maturation is not complete and therefore may be even more impulsive than older teens. But she is not so much worried about the loss of virginity as about physical outcomes and emotional wear-and-tear. Broken hearts as one outcome of "inappropriate romantic relationships and attachments, philandering and broken hearts" (Fisher, this volume, p. 16) are hardly going to be isolated just to these early birds, but surely they are at much greater risk for wreckage.

While I agree with Fisher's assertion, I think this is true. But to me, the question might not be how to protect young people from this kind of pain—I don't think it's possible—but how to get them ready for it—understand it and integrate into life's lessons—and protect themselves from long-term impacts such as pregnancy and disease.

In fact, while I'm at it, why don't we help everyone understand the impact of the interaction that Freud called "the boiling cauldron of desire" (the Id, or here, just plain old desire) and the heart—our need for a beloved—and our desire to be with that person in a uniquely privileged and continuing role. Fisher's work on the brain chemistry of love and rejection is fascinating, but also a warning: we may ignore the pain of love, but only at the peril of those who experience it. Let's face it—love and sex are a punishment as well as a reward. How do we help teenagers understand loss as well as the headiness of attraction and connection? How do we understand—and handle it—ourselves?

We need to, of course. Because it is loss that triggers some of those most frightful angers and vengeance behavior that can happen between two human beings who know each other personally. Fisher describes the hormonal crash but I would remind us also about the social crash, which might be even worse. Love, sexual desirability, comfort, and pleasure are terrible things to lose. Since love (or being worthy of being loved) also gives social status (in all age groups, but particularly important at the beginning of adult status, starting with adolescence), the loss of love and the tearing asunder of an attached person to his/her beloved is more than a physical deprivation, it is a loss of identity, of placement of the world, of worthiness (Schwartz & Merton, 1980). It is no wonder that anger or acute depression is a common experience of uncoupled lovers. Perhaps this loss is even worse in small towns (and what is high school but the smallest of towns?), where the gossip network feeds on the details of who is doing what with or to whom, spits it out again , and repeats the process daily, even hourly, never tiring of it. Moreover, as is inevitable in small towns, not only do you know that everyone is talking about you and your misfortune, but additionally there is little or no

chance to avoid the person you have lost. Worse yet, there is a good chance you will be forced to see him or her with someone else. This is exquisite torture at any age, but it is certainly intensified for young people experiencing it for the first time in a high school hot-house.

Again, the issue is not that we do not know this, but that we ignore it and choose not to be supportive of teens as they go through these traumas. We are creatively blind and unengaged, with these dark dramas filling every hallway and almost every teenage (and adult) life. Losing love hurts.

This disruption of social ties has been noted as a basic mammalian reaction (Lewis, Amini. & Lannon, 2000) and can be proved again and again by suddenly withdrawing one mammal from another. Humans are no different, but we have cognitive defenses to help us under this stress. Still, the emotional pain is so strong that it can be hugely destructive if young people are not taught about sex, love, and attachment, and given tools to understand how these emotions will support and stress their lives through the life cycle.

As adults, we build the opposite social myth: we lie and say that love is all, eternal, and pure. Our society (and many others) creates romantic fiction in every medium. Through advertisements, we build an appetite for romance, passion, and "happily ever after" attachments that may far exceed what we are likely to find or maintain. So of course there is " abandonment rage"; we are furious not only with the person who has left us or not fulfilled our romantic fantasies, but we are intensely frustrated because we cannot sustain the level of bliss, lust, and love that we have been promised over and over again.

This is not to indicate that love is "bad" for teenagers. According to a literature (and our own observations), the development of attachment, intimacy, and sexual competence in youth is important for the mature ego and adult capacity for commitment and happiness (Erikson, 1968; Furman & Wehner, 1994; Sullivan, 1953). But like anything else novel, it is harder when the experience is unmapped and the only scripts are inaccurate ones that are inapplicable to the young people who are experiencing first love and first loss. What is special about adolescent romance is that it is experienced in a group context; there is one voice to judge romantic and sexual dramas and decide who is right or wrong, and indeed every detail of the action. When young people complain to their parents, saying, "Everyone thinks", they are not as misguided as their parents might think—remember this is a group that walks in lock-step in music, clothes, dance, and idols. Romantic success or failure is surely organized in somewhat the same way. Thompson (*Going all the way*, 1995) demonstrated that girls will experience different consequences from being sexually active based on whether they have future goals. The Add Health Study indicates that personal rather than demographic factors predict sexual intercourse (Dailard, 2001). Teenage norms about what is permissible, and expected, in a "relationship" (uniquely defined by teenagers as having declared themselves to be in a relationship, however brief that may be) are useful for predicting whether or not intercourse will take place—passion, love, or

no love (Blum, 2000). The legitimating power of being in a relationship has rearranged the way sex happens in adolescence. Girls now define sex as morally acceptable as long as they are going with someone; boys now seem to accept that dictum and wait until they are in a "relationship" before pushing a sexual agenda (Risman & Schwartz, 2002).

Thus, what Fisher describes as addiction to love, while true for us all, may have an even more desperate quality for teenagers since it validates almost any sexual behavior and without it, almost nothing is permissible. Virginity loses its cachet for most girls and certainly for most boys. While some highly accomplished, goal-focused, or socially at-ease students seem to be more able to withstand this pressure to be paired and sexually active (Thompson, 1995)—and certain conservative groups seem to be able to inoculate themselves against this system (for a while)—this is the exception, not the rule. Even fundamentalist Christian groups can only sustain an abstinence policy for a certain amount of time (Bearman & Bruckner, 2001). In general, the teenage years are a continuous drama of pairings, break-ups, romance, and desire.

What does that mean for Fisher's fears of the broken hearts, depression, and ego disintegration of young people? I think it's not as bad as it might seem—and that is said with due respect to these powerful emotions. Whether young people are looking for love, just having sex to please a partner (Sprecher & McKinney, 1993) or seeking the validating boy- or girlfriend (at least for heterosexuals—homosexuals are generally left out of contention in high school peer groups), most students seem to find some of what they need as they deftly navigate these moral shoals. Remember that these are the children, unlike the Boomer generation, who are not shocked to see girls kiss each other in the hallway. They easily debate the merits of having oral sex as a nice alternative to rubbing someone's back, or know many people who "hook up" with "friends with benefits" or do so themselves. Somehow, more than any generation yet observed, these young people seem to be able to de-construct the tri-part system (at least the sex part) and use just their sexual energy until they feel the time is right to let love and sex exist within the same package. A study done at Bowling Green University in 2001 found that of the 55% of 11th graders who had had intercourse, 60% said they had also had sex with a "friend with benefits" (Denizet-Lewis, 2004). Chemistry may set up our needs and emotions, but it also seems that we can use arousal systems for utilitarian purposes.

Should we be frightened of the emotional impact of casual sex and detached males and females in high school? Perhaps, but we should not see it as a totally new phenomenon. This kind of casual sexual/emotional behavior has occurred before. The 1970s showed us hobby sex, but its first appearance was among gay men. Many people, including me, attributed much of this sexual pattern to male sexuality unfettered by female values and traditions (Blumstein & Schwartz, 1983). In retrospect, it may have been as much (or more) of a cultural rather than a gendered phenomenon. Now many young heterosexuals have bifurcated their

sexuality from their attachment or romantic selves and it seems not to be necessarily tied to sexual orientation or gender norms. Few teens would say that that's the way they want it to be forever, but it does show how this emotional and sexual system produced by our bodies can be modified, at least for awhile, by culture and technology.

With all of this said, there is plenty of evidence that early exposure to impersonal sex or sex in fleeting relationships, and public break-ups and emotional losses take their toll. But if you believe Thompson's excellent book, and I do, then the impact on people varies greatly. Some of Thompson's teenage informants could play the game and not get hurt; others could not. The girls who had self-esteem seemed to do the same things other girls did but come out relatively unscathed. They were strong young women, sure of what they wanted and strong enough to handle love and to recover from break-ups without ending up depressed or worse. If a person, male or female, is emotionally vulnerable, even the end of a hook-up can tear them apart when they realize that catch-and-release rules sometimes lead to feelings of sadness and loss. Bravado is different than bravery—and sometimes teens do not know which they have until a person leaves them. Perhaps it is the repetition of these uncaring liaisons that ultimately causes young people to look for a partner rather than just a playmate. It may feel powerful to have a young man groan ecstatically while a young woman gives him oral sex, but the nonreciprocal nature of servicing a hook-up ultimately causes most teenage girls to go off that cycle and into something more mutually caring and respectful (Milburn, 2003).

Finally, it is interesting to note, as Fisher says, the number of these emotions that can exist at one time. These same boys and girls who hook up can also have a main girlfriend or boyfriend and can pine for that person at the same time they are having more trivial sexual experiences. Love is complex; desire is powerful. Ultimately, we do have within us the powerful circuitry and substances that orient us towards pair bonding and sexual selectivity, if not exclusivity. The world we live in encourages us to think about love, sex, and commitment 24/7. Most of us cannot: we have jobs, children, dogs, whatever, that have to take precedence some of the time. Teens, however, have a whole world organized around mating and dating dramas. We need to understand, and to some extent accept, their emotional culture as well as their genetic inheritance if we are to be able to address their needs and protect them, as well as we can, from the difficult aspects of romantic love and sexual and emotional attachment.

References

Bearman J., & Bruckner, H: (2001). Promising the future: Virginity pledges and first intercourse. *American Journal of Sociology, 106*, 859–912.

Berman, S., & Hein, K. (1999). Adolescents and STDs. In K. K. Holmes, P. F. Sparling, P. A. Mardh, S. M. Lemon, W. E. Stamm, P. Piot, & J. M. Wasserheit (Eds.), *Sexually transmitted diseases* (pp. 129–142). New York: McGraw-Hill.

Blum, R. (2000). *Protecting teens: Beyond race, income, and family structure*. The Center for Adolescent Health and Development. Minneapolis, MN: University of Minnesota Publications.

Blumstein, P., & Schwartz, P. (1983). *American couples: Money, work and sex*. New York City: William Morrow.

Bowlby, J. (1969). *Attachment and loss.* New York: Basic Books.

Cherlin, A. (2004). *Marriage, divorce, and remarriage*. Cambridge, MA: Harvard University Press (3rd ed.).

Coontz, S. (1992). *The way we never were.* New York: Basic Books.

Denizet-Lewis, W. (2004). Friends, friends with benefits and the benefits of the local mall. *New York Times Magazine*, May 30, n.p.

Erikson, E. H. (1968). *Identity: youth and crisis*. New York: Norton.

Furman, W., & Wehner, E. A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. Adams, & T. Gullota (Eds.), *Personal relationships during adolescence* (pp. 168–175). Thousand Oaks, CA: Sage.

Hatfield, E., & Rapson, R. L. (1993). *Love, sex, and intimacy: Their psychology, biology and history*. New York: HarperCollins College.

Lauman, E., Gagnon, J., Michael, R., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago: University of Chicago Press.

Luker, K. (1996). *Dubious conceptions: The politics of teenage pregnancy*. Cambridge, MA: Harvard University Press.

McGinn, D. (2004). Mating 101, Social scientists have recently begun to study sex on campus in search of the truth of hooking up. *Newsweek*, October 4, n.p.

Risman, B., & Schwartz, P. (2002). After the sexual revolution: Gender politics in teen dating. *Contexts, 1*, 16–23.

Santelli, J., Lindberg, L., Abma, J., McNeely, C., & Resnick M. (2000). Adolescent sexual behavior: Estimates and trends from four nationally representative surveys. *Family Planning Perspectives, 32*, 56–65.

Schwartz, G., & Merton, D. (1980). *Tell me I'm the only one*. Chicago: University of Chicago Press.

Sprecher, S., & McKinney, K. (1993). *Sexuality.* Thousand Oaks, CA: Sage.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Thompson, S. (1995). *Going all the way: Teenage girls' tales of sex, romance and pregnancy.* New York: Hill and Wang.

Walster, E., & Bercheid, E. (1972). Adrenaline makes the heart grow fonder. *Psychology Today*, June, n.p.

Zelitzer, V. (1985). *Pricing the priceless child.* Princeton, NJ: Princeton University Press.

II

How Do Early Family and Peer Relationships Give Rise to the Quality of Romantic Relationships in Adolescence and Young Adulthood?

This page intentionally left blank

5

"THE COURSE OF TRUE LOVE(S)...": ORIGINS AND PATHWAYS IN THE DEVELOPMENT OF ROMANTIC RELATIONSHIPS

W. Andrew Collins
University of Minnesota

Manfred van Dulmen
Kent State University

Close relationships are significant to human well-being throughout life (Reis, Collins, & Berscheid, 2000). In the early part of the life span, involuntary relationships with family members are primary. Only in adolescence do voluntary close relationships attain the value and functional significance previously attributed primarily to familial bonds. Although the escalating importance of friendships during adolescence is a staple of the empirical literature on close relationships (see reviews by Brown, 2004; Hartup, 1996) and in the theoretical canon (e.g., Sullivan, 1953; see Furman & Wehner, 1994, for an integrative formulation), studies of romantic relationships increasingly are recognized as potentially significant relational factors in adolescent development and well being.

Like most other researchers, we define romantic relationships in a way that emphasizes both the dyadic nature of these relationships and their distinctiveness. Romantic relationships, like friendships, are ongoing voluntary interactions that are mutually acknowledged rather than identified by only one member of a pair. But romantic relationships also have a peculiar intensity, and the intensity can be marked by expressions of affection—including physical ones and, perhaps, the expectation of sexual relations, eventually if not now. This definition does not mention gender because relationships with partners of the same sex as well as partners of the opposite sex may meet the defining criteria of romantic relationships (Collins, 2003).

Relationships that meet these criteria are both normative and salient during the adolescent years. In the United States, 25% of 12-year olds report having had a romantic relationship in the past 18 months; by age 18, more than 70% do (Carver, Joyner, & Udry, 2003). Zani (1993) reported similar rates of involvement for European youth.

The centrality of these experiences notwithstanding, serious attempts to study the significance of adolescent romantic relationships often have been short-circuited by erroneous assumptions (Collins, 2003). For example, many scientists have regarded adolescent relationships as trivial and transitory and have assumed

that they provide little information beyond measures of the influence of parent-child and peer relationships. On those occasions when romantic relationships have been taken seriously, researchers have regarded involvement in dating or sexual activity as a marker of problems of behavior and adjustment, thus emphasizing status, rather than process, variables.

Today, the assumption that adolescent romantic relationships are transitory and trivial increasingly appears to have been a relic of the twentieth century that is deteriorating as the impact on individual functioning and development comes into focus (Collins, 2003). Adolescents in romantic relationships, for example, report experiencing more conflict than other adolescents; and mood swings, a stereotype of adolescent emotional life, are more extreme for those involved in romantic relationships (Larson, Clore, & Wood, 1999; Larson, Csikszentmihalyi, & Graef, 1980). To be sure, there is considerable evidence that early involvement in dating is part of a cluster of adaptation-related measures such as behavior problems, alcohol use, school difficulties, and so forth (e.g., Davies & Windle, 2000; Neeman, Hubbard, & Masten, 1995; Thomas & Hsiu, 1993; Wright, 1982; Zimmer-Gembeck, Siebenbruner, & Collins, 2004). However, contemporary findings also indicate that focusing only on problem outcomes distorts the picture of romantic relationships as a feature of adolescent development. Both positive and negative correlates are now well documented. For example, being in a romantic relationship is positively associated with adolescents' sense of self-worth (Connolly & Konarski, 1994; Harter, 1999; Kuttler, LaGreca, & Prinstein, 1999).

In this chapter we build on the evidence that romantic relationships reflect potentially significant features of adolescence and address which experiences in earlier life influence the nature and course of adolescents' and early adults' romantic relationships. We have divided the remainder of the chapter into three parts. We first consider several emergent principles regarding romantic relationships during adolescence and early adulthood (roughly, ages 12–30). We next outline new evidence on the contributions of both involuntary and voluntary close relationships to the qualities of adolescents' and early adults' voluntary romantic relationships. In our concluding section we identify some key issues and implications for further research on precursors of, and pathways toward, young persons' romantic relationships.

Emerging Principles from Developmental Research on Romantic Relationships

Several principles of romantic relationships are now apparent in the burgeoning research findings of the past decade. Although not exclusive to relationships during adolescence and early adulthood or even to premarital relationships, three of the principles are especially important to understanding the precursors and pathways of these relationships.

Attention to Multiple Features

Most research on romantic relationships has focused on whether adolescents currently are, or have been, involved in a dating relationship, when involvement began, and the frequency and consistency of dating. In many instances, however, early dating often is tantamount to a marker of a cluster of indicators of off-time development, or "transition proneness" (Jessor, Donovan, & Costa, 1991). This personological variable thus provides only limited information regarding the developmental significance of participating in romantic relationships.

Other features of romantic experience are potentially more informative in this regard. For example, whether and how romantic experiences are important in adolescent and early adult development depend partly on the identity of the partner with whom adolescents are having romantic experiences; the content of the relationship (what the partners do together, the diversity of their shared activities, as well as the experiences that are enhanced or diminished or even displaced by the relationship); its quality (the degree to which the relationship itself provides beneficent, rather than malignant, experiences); and, finally, cognitive and emotional experiences (perceptions, expectancies, attributions, anxiety, or feelings of self-worth) as a result of the relationship and the interactions between partners (Collins, 2003).

Several examples illustrate the distinctive correlates of features of romantic relationships. Zimmer-Gembeck, Siebenbruner, and Collins (2001) found that change in academic performance between the ages of 12 and 16 was associated with the degree of dating involvement. We operationalized dating involvement in terms of the number of different people dated during the past year at age 16. The results showed that adolescents, especially females, who had dated larger numbers of different people during the past year also had declined more sharply since age 12 in academic performance indicators than individuals who had not dated or those who had dated only a few different people. Not surprisingly, in a similar analysis we found greater likelihood of increased exernalizing behaviors over the same 12–16 age gap for both males and females who had been heavily involved in dating between 15 and 16 (Zimmer-Gembeck, Siebenbruner, & Collins, 2004). These longitudinal findings extend the frequently reported link between involvement and adolescent problems by differentiating among adolescents who differ in the degree of their involvement in dating.

Evidence that positive relationship experiences benefit future relationships has been relatively less common, but several studies provide relevant information. One example comes from recent work with an Israeli sample (Shulman & Levan, 2002), documenting that late adolescent and young adult couples who stayed together over a period of nine months or more had been less confrontational, more positive toward one another, and more frequently negotiated their disagreements when observed at the beginning of the nine-month period. This finding is consistent with earlier findings that romantic relationship experiences can enhance one's

capacity for intimacy (Shulman, Levy-Shiff, Kedem, & Alon, 1997) and with the suggestion that romantic relationships are a distinctive learning eco-text for relating effectively in close relationships (Giordano, Manning, & Longmore, this volume).

In a second example, longitudinal research in Germany (Seiffge-Krenke & Lang, 2002) showed that quality of romantic relationships in middle adolescence was significantly and positively related to commitment in other relationships in young adulthood. New findings linking positive relationship quality to positive outcomes, as well as those showing the expected connection between more negative relationships and less positive developmental pathways will be presented later in the chapter.

Thus, differentiating among features of romantic experiences can be a key step toward answering questions of how and under what conditions romantic relationships affect individual development and how romantic and other close relationships jointly influence developmental trajectories during adolescence.

The Role of Contexts

Contexts impinge on the age at which an adolescent begins to date, the consistency of dating, the choice of partners, and the timing of sexual debuts (e.g., Carver, Joyner, & Udry, 2003; McBride, Paikoff, & Holmbeck, 2003; Silbereisen & Schwarz, 1998). Although individual differences in timing of romantic involvement sometimes have been attributed to the timing of puberty, most current research findings imply that the significance of variations in timing are attributable to a culture that emphasizes and hallows romance and sexuality more than to physical maturation per se (e.g., Dornbusch, Carlsmith, Gross, Martin, Jennings, Rosenberg, & Duke, 1981; Feldman, Turner, & Araujo, 1999; Meschke & Silbereisen, 1997; Silbereisen & Schwartz, 1998). Especially challenging in this regard are pervasive gender differences in these aspects of dating (for recent reviews, see Crockett, Raffaelli, & Moilanen, 2003; Savin-Williams & Diamond, 2004). As Fisher (this volume) and Schwartz (this volume) note, the emphasis on biological processes in adolescent romance has shifted from a deterministic account to an interactive one that concentrates on the interplay of neurohormonal, sociocultural, and affective factors.

Cultures not only influence the timing of romantic relationships, but also the selection of partners and the activities that are expected and approved within the relationship (Connolly, Craig, Goldberg, & Pepler, 2004; Feldman et al., 1999; Meschke & Silbereisen, 1997). For example, Asian-American adolescents are less likely to have had a romantic relationship in the past 18 months than adolescents in other racial-ethnic groups, whereas dating involvement is remarkably similar across African American, Hispanic, Native, and White groups (Carver, Joyner, & Udry, 2003). Community and cultural norms and ideals also regulate the "field of availability," or social norms for who is acceptable as a romantic target (e.g., Coates, 1999; Diamond, Savin-Williams, & Dubé, 1999; Reis, Collins, & Berscheid, 2000).

One significant proximal context for the emergence and the continuation of romantic relationships is the peer group. Adolescents regard being in a romantic relationship as central to "belonging" and status in the peer group (Connolly, Craig, Goldberg, & Pepler, 1999; Levesque, 1993). The link may be a transactional one: peer networks support early romantic coupling, and romantic relationships facilitate connections with other peers (Connolly, Furman, & Konarski, 2000; Milardo, 1982; for reviews, see Brown, 2004; Furman, 1999; Giordano, 2003). Other studies have documented the impact of the extensiveness of peer networks for involvement in dating (Connolly & Johnson, 1996; Taradash, Connolly, Pepler, Craig, & Costa, 2001).

Mixed-gender peer groups may be especially important social settings. Several scholars have recently documented the role of these groups (Connolly et al., 2004; Connolly, Konarski, & Furman, 2000; Feiring, 1999; for reviews see Brown, 2004; Giordano, 2003). According to Connolly et al. (2004), among 5th and 8th graders, participation in mixed-gender peer groups normatively preceded involvement in dyadic romantic relationships. This progression partly reflects the tendency to incorporate dating activities with mixed-gender affiliations. For these young adolescents, group-based romantic activities were more stable than other dating contexts.

Accumulating evidence implies that the contributions of peer group contexts may be more differentiated than is usually recognized. For example, timing and extent of involvement in romantic relationships may be facilitated by the availability of opportunities and social support for romantic experiences in established mixed-gender peer groups (Connolly et al., 2004). Likewise, the selection of dating partners in early adolescence appears to be influenced by group norms and values regarding the importance of social status and physical appearance (Connolly & Goldberg, 1999; Roscoe et al., 1987; Zani, 1993). There is little evidence, however, that peer-group contexts play a substantial role in the variability of quality in romantic relationships or in the cognitive and emotional features of relationships.

The Role of Relationship History

Despite their seeming singularity, experiences in romantic relationships are embedded not only in the current context, but in the history of close relationships that each participant brings to them. The interpersonal correlates of romantic relationships are especially important to the development of relationship quality and the cognitive and emotional features of relationships (see Collins, 2003, for a review). For example, the cognitive and behavioral syndrome known as rejection sensitivity arises from experiences of rejection in parent-child relationships and also in relations with peers and, possibly, romantic partners. Rejection sensitivity in turn predicts expectancies of rejection that correlate strongly with both actual rejection and lesser satisfaction in adolescent relationships (Downey, Bonica, & Rinæon, 1999).

A rich literature now exists on the specific correlates of the phenomena implied by rejection sensitivity, as well as other variations in romantic experiences. The two strands of this literature focus, respectively, on relationships with peers, especially friends, and with parents.

Relationships with friends. In most research on precursors of romantic relationships, the close relationship of greatest interest to researchers has been friendships (e.g., Brown, 1999, 2004; Connolly, Furman, & Konarski, 2000; Connolly & Goldberg, 1999; Furman & Wehner, 1994). The salience of friendships stems largely from Sullivan's (1953) germinal view of chumships as foundational for later, more sexually charged intimate relationships with romantic partners. According to Sullivan, friendship in pre adolescence and adolescence meets a basic psychological need to overcome loneliness—an idea that is similar to the recent proposal that humans have an evolved need to belong (Baumeister & Leary, 1995). By overcoming loneliness through close friendships with same sex peers, adolescents develop the psychological capacity to achieve intimacy. In effect, this view of the role of friendships emphasizes the resources available in friendships that maximize the similarities with romantic relationships, and, perhaps, a source of support for accommodating to the sometimes awkward and challenging dissimilarities identified by Giordano, Manning, and Longmore (this volume).

The potential role of friendships in the development of romantic relationships is both fundamental and multifaceted. Friendships and romantic relationships share common ground in that both are voluntary, and relationships with friends function as both prototypes of interactions compatible with romantic relationships and testing grounds for experiencing and managing emotions in the context of voluntary close relationships (Connolly et al., 2004; Feiring, 1996; McNelles & Connolly, 1999; Shulman et al., 1997). Friends also serve as models and sources of social support for initiating and pursuing romantic relationships and also for weathering periods of difficulty in them, thus potentially contributing to variations in the qualities of later romantic relationships (Connolly & Goldberg, 1999; Shulman et al., 1997). The frequently heard comment that a romantic partner is also a best friend is, from a developmental perspective, unsurprising.

Research findings, though not yet extensive, nevertheless have confirmed these expected links from friendship to romantic relationships. Furman, Simon, Shaffer, and Bouchey (2002) found that qualities of their participants' friendships were associated significantly with qualities of their romantic relationships, whereas qualities of current parent-child and other peer relationships were not related. More specific to functional relations between friendships and romantic relationships, Neeman, Hubbard, and Masten's longitudinal analyses (1995) showed that close same-gender friendships were reliable forerunners of romantic relationship involvement in early and middle adolescence and romantic relationship quality in early adulthood.

Relationships with parents. The unquestionable importance of friends does not preclude other possible influences on the development of romantic

relationships. Parent-child relationships, though involuntary, contribute to behavioral, cognitive, and emotional patterns that have been linked to later behavior with romantic partners. Among these are studies documenting associations between family dynamics such as triangulation, fusion, and control and communication patterns in romantic relationships (Benson, Larson, Wilson, & Demo, 1993) and between conflict resolution between adolescents and parents and later conflict resolution with romantic partners (Reese-Weber & Marchand, 2002). Longitudinal findings have shown that closeness to parents in childhood is a forerunner of long-term effects on relationship satisfaction in adulthood (Belt & Abidine, 1996) and marital stability and successful parenthood, as well as close friendships in adulthood (Franz, McClelland, & Weinberger, 1991). Similarly, the degree of flexible control, cohesion, and respect for privacy experienced in families was related positively to intimacy in late-adolescent romantic relationships, with especially strong links emerging for women (Feldman, Gowen, & Fisher, 1998).

By contrast, the degree of negative emotionality in parent-adolescent dyads predicted degree of negative emotionality and poor quality interactions with romantic partners in late adolescence (Kim, Conger, Lorenz, & Elder, 2001). Conger, Cui, Bryant, and Elder (2000) confirmed this association and showed it to be mediated by negative affect and ineffective monitoring and discipline in parent-adolescent relationships. Conger, Cui, Bryant, and Elder (2000) demonstrated that characteristics of parental style in early adolescence such as positive affect, monitoring, and discipline contributed more substantially to the quality of early adult romantic relationships than did either sibling relationships or the models provided by parents' own relationships. Subsequent analyses revealed that the degree of negative emotionality in parent-adolescent dyads predicted degree of negative emotionality with romantic partners in late adolescence. This association appears to come about because of two characteristics of the parents' behavior toward the child: their frequent expressions of negative rather than positive emotion, and their ineffectiveness in monitoring and discipline (Kim, Conger, Lorenz, & Elder, 2001).

A growing number of studies are documenting connections between even earlier parent-child relationships and romantic relationships. Interest in these longitudinal links is consistent with several theoretical formulations. Sullivan's (1953) theory, though more often cited as the basis for an emphasis on peer-group influences, nevertheless regarded the support, closeness, and warmth of parent-child relationships as an important foundation for later experiences of these qualities outside of the family. More recently, others have proposed similar views of the contributions of early familial relationships to romantic-relationship quality. Collins and Sroufe (1999) argued that early experiences in close relationships provide foundational experiences in such fundamental relational skills as positive expectancies about interactions with others, a context for learning reciprocity, and learning the nature and emotional experience associated with relating empathically to others.

Longitudinal researchers have demonstrated that the history of parent-child relationships in infancy and early childhood significantly predicts the stability and quality of adolescent and young adult romantic relationships (Collins & Sroufe, 1999; Collins, Christian, & Hennighausen, 2000). One implication of these findings is that the extensive evidence of an association between timing of involvement and familial dysfunctions may be partly responsible for the risks attached to early romantic involvement. In a Canadian sample of 12–13 year-olds, family stress, family separation, and poor psychological adjustment emerged as risk factors for early timing (Connolly, Taradash, & Williams, 2001). Thus, although the focus on the contributions of friendships has accounted for a larger number of studies, a critical mass of findings now implicates familial experiences in the foundations of romantic experiences in the second and third decades of life.

Interrelations of parent and peer contributions. The evidence implicating these dual forces in the development of romantic relationships has come from almost entirely distinct research enterprises. Research on the role of relationships with friends has almost never considered possible contributions from parents as well or from the interplay between relationships of the two types. Likewise, research focusing on parental contributions has been distinct from studies of peer contributions. This "narrow focusing" strategy among researchers undoubtedly comes from the overly distinct theoretical and empirical traditions of research with parents and with peers (or from the distortions of those traditions). Among peer-context researchers the prevalent reasoning has been that romantic relationships are inherently more similar to voluntary egalitarian relationship structures with friends and other peers than to the more hierarchical involuntary relationships between parents and children (e.g., Furman, 1999).

In contrast, researchers interested in parental influence emphasize the complex emotional dynamics of early parent-child relationships for current emotional functioning (e.g., Freud, 1921/1949), for expectancies regarding loving, supportive relationships derived from early care and its correlative experiences across time (e.g., Bowlby, 1969; also see contemporary elaborations by Ainsworth, 1989; Allen & Land, 1999; Collins & Sroufe, 1999); or for social learning of behavior between romantic partners in two-parent family structures (e.g., Conger et al., 2000; Kim et al., 2001; also see Waters, Kondo-Ikemura, Posada, & Richters, 1992).

As a result, an implicit controversy has arisen over the relative importance of contributions from parent-child and peer relationships, respectively. As with many two-valued questions in behavioral and social science (Collins et al., 2000; Maccoby, 2000), this question oversimplifies, rather than illuminates, the relational precursors of romantic relationship development. For example, Parke and his colleagues have proposed that parents serve as models, advisors, instructors, managers, and consultants regarding relationships with peers (Parke et al., 2002). Presumably, over the long term these contributions of parents exert an impact on selection of romantic partners and the dynamics of their relationships.

The few studies that have addressed both sources of influence invariably have shown that earlier parent and peer relationships combined account for the multiple features of romantic relationships, over and beyond the contribution of either alone (e.g., Collins & Madsen, 2002). In the remaining sections of the chapter, we consider the possible distinctive and overlapping roles of parent-child and peer relationships and the implications of those roles for a realistically nuanced understanding of romantic relationship development.

Precursors and Pathways: Prospective Longitudinal Approaches

Questions of origins and developmental course are best addressed in longitudinal studies. In the case of romantic relationships, the most informative results now available have come from research that focuses on the salient developmental issues in each life period and the likely linkages from one period to another. In this longitudinal-developmental perspective, issues of both continuity and change are central. Particular attention is given to the near- and long-term consequences of experiences in negotiating stage-related developmental issues and the role of environmental supports relevant to them.

The Minnesota Longitudinal Study of Parents and Children

One example of longitudinal-developmental research is the Minnesota Longitudinal Study of Parents and Children, which began in 1976 as a prospective study of high-risk children and their families. Today, it has become a multifaceted investigation with a persistent dual focus: an emphasis on normative development and also the quality of environmental supports necessary for optimal adaptation. The sample initially included 267 mothers; at present, 180 of their children, born in 1976 and 1977, still participate in data collection. These 180 individuals manifest the spectrum of individual differences in normative development, from the most competent and resilient individuals to those who show the most adaptational failure.

Several features of the research are distinctive. First, we have assessed the participants frequently and extensively. Data collection began even before birth and occurred 23 more times by the age of 26. Subsamples were studied intensively in preschool, middle childhood, adolescence, and twice in early adulthood. Second, in each developmental period, we have gathered information on the child and on parental characteristics and caregiving skills, infant and child behaviors, interactions with significant others, and current environmental circumstances. Third, from the beginning, assessments have included multiple independent measures. Although we have given special emphasis to behavioral observations in both laboratory and natural settings, we also have interviewed parents, teachers, and children, secured

ratings from teachers, counselors, and parents, asked our participants to complete paper-and-pencil tests, and compiled information from school records and public sources. Finally, we have emphasized developmentally keyed focal constructs, or "patterns of adaptation with respect to the salient issues of a given developmental period" (Sroufe, Egeland, Carlson, & Collins, in press).

The relational focus. The focus on developmentally keyed focal constructs reflects the premise that relationships with others are salient developmental adaptations in each life period (Sroufe, Carlson, & Shulman, 1993b). In infancy, we emphasized attachment and exploratory behaviors with caregivers; in preschool, the child's entry into the peer group and developing abilities for sustained social interactions; and in middle childhood, functioning in the organized peer group and forming loyal friendships. In adolescence, our interests centered on relations in mixed-gender peer groups, including both same- and mixed-gender friendships. In early adulthood, we are investigating romantic relationships, family formation and parenting, and social networks, in addition to progress in higher education and work roles.

Romantic relationships. To bring romantic relationships into this picture, we conducted extensive interviews when our participants were aged 16, 19, and 23, asking them detailed questions about current friendships and romantic relationships. We asked participants to describe their dating experience. In addition, we asked them a series of specific questions about the activities shared with dating partners and feelings about the partner and the relationship (e.g., "describe a time when you felt especially close to your partner"; "describe the biggest fight or argument you had with your partner in the past month").

For those in dating relationships of 2 months or more (at ages 16 and 19) and 4 months or more (at age 23), we rated responses on 5-point scales of overall quality. Relationships receiving the highest ratings were characterized by mutual caring, trust, support, and emotional closeness. At ages 20–21, each participant who had been in a self-defined romantic relationship for 4 months or longer came to our laboratory with their partners. We interviewed each participant separately, and then the couple participated jointly in two collaborative problem-solving tasks. Coders achieved a reliability of r_i=.95 (intra-class correlation) on ratings of overall quality.

Our predictors of longitudinal patterns of close relationships were theoretically chosen measures of relationship functioning in earlier age periods. From early life, we took the composite of caregiving scores from ages 12–42 months. These ratings encompass assessments of attachment at 12 and 18 months, using Ainsworth's Strange Situation procedure and also measures of the child's experience in a problem-solving task with tools at 24 months, and mother's supportive presence in a teaching task at 42 months. From childhood, we took teacher ratings of children's competence with peers in preschool and in grades 1, 2, 3, and 6. From adolescence, we used ratings of collaborative problem-solving and emotional support in videotaped parent-child interactions at age 13. We also used ratings of adolescents'

friendship security from interviews with our participants at age 16. These ratings picked up participants' sense that they can be wholly themselves in their friendships and be accepted by their friends. Reliabilities (intra-class correlations) ranged from .69 to .78.

Some Principles regarding Precursors and Pathways of Romantic Relationships

The project thus far has yielded three general principles pertaining to the precursors and pathways of romantic relationships. One is attention to the coherence of romantic relationship experiences with earlier and later experiences in significant non-romantic relationships. A second is the significance of person-centered analyses—in this case, trajectories of patterns of relationship and individual functioning across time. A third is insights into the dynamic processes of development that encompass these important relational experiences across time.

Development coherence in relationships. Characterizing romantic connections as embedded in significant non-romantic relationships implies that key aspects of diverse close relationships form a coherent pattern with respect to one another. That is, they are related in predictable ways and also unrelated in ways that should be different among, say, parent-child relationships, friendships, and romantic attachments. For example, these three types of relationships might be similar in that all include intimacy, although the issues about which intimate exchanges take place may be different from one relationship to the next. Because one corollary of our guiding hypothesis is that development reflects a coherent pattern of earlier and current experiences, we have sought evidence of coherence among close relationships across developmental periods. Two examples from normative social development illustrate this search for coherence.

One example involves evidence of links between early relationship history and peer competence across ages. Our measure of peer competence is based on teacher ratings of the degree to which children conform to an ideal prototype for relating effectively to other children. These ratings were obtained for our participants in kindergarten, grades 1, 2, 3, and 6, and at age 16. The measure shows impressive stability across this period, with Pearson *r*s varying from .40 to .89. At each age, the measure of peer competence is reliably related to the composite measure of the quality of early caregiving experience. Pearson *r*s range from .25–.38 for the total sample and from .38–.55 for an intensively studied subsample of 47 children. We regard these stabilities as evidence of continuity.

These global links subsume some specific processes that attest to the complexity of the connections. An especially striking example is our discovery that adhering to the normative expectation of gender segregation in the middle-childhood peer group is highly predictive of successful functioning in the mixed gender adolescent peer group and in romantic relationships in early adulthood (Collins, Hennighausen, & Sroufe, 1998; Sroufe, Bennett, Englund, Urban, &

Shulman, 1993). This example, though counter-intuitive, is consistent with our longitudinal-developmental view that same-gender segregation within the mixed-gender in middle childhood and effective cross-gender functioning in adolescent mixed-gender groups represents developmental coherence because both behaviors reflect age-appropriate interpersonal competence.

Where romantic relationships are concerned, our hypothesis, derived from our attachment model of development, is that salient relationships throughout development––relationships with caregivers in early childhood and early adolescence, and relationships with peers in childhood and adolescence––contribute to both the nature and the course of romantic experiences in adolescence and young adulthood. We expect, and our research findings repeatedly show, that parents and peers each play direct and indirect roles in this developmental process.

Table 5.1 summarizes typical findings from a number of analyses on our project. Note that the predictors of different later features of romantic relationships overlap to some degree, but one important difference emerged: responsive care during infancy does not reliably predict whether or not a young person will have a romantic partner at ages 20–21, but early responsive care is a consistently significant predictor of whether, if there is a partner, the quality of the relationships is positive (Collins & Madsen, 2002). These findings underscore the importance of attending to multiple features of relationships.

Table 5.1
Developmental Coherence: Romantic and Earlier Relationships

	Dating Involvement	Relationship Quality
Infancy	None	Responsive care
Emotional support, conflict resolution in families	13	13
Peer competence	Grade 6	Grades 1–3
Friendship competence	16	16

The findings also provide further evidence that developmental coherence encompasses multiple close relationships in the years before the onset of formal dating relationships. Although peer relationships have often been considered the primary relational context for the emergence and relative stability of romantic relationships, parent-child relationships, both in early life and during adolescence, also play a role in the likely quality of those relationships. The distinctive and overlapping contributions of these different types of relationships are obvious targets for future research.

Trajectories of relationships in development. The second general principle is the recognition that developmental coherence in relationship quality is most apparent from analyses that have a person-centered, rather than an exclusively variable-centered, emphasis. Laursen and Mooney (in press) also recently addressed the advantages of person-centered analyses in research on romantic relationships.

In one recent analysis, for example, we used the logic of latent profiles to identify trajectories based on consistency of (1) peer competence and (2) friendship quality from grade 6 to age 16: consistently high (above the mean peer competence or friendship quality score at both time points), consistently low (below the mean at both points), and inconsistent (above the mean at one point, below at the other). The peer competence and friendship quality trajectories were unrelated; moreover, the predictors of these distinct grouping were themselves distinct. We used these differing trajectories to predict coder ratings of the quality of interactions between out participants and their romantic partners at ages 20–22. The consistency with which individuals experience high vs. low or inconsistent friendship quality at grade 6 and age 16 predicted coder later quality of couple interactions (effect size >.80). Trajectories of peer competence ratings, however, were unrelated to later quality of couple interactions.

Together with the earlier evidence that both peer competence and friendship quality contribute to significant variations in measures of adult romantic relationships, these findings imply possibly significant distinctions between the functions of friendship and the contributions of general peer competence to the developmental course of close relationships. Specifying the contributions of each to adult relationship competence is an especially promising direction for future research.

Processes of development of relationships. The third general principle is that effective participation in romantic relationships in adolescence results from a more complex developmental process than has been implied by most formulations regarding the precursors and pathways of romantic development. Though an attachment perspective often is assumed to imply a strong, perhaps exclusive, emphasis on early experience, attachment theorists (e.g., Bowlby, 1969/1982, 1972; Sroufe, 1983) actually assume that current behavior reflects the continuous interplay of early experience and current experiences. Within this framework childhood experiences in relationships with parents are carried forward to relationships with peers and romantic partners, but their influence is constantly being adapted to and transformed by successive experiences in salient age-appropriate environments and the other persons who are significant features of those contexts. Concurrent peer group contexts and friendships thus are integral to a superordinate process incorporating both early and current experiences in diverse close relationships.

Carlson, Sroufe, and Egeland (2004) recently used data from the Minnesota Longitudinal Study to test this hypothesized process. In structural equation model analyses, they examined the relative fit of two contrasting models of developmental

influence. In one model the quality of early attachment to caregivers was carried forward in representations of relationships, which in turn interacted with peer and other extra-familial experiences across time to predict late adolescent social functioning, including competence in relationships. The contrasting model represented non-interactive contributions of early attachment quality and experiences with extra-familial experiences across time. Tests of both models used the measures of representations and social experiences taken from data collected at ages 12–24 months, 4–5 years, 8 year, 12 years, and 19 years.

Interactive models of representations and behavior represented the data better than non-interactive models did. Figure 5.1 shows that the interplay between representations and current experiences across successive lags in infancy, early childhood, middle childhood, and early adolescence mediated the association between early experience and adolescent social functioning. On the cusp between adolescence and early adulthood, competence in relationships thus reflected not static, deterministic influences from parent-child relationships or from the peer context, but an ongoing interaction between the two, manifested in age appropriate ways over successive periods of development.

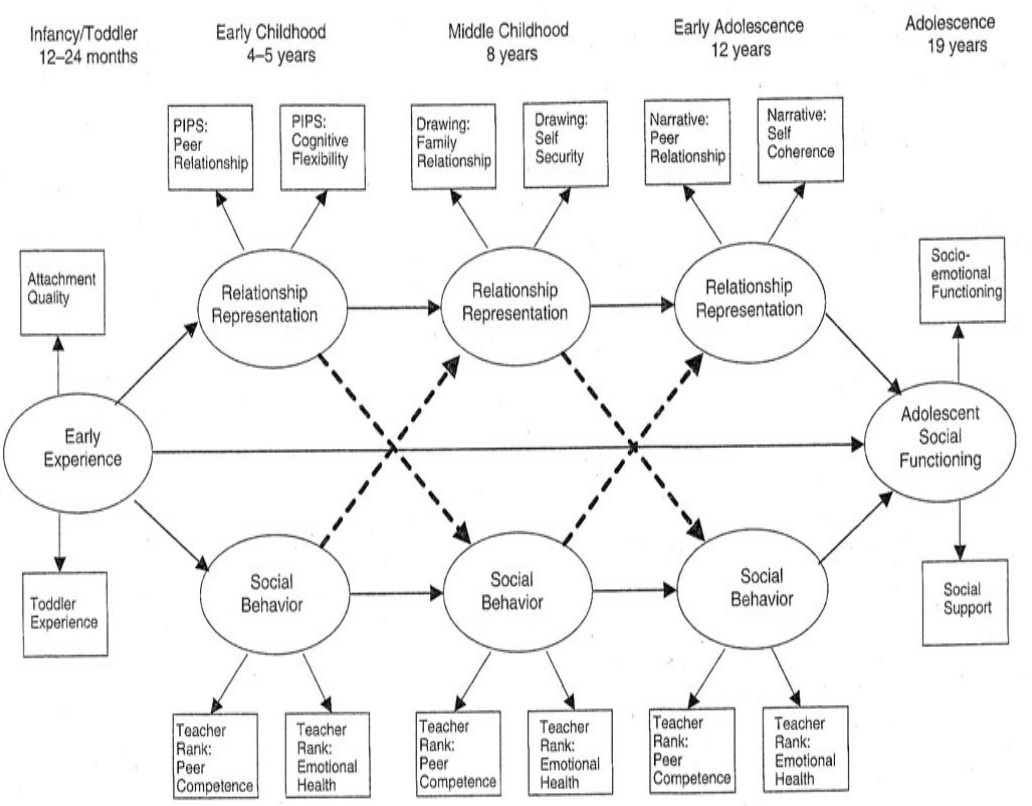


Figure 5.1. Interactive model of early experience, representations, and social behavior from infancy to age 19.

Implications for Future Research on the Development and Significance of Romantic Relationships

The findings outlined here portray adolescent romantic relationships as remarkably, often unexpectedly, continuous with the voluntary and involuntary non-romantic close relationships of earlier eras. Though generated in apparent biological and social discontinuities, the prototypical experiences of youthful romance now appear to reflect a process in which earlier, as well as current, experiences with significant companions shape the nature of these new connections.

These processes account for the range of features observed in the romantic experiences of individual youth. Positive patterns of initial romantic interests, fledgling dating patterns, attraction to particular partners, the content and quality of the relationships formed, and their cognitive and emotional ramifications all have been linked to features of parent-child relationships, friendships, and/or peer-group contexts. Similarly, the sources and developmental course of tendencies to become involved in physically or emotionally abusive relationships or even to experience unstable, unsatisfying romantic alliances also have well documented connections to interaction patterns with parents and peers (Linder & Collins, in press; for reviews, see Berscheid & Regan, 2005; Bradbury, 1998; Reis, Collins, & Berscheid, 2000). It is interesting to note that the relative emphasis on parental and peer experiences tends to vary depending on whether the romantic outcome of interest is relatively positive or relatively negative. Most research on positive outcomes (e.g., relatively late initiation of dating and sexual relationships, good quality dating relationships) has focused on the role of friendships and supportive peer-group contexts, whereas concern with dysfunctional dating relationships (e.g., abuse, the likelihood of antisocial behavior, achievement declines, and the risk of alcohol and drug use or depression) has attended mostly to the history of family relationships. The implication in some studies that both parental and peer experiences contribute to the likelihood of physical violence in relationships (Linder & Collins, in press), however, supports the view that influences on relationship quality rarely implicate only one type of earlier close relationship.

In this perspective the question of whether relationships with peers, especially friendships, or those with parents are more important precursors of romantic experiences recedes in importance. Much more plausible and compelling questions concern *which aspects* of these forerunners are especially significant to later functioning in romantic relationships, *how* their influence is carried forward from earlier life periods to the intimate relationships of adolescence and early adulthood, and *in what ways* the interplay among different types of non-romantic precursors contribute to later romantic ones. Research on these topics is in its infancy, though some of the examples cited in this chapter illustrate the potential of this more comprehensive view of precursors and pathways for understanding the "course(s) of true love(s)."

One especially promising topic is the recent evidence that differing precursor relationships sometimes overlap with, and sometimes diverge from, each other in their implications for the development of romantic relationships. An example is the finding that peer relationships in general and close friendships in particular play somewhat distinct roles in the development of romantic relationships. Friendships may well contribute less to variations in romantic relationship involvement than the nature and extent of general peer group experiences do, but may be relatively more important to variations in romantic relationship quality. Similarly, history of parent-child relationships appears to be more strongly related to qualitative aspects of later dating experiences (e.g., quality) than to quantitative features (e.g., initiation and extent of involvement). Together, these findings raise the possibility that the degree to which a relationship is close (i.e., highly interdependent, as parent-child relationships and friendships are, relative to general peer group affiliations), rather than whether it is a parent-child or peer relationship, is the crucial distinction in forecasting later romantic relationships.

Possibilities such as these are now apparent because of several recent modifications in approaches to research on romantic relationships. Distinguishing among the features of romantic relationships has pointed to possible points of convergent and divergent influences. The almost exclusive emphasis on indicators of involvement in previous research gave priority to questions of whether pre-courtship (that is, proximal to engagement and marriage) romantic relationships were important has given way to considering how and why such relationships might impinge on development. These latter questions inevitably cast additional light on possible precursors and pathways. Similarly, the accumulating evidence that development of competence in relationships is a dynamic and interactive process involving both past and current relationship experiences has stimulated a further shift toward asking why relationships are more or less likely to make positive, rather than negative, contributions to developmental outcomes. Findings that individual differences in romantic experience are best captured in analyses in which experiences in varied relationships, often non-romantic ones, are considered integral to the developmental significance of romantic experiences further tilt the enterprise toward explanatory, rather than merely descriptive, efforts.

One eventual benefit of this more expansive stance may be a better understanding of fundamental issues of how the development of relationships affects, and is affected by, individual functioning. For example, the complex question of the role of each partner's personality in the unique characteristics of the dyad is central to studies of adult relationships. Lessons from the adult literature suggest that, in general, individual attributes have proven to be less predictive of romantic relationship characteristics than relative similarities and differences between partners' characteristics (e.g., Attridge, Berscheid, & Simpson, 1995) or than dyadic functioning in other, nonromantic relationships (e.g., Bagwell, Bukowski, & Newcomb, 1998; Collins & Madsen, 2002; for relevant reviews see Berscheid & Regan, 2004; Reis et al., 2000). Some significant questions, however, have been

addressed only negligibly or not at all. In the study of adolescent romantic relationships, no published findings have yet addressed questions of the partner's identity or the impact of the partner's characteristics on relationship quality. Moreover, little is known about which characteristics of either individual are relatively more influential than others in influencing capacities for effective close relationships.

Other key questions are potentially important for understanding precursors and pathways of adolescent and early adult relationships: Does type of relationship (e.g., friendship vs. romantic relationships) matter in this regard? What is the "value added" of information about functioning in other types of dyadic relationships? In turn, which features of relationships are most likely to enhance the development and functioning of individuals? Under what conditions is this enhancement more or less likely to occur? The power of the individual and of the dyad as units of analysis is now well established (e.g., Reis et al., 2000), but a better understanding of the potential complementarity of dyadically and individually based assessments remains a significant frontier.

Conclusion

Research on precursors of, and pathways toward, romantic relationships thus far suggests that a framework for future studies would include attention to the following: multiple features of these relationships, on the grounds that different facets of romantic experiences may reflect differing and interacting implications of earlier relationships; potential links between these multiple facets of relationships and both earlier and later developmentally significant experiences; and the nature of individuals' typical experiences in relating to others, as well as their individual attributes. The goal of such work would be to elaborate a developmental perspective on phenomena that once were considered matters of serious psychological interest only in adulthood. Happily, the stage is now set for broadening knowledge about the role of childhood relationships in the achievement of capacities for satisfying and supportive connections with intimate partners throughout the human life cycle.

Acknowledgments

The authors are indebted to many colleagues for discussions through the years about issues of close relationships generally and adolescent romantic relationships in particular. Among these are Ellen Berscheid, Megan Gunnar, Harold Grotevant, Willard Hartup, Brett Laursen, and Arturo Sesma. Special thanks are due to research collaborators, especially Byron Egeland and Alan Sroufe, co-investigators in the Minnesota Longitudinal Study of Parents and Children; Elizabeth Carlson; and many graduate and post-doctoral students who contributed to the research findings

cited in this chapter. Among these are Jill Carlivati, Tara Coffey, Michelle Englund, Katherine Haydon, Katherine Hennighausen, Sara Kempner, Jennifer Linder, Stephanie D. Madsen, Megan Sampson, Glenn Roisman, Jessica Siebenbruner, and Melanie Zimmer-Gembeck. Preparation of this article was supported in part by a grant from the National Institute of Mental Health to Byron Egeland, L. Alan Sroufe, and W. Andrew Collins.

References

Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist, 44*, 709–716.

Allen, J. P., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 319–335). New York: Guilford Press.

Attridge, M., Berscheid, E., & Simpson, J. (1995). Predicting relationship stability from both partners versus one. *Journal of Personality and Social Psychology, 69,* 254–268.

Bagwell, C., Newcomb, A., & Bukowski, W. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development, 69*, 140–153.

Bartle, S. E. (1996). Family of origin and interpersonal contributions to the interdependence of dating partners' trust. *Personal Relationships, 3,* 197–209.

Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529.

Belt, W., & Abidine, R. R. (1996). The relation of childhood abuse and early parenting experiences to current marital quality in a non-clinical sample. *Child Abuse & Neglect, 20,* 1019–1030.

Benson, M., Larson, J., Wilson, S., & Demo, D. (1993). Family of origin influences on late adolescent romantic relationships. *Journal of Marriage and the Family, 55*, 663–672.

Berscheid, E., & Regan, P. (2005). *The psychology of close relationships*. Upper Saddle River, NJ: Prentice-Hall.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Bradbury, T. N. (Ed.) (1998). *The developmental course of marital dysfunction.* New York: Cambridge University Press.

Brown, B. B. (1999). "You're going out with *who*?" Peer group influences on adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 291–329). New York: Cambridge University Press.

Brown, B. B. (2004). Adolescents' relationships with peers. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394). New York: Wiley.

Brown, B. B., Feiring, C., & Furman, W. (1999). Missing the love boat: Why researchers have shied away from adolescent romance. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 1–16). New York: Cambridge University Press.

Carlson, E. A., Sroufe, L. A., & Egeland, B. (2004). The construction of experience: A longitudinal study of representation and behavior. *Child Development, 75,* 66–83.

Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 23–56). Mahwah, NJ: Erlbaum.

Coates, D. L. (1999). The cultured and culturing aspects of romantic experience in adolescence. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 330–363). New York: Cambridge University Press.

Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence, 13*, 1–24.

Collins, W. A., Christian, S. D., & Hennighausen, K. (2000, March). *"The course of true love(s). . .": Longitudinal correlates of occurrence and quality in adolescents' romantic relationships.* In I. Seiffge-Krenke (chair), *What can the past and future tell us about adolescents' romantic relationships?* Symposium presented at the biennial conference of the Society for Research on Adolescence, Chicago, IL.

Collins, W. A., Haydon, K. C., & van Dulmen, M. (2004). *Peer competence and friendship quality: Distinct or overlapping precursors of adult romantic relationships?* Unpublished manuscript, University of Minnesota.

Collins, W. A., Hennighausen, K. H., Schmit, D. T., & Sroufe, L. A. (1997). Developmental precursors of romantic relationships: A longitudinal analysis. In S. Shulman & W. A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 69–84). San Francisco: Jossey Bass.

Collins, W. A., Hennighausen, K. H., & Sroufe, L. A. (1998, June). Developmental precursors of intimacy in romantic relationships: A longitudinal analysis. In W. A. Collins (Chair), *Intimacy in Childhood and Adolescence: Developmental Perspectives on Relationships*. Symposium presented at the International Conference on Personal Relationships, Saratoga Springs, NY.

Collins, W. A., & Madsen, S. D. (2002, August). *Relational histories and trajectories of later romantic experiences*. In W. A. Collins & S. Shulman (Organizers), *Trajectories in the development of romantic relationships: Childhood and adolescent precursors of interpersonal transitions*. Symposium at the conference of the International Society for the Study of Behavioral Development, Ottawa, Canada.

Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, C. Feiring, & B. B. Brown (Eds.), *Contemporary perspectives on adolescent romantic relationships* (pp. 123–147). New York: Cambridge University Press.

Conger, R. D., Cui, M. K., Bryant, C. M., & Elder, G. H., Jr. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology, 79*, 224–237.

Connolly, J. A., Craig, W., Goldberg, A., & Pepler, D. (1999). Conceptions of cross-sex friendships and romantic relationships in early adolescence. *Journal of Youth and Adolescence, 28,* 481–494.

Connolly, J., Craig, W., Goldberg, A., & Pepler, D. (2004). Mixed-gender groups, dating, and romantic relationships in early adolescence. *Journal of Research on Adolescence, 14,* 185–207.

Connolly, J. A., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*, 1395–1408.

Connolly, J. A., & Goldberg, A. (1999). Romantic relationships in adolescence: The role of friends and peers in their emergence and development. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 266–290). New York: Cambridge University Press.

Connolly, J. A., & Johnson, A. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships, 3*, 185–195.

Connolly, J. A., & Konarski, R. (1994). Peer self-concept in adolescence: Analysis of factor structure and of associations with peer experience. *Journal of Research on Adolescence, 4*, 385–403.

Connolly, J. A., Taradash, A., & Williams, T. (2001). *Dating and sexual activities of Canadian boys and girls in early adolescence: Normative patterns and biopsychosocial risks for early onset of heterosexuality.* Working paper series. Applied Research Branch of Strategic Policy, Human Resources Development Canada.

Crockett, L. J., Raffaelli, M., & Moilanen, K. L. (2003). Adolescent sexuality: Behavior and meaning. In G. R. Adams, M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 371–392). Malden, MA: Blackwell Publishers.

Davies, P. T., & Windle, M. (2000). Middle adolescents' dating pathways and psychosocial adjustment. *Merrill-Palmer Quarterly, 46,* 90–118.

Diamond, L. M., Savin-Williams, R. C., & Dubé, E. M. (1999). Sex, dating, passionate friendships, and romance: Intimate peer relations among lesbian, gay, and bisexual adolescents. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). New York: Cambridge University Press.

Dornbusch, S. M., Carlsmith, J. M., Gross, R. T., Martin, J. A., Jennings, D., Rosenberg, A., & Duke, P. (1981). Sexual development, age, and dating: A comparison of biological and social influences upon one set of behaviors. *Child Development, 52*, 179–185.

Downey, G., Bonica, C., & Rincón, C. (1999). Rejection sensitivity and adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 148–174). New York: Cambridge University Press.

Feiring, C. (1996). Concepts of romance in 15-year-old adolescents. *Journal of Research on Adolescence, 7*, 214–224.

Feiring, C. (1999). Gender identity and the development of romantic relationships in adolescence. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). New York: Cambridge University Press.

Feldman, S. S. Gowen, K., & Fisher, L. (1998). Family relationships and gender as predictors of romantic intimacy in young adults: A longitudinal study. *Journal of Research on Adolescence*, *8,* 263–286.

Feldman, S. S., Turner, R., & Araujo, K. (1999). The influence of the relationship context on normative and personal sexual timetables in youths. *Journal of Research on Adolescence, 9,* 25–52.

Fletcher, G. J. O., Fincham, F. D., Cramer, L., & Herson, N. (1987). The role of attributions in the development of dating relationships. *Journal of Personality and Social Psychology, 53*, 481–489.

Franz, C. E., McClelland, D. C., & Weinberger, J. (1991). Childhood antecedents of conventional social accomplishments in mid-life adults: A 35-year prospective study. *Journal of Personality and Social Psychology, 60,* 586–595.

Freud, S. (1921/1949). *Group psychology and the analysis of the ego.* New York: Bantam.

Furman, W. (1999). Friends and lovers: The role of peer relationships in adolescent romantic relationships. In W. A. Collins & B. Laursen (Eds.), *Relationships as developmental contexts: The Minnesota symposia on child psychology* (Vol. 30, pp. 133–154). Hillsdale, NJ: Erlbaum.

Furman, W., Simon, V. A., Shaffer, L., & Bouchey, H. A. (2002). Adolescents' working models and styles for relationships with parents, friends, and romantic partners. *Child Development, 73,* 241–255.

Furman, W., & Wehner, E. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. R., Adams, & T. P. Gullotta (Eds.), *Advances in adolescent development: Volume 6, Personal relationships during adolescence* (pp. 168–195). Thousand Oaks, CA: Sage.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology, 29,* 257–281.

Harter, S. (1999). *The construction of the self.* New York: Guilford Press.

Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67*, 1–13.

Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development.* New York: Academic Press.

Kim, K. J., Conger, R. D., Lorenz, F. O., & Elder, G. H., Jr. (2001). Parent-adolescent reciprocity in negative affect and its relation to early adult social development. *Developmental Psychology, 37,* 775–790.

Kuttler, A. F., LaGreca, A. M., & Prinstein, M. J. (1999). Friendship qualities and social-emotional functioning of adolescents with close, cross-sex friendships. *Journal of Research on Adolescence, 9*, 339-366.

Larson, R. W., Clore, G. L., & Wood, G. A. (1999). The emotions of romantic relationships: Do they wreak havoc on adolescents? In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 19–49). New York: Cambridge University Press.

Larson, R., Csikszentmihalyi, M., & Graef, R. (1980). Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence, 9*, 469–490.

Larson, R., Wilson, S., Brown, B. B., Furstenberg, F. F., Jr., & Verma, S. (2002). Changes in adolescents' interpersonal experiences: Are they being prepared for adult relationships in the twenty-first century? *Journal of Research on Adolescence, 12*, 31–68.

Laursen, B., & Mooney, K. S. (2004, February). *Individual differences in adolescent dating and adjustment*. Hot topics conference on adolescent development. Nijmegen, The Netherlands.

Levesque, R. J. R. (1993). The romantic experience of adolescents in satisfying love relationships. *Journal of Youth and Adolescence, 22,* 219–251.

Linder, J. R., & Collins, W. A. (in press). Parent and peer predictors of physical aggression and conflict management in romantic relationships in early adulthood. *Journal of Family Psychology.*

Maccoby, E. E. (2000). Parenting and its effects on children: On reading and misreading behavior genetics. *Annual Review of Psychology*, *51*, 1–27.

McBride, C., Paikoff, R., & Holmbeck, G. (2003. Individual and familial influences on the onset of sexual intercourse among urban African American adolescents. *Journal of Consulting and Clinical Psychology, 71*, 159–167.

McNelles, L., & Connolly, J. (1999). Intimacy between adolescent friends: Age and gender differences in intimate affect and intimate behaviors. *Journal of Research on Adolescence, 9,* 143–159.

Meschke, L. L., & Silbereisen, R. (1997). The influence of puberty, family processes, and leisure activities on the timing of first sexual experience. *Journal of Adolescence, 20*, 403–418.

Milardo, R. M. (1982). Friendship networks in developing relationships: Converging and diverging social environments. *Social Psychology Quarterly, 45*, 162–172.

Neeman, J., Hubbard, J., & Masten, A. S. (1995). The changing importance of romantic relationship involvement to competence from late childhood to adolescence. *Development and Psychopathology, 7,* 727–750.

Parke, R. D., Simpkins, S. D., McDowell, D. J., Kim, M., Killian, C., Dennis, J., Flyr, M. L., Wild, M., & Rah, Y. (2002). Relative contributions of families and peers to children's social development. In P. K. Smith & C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 156–177). Malden, MA: Blackwell Publishing Co.

Reese-Weber, M., & Marchand, J. F. (2002). Family and individual predictors of late adolescents' romantic relationships. *Journal of Youth and Adolescence, 31,* 197–206.

Reis, H. T., Collins, W. A., & Berscheid, E. (2000). Relationships in human behavior and development. *Psychological Bulletin, 126*, 844–872.

Roscoe, B., Diana, M. S., & Brooks, R. H. (1987). Early, middle and late adolescents' views on dating and factors influencing partner selection. *Adolescence, 22,* 59–68.

Savin-Williams, R. C. (1996). Dating and romantic relationships among gay, lesbian, and bisexual youths. In R. C. Savin-Williams & K. M. Cohen (Eds.), *The lives of lesbians, gays, and bisexuals: Children to adults* (pp. 166–180). Fort Worth, TX: Harcourt Brace & Co.

Savin-Williams, R., & Diamond, L. (2004). Sex. In R. Lermer and L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 189–231). New York: Wiley.

Seiffge-Krenke, I., & Lang, J. (2002, April). *Forming and maintaining romantic relations from early adolescence to young adulthood: Evidence of a developmental sequence*. In S. Shulman & I. Seiffge-Krenke (co-chairs), *Antecedents of the Quality and Stability of Adolescent Romantic Relationships.* Symposium at the conference of the Society for Research on Adolescence, New Orleans, LA.

Shulman, S., & Levan, E. (2002, April). *Predicting longevity of adolescent romantic relationships: Individual and dyadic attributes*. In S. Shulman & I. Seiffge-Krenke (co-chairs), *Antecedents of the Quality and Stability of Adolescent Romantic Relationships.* Symposium at the conference of the Society for Research on Adolescence, New Orleans, LA.

Shulman, S., Laursen, B., Kalman, Z., & Karpovsky, S. (1997). Adolescent intimacy revisited. *Journal of Youth and Adolescence, 26*, 597–617.

Shulman, S., Levy-Shiff, R., Kedem, P., & Alon, E. (1997). Intimate relationships among adolescent romantic partners and same-sex friends: Individual and systemic perspectives. *New Directions for Child Development, 78*, 37–51..

Silbereisen, R. K., & Schwarz, B. (1998). Timing of first romantic involvement: Commonalities and differences in the former Germanys. In J.-E. Nurmi (Ed.), *Adolescence, cultures, and conflicts: Growing up in Europe* (pp. 129–148). New York: Garland.

Sroufe, L. A. (1983). Infant-caregiver attachment and patterns of adaptation in preschool: The roots of maladaptation and competence. In M. Perlmutter (Ed.), *Development and policy concerning children with special needs: The Minnesota symposia on child psychology, Vol. 16* (pp. 41–83). Mahwah, NJ: Erlbaum.

Sroufe, L. A., Bennett, C., Englund, M., Urban, J., & Shulman, S. (1993). The significance of gender boundaries in preadolescence: Contemporary correlates and antecedents of boundary violation and maintenance. *Child Development, 64*, 455–466.

Sroufe, L. A., Carlson, E., & Shulman, S. (1993). The development of individuals in relationships: From infancy through adolescence. In D. C. Funder, R. Parke, C. Tomlinson-Keesey, & K. Widaman (Eds.), *Studying lives through time: Approaches to personality and development* (pp. 315–342). Washington DC: American Psychological Association.

Sroufe, L. A., Egeland, B., Carlson, E., & Collins, W. A. (in press). The place of early attachment in developmental context. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *The power of longitudinal attachment research: From infancy and childhood to adulthood.* New York: Guilford Publications.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Taradash, A., Connolly, J. A., Pepler, D., Craig, W., & Costa, M. (2001). The interpersonal context of romantic autonomy in adolescence. *Journal of Adolescence, 24,* 365–377.

Thomas, B. S., & Hsiu, L. T. (1993). The role of selected risk factors in predicting adolescent drug use and its adverse consequences. *International Journal of Addictions, 28*, 1549–1563.

Waters, E., Kondo-Ikemura, K., Posada, G., & Richters, J. E. (1991). Learning to love: Mechanisms and milestones. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self processes and development. Minnesota Symposia on Child Psychology* (*23*, pp. 217–255). Hillsdale, NJ: Erlbaum.

Wright, L. S. (1982). Parental permission to date and its relationship to drug use and suicidal thoughts among adolescents. *Adolescence, 17,* 409–418.

Zani, B. (1993). Dating and interpersonal relationships in adolescence. In S. Jackson & H. Rodriguez-Tomé (Eds.), *Adolescence and its social worlds* (pp. 95–119). Hillsdale, NJ: Erlbaum.

Zimmer-Gembeck, M., Siebenbruner, J., & Collins, W. A. (2001). The divergent influences of romantic involvement on individual and social functioning from early to middle adolescence. *Journal of Adolescence, 24*, 313–336.

Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2004). A prospective study of intraindividual and peer influences on adolescents' heterosexual romantic and sexual behavior. *Archives of Sexual Behavior, 33*, 381–394.

6

ROMANCE AND SEX IN ADOLESCENCE AND EMERGING ADULTHOOD

Stephanie Coontz
Evergreen State University

Since I am not an expert on contemporary issues of adolescent sex and romance, I will address these findings from an historian's perspective.

Collins (this volume) has found that close same-sex relationships support early romantic coupling and that adhering to normative gender expectations predicts successful functioning in romantic relationships in early adulthood. Historically and cross-culturally, however, these are probably rare correlations. Through much of history, close same-sex bonds were often constructed in explicit or implicit competition with romantic attachments and strong marital loyalties, and they functioned to keep those emotions tamped down. In ancient India and China, for example, and in many working-class and peasant communities of pre-modern Europe as well, intense romantic attachments to the opposite sex either before or after marriage were seen as a threat to larger family and gender solidarities. In mid-nineteenth-century America, similarly, the women who adhered most strongly to prevailing ideas about gender convention seem to have experienced the most anxiety about marrying a member of what they frequently referred to as "the grosser sex."[1]

Of course, the whole notion of what constitutes successful functioning in a romantic relationship is socially constructed. In sixteenth-century Europe, theologians scolded wives who used endearing nicknames for their husbands because doing so undermined the authority relations that were essential to marriage.

In many societies based on strong extended family ties, the ideal relationship between husband and wife was thought to be one of formal, even distant, politeness. In traditional Chinese society, a wife was advised to treat her husband as a guest rather than an intimate. The husband-wife relationship ranked considerably below the father, son, and older brother-younger brother relationship in the hierarchy of strong relationships. But women and men were both wary of investing too much emotional energy in the marital bond. As one Plains Indian woman told an ethnographer, "you can always get another husband, but you have only one brother."

The definition of and reasons for risk-taking in both Giordano et al. (this volume) and Manlove et al. (this volume) might also look different in a larger historical context. For example, teen sex was not historically considered a risk.

[1] For references, see S. Coontz (2005), *Marriage, a history: From obedience to intimacy, or how love conquered marriage* (New York: Viking-Penguin).

From the sixteenth through the nineteenth centuries, Europeans and Americans condemned non-marital sex for everyone, rather than singling out teen sex as especially problematic. It is historically and cross-culturally very rare for a society to treat non-marital adult sex as normative but to label early teen sexual activity as risky. That distinction requires adults to make some finely calibrated and highly debatable mental calculations about just when they are willing to view teens as "healthy" sexually active individuals, and it certainly invites teens to view adult precepts as hypocritical.

The definition of risk becomes even more complicated when we consider how often in history behaviors that are risky at the individual level may reflect values that are—or could be—protective at the macro-level, whereas behaviors that constitute successful adjustment at the individual level may be associated with values that raise the risks for other members of society. For example, the same beliefs that are associated with an individual's having a baby out-of-wedlock—a strong family orientation and a lack of emphasis on individual achievement—are in many societies also associated with a higher cultural valuation of children than we find in the respectable, "responsible" echelons of modern America. Conversely, the emphasis on individual achievement and personal ambition that helps many middle-class teens eschew behavior that would derail them from their college and professional goals is associated at the macro-level with the same values that have led the United States to lag behind the rest of the industrial world in the provision of a social safety net for families and to stand as a leader in child poverty rates. Similarly, the skills and values that make many modern marriages so satisfying at the individual level developed as part of a complex of grandiose expectations of love that have made marriages far more fragile on a societal level.

When we turn to individual behaviors associated with sex and contraception, authors in this volume reveal that teens are more likely to use contraception in "liked" versus romantic relationships. However, the suggestion that not using condoms in romantic relationships is part of an effort to maintain intimacy seems unlikely, although it may be part of an effort to *create* intimacy. As Giordano et al. (this volume) point out, adolescents' friendships tend to be more settled and less ridden with conflict than their romantic relationships. And since friendships now reach across gender lines in a way that is historically unprecedented, it makes sense that such friendly relations, when they lead to sex, would lead to safer sex. "Liked" relationships are not encumbered with the insecurities about the future that make it romantically risky, in a very real sense, to insist on sexually non-risky practices. I suspect that it is the incomplete and fragile nature of intimacy in teen romantic relationships that reduces the discussion and use of contraception. This point is supported by the finding that romantically involved teens who engage in affectionate, coupled activities before initiating sex are more likely than other couples to discuss and utilize contraception.

In this context, the "friends with benefits" phenomenon that has received much attention may in some circumstances be healthier than it is often portrayed in the popular press. Certainly, the panic about the decline in dating is overwrought. Historically speaking, dating is a very recent invention, originating among working-class youth in the 1880s and 1890s and spreading to the middle class in the early 1900s. For the middle class, dating replaced an earlier convention of calling, in which a young man was invited to call upon a girl at her parents' home. Dating freed young women from the supervision and control of their parents, but made them more dependent on men to initiate a date. It also made them more vulnerable to the demand that some sexual favor or emotional debt was owed in return for the man taking the women out and treating her to refreshments purchased outside the home instead of provided by the girl's mother. According to many historians, girls helped to construct a strong peer culture that regulated dating as one response to this new independence. The increased role of the peer group gave young women reinforcement for setting sexual boundaries in the exciting but risky environment in which dates took place, but peers also policed individual behavior very strictly, penalizing and permanently stigmatizing girls who departed from conventional gender or sexual norms. The decline in dating has been associated with an increase in young women's freedom to establish personal identities and sexual desires that depart from conventional gender and sexual norms, some of which surely empower these women.

Of course, in today's society not using contraceptives is a risky behavior that is intertwined with the still-unequal power relations between males and females. Still, not using contraception is almost the default behavior in the highly-charged and awkward relations between two individuals first exploring sex, whatever their age. We might want to spend some time thinking about the social forces and situations that give an individual the incentive to risk immediate rejection or tension in a relationship for the sake of his or her long-term future. For example, a girl has to be pretty confident about her ability to access a rewarding future to take the risk of derailing a desired relationship with an older, more powerful man who might offer escape from a bad family situation or the hope of a more stable life.

If we apply this socially and situationally constructed notion of incentive to the finding that contraceptive use is less likely among same-race relationships among African Americans, we might reconsider the formulation that same-race relations increase risk. Rather, it may be that black-white sexual relations in the context of a racially stratified society are likely to have a dynamic that gives more incentive or influence to one or both partners to demand safety.

The more frequent use of contraceptives among white men with numerous sexual partners seems to contradict the idea that power inequities create risk, because in many cases such men have much more power than their partners in ending or transitioning through relationships. But in this situation, that power may provide them a satisfying lifestyle that gives them the incentive to avoid

getting entangled in the commitments or burdens that may be generated by fathering children out of wedlock. Bearing that in mind, we might want to examine more closely not just the race and gender dynamics involved but also the deeply conflicted feelings about family commitments that may lead some young black men to assert power over their girlfriends by insisting on sex without contraception.

Finally, we should use similar nuance in our discussion of power relations between boys and girls. The advantage boys have in the dominance hierarchies they establish in peer groups and the disadvantage they have in dyadic relationships with girls are probably two sides of the same coin. People trained to contest for dominance are often uncomfortable, even incompetent, in interpersonal intimate relations. Indeed, they are often penalized by both their elders and their age peers for showing competence in such spheres. For modern boys (and for many upper-class men throughout history as well, as a brief look at the family histories of the English nobility reveals), an inability to handle intimacy smoothly may be inextricably connected to the capacity to wield power peremptorily.

Almost the reverse is true for girls. A girl may have considerable influence on the boy with whom she's involved in a romantic relationship, but this does not reverse her larger power inequities vis-à-vis male-dominated institutions and social settings. She has that influence only in the context of the dyad, which makes her more dependent on having *a* relationship than the boy, even if he is more dependent while he is in a *particular* relationship. Conversely, boys can compensate for their one-on-one awkwardness in romantic relationships, or even their dependence on a girlfriend, in their peer group interactions, which may involve putting down *other* girls.

Conclusion

All of these considerations complicate our notion of what constitutes an "at-risk" behavior or status for teens today. Being prudent in an impoverished or homeless environment may mean passing up chances for long-term betterment, while behaviors that are judicious in a middle-class, professional environment can be risky for lower-class teens, cutting them off from family and community support networks. Aspirations that would reflect a middle-class youth's unrealistic fantasizing about fame or quick riches might represent a realistic assessment by a lower-class individual of what offers as good a long shot as any for escaping his or her environment. For a boy, that might mean specializing in basketball despite the minuscule chance of making it into the NBA. For a girl, it might mean trying to attract and hold an older man who may be more emotionally and economically secure than the boys her own age. What is risky sexual behavior for a girl with good educational and employment prospects may be a rational way of negotiating race, class, and gender power relations for a young woman with fewer options, even if it often reinforces her lack of power in the long run.

Reference

Coontz, S. (2005). *Marriage, a history: From obedience to intimacy, or how love conquered marriage*. New York: Viking-Penguin.

This page intentionally left blank

7

HOW DO ADOLESCENT RELATIONSHIPS INFLUENCE THE QUALITY OF ROMANTIC AND SEXUAL RELATIONSHIPS IN YOUNG ADULTHOOD?[1]

Kara Joyner
Mary Campa
Cornell University

While researchers have long examined the dynamics of peer and family relationships in adolescence, they have only recently turned their attention to romantic and sexual relationships in this period. As emphasized by several researchers, these relationships are critical to individual development, and as such are no longer viewed as trivial (Collins & van Dulmen, this volume; Giordano, Manning, & Longmore, this volume).

Because so few studies have considered adolescent sexual and romantic relationships, they are considered to be the "last frontier" in the study of adolescent relationships (Giordano, 2003). Consequently, researchers in this area have great freedom to design theoretical frameworks. Furthermore, we now have nationally representative data to test our hypotheses.

Collins and van Dulmen are pioneers in the study of adolescent romantic relationships. Based on a review of the literature, they identify three "emergent principles" of romantic relationships in adolescence and young adulthood: (1) several features of romantic relationships, beyond simple involvement in these relationships, influence adolescents' own development, in addition to the development of their future romantic relationships; (2) contexts (i.e., cultures and peer groups) interact with individual characteristics to influence multiple features of romantic relationships; and (3) childhood and adolescent relationships with parents and peers additionally influence multiple features of romantic relationships, most notably, those related to relationship quality.

To explain why parent and peer relationships influence the quality of romantic and sexual relationships, Collins and van Dulmen use a developmental framework. According to this framework, views and skills developed through parent-child relationships and close friendships during childhood and adolescence are carried forward and influence early romantic relationships.

[1] This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by NICHD grant P01-HD31921, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (*www.cpc.unc.edu/addhealth/contract.html*).

The authors present data that reveal that romantic relationships in adolescence and young adulthood are similar in terms of quality to earlier peer and parent-child relationships. At the same time, their results suggest that these earlier relationships have both distinctive and overlapping influences on the various features of romantic involvement. As evidence of this, their results demonstrate that receiving responsive care from parents during infancy significantly influences the quality of later romantic relationships, but not whether respondents are in a relationship. On the basis of this finding, they conclude that peer and parent-child relationships are more critical to qualitative aspects of romantic relationships (e.g., their quality) than to quantitative aspects (e.g., initiation and extent of involvement).

While we agree with Collins and van Dulmen that both parental and peer relationships are important for adolescents' experiences in romantic relationships, we feel that their framework and subsequent analyses on the continuity of relationships need to be extended. Specifically, this extended framework should consider the processes by which childhood and adolescent relationships influence the quality of romantic and sexual relationships in adolescence and young adulthood. Related to this is a need to consider quantitative aspects of romantic relationships as explanatory factors as well as outcomes. Below, we offer specific suggestions for how the framework can be elaborated with a consideration of individual, dyadic, and structural factors, as well as trajectories of relationship involvement. Then, we illustrate the merits of an extended framework using nationally representative data to examine the influence of adolescent relationships on the quality of sexual and romantic relationships in young adulthood.

Elaborating the Framework

Individual Factors

According to the developmental framework presented by Collins and van Dulmen, childhood and adolescent relationships influence individuals' capacity for intimacy in romantic relationships during adolescence and young adulthood. Relationships with caregivers in infancy are considered to be especially critical for individuals' capacity for intimacy. Specifically, early relationships shape their expectations about interactions, enable them to learn about reciprocity and empathy, and allow them to cultivate a sense of self-worth and efficacy (Collins & Sroufe, 1999).

One consequence for individuals who fail to develop a secure relationship with caregivers is an increased likelihood for the development of rejection sensitivity, which in turn influences how they form and manage romantic and sexual relationships. For instance, rejection-sensitive individuals may avoid romantic and sexual relationships for fear of being rejected, or they may gravitate towards these relationships out of a need to feel accepted. To the extent that these individuals avoid relationships, they have fewer opportunities to develop relationship skills (Downey, Bonica, & Rincon, 1999).

Although Collins and van Dulmen suggest social psychological mechanisms through which childhood and adolescent relationships influence sexual and romantic relationships in adolescence and young adulthood, they do not measure these mechanisms. To illustrate the process through which childhood and adolescent relationships influence later relationships, studies need to measure factors such as rejection sensitivity, self-esteem, and interpersonal competence (for example, see Bryant & Conger, 2002; Conger et al., 2000).

Dyadic Factors

As Collins and van Dulmen point out, studies have yet to examine how characteristics of *both* partners influence the quality of romantic and sexual relationships in young adulthood. At best, studies consider how age differences between partners influence the dynamics of these relationships (e.g., Manning, Longmore, & Giordano, 2000; Manlove et al., this volume). Examining the role of age differences in the sexual behaviors of adolescents, Gowen et al. (2004) found that females with older boyfriends differ significantly from girls with similar-aged boyfriends in several respects. Specifically, they engage in more intimate and riskier sexual practices, such as having sex under the influence of drugs or alcohol.

One way early relationships may influence the dynamics of romantic and sexual relationships is through their effects on partner choices (Downey et al., 1999). For instance, children who are securely attached in infancy tend to form friendships with other children with such a history (Collins & Sroufe, 1999; Eliker, Englund, & Sroufe, 1992). The attachment styles of husbands and wives are also highly correlated. Furthermore, marital satisfaction is influenced by the attachment style of each partner, as well as the interaction between their attachment styles (Banse, 2004). Research such as this reminds us that relationships involve two individuals, and that examining the characteristics and experiences of *both* partners in a relationship will only enrich our understanding of relationship quality.

Structural Factors

Attachment frameworks tend to be individualistic with their emphasis on personal experiences, generally failing to consider the influence of broader structural factors on relationship dynamics (Giordano, 2003). Although Collins and van Dulmen acknowledge the fact that contexts shape sexual and romantic relationships, they do not consider the role that factors such as gender and race play in the continuity of relationships over the life course. For example, previous research suggests that the quality of relationships with parents is more strongly tied to involvement in romantic and sexual relationships for females than for males (Joyner & Udry, 2000; Miller et al., 1997).

Trajectories of relationship involvement. Collins and van Dulmen examine the effects of childhood and adolescent peer and parent relationships on multiple features of romantic involvement in adolescence and young adulthood. We think it would be additionally informative to consider the extent to which adolescents' intervening relationship trajectories explain the influence of earlier parent-child and peer relationships on the quality of later romantic and sexual relationships. For instance, Browning and Laumann (1997) found that women who have experienced sexual contact with an adult during childhood have lower emotional satisfaction with their primary sexual partner mainly because they have accumulated more sexual relationships during their lifetime. Supporting our view that early sexual and romantic relationships are as important to consider as early parental and peer relationships, they argued that these women learn inappropriate sexual scripts in their first experiences with these relationships that they carry over to later relationships.

Illustration

We use data from the National Longitudinal Study of Adolescent Health (Add Health) to illustrate how an expanded framework of adolescent relationships with parents and peers helps us understand the quality of relationships in young adulthood. Add Health is a longitudinal study that began in 1994 by administering a questionnaire to a school-based sample of U.S. adolescents from the 7th through the 12th grades. Based on students in the sampling frame, the project interviewed 20,745 adolescents at home in 1995. The project additionally interviewed 15,197 individuals at home in 2001 and 2002; most of these individuals were respondents at Wave 1, but others were partners of respondents. Respondents from Wave 1 were between the ages of 18 and 28 at the time of the third wave (Harris et al., 2003).

Importantly, Add Health collected detailed information from respondents about their friendship networks using the Wave 1 in-school questionnaire. Furthermore, Add Health asked respondents about their relationships with parents and their romantic and sexual involvement during the Wave 1 in-home interviews. At the third wave, Add Health collected additional information on the quality of their current romantic and sexual relationships (if they met certain criteria), and their involvement in romantic and sexual relationships since the Wave 1 interview.

Sample

We include in our illustration below respondents who are in the "couples sample" of Wave 3. To be in this sample, respondents had to be in a current opposite-sex relationship that was three months or longer in duration, and they had to have a partner who was 18 or older. We further limit our sample to respondents who were 18 to 23, the period of emerging adulthood (Arnett, 2000). Finally, we restrict our

sample to respondents who conducted in-home interviews at Waves 1 and 3, since our study includes measures from both these waves.

Quality of romantic and sexual relationships in young adulthood. To measure our dependent variable, relationship quality, we create a scale (alpha = .82) that adds responses to four questions: "In general, how satisfied are you with your relationship with partner?" (1 = "very dissatisfied" to 5 = "very satisfied"); How committed are you to your relationship with partner?" (1 = "not at all committed" to 5 = "completely committed"); "How close do you feel to partner?" (7 pictures of two circles shown with varying degrees of overlap); and "How likely is it that your relationship with partner will be permanent?" (1 = "almost no chance" to 5 = "almost certain").

*Relationships with resident parents in adolescence***.** To measure the quality of relationships with parents, we take the greater value of two parental feelings scales that are created for mothers (alpha = .86) and fathers (alpha = .90) separately. These scales sum responses to four questions (each with five response options), including "Overall, you are satisfied with your relationship with your [mother/father]." To measure time spent with parents, we take the greater value of the number of five activities that respondents engage in with their mothers or fathers (e.g., "shopping"). Finally, we include an index of seven areas in which parents allowed respondents to make decisions (e.g., "what you wear").

*Friendships in adolescence***.** Due to the design of Add Health, our measures of friendship distinguish between male and female friendships and do not take into account subjective considerations of their relationship quality. We take into account whether respondents identified a male or female best friend at the Wave 1 interview. For respondents who identify best friends, we create an index for the number of activities in best friendships. For respondents who have best friends in the Add Health sample, we also determine whether the friendships are reciprocated (i.e., the best friend nominates the respondent as one of up to five friends).

Results

Table 7.1 shows coefficients and standard errors for the effects of parent-child and friendship variables based on OLS models of the quality of romantic and sexual relationships. These models enter each of these variables separately, but include control variables for age, race, parental education, family structure, and physical maturity. Since we assume gender differences in processes, we stratify our models by gender.

The results in Table 7.1 suggest that only parental feelings have a significant effect on the quality of romantic and sexual relationships in young adulthood. As expected, respondents who report more positive feelings about their relationships with a mother or father in adolescence have higher-quality romantic and sexual relationships in young adulthood. Additional models (not shown) reveal that the effects of parental feelings do not differ significantly by gender or age.

Table 7.1
Coefficients (Standard Errors in Parentheses) From OLS Models Predicting Relationship Quality in Young Adulthood

Variables Added Separately into Models	Males	Females
Adolescent Relationships		
Feelings about parents scale (4–20)	.126*	.082**
(1,118 males; 1,747 females)	(.056)	(.030)
Activities with parents index (0–5)	.205	.126
(1,118 males; 1,747 females)	(.106)	(.082)
Autonomy from parents in decisions index (0–7)	-.066	.009
(1,118 males; 1,747 females)	(.083)	(.060)
Has best male friend	.667	-.220
(624 males; 997 females)	(.370)	(.318)
Activities with best male friend index (0–5)	-.141	-.078
(529 males; 994 females)	(.108)	(.074)
Best male friend identifies respondent as any friend	-.42	(.07)
(349 males; 426 females)	(.475)	(.368)
Has best female friend	.424	-.071
(602 males; 997 females)	(.341)	(.251)
Activities with best female friend index (0–5)	-.062	-.024
(438 males; 982 females)	(.121)	(.071)
Best female friend identifies respondent as any friend	.22	- (.11)
(274 males; 664 females)	(.528)	(.333)

* $p<.05$; ** $p<.01$ (two-tailed tests)
Note: Models include control variables for age, race, parental education family structure, and physical maturity.

Table 7.2 shows the effects of parental feelings on romantic and sexual relationship quality for males and females before and after key variables are added. First, we show the coefficients for parental feelings in models that simply include control variables. Next, we show these coefficients after sets of variables are added in an order that reflects their temporality: adolescent self-esteem (alpha = .80); number of sexual partners between interviews; age difference between partners; and relationship status (distinguishing "single," cohabiting, and married relationships).

Table 7.2
Coefficients for Feelings About Parents Scales (Standard Errors in Parentheses) From Selected OLS Models of Relationship Quality

Coefficient for Feelings About Parents Scale Across Different Models	Males (N = 1,118)	Females (N = 1,747)
Model 1: Includes control variables	.126* (.056)	.082** (.030)
Model 2: Model 1 plus self-esteem	.078 (.060)	.074* (.034)
Model 3: Model 2 plus number of sex partners between interviews	.079 (.059)	.055 (.034)
Model 4: Model 3 plus age difference between partners	.079 (.059)	.054 (.034)
Model 5: Model 4 plus cohabitation and marriage indicators	.114* (.056)	.060 (.033)

* $p<.05$; ** $p<.01$ (two-tailed tests)
Note: Models include control variables for age, race, parental education family structure, and physical maturity.

Results from Table 7.2 reveal different factors that mediate the positive effects of parental feelings for males and females. The effect of parental feelings among males declines considerably in magnitude and falls out of significance with the inclusion of the adolescent self-esteem scale. Males who have lower-quality relationships with parents also have lower self-esteem, and self-esteem has a significant and positive effect on the quality of romantic and sexual relationships. In contrast, the effect of parental feelings for females reduces in magnitude and falls out of significance when their number of sex partners between interviews is taken into account.

It is interesting to note that relationship status has a suppressor effect on parental feelings, as indicated by its increase in magnitude and significance level with the inclusion of the indicator variables for marriage and cohabitation, particularly among males. This is due to the fact that males with less positive feelings about their parents are significantly more likely to be in a cohabiting relationship rather than a non-cohabiting (e.g., dating) relationship. Both males and females in cohabiting relationships (and marriages) report significantly higher quality than their counterparts in single relationships (results not shown).

Other Variables

In addition to exploring how the above variables mediate the effects of parental feelings, we additionally considered whether several other factors played a mediating role. These included academic performance, problems with alcohol, delinquency, feelings of social acceptance, depression, decision-making style, becoming pregnant between interviews, having a child in the household, duration of relationships, and whether the relationship was defined as romantic (in addition to being sexual). These variables were not included because they failed to have a significant correlation with either parental feelings or relationship quality.

Directions for Future Research

Our findings, like those of Collins and van Dulmen, suggest that the quality of relationships in adolescence influences the quality of romantic and sexual relationships in young adulthood. However, none of our friendship measures had significant effects, probably because they did not take into account perceptions of relationship quality. Our results additionally suggest that while the influence of adolescent relationships does not differ for males and females, the processes by which these relationships influence the quality of romantic and sexual relationships do differ for males and females. Specifically, individual-level variables (i.e., self-esteem and number of sex partners) are critical in explaining relationship continuity of adolescents and young adults.

Future studies need to examine how intervening experiences with romantic and sexual relationships mediate and moderate the effects of early relationships on the quality of romantic and sexual relationships in adulthood. We expect intervening romantic and sexual relationships to provide individuals opportunities for change. As several researchers argue, having supportive romantic and sexual relationships may help individuals with rejection sensitivity to change how they expect, perceive, and respond to rejection in later relationships (Downey et al., 1999; Wekerle & Avgoutis, 2003). As Collins and van Dulmen suggest, we also need to take into account the early experiences of *both* partners in order to understand the quality of romantic relationships.

References

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469–480.

Banse, R. (2004). Adult attachment and marital satisfaction: Evidence for dyadic configuration effects. *Journal of Social and Personal Relationships, 21*, 273–282.

Browning, C. R., & Laumann, E. O. (1997). Sexual contact between children and adults: A life course perspective. *American Sociological Review, 62*, 540–560.

Bryant, C. M., & Conger, R. D. (2002). An intergenerational model of romantic relationship development. In A. A. Vangelisti, H. T. Reiss, & M. A. Fitzpatrick (Eds.), *Stability and change in relationships* (pp. 57–82). New York: Cambridge University Press.

Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 125–147). Cambridge, UK: Cambridge University Press.

Conger, R. D., Cui, M., Bryant, C. M., & Elder, G. H. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology, 79*, 224–237.

Downey, G., Bonica, C., & Rincon, C. (1999). Rejection sensitivity and adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 148–174). Cambridge, UK: Cambridge University Press.

Eliker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. Parke & G. Ladd (Eds.), *Family-peer relationships: Modes of linkage* (pp. 77–106). Hillsdale, NJ: Erlbaum.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology, 29*, 257–281.

Gowen, L. K., Feldman, S. S., Diaz, R., & Yisrael, D. S. (2004). A comparison of the sexual behaviors and attitudes of adolescent girls with older vs. similar-aged boyfriends. *Journal of Youth and Adolescence, 33*, 167–175.

Harris, K., Mullan, F. F., Tabor, J., Bearman, P. S., Jones, J., & Udry, J. R. (2003). *The National Longitudinal Study of Adolescent Health: Research Design.* Retrieved September 1, 2004. URL: http://www.cpc.unc.edu/projects/addhealth/design

Joyner, K., & Udry, J. R. (2000). You don't bring me anything but down: Adolescent romance and depression. *Journal of Health and Social Behavior, 41*, 369–391.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives, 32,* 104–110.

Miller, B. C., Norton, M. C., Curtis, T., Hill, E. J., Schvaneveldt, P., & Young M. H. (1997). The timing of sexual intercourse among adolescents: Family, peer, and other antecedents. *Youth and Society, 29,* 54–83.

Wekerle, C., & Avgoustis, E. (2003). Child maltreatment, adolescent dating, and adolescent dating violence. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior* (pp. 213–241). Mahwah, NJ: Erlbaum.

This page intentionally left blank

8

PATHWAYS LINKING EARLY EXPERIENCES AND LATER RELATIONSHIP FUNCTIONING

Chalandra M. Bryant
Pennsylvania State University

Understanding the pathways through which romantic relationships emerge is critical to understanding the developmental course and outcome of intimate unions. Given the saliency of intimate relationships throughout the life course, research in this area is of great importance. As Collins and van Dulmen (this volume) explore the romantic unions of adolescents, they call for an examination of the influence of both involuntary and voluntary relationships on the quality of those unions. These involuntary and voluntary relationships can pre-date the romantic unions under study.

Indeed, many researchers have acknowledged the significance of pre-relationship predictors of relationship characteristics (e.g., Bradbury, 1995; Huston & Houts, 1998). My colleague and I (see Bryant & Conger, 2002) developed a comprehensive model that illustrates various factors that may be associated with the development of intimate unions among young adults. We call it the DEARR model—***D***evelopment of ***E***arly ***A***dult ***R***omantic ***R***elationships. It begins with *relationship promoting vs. inhibiting experiences in the family of origin* (see Figure 8.1). These experiences are assessed in terms of family members'—both parents' and offspring's (a) positive vs. negative attributions or cognitions; (b) behavioral interactions (e.g., warmth, hostility, problem-solving behaviors, nurturant-involved parenting); and (c) emotional stability. Other aspects of *relationship-promoting vs. -inhibiting experiences in the family of origin* depicted in the model include family socioeconomic status and demographic change or stability.

According to DEARR, characteristics in the family of origin will, over time, influence the course of young adult romantic relationships through their impact on the youth's (a) social and economic circumstances and (b) individual characteristics. In addition, the model proposes a potential direct influence of experiences in the family of origin (e.g., behavioral interactions, cognitions, emotions) on attributes of the couple relationship (e.g., couple interactions, problem-solving behaviors, trust). It then links those attributes to the young adult's relationship success.

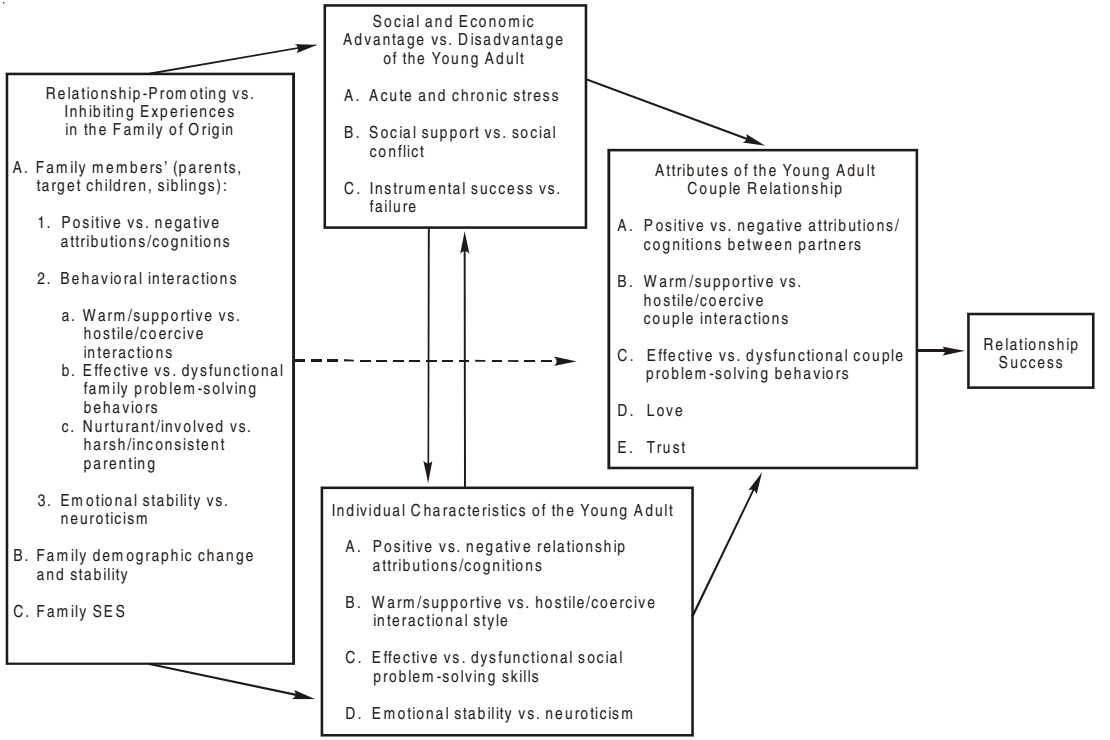


Figure 8.1. Model for the Development of Early Adult Romantic Relationships (DEARR).

Source: Reprinted with the permission of Cambridge University Press. Bryant, C.M. & Conger, R.D. (2002). An intergenerational model of romantic relationship development. In A. Vangelisti, H.T. Reiss & M.A. Fitzpatrick (Eds.), *Stability and change in relationships* (pp. 57–82). Cambridge, England: Cambridge University Press.

The model essentially predicts how specific behavioral, cognitive, and emotional characteristics in the family of origin might prime young adults to behave in certain ways with their romantic partners. It focuses specifically on the influence of the family of origin, while Collins and van Dulmen highlight the significant role of friends.

In commenting on the work described in their chapter, I focus on four main issues:

1. The use of friends/friendship as a construct representing peers in analyses.

2. The importance of both identifying and *explaining* pathways in the development of romantic relationships.

3. The advantages of multiple-reporters, mixed methods, and longitudinal assessments.

4. The sociocultural context in which relationships develop.

Peers: Examining the Role of Friends and Siblings

We know about friends . . . but what about siblings? On more than one occasion the authors call for analyses that capture the experiences of study participants in various types of relationships—particularly non-romantic relationships—as a means of furthering our understanding of their romantic relationships. Yes, friendship is a type of non-romantic affiliation that may shed light on the ability of young adults to form and maintain social ties; however, other types of non-romantic relationships are also worthy of investigation. For example, perhaps this suggests a call for studies involving the influence of siblings in romantic relationships. Sibling relationships can be very different from relationships with friends (this is not to say that siblings cannot be friends), especially since people choose their friends but not their siblings—hence, the *involuntary* nature of the sibling relationship.

If we step back and take a more family-centered approach, as the DEARR model suggests, then we would concede that children typically spend more time interacting with their siblings than with their parents (Dunn, 1984). This may explain why siblings play such a vital role in the development of children's understanding of interpersonal relationships (Buhrmester & Furman, 1990; von Salisch, 1997). According to Katz, Kramer, and Gottman (1992), sibling interactions provide an avenue through which individuals display a range of behaviors and express a range of feelings that, at least in childhood, are often more intense than those they display in other relationships.

Much of the sibling research that has addressed romantic relationships tends to focus on the association between sexual relationships of older siblings and the timing of sexual intercourse among younger siblings (Rodgers, Rowe, & Harris, 1992; Widmer, 1997). Relatively few studies focus on the role siblings play in the development and maintenance of romantic unions over time. This is surprising given that (1) "a critical mass of findings now implicates familial experiences in the foundations of romantic experiences in the second and third decades of life" (Collins & van Dulmen, this volume), and (2) older siblings may share advice about personal issues and life plans with their younger siblings during late adolescence (Tucker, Barber, & Eccles, 1997). The latter study suggests that females receive more advice from their siblings and experience greater sibling influence than do men. Thus, it seems reasonable to believe that relationships with siblings might help explain romantic relationship functioning.

Siblings have been included in analyses of romantic relationships. For example, Conger, Cui, Bryant, and Elder (2000) included siblings—representing age-mates––in a set of analyses; however, we found that the parental relationship contributed significantly more to the quality of young adults' romantic relationships than did their sibling relationships. This finding does not mean that sibling relationships are not important. It suggests that their pathway to young adults' romantic relationships may differ from parents' pathway to young adults' romantic relationships. The question we must ask ourselves is "Why?"

Explaining Pathways: The Why & the What

Understanding the pathways linking early life experiences to later relationship development is important, but so too is an understanding of ***why*** these pathways function the way they do. Collins and van Dulmen explain that attachment theory can account for these paths, but I found myself considering other possible explanations for the patterns of association. The processes through which the pathways described by the authors operate could involve (to name just a few) observational learning, socialization, and behavioral continuity (Bryant & Conger, 2002). Observational learning reflects the idea that youth observe various forms of interactions (e.g., parent-parent, parent-sibling, and sibling-sibling interactions), including interactions between their siblings and their siblings' romantic partners. (Younger siblings may observe the manner in which older siblings behave toward romantic partners.) Youth may imitate these interactional styles as they observe them in their families. They may even imitate the interactional styles observed among their friends. Youth may also be socialized to behave in certain ways through a process of direct interaction. For example, children who have caregivers who train them to behave warmly toward others should be more skillful in their later interactions with romantic partners (Capaldi & Clark, 1998; Simons, Lin, & Gordon, 1998). Pathways to the development of romantic unions may reflect continuity in

the child's interactions. Temperament—a stable underlying disposition—may explain this. These are just a few additional ways of explaining ***why*** paths linking certain early life experiences to later relationship functioning may work. The point is that explaining ***why*** paths emerge is just as important as identifying ***what*** paths lead to romantic relationships.

Multiple-Reporters, Mixed-Methods, and Longitudinal Assessments

Collins' data are absolutely phenomenal. He had assessments at multiple time points. Information was collected from multiple reporters, including teachers. He used surveys as well as observational methodology. (The assessment tools and the ages at which the assessments were made are summarized in Table 8.1.) The most potent research design for evaluating the development of romantic relationships is a prospective, longitudinal study extending from early life to adolescence or the early adult years (Bryant & Conger, 2002). That is exactly the type of design used by Collins.

Table 8.1
Summary of Assessment Tools Used Over Time

Age	Assessment
Early Life	
12 and 18 months	Ainsworth's Strange Situation
24 months	Child's experience in problem-solving task
42 months	Mother's supportive presence in a teaching task
Childhood	
Preschool, Grades 1, 2, 3, 6	Teacher ratings of children's competence with peers
Adolescence	
Age 13	Ratings of collaborative problem-solving and emotional support in videotaped parent-child interactions
Age 16	Ratings of adolescents' friendship security—obtained by interviewing the study participants

One of the interesting findings reported is that friendship quality predicted later quality of couple interactions, but general peer competence was *not* related to later quality of couple interactions. One would think that friendship quality and peer competence would yield somewhat similar results because those constructs

overlap. In Collins' study and in the field at large, however, there is a big difference in how these two constructs are assessed. Friendship quality was obtained through interviews with the participants, while peer competence was assessed through teacher reports. This is an interesting methodological issue. I wonder what the authors would have found if the *teachers* had rated the *quality* of the friendships. We always knew that intimate relationships were complex, but Collins and van Dulmen's findings underscore that complexity, and highlight the potential implications of the manner in which data were collected.

Sociocultural Context of Relationships

The review of Collins and van Dulmen caused me to keep returning to one particular line. At one point, the authors state, " . . . romantic relationships . . . have a peculiar intensity . . . marked by expressions of affection—including physical ones and, perhaps, the expectation of sexual relations, eventually if not now" (Collins & van Dulmen, this volume, p. 59). As I read and re-read that line it occurred to me that we could easily substitute the word "friendship" for "romantic relationships." So, let's try the new line, which would read something like this: "Some ***friendships*** have a peculiar intensity, marked by expressions of affection—including physical affection and, perhaps, the expectation of sexual relations, eventually if not now." This slight modification is particularly salient given the relatively recent article that appeared in the *New York Times* (Denizet-Lewis, 2004) describing *friends with benefits*—these, by the way, are friends who regularly "hook up". According to the unwritten rules of these hookups, "if you want it to be a hookup relationship, then you don't call the person for anything except plans to hook up . . . you don't call just to say hi" (Denizet-Lewis, 2004, p. 35). A high school senior depicted in this article was upset because her *friend with benefits* broke up with her. She was struggling to understand this because the benefit of having a *friend with benefits* is not worrying about breaking up because you were never really partners in the traditional sense. So these teens—particularly some of the girls—were blurring the lines between friends and partners. What are the implications of this not just for those involved in the relationship (that is, if we can even call it a relationship*)* but for those of us studying the relationship?

It is important that we as researchers keep abreast of what's appearing in the popular press because it can help us understand the larger context of the relationships we are studying. It also helps us to understand that the context changes as a result of changing attitudes and values. On a practical note, it means that we need to make sure that we understand how our study participants are defining "friends" and "romantic partners" when they complete our questionnaires.

Let's also remember to address the role of race and ethnicity as a cultural context as we explore the developmental pathways of intimate relationships. Researchers have explored the role of family in the intimate relationship pathways of minorities. For example, one study suggests that among African Americans,

family support is a stronger predictor of love for partner than is family support among Whites (Bryant, 1996). We typically think of support as being positive, but Umana-Taylor and Fine (2003) found that the more familial support Hispanics reported for their relationships, the lower was their commitment to wed. They further suggested that high levels of family involvement may actually lead to relationship discord. Findings such as these suggest that the paths from family experiences to relationship outcomes may differ across various racial or ethnic groups. Norms regarding appropriate behavior in relationships may differ across racial or ethnic groups. One size might fit all in some clothing stores, but one theoretical model may not fit all.

Collins and van Dulmen appropriately point to the roles of cultural and community norms in identifying who is an acceptable romantic partner. If we take their point a step further and closely examine community effects, we find that community characteristics such as community poverty and residential instability are factors associated with romantic relationship outcomes (Bryant & Wickrama, in press). Economically disadvantaged and unstable communities are fraught with structural constraints that limit marital/family activities, thereby contributing to marital discord (Bryant & Wickrama, in press). Thus, another contextual issue worthy of further investigation is the influence of poverty on the development of intimate relationships. Minorities, particularly Hispanic youth, are more likely to grow up in working poor families than are other groups (Lopez & Stanton-Salazar, 2001). How might this affect the course of their pre-marital and marital relationships? How might the social context of poverty affect their perceptions of romantic relationships? The economic context of relationships cannot be ignored. Think about it at the most basic level: It is difficult to get married if you do not have a place to live.

Conclusion

Collins and van Dulmen are on-target with their multi-method approach of exploring the developmental course of intimate relationships. By combining data obtained through questionnaires and observations collected over several years, they reveal the complexity of the pathways leading to romantic unions. I commend them for this effort because the use of observational methodology is neither easy nor inexpensive. By using a multi-method approach, Collins and van Dulmen implicitly acknowledge that the methods we use to collect our data may affect our results. By using a multi-method approach, they also are acknowledging that we need to find different ways of "listening to" study participants to make sure that we are accurately depicting their lives. We must allow *THEIR* words, *THEIR* voices, and *THEIR* experiences to guide *OUR* thinking as we model—theoretically and statistically—*THEIR* lives. Collins and van Dulmen are taking an important step in this direction.

Acknowledgments

I thank John Bolland and Susan McHale for helpful comments on prior drafts.

References

Bradbury, T. (1995). Assessing the four fundamental domains of marriage. *Family Relations*, *44*, 459–468.

Bryant, C. (1996). *Subcultural variations in the social network support of Latinos, African Americans, and Anglos: What is the association between the developmental of heterosexual relationships and the support of friends and family members?* Unpublished doctoral dissertation. University of Texas at Austin.

Bryant, C., & Conger, R. (2002). An intergenerational model of romantic relationship development. In A. Vangelisti, H.T. Reiss, & M.A. Fitzpatrick (Eds.), *Stability and change in relationships* (pp. 57–82). Cambridge, England: Cambridge University Press.

Bryant, C. M., & Wickrama, K. A. S. (in press). Marital relationships of African Americans: A contextual approach. In K. A. Dodge, V. McLoyd, & N. Hill (Eds.), *Emerging issues in African American family life: Context, adaptation, and policy*. New York: Guilford Press.

Buhrmester, D., & Furman, W. (1990). Perceptions of sibling relationships during middle childhood and adolescence. *Child Development*, *61*, 1398–1387.

Capaldi, D., & Clark, S. (1998). Prospective family predictors of aggression toward female partners for at-risk young men. *Developmental Psychology*, *70*, 1175–1188.

Conger, R., Cui, M., Bryant, C., & Elder, G. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology*, *79*, 224–237.

Denizet-Lewis, B. (May 30, 2004). Friends, friends with benefits, and the benefits of the local mall. *The New York Times*, 30–35, 54–58.

Dunn, J. (1984). *Sisters and brothers*. London: Fontana Paperbacks.

Huston, T., & Houts, R. (1998). The psychological infrastructure of courtship and marriage: The role of personality and compatibility in romantic relationships. In T.N. Bradbury (Ed.), *The developmental course of marital dysfunction* (pp. 114–151). Cambridge, England: Cambridge University Press.

Katz, L., Kramer, L., & Gottman, J. (1992). Conflict and emotions in marital, sibling, and peer relationships. In C. U. Shantz & W. W. Hartup (Eds.), *Conflict in child and adolescent development* (pp. 122–152). Cambridge, England: Cambridge University Press.

Lopez, D., & Stanton-Salazar, R. (2001). Mexican Americans: A second generation at risk. In R. Rumbaut and A. Portes (Eds.), *Ethnicities: Children of immigrants in America* (pp. 57–89). New York: Russell Sage Foundation.

Rodgers, J, Rowe, D., & Harris, D. (1992). Sibling differences in adolescent sexual behavior: Inferring process models from family composition patterns. *Journal of Marriage and the Family*, *54*, 142–152.

Simons, R., Lin, K., & Gordon, L. (1998). Socialization in the family of origin and male dating violence: A prospective study. *Journal of Marriage and the Family*, *60,* 467–478.

Tucker, J., Barber, C., & Eccles, J. (1997). Advice about life plans and personal problems in late adolescent sibling relationships. *Journal of Youth and Adolescence*, *26* , 63–76.

Umana-Taylor, A., & Fine, M. (2003). Predicting commitment to wed among Hispanic and Anglo partners. *Journal of Marriage and Family*, *65*, 117–139.

Von Salisch, M. (1997). Emotional processes in childbearing relationships with siblings and friends. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (pp. 61–80). Chichester: Wiley.

Widmer, E. (1997). Influence of older siblings initiation of sexual intercourse. *Journal of Marriage and the Family*, *59*, 928–938.

This page intentionally left blank

9

A FEW "COURSE CORRECTIONS" TO COLLINS AND VAN DULMEN'S "THE COURSE OF TRUE LOVE"

B. Bradford Brown
University of Wisconsin - Madison

Five years ago I began a chapter in which I assessed the state of our knowledge about adolescent romantic relationships by chiding social scientists for paying too little attention to this important aspect of young people's relationships with peers (Brown, Feiring, & Furman, 1999). In the interim, scholars have made remarkable progress in unraveling the mysteries of teenage romance (at least in North America). Scientific journals and academic conferences now routinely offer new evidence derived from richer theoretical perspectives and a more diverse array of respondents. We have moved beyond the inclination to regard adolescents' romantic forays as frivolous behavior, or to simply disregard them in favor of the more troublesome topic of teenage sexuality. The contributors to this book display the impressive progress that investigators have made in understanding adolescent romance. My comments will concentrate on Collins and van Dulmen (this volume), which is largely concerned with how aspects of adolescents' relationships with friends and parents predict features of their romantic experiences.

It is important at the outset to underscore the advances to research on adolescent romantic relationships that are inherent in the work of Collins and his associates. Several features set this program of research apart from most studies of romantic interests and liaisons during this period of life. First and foremost, it has strong and sensible theoretical roots that provide an insightful conceptual framework for analyses and interpretation of findings. As investigators move beyond the "bean counting" stage of research (in which they document how frequently a phenomenon occurs, at what ages, within what demographic groups, and so on), they need a firm theoretical foundation for guiding the selection of issues, samples, measures, and methods of gathering and interpreting information. Collins and colleagues draw judiciously from several theories, including attachment theory, socialization theory, and Sullivan's neo-psychoanalytic model of interpersonal development, to guide their thinking.

A second advance is that they obtain information from multiple methods and sources. Their data include ratings not only from the target youth but also from parents, teachers, and peers. This information is supplemented with observational data and intensive interviews that provide a mix of quantitative and qualitative measures. Third, the study extends from well before adolescent romantic relationships are initiated to well after they are an established part of most

respondents' lives. By following youth over such a long period of time and managing to retain a high proportion of the initial sample, Collins and colleagues have amassed an unusually rich data set with extensive, systematically gathered information about key constructs. Finally, the data are broad in theoretical scope, addressing a variety of constructs that are appropriately located within a developmental framework. That is, the specific variables examined change from one measurement point to the next, in accordance with our understanding of how interpersonal resources and relationships develop over time.

Riding the "Developmental Wave"

In gathering data prospectively over a long time period, Collins and van Dulmen allow us to appreciate the complex and slowly evolving connections between parent and peer relations, on the one hand, and romantic experiences, on the other. Seemingly contradictory findings suddenly make sense from this long-range perspective. Consider two curious findings that the investigators report in their chapter (from their own or from others' data). The first finding is that the quality of teenagers' romantic relationships is significantly predicted by the quality of parent-child relationships in childhood but is not associated strongly with features of parent-child relationships in adolescence. The second finding is that the individuals most likely to develop healthy romantic relationships with other-sex peers in adolescence are those who seemed to scrupulously avoid other-sex peers prior to this stage of life.

In more circumscribed data sets these findings might remain mysterious, but from the long-range perspective of the Minnesota Longitudinal Study, they are clearly consistent with expectations arising from Sullivan's (1953) or other developmental theories. They illustrate how individuals "ride the developmental wave" on their way to healthy and effective romantic liaisons. Youth develop what Collins and van Dulmen refer to as "foundational relationships" with parents that will establish a pattern for later close relationships; then, they move on to the childhood world of same-sex "chumships." These peer associations set the stage more directly for intense romantic involvements in adolescence with, typically, other-sex peers. Close romantic relationships in adolescence (and, by extension, adulthood) are the result of a carefully scripted sequence of "foundational experiences" with family and peers in earlier life stages. Different types of close relationships come to prominence, then recede in their influence, as young people move with the developmental wave, but a given relationship's influence is still visible, even if distal. A big question, of course, is precisely what skills or motivations or aspects of self are individuals mastering through each of their close relationships as they ride the developmental wave? Through various theoretical frameworks (Bowlby, 1982; Sullivan, 1953), Collins and van Dulmen begin to answer this question.

What happens to individuals who ride *against* the wave, who chart a non-normative course in close relationships from infancy to adolescence? I would suggest two specific features. First, those who pursue non-normative peer relationships may have a limited choice of healthy partners. If a 10-year old wants to pursue a close friendship with a peer of the other sex, who can the child induce to join in such a relationship? Those most receptive are likely to be those least effective in establishing close friendships with same-sex age mates—probably because of deficiencies in their own interpersonal skills. The relationship is certainly likely to catch the attention of peers who, through teasing, direct confrontation, or other methods of normative regulation, will try to bring the errant couple back in line with the developmental wave. Wary parents, teachers, or other significant adults will add their own pressures against the relationship. This hardly seems like a promising script for mastering the interests and abilities that will prepare a young person for entry into the arena of romantic liaisons on adolescence.

A second example acknowledges that some youth may not ride against the developmental wave by choice, but by virtue of deficiencies in their interpersonal network. Unhealthy attachment relationships are often the result of parents' inadequacies. According to Collins and van Dulmen, this sets the stage for problems in adolescent romantic relationships. Future studies can look at how specific deficiencies in early parent-child relationships predict problems with particular aspects of adolescent romantic interactions. Attachment theory provides the basis for making specific predictions.

Stages of Romantic Relationships

Sullivan (1953) deftly sketched normative developmental shifts in interpersonal attention: from close relationships with parents in early childhood to a focus on same-sex peers in later childhood to romantic relationships in adolescence. He was less successful in charting developmental changes in the organization of adolescent peer groups that may explain some other findings that Collins and van Dulmen report. Consider, for example, how peer competence and friendship quality predict features of romantic activity at various life stages. Peer competence is associated with involvement in romantic relationships in middle adolescence, but by young adulthood it is the quality of child and adolescent friendships that is associated with the quality of couple interaction. Several scholars have proposed that romantic experiences evolve through stages across adolescence (Brown, 1999b; Connolly & Goldberg, 1999; Feinstein & Ardon, 1973). These theories consistently portray early adolescent romantic forays as public affairs played out in the arena of the peer group. The short duration of these relationships underscores their function as "training exercises" and pawns in a game of social status, rather than as deep and meaningful emotional connections between two individuals (Roscoe, Diana, & Brooks, 1987). Giordano, Manning, and Longmore (this volume) detail these dynamics in their depictions of the transition into romantic interactions.

It would be surprising if the quality of dyadic relationships (with friends or parents) was as predictive of adolescents' success in the early stages of romantic encounters as later on, when relationships evolve to a more enduring and personal level. Likewise, it would be surprising if general peer competence was as important as success in dyadic relationships in the more advanced stages of romantic development characteristic of young adult relations. Thus, to understand the shifting predictive value of peer competence and friendship quality (or shifts across age in the predictive utility of aspects of early childhood bonds to parents), investigators must pay closer attention to developmental changes in the nature of romantic alliances. Long ago, scholars abandoned the notion that children are merely miniature adults. It is time for investigators to dismiss the notion that early adolescent romances are simply miniature versions of young adult romantic relationships. Collins and van Dulmen's findings and their challenges to researchers to explain these findings should provide the incentive to take this important step forward in research on romantic relationships.

Influence of the Peer Context

For most American adolescents, romantic relationships are situated within a complex, dynamic system of peer interactions. The system features an interweaving of distinctive types of relationships and levels of interaction (Brown, 1999a). Especially in early and middle adolescence, young people do not pursue romantic relationships independent of their other peer affiliations (Connolly, Furman, & Konarski, 2000). Collins and van Dulmen emphasize associations between romantic relationships and close friendships, but both of these types of relationships are situated within friendship groups and, in many cases, reputation-oriented crowds that can influence their characteristics. These higher-level groups set normative standards for dyadic relationships of members, standards that are not equivalent across groups. Eckert (1989) contrasted the wary, competitive orientation toward friendships in the jock crowd to the more cooperative, interdependent style of burnouts. Eder (1985) explained how the exclusive status consciousness inherent in friendship interactions among the popular clique in one midwestern middle school served to maintain the group's prestige in the peer system. Macleod (1995) compared the solidarity of a group of urban African American males to the diffuse, unreliable affiliations characteristic of a neighboring group of European American youth. I suspect that similar variability occurs in romantic relationships among different peer contexts. Indeed, I believe that the gender dynamics documented by Giordano and colleagues (this volume) also vary across peer groups. Thus, one must be cautious about over-generalizing the connections between friendships and romantic affiliations that Collins and van Dulmen discover in their data.

Effects of Romantic Relationships on Adolescents' Other Close Relationships

In pursuing a thorough understanding of the connections between peer or family relations and romantic experiences, investigators ought to pay closer attention to the meaning that romantic relationships have for other close affiliations. As individuals move beyond superficial, "entry-level" romantic encounters to more stable relationships, their romantic experiences are likely to become signal events for both friends and parents. The time that adolescents devote to their romantic partners, particularly as couples become more exclusive in their interactions, translates into less time spent with family and close friends. Increases in the intimacy of romantic relationships diminish the adolescent's need for emotional support and advice seeking from friends and parents. This can be a difficult adjustment for close friends, especially if they are not involved in a romantic relationship themselves. Expressing concern to a friend about the loss of time together or loss of a sense of intimacy and support is generally taboo—particularly among males, as pointed out by Giordano et al. (this volume). It crosses normative boundaries of friendship and, among same-sex friends, can be interpreted as an indication of homosexual affection. In this stage, adolescents may quietly harbor resentment toward their close friend's romantic partner rather than risk confronting the issue directly with friends. As the social world evolves in later adolescence or young adulthood toward "couple coordinate friendships" (both friends having intimate romantic partners), these emotional dynamics among friends are likely to subside.

Parents also may bemoan the loss of time with their child as romantic relationships intensify. In addition, however, romantic partners are a source of concern to parents about risky sexual activity, teenage pregnancy, or premature long-term commitment to a peer whom parents are not eager to welcome into the family. Sensing such reservations from parents, adolescents may respond by censuring the information they share about romantic alliances. Our own pilot investigations indicate that adolescents generally assert that parents do not have the right to know details of their associations with peers (especially romantic partners) beyond the basics of where they are going, what they are doing, and who will share in the activity (Krein, 2004). In other words, romantic partners can inspire a sense of loss and concern among parents in middle adolescence that prompts adolescents to distance themselves from parents, at least in terms of sharing information about peer relationships. These dynamics need to be factored into considerations of how friend and parent-child relationships interact with romantic relationships.

To put it more bluntly, patterns of influence between parent-child or friendship relationships and romantic relationships are reciprocal rather than unidirectional. This assertion by no means discredits the insights that Collins and van Dulmen

provide about family and peer influences on romance. They are concerned primarily with how relationships *prior* to adolescence influence adolescent-based romantic behaviors. I simply wish to encourage the addition of another dimension: how adolescent romantic experiences influence (concurrently and prospectively) other close relationships. This should be especially instructive for those studying romantic relationships in late adolescence or adulthood.

Interdependence of Parent and Peer Influences

To this point, I have portrayed friendship or peer group experiences and family (especially parent-child) relations as independent sources of influence on adolescent romantic relationships. This perspective is prominent in the studies cited by Collins and van Dulmen, but other possibilities merit consideration. One that is consistent with Collins and van Dulmen's interpretation of findings is that influences are sequential. Different types of close relationships form a set of building blocks that ultimately lead to the capacity for mature, sustained romantic partnerships. As young people master the skills or experiences offered by one "foundational relationship," they become more receptive to lessons to be learned in the next such relationship. Youniss and Smollar (1985), for example, illustrated how cognitive and social advances allow young people to move from adult-child "relationships of constraint" to the more egalitarian peer relationships typical of pre-adolescence and adolescence. This perspective would explain why parent-child, peer group, and close friendship relationships, respectively, achieve their strongest predictive validity toward aspects of adolescent romantic relationships at different points in the life course. However, it does not account effectively for concurrent predictive utility in several different types of relationships—a pattern that also can be discerned in some studies.

Another possibility is that influences are synergistic, such that nurturing experiences in one type of relationship are most apparent among youth who also have nurturing experiences in another type of relationship. The interpersonally rich get richer while the interpersonally poor get poorer. Still another possibility is a compensatory pattern of association among relationship types. For example, the quality of adolescent friendships may be most influential among youth who lack close and caring relationships with parents. Different theoretical frameworks seem to emphasize different possibilities here, so it may not be easy to engage in comparative analyses of these possibilities that are theoretically sensible as well as empirically viable. In earlier work on the distinctiveness and interdependence of various types of social relationships, Collins (2003; Collins & Laursen, 2000) provided some hints on how to proceed with this task. Perhaps the way in which various foundational experiences influence romantic relationships varies across different facets of adolescent romantic relationships.

Additional Considerations: Culture and Sexual Orientation

Two features of the scope of Collins and van Dulmen's investigation deserve closer consideration. One involves the generalizability of findings across cultures. In earlier work, Collins (2003) acknowledged the ways in which cultural forces shape adolescents' romantic experiences. Ethnic groups within the United States differ substantially in the age at which dating becomes normative, the speed with which sexual activity is incorporated into romantic relationships, the level of supervision that parents exercise over romantic partners, the types of peers who are deemed acceptable as dating partners, and so on (Coates, 1999; O'Sullivan & Meyer-Bahlberg, 2003). If the assessment is extended beyond North America, the cultural contrasts become even sharper. In some cases, adolescent romantic liaisons are very carefully monitored—if not arranged—by adults, or simply proscribed until youth reach young adulthood (Brown, Larson, & Saraswathi, 2002). Likewise, the degree of adolescents' social interaction with peers varies dramatically across cultures, affecting their capacity to play a meaningful role in romantic relationships. One cannot fully appreciate such cultural influences without a sample that is larger and more diverse than the Minnesota Longitudinal Study. Thus, examination of these influences lies beyond the scope of most studies highlighted by Collins and van Dulmen. Nevertheless, as Collins himself stated, "Examining contextual variations that impinge on features of romantic relationships is an essential first step toward better understanding how context influences the impact of these relationships" (Collins, 2003, p. 14).

Another feature to consider is sexual orientation. Collins and van Dulmen are careful to define romantic relationships in a way that does not exclude youth who pursue same-sex partners. This is an important advance over most researchers who routinely and often thoughtlessly confine their investigations to same-sex couples or heterosexual orientations and experiences. Yet, consideration of homosexual relationships must extend beyond definitions. The social climate for these relationships can have a profound effect on their development and expression, making it more difficult to judge parent and peer influences upon them. Derogation of homosexual inclinations and activity remains common among American youth (Diamond & Lucas, in press), especially in early adolescence. Gay and lesbian youth often find that they must pursue romantic relationships furtively, perhaps even masquerading as heterosexuals in order to satisfy suspicious peers (Savin-Williams, 1999). This alters the roles that the friendship network plays in adolescents' development of romantic interests and experiences. It also seems to affect the organization of the network itself. Diamond and Lucas (2004) reported that gay and lesbian youth harbored more anxiety about losing friends and finding acceptable romantic partners than their heterosexual peers; these concerns affected the size and organization of peer networks. Curiously, at least among older

adolescents, sexual minority youth claimed a larger number of close friendships, with some such relationships reaching a level of emotional intensity or "passion" that rivaled romantic or sexual relationships (Diamond, Savin-Williams, & Dube, 1999).

The need that many sexual minority youth feel to hide their romantic relationships from parents also could affect the associations that Collins and van Dulmen trace between parent and romantic relationships. Although early attachments may emerge as the basis for longer-term romantic liaisons achieved in young adulthood, the connection may not be so visible within the restrictive romantic involvements of sexual minority adolescents. The inability to seek out parents as sources of support through the trials and tribulations of early romantic experiences also could strain the connection. In effect, gay and lesbian adolescents are not "riding the developmental wave," not responding to the mandate to shift attention from same- to other-sex relationships. To the degree that parents and peers cannot accept this, they can easily become estranged from sexual minority adolescents' efforts at mastering the romantic role. Thus, more careful attention to these young people's experiences is needed before incorporating them into the dynamics described by Collins and van Dulmen.

Defining Romantic Relationships: The Case for Reciprocal Nomination

I end with a concern about the way in which romantic relationships have been ascertained and operationalized in many studies of adolescents. Collins and van Dulmen assert that mutual acknowledgment should be a prerequisite for these relationships (both parties should agree that they are romantic partners). A similar prerequisite is now widely accepted in studies of friendship. More often than not, however, investigators take a respondent's word for whether or not s/he is now or recently has been involved with a romantic partner. We know from sociometric studies that many friendship nominations are not reciprocated, even when one is asking about close or best friends. It is very likely that romantic relationships function the same way, especially during early and middle adolescence. Figures from national surveys such as the National Longitudinal Survey of Adolescent Health (Add Health), or even large-scale studies such as the Minnesota Longitudinal Study, may overstate the frequency of romantic liaisons by not requiring reciprocal nomination. Likewise, these studies can distort the nature of these relationships by including, in data analyses, ostensible romantic pairs who do not mutually agree that they are romantically connected.

An important mission for future research is to compare the characterization of romantic relationships when the criterion of mutual acknowledgment is and is not imposed. How reasonable is it to compare findings from studies of reciprocated pairs to those in which reciprocity is uncertain? How many current conclusions

about adolescent romantic relationships would be retained if studies were restricted to reciprocated nominations? Investigators also need to carefully consider, from a theoretical standpoint, what to make of romantic partner nominations that are not reciprocated. Are adolescents who claim such relationships bragging, dreaming, or seriously unaware that their partner does not perceive the relationship as romantic? What personal or situational factors are associated with the inclination to claim a romantic partner who does not return one's affections?

Operationalizing romantic relationships more consistently also would allow researchers to differentiate three constructs more clearly: romantic competencies, interactions, and relationships. The first of these deals with the social skills that allow individuals to engage in romantic interactions and relationships successfully. Romantic interactions refer to interpersonal behaviors with others that have a romantic focus; they may or may not occur within romantic relationships. For example, flirting with a peer, conversing with someone older on whom one has a crush, practicing with a friend how to ask someone out, are all important romantic behaviors that occur outside of a genuine romantic relationship. These different facets of romantic activity are time-related: Romantic competencies develop across childhood and adolescence; romantic interactions (short of relationships) are most common in pre- and early adolescence, whereas romantic relationships occur from adolescence onward. Distinguishing these constructs will help investigators to compare findings across studies more intelligently.

In sum, the Minnesota Longitudinal Study does what any groundbreaking research effort should do: raises as many questions as it provides answers. Collins and van Dulmen point investigators in new directions that may lead to a more sophisticated understanding of the interplay of relationship experiences that precede and then flow from romantic encounters in adolescence. Placing adolescent romantic relationships in this broader temporal and interpersonal context should inspire studies that unlock the mysteries of this crucial feature of adolescence in North American cultures.

References

Bowlby, J. (1982). *Attachment and loss, Volume 1: Attachment* (2nd ed.). New York: Basic Books.

Brown, B. B. (1999a). Measuring the peer environment of American adolescents. In S. L. Friedman & T. D. Wachs (Eds.), *Assessment of the environment across the life span* (pp. 59–90). Washington, DC: American Psychological Association.

Brown, B. B. (1999b). "You're going with *who?!*": Peer group influences on adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 291–329). London: Cambridge University Press.

Brown, B. B., Feiring, C., & Furman, W. (1999). Missing the Love Boat: Why researchers have shied away from adolescent romance. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 1–16). London: Cambridge University Press.

Brown, B. B., Larson, R., & Saraswathi, T. S. (Eds.). (2002). *The world's youth: Adolescence in eight regions of the globe*. New York: Cambridge University Press.

Coates, D. L. (1999). The cultured and culturing aspects of romantic experience in adolescence. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 350–363) London: Cambridge University Press.

Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence, 13*, 1–24.

Collins, W. A., & Laursen, B. (2000). Adolescent relationships: The art of the fugue. In C. Hendrick & S. Hendrick (Eds.), *Sage sourcebook on close relationships* (pp. 59–70). Thousand Oaks, CA: Sage.

Connolly, J. A., & Goldberg, W. (1999). Romantic relationships in adolescence: The role of friends and peer sin their development. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 266–290) London: Cambridge University Press.

Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*, 1395–1408.

Diamond, L. M., & Lucas, S. (2004). Sexual-minority and heterosexual youths' peer relationships: Experiences, expectations, and implications for well-being. *Journal of Research on Adolescence*, *14*, 313–340.

Diamond, L. M., Savin-Williams, R. C., & Dube, E. M. (1999). Sex, dating, passionate friendships, and romance: Intimate peer relations among lesbian, gay, and bisexual adolescents. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210) London: Cambridge University Press.

Eckert, P. (1989). *Jocks and burnouts*. New York: Teachers College Press.

Eder, D. (1985). The cycle of popularity: Interpersonal relations among female adolescents. *Sociology of Education, 58*, 154–165.

Feinstein, S. C., & Ardon, M. S. (1973). Trends in dating patterns and adolescent development. *Journal of Youth and Adolescence 2,* 157–166.

Krein, H. G. (2004, March). *Assessing what adolescents think parents have a right to know about peers: The Right to Know Scale*. Paper presented at the biennial meetings of the Society for Research on Adolescence, Baltimore, MD.

Macleod (1995). *Ain't no makin' it*. Boulder, CO: Westview Press.

O'Sullivan, L. F., & Meyer-Bahlberg, H. F. L (2003). African American and Latina inner-city girls' reports of romantic and sexual development. *Journal of Social & Personal Relationships, 20*, 221–238.

Savin-Williams, R. C. (1994). Dating those you can't love and loving those you can;t date. In R. Montemayor, G. R. Adams, & T. P. Gullatta (Eds.), *Advances in adolescent development, Vol. 6: Personal relationships during adolescence* (pp. 168–195). Thousand Oaks, CA: Sage.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Youniss, J., & Smollar, J. (1985). *Adolescent relations with mothers, fathers, and friends.* Chicago, IL: University of Chicago Press.

This page intentionally left blank

III

How Do Early Romantic and Sexual Relationships Influence People Contemporaneously and Later in Life?

This page intentionally left blank

10

ADOLESCENT ROMANTIC RELATIONSHIPS: AN EMERGING PORTRAIT OF THEIR NATURE AND DEVELOPMENTAL SIGNIFICANCE[1]

Peggy C. Giordano
Wendy D. Manning
Monica A. Longmore
Bowling Green State University

Recent media treatments of the adolescent period have decried the end of romance among today's uncommitted but sexually permissive teens. The movement away from dating is particularly ironic in that academics have now begun to investigate a social phenomenon that apparently no longer exists! Our view is that while less formal and codified than in earlier eras, romantic relationships nevertheless remain an important aspect of adolescent social life (Brown, Mory, & Kinney, 1994; Furman, Brown, & Feiring, 1999), contribute uniquely to development (Giordano, Longmore, & Manning, 2001), and often exert a significant influence on consequential transition outcomes such as delinquency and academic achievement. The link to sexual behavior is also intuitive, but ironically the 'couple context' is less well researched and understood than the relationship between sexuality and friendship, family and even community-level processes (Billy, Brewster, & Grady, 1994; Kotchick, Shaffer, & Forehand, 2001; Miller et al., 1997).

In this chapter, we develop a portrait of adolescent romantic relationships through an explicit comparison of dating relations and the more heavily researched social arena of adolescent friendship. This will allow us to: (a) identify the basic contours of romantic relationships, (b) explore how such "structuring" variables as age, gender and race/ethnicity influence the character of relationship experiences, and (c) provide a foundation for understanding links to consequential transition outcomes.

In this chapter, we present an overview of results derived from the first wave of a four-wave panel study of adolescent romantic relationships, the Toledo Adolescent Relationships Study, and from related analyses that rely on data from the National Longitudinal Study of Adolescent Health (Add Health). TARS (n=1,316) was designed at the outset to be an adjunct to Add Health, as it contains areas of conceptual and measurement overlap. However, consistent with our

[1] This research was supported by a grant from the National Institute of Child Health and Human Development (HD36223), and by the Center for Family and Demographic Research at Bowling Green State University, which has core funding from the National Institute of Child Health and Human Development (R21 HD042831-01).

symbolic interactionist theoretical perspective, TARS includes more attention to social psychological processes and the dynamics or "qualities" that characterize these early relationships. In line with this emphasis on the subjective nature of the adolescent's experiences, we also elicited in-depth "relationship history narratives" from 100 of the TARS respondents. These qualitative data proved to be a useful supplement to the structured protocol.

Background

Although a strong interest in heterosexual relationships is considered a hallmark of adolescence (Sullivan, 1953), we know much more about adolescent peer and family relationships during this period than about early romantic and sexual experiences. The strong emphasis within the literature on peer relations is understandable and generally appropriate—friendship relations have aptly been described as an important "arena of comfort" during the period (Call & Mortimer, 2001), one that allows for identity, relationship and behavioral exploration (Brown, 2004). Basic principles of identification ("they're like me") suggest what we might expect and research generally finds substantial and mutual influence within the confines of adolescent friendship (Haynie, 2002; Kandel, 1978). The tendency toward homophily in friendship selection, the high levels of mutual self-disclosure that characterize ongoing relationships, and the importance of friends as a bridge to autonomy from parents/family (Youniss & Smollar, 1985) all assure a central place for peer relations in theories of adolescent development.

The literature on adolescent dating relationships, in contrast, frequently includes the observation that romantic relationships are, on average, of relatively short duration during this phase of the life course (Furman & Shaffer, 2003). This basic feature of early dating relations may serve to perpetuate the notion of more ephemeral effects. Another large body of research has concentrated on issues relating to sexuality and reproduction, but this literature has only rarely explored relationship qualities and dynamics. For example, a number of studies make the rather schematic distinction between casual or primary partners, but little is known about the specific character of either type of liaison (Ellen, Cahn, Eyre, & Boyer, 1996; Ku, Sonenstein, & Pleck, 1994). This influences theory building efforts, as such relationships have continued to be understood as consequential primarily because of their sexual and reproductive potential.

Some sociological studies have developed more specific portraits of early romantic relationships and these works have often focused on their limiting or problematic features. For example, Merten (1996) examined the practice of "going steady" during early adolescence, and observed that these relationships are generally quite shallow and superficial. Merten stressed that because young people are often intent on making and preserving a good impression, and frequently motivated by status concerns, communication patterns within these fledgling

relationships are not very conducive to the development of real intimacy. He concluded from his research that going steady is a limited and limiting adolescent social ritual.

Eder and colleagues (1995) also focused on early adolescent forays into heterosexual territory, in an ethnographic study of gender relations in a midwestern middle school. Eder also highlighted some of the more problematic aspects of cross-gender interactions, developing the hypothesis that core concerns within the separate spheres of male and female peer groups do not provide the most hospitable training ground for the later development of meaningful egalitarian romantic relationships. She suggested that communication within male peer groups, in particular, fosters a competitive, one-up style of discourse and general orientation that is limiting to the development of intimacy. Boys are encouraged to repress their more tender feelings and emotions, and to see the heterosexual arena primarily as another venue within which they can "score." Girls, in contrast, learn to concentrate heavily on romance but devote much time to the related focus on appearance as well as other status-enhancing, but ultimately limiting pursuits such as cheerleading. She concluded that these separate peer-influenced pursuits are not empowering for girls, foster themes of objectification and denigration in many heterosexual contacts, and result in a social dynamic in which girls often remain "dominated and controlled" by male partners.

Maccoby (1990) developed a similar hypothesis as she theorized about the process of crossing over from a social life based primarily on same-gender contacts to one that increasingly includes heterosexual experiences. Maccoby developed the idea that while both boys and girls face a relatively unfamiliar situation to which they must adapt, the transition is ultimately easier for boys, who tend to simply transport their dominant interaction style into the new relationship. In line with this view, she notes that girls' rates of depression accelerate during the adolescent period, a phenomenon she connects to entry into the dating world (see also Joyner & Udry, 2000). These accounts are important because they help to foreshadow some of the more problematic features of romantic relationships during adolescence and, indeed, across the adult life course, including conflict, gendered inequalities of power, high rates of divorce and domestic violence. Yet our own view is that young people are unlikely to devote a considerable portion of their time and interest pursuing relationships they define as completely meaningless, degrading, and empty.

Descriptions such as those sketched above have often focused on the early adolescent period, and this undoubtedly has an influence on the nature of the portraits that have emerged. Other studies have developed ideas about the male perspective on romance primarily on the basis of observational studies of boys' peer groups (Adler & Adler, 1998; Anderson, 1989; Eder et al., 1995; Macleod, 1987). These peer-centered studies provide a useful window on ways in which peer discourse influences developing gender norms, and fosters an emphasis on sexual experience and exploits. Our research using the TARS and Add Health data

sets allows us to begin to develop a more multi-faceted portrait of romantic relationships during the adolescent period, however, as both studies rely on extensive personal interviews. We thus draw a distinction between meanings that emerge and are shared within a public context such as the male peer group, and those that derive from the couple context itself, and in turn from the adolescent's own more privately held thoughts and feelings. All of these elements are necessary for the development of a comprehensive portrait of adolescent romantic and sexual relationships.

A Different View of the "Crossing Over" Process

We agree with researchers such as Maccoby (1990) and Eder (1995) that the move from a social life consisting primarily of peer interactions to one that includes romantic relationships is a phase that is critical to consider. However, our social psychological perspective, deriving from a Meadian version of symbolic interaction (Mead, 1934), leads to different expectations about how this "crossing over" process may be experienced by adolescents. Our views about the uniquely gendered aspects of this transition in particular differ from the hypothesis developed by Maccoby (1990), namely that the transition is more easily accomplished by boys than by girls.

Early on, Mead (1934) argued that in the conduct of routine or habitual actions, the self is not self conscious. It is within the 'problematic situation' that cognitive, emotional, and self-related processes are fully engaged. According to this general logic, we can consider adolescent friendships as representing the more routine or comfortable type of intimate relationship. While specific friends come and go, the form and even much of the content of friendship-based activities is well understood by the adolescent, as there is carry-over from earlier friendship experiences. In forging romantic relationships, in contrast, adolescents must enter a fundamentally new type of relationship—one they fully recognize represents a highly distinctive, novel feature of the social landscape (Mead's 'problem situation'). This element of newness, contrast, and difference is essential to an understanding of the character of heterosexual relationships, arguably at all stages of the life course, but particularly during the adolescent period.

We previously developed the general notion that relationships that contain an element of contrast and even distance, while initially experienced as problematic situations or "interruptions" of the social environment, will also typically evoke keen interest (Giordano, 1995). Simmel posited a general basis for this idea:

> For the actions of the individual, his difference from others is of far greater interest than is his similarity with them… It is largely differentiation from others that challenges and determines our activity… If something is objectively of equal importance in terms of both similarity with a type and differentiation from it, we will be more conscious of the differentiation (Simmel, 1950, 30–31).

These elements of contrast and difference provide rich terrain for cognitive, emotional and social development. As part of the crossing-over process, the adolescent adds new dimensions to the identity, develops new social skills and, through recurrent dyadic interactions, is necessarily exposed to new "definitions of the situation" (see Giordano, Longmore, & Manning, 2004). Some of what is new may challenge lessons learned within the context of the peer arena. This idea accords well with interpretive perspectives on childhood and adolescence (Corsaro, 1985; Corsaro & Eder, 1990) that have stressed an unfinished, emergent view of peer culture. Research in this tradition emphasizes that while children draw from parental socialization efforts and the larger culture, core themes and concerns are necessarily re-worked or re-fashioned. Entirely novel attitudes and behaviors also emerge as possibilities through processes of mutual influence. Similarly, what is learned within the peer group provides a background for understanding the character of romantic relationships, but these peer socialization efforts are also incomplete. Romantic relationships also involve extensive interaction and communication. Importantly, much of this takes place outside the immediate purview of parents or peers. Thus, romantic partners are also likely to gain importance as reference others, and have the potential to influence self-views, perspectives on relationships, as well as behavioral choices.

In short, our own view is that each relationship represents "something of a new ballgame from a developmental standpoint" (Giordano, 2003; Giordano, Longmore, & Manning, 2001). This shifts the emphasis from the conceptual lens afforded by attachment theories, where carry-over effects are emphasized and often documented (i.e., secure family attachment provides a sound basis for success within the peer arena, and strong friendship ties are generally associated with greater success and comfort within the romantic context (Collins & Sroufe, 1999). Youniss and Smollar (1985) drew an essential conceptual contrast between the core functions of family and friendship, and correspondingly elucidated some of the different qualities/dynamic features associated with each of these relationships. Extending the comparison to the realm of romantic relations, we highlight qualities and dynamic features associated with romantic relationships as a specific comparison to friendship relations. Table 10.1 presents a brief description of major points of comparison, described in more detail in the next section (see also Giordano, Longmore, & Manning, 2001).

Table 10.1
Adolescent Romantic Relationships as a Contrast to Friendship

Qualities of Friendship	"Unique" Qualities of Romantic Relationships
Comfort, social ease	Social and communication awkwardness
"Settled" quality	Heightened emotionality, volatility
Balance, reciprocity, homophily, similarity	Asymmetry and difference· Demographic Status Relational
Reality as 'cooperatively co-constructed'	Power
Dyads embrace other relationships and social connections	Issues of exclusivity and commitment

Romantic Relations as a Contrast to Friendship

First, compared with the comfort and social ease that often characterizes close friendships, heterosexual interactions are often accompanied by high levels of *social and communication awkwardness*. We agree with Maccoby's (1990) observation that male and female adolescents alike face an unfamiliar situation to which they must adapt. However, as we have focused on the existing research concerning different styles of male and female friendships, we developed somewhat different expectations and hypotheses about the transition process. This peer-based research generally emphasizes that girls are socialized to interact within dyadic contexts, to feel comfortable engaging in relatively intimate talk (including mutual self-disclosure). Girls also have much familiarity with various relationship troubles and their repair (Youniss & Smollar, 1985). Boys, in contrast, often interact within larger groups and when describing their friendships frequently stress an activity orientation (Eder & Hallinan, 1978). The competitive one-up style of discourse male friends frequently adapt has already been described above. Thus, as young people begin the process of crossing over to the heterosexual world, it could be argued that boys must make what amounts to a more significant developmental leap as they begin to forge this new type of intimate contact. This leads to our expectation that boys will generally be less prepared for the transition, and at least initially experience higher levels of communication and social awkwardness within the romantic context.

A second important feature of these relationships is the *heightened emotionality* (e.g., love, jealousy) connected to all phases of a romantic relationship's career (Larson, Clore, &Wood, 1999). Close friendships, in contrast, are generally considered the more settled and comfortable social arena. These feelings undoubtedly relate to the sexual potential within the dating context, but we do not believe that this captures the whole of girls' *or boys'* interest in these relationships. Close contact and frequent communication create opportunities for the development of a relatively intimate social bond that is often appreciated on many levels by both female and male adolescents. Girls may be socialized to focus much of their attention on romance, but it is again useful to focus on the contrast in boys' ways of relating within the peer group and with their romantic partner. Since boys typically do not have much opportunity to relate in this more intimate fashion with friends, they may come to "depend" on romantic partners in fundamental ways, and to accord the relationship and partner a distinctive significance. Thus, the idea that "boys want sex, girls want relationships" undoubtedly has validity, but like most binary statements about gender, may represent an oversimplification, particularly of boys' perspectives on their romantic involvements (Thorne, 1993).

Another distinctive but related feature of romantic relationships is the greater potential for *asymmetries* inherent within the romantic context. Scholars such as Youniss and Smollar (1985) have emphasized that friendships are frequently relationships characterized by symmetrical reciprocity. The basis of friendship in similarity fosters these feelings of mutuality. However, as stated above, romantic relationships are often short-lived, and are built around the strong but relatively volatile feelings of heightened emotionality described above. Things can and do change quickly within the world of romance. This creates special vulnerabilities, even as the relationship is on-going. Thus the greater level of investment or interest of one party (a *relational* asymmetry) is a very common occurrence. Other types of asymmetries are also found with greater frequency within the romantic context, for example differences based on age, race/ethnicity and the like (*demographic* asymmetries). (This type of asymmetry has been studied most extensively. See, for example, Ford, Sohn, & Lepkowski [2001].) There is also the potential for what might be termed *status* asymmetries in which one partner is perceived to be more popular, attractive or otherwise more desirable than the other. Such asymmetries are important as they help us to fill in the basic contours of the relationship, but also because these perceived areas of difference or mismatch may influence feelings, self-views and conduct within the relationship.

Youniss and Smollar (1985) suggested that the tendency toward homophily in friendship provides a basic foundation for relational dynamics that also tend to be highly egalitarian. Within friendship, reality is most often "cooperatively co-constructed." Relatively egalitarian processes of mutual influence are also present within romantic relationships; yet because the two parties within a heterosexual liaison must bridge considerable differences (in background, styles, previous

preferences), it is more likely that significant differences of opinion will in fact occur. Thus, we consider *power* a fundamentally more important construct within the romantic relationship. Here, the literature reviewed at the outset and related feminist research leads to an expectation of greater male power (Kompter, 1989). Maccoby (1990), for example, used results of experimental research on male dominance within mixed gender task groups in support of this idea, and Eder and colleagues stressed that male discourse styles lead to a situation in which girls often remain "dominated and controlled." However, issues of power and influence have not been extensively examined in samples of adolescent dating couples, where traditional gendered inequalities of power may not be as evident. Links to labor force participation and the realities of child rearing, for example, are still at a distance, and thus the connection to structural bases of power/influence may be somewhat less direct than at other phases of the life course. This idea parallels findings from the literature on marriage indicating that among older-aged couples (no longer in the labor force, child-rearing years completed), a more egalitarian balance of power is often observed (Bloode & Wolfe, 1960).

Issues of exclusivity also appear more fundamental to an understanding of romantic relations compared with friendships. One can have many friends, but in general norms discourage simultaneous involvement with more than one partner (Adler & Adler, 1998). Research conducted by Eyre and colleagues (1998) documented that norms of fidelity are frequently violated, but these researchers also concluded that the frequent focus on "fidelity management" within peer and partner communications highlights that these are very important personal and moral issues for the adolescents involved. Similarly, friendships tend to unfold and progress in a relatively open-ended manner, but the future of the romantic partnership, particularly during the adolescent phase, is rather routinely in doubt. The relatively short average durations documented in other studies suggest that adolescents often *correctly* perceive that their relationships are vulnerable to dissolution. Thus, the level of *commitment* that characterizes a relationship is a much more central issue within the romantic context. Consistent with popular treatments of the male perspective, we might expect adolescent boys to project a shorter timeline as they reflect on the likely future of the relationship.

The first wave of interviews in connection with the Toledo Adolescent Relationships Study examines issues of exclusivity and commitment, as well as all of the other qualities and dynamics we have conceptualized as relatively more characteristic or even unique to the romantic context. This template of relationship qualities provides a framework for building the basic portrait, for examining influence of age, gender and ethnicity, and for assessing the nature of influence on the adolescent's behavioral choices. Below we review these findings, including two studies focused on links between romantic partners and delinquency and academic achievement.

The Toledo Adolescent Relationships Study

Our program of research began with an extensive exploratory phase, in which we conducted open-ended interviews with a wide variety of teens both in focus groups and in individual interviews (see e.g., Giordano, Longmore, & Manning, 2001). The Toledo Adolescent Relationships Study (TARS) sample was drawn from the year 2000 enrollment records of all youths registered for the 7th, 9th, and 11th grades in Lucas County, Ohio, a largely urban metropolitan environment that includes Toledo. The sample universe encompassed records elicited from 62 schools across seven school districts. The stratified, random sample (n=1,316) was devised by the National Opinion Research Center, includes a relatively equal distribution by gender, and oversamples of African American and Hispanic adolescents. School attendance was not a requirement for inclusion in the sample and most interviews were conducted in the respondent's home using preloaded laptops to administer the interview.

The TARS data have a relationship emphasis. While objective, behavioral measures are important for many of our analyses (e.g., number of evenings per week spent with the romantic partner, whether the respondent and the partner have had sexual intercourse with partner), a major objective has been to develop items and scales that tap more subjective aspects of these relationships, particularly those that index the qualities and dynamics outlined above (feelings of communication and social awkwardness, heightened emotionality, perceived asymmetries and power balance, as well as the levels of exclusivity and commitment that characterize these early relationships). Similar questions are also asked about the character of the respondent's friendships, except where the relationship process is considered relatively unique to the romantic context (e.g., we used Hatfield and Sprecher's [1986] passionate love scale as a measure of heightened emotionality). While numerous questions focus on a current or most recent romantic relationship, our interview schedule also reflects that the adolescent's total relationship history often encompasses a number of different social and sexual liaisons; thus, specific questions were also included that focus on information about early dating relationships, the first sexual partner, and up to three dating and three non-dating sexual liaisons.

We also conducted in-depth interviews with a subset (n=100) of the respondents who had participated in the structured interview. These were scheduled separately, taped and subsequently transcribed verbatim. Respondents were selected based on their race/gender characteristics, and having indicated some dating experience during the structured interview. This subsample is on average older than the sample as a whole, and includes 51 girls and 49 boys. Areas covered in general parallel the structured protocol, but allow a more detailed open-ended discussion of respondents' romantic and sexual histories. These "relationship history narratives" (some exceeding 100 pages in length) are a useful supplement to the

structured data, as this qualitative approach has been conducive to a more detailed examination of subjective meanings, provides a window on dynamic processes (e.g., how a particular relationship changed over time, how relationships in general have changed as respondents have matured (Morse, 1994) and also has helped us to situate romantic experiences within the larger context of the adolescent's peer, family, and school worlds.

In addition to our ongoing program of research in connection with the TARS study, we have conducted several other analyses using the Add Health data that add depth to the developing portrait. The Add Health contains a significant number of questions about romantic and non-romantic sexual liaisons. While the protocol is behavioral in emphasis, the sample is nationally representative, and also affords the unique opportunity to link the answers of a focal adolescent to that of nominated friends and romantic partners (where these other members of their social network also participated in the Add Health study).

Defining "Romantic Relationships"

In connection with the TARS study, we developed a rather simple definition of romantic involvement. We asked respondents about "when you like a guy [girl] and he [she] likes you back." The interview schedule indicates explicitly that this did not have to mean "going on a formal date." This introduction differs from that used in Add Health, where respondents are asked whether they currently have a "special romantic relationship." We wished to avoid selecting a focal relationship that respondents specifically defined as special, since an understanding of relationship qualities and dynamics (and patterns of variation in these processes) is a primary objective of the study. We note that our reports of rates of sexual intercourse experience by age (as an example) closely parallel those found among Add Health respondents, but a higher percentage of respondents at each age report current romantic involvement: 32% of 7th -, 41% of 9th-, and 59% of 11th-grade TARS respondents report involvement, as compared with 17%, 32%, and 44% of Add Health respondents. We are comfortable with this relatively more liberal definition, since many contemporary romantic relationships lack the codification and ritual that characterized earlier eras; yet the TARS findings, drawing on both the quantitative and qualitative data, suggest that these relationships are very much in evidence as a meaningful and important part of the adolescent's social world.

Developmental Trends in the Nature of Adolescent Romantic Relationships

A first step in building a portrait of these relationships is to consider how the adolescent's basic addresses (in this chapter we focus attention on age, gender and race/ethnicity) influence the nature and quality of these relationships. Table 10.2 describes findings from a recent analysis in which we assessed developmental

trends, net of gender, race, family and peer factors, respondent self-esteem, as well as basic features of the relationship such as its duration. Consistent with expectations, younger respondents reported significantly higher levels of social and communication awkwardness, when compared with their older counterparts. This includes responses to a measure of general communication awkwardness when with the partner, as well as an index that referenced the adolescent's level of confidence in navigating various aspects of romantic relationships. This "confidence navigating relationships" scale contained items about refusing a date, telling your partner how to treat you, and "breaking up with someone you no longer like." Older respondents also scored higher on the passionate love scale that provided an index of "heightened emotionality." However, it is interesting to note that reports about some of the basic contours of the relationship (our notion of asymmetries) were not systematically related to the respondent's age. Similarly, on several different measures of partner influence (partner influence attempts, 'actual' (as perceived by the respondent) influence, and reported power balance, responses did not vary significantly by age of the respondent.

Table 10.2
*Developmental (age graded) Trends in Qualities of Adolescent Romantic Relationships**

Social and communication awkwardness	-
Heightened emotionality	+
Status and relational asymmetries	N.S.
Power and influence	
Influence attempts	N.S.
'Actual' influence	N.S.
Power balance	N.S.
Exclusivity and commitment	.
Cheating	N.S.
Expected duration	+
Likelihood of marriage	+

* Models control for other sociodemographic characteristics (gender, race and ethnicity), family structure, parental monitoring, parental education, peer interaction and other basic relational features (duration of partnership and whether sex occurred within the focal relationship).

We also examined reports of cheating as a way of assessing the degree of exclusivity within these early relationships. We did not find strong age effects, as measured by a general scale of concurrency (this included whether the partner had flirted with someone else, "seen" someone else, or had sex with someone else, while involved with the focal partner). However, the lack of an age effect on this scale should be viewed with caution, as relatively minor forms of cheating are included in the scale score. A majority of teens (78%) who were dating admitted

that they had flirted with someone else and/or believed that their girl/boyfriend had flirted with someone else. However, even within this relatively young sample group, nearly one-third of respondents reported that they were actually seeing someone else or their partner was seeing someone else while they were dating. Twenty-one percent of respondents in 9th and 11th grade with dating partners reported that they had sex with someone else during their relationship and one fourth (26%) reported their boy/girlfriend had sex with someone else. These findings of relatively high rates of cheating are especially interesting when juxtaposed against respondents' answers about the general acceptability of having a non-exclusive relationship. For example, approximately 70% of the respondents either disagreed or strongly disagreed that it was "okay to date more than one person at a time." These findings provide additional support for Eyre and colleagues' (1998) contention that this remains an area of great ambivalence and concern for adolescents, even as exploration across multiple relationships remains a very common phenomenon.

Finally, and consistent with expectations, older adolescents in the TARS sample were more likely than their younger counterparts to project a longer average duration of the relationship, and were more likely to have considered marriage as a possible "outcome." Average reports of the actual duration of the current or most recent relationship also increased with age, a finding that tends to corroborate developmental trends in levels of commitment and the orientation toward the relationship.

Gender Effects

Table 10.3 provides a summary of findings regarding ways in which gender was found to influence respondents' assessments of the character and quality of the adolescent's current or most recent relationship. Consistent with our emphasis on the strong element of contrast between male friendships and romantic ties, male, compared with female respondents, report higher levels of communication awkwardness within the romantic context. Gender differences on the scale measuring general feelings of awkwardness with the partner are relatively modest, and primarily result from a gendered pattern in the responses of white youth (that is, white male respondents' scores are particularly high on level of perceived communication awkwardness). However, more consistent gender differences emerged in our analysis of the scale measuring confidence navigating various aspects of the relationship. Even though male adolescents typically report higher self-esteem (and, on average, did so in the context of the TARS study), boys within the sample more often expressed a lack of confidence in such areas as refusing a date, telling their partner how to treat them, and breaking up with someone they no longer like. We also examined age by gender interactions, and contrary to expectations did not find that these gender disparities in "confidence" were greater among the younger respondents.

Table 10.3
Gender and Race/Ethnicity and the Quality of Adolescent Relationship Experiences

	Gender*	Race/Ethnicity**
Social and communication awkwardness	+	N.S.
Heightened emotionality	N.S.	N.S.
Asymmetries		
Partner more attractive	+	-
Lucky to date	N.S.	-
Power and influence		
Influence attempts	+	N.S.
'Actual' influence	+	N.S.
Exclusivity and commitment		+
Cheating	N.S.	+
Projected duration	N.S.	N.S.
Likelihood of marriage	N.S.	N.S.

*Females is the reference category
**African American is the reference category

Another interesting finding is that male and female adolescents did not differ significantly in their reports of feelings of heightened emotionality ('love'). The in-depth qualitative data also contain descriptions supporting the idea that these relationships often attain a level of significance for boys that has been undertheorized in some accounts. One participant, Ben, even drew a specific contrast with friendship as he reflected on the meaning and importance of this relationship with Jenny:

> About as important as you get. You know, well, you think of it as this way, you give up your whole life, you know, know, to save Jenny's life, right? That's how I feel. I'd give up my whole life, to save any of my friends' life too. But it's a different way. Like, if I could save Jon's life, and give up my own, I would, because that is something you should, have in a friend, but I wouldn't want to live without Jenny, does that make some sense? [Ben, 17; white]

The findings with regard to the relationship's 'contours' and power dynamics are also potentially important to theory building in this area, and show that effects of gender may vary depending on the stage of the life cycle under consideration. First, the various types of status and relational asymmetries we measured either did not differ by gender or tended to 'favor' girls in areas of mismatch (that is, boys were more likely than their female counterparts to consider their partner more attractive than themselves). Perhaps more striking was a consistent pattern with

regard to reports of the partner's power and influence. Boys more often reported that their partner made more influence attempts, and also scored higher on items measuring 'actual' influence (as perceived by the respondent). Further, on a scale referencing the decision-making power within the relationship, males were significantly more likely to indicate that their partner had more power. Age by gender interactions were not significant, indicating a pattern of consistent effects on these power and influence scales. Thus, across several measures, boys' scores reflect that their partners had relatively high levels of power and influence, and girls' own scores reveal a congruent pattern. These rather non-traditional gender differences are somewhat provocative, but we believe make sense against the backdrop of the other findings. That is, it is most useful to view these as an interrelated set of results, and accordingly, an interrrelated set of relationship processes.

The relatively high levels of interest of both adolescent boys and girls in these new relationships, coupled with boys' own reports of a lack of confidence in this arena, may combine to create a favorable climate for partner influence. It is also important to note that boys' scores are significantly higher than those of their female counterparts on perceptions of friends' influence. Thus, the findings about partner influence do not contradict much previous research indicating a strong role of the male peer group, but do add a layer of complexity concerning what constitutes the salient reference group(s) for adolescent boys.

It is also important to add to this general profile by considering specific domains of influence, as the results described above are derived from general measures of influence. Another suggestion for future research is to explore the degree to which and ways in which mechanisms of influence are also somewhat distinct (regarding peer and partner influence). For example, consider Rob's discussion of the influence of his romantic partner Julie:

> [Julie] makes me want to do better in school and stuff. I want to do well because of her because she is really smart and she's got a real good grade point average. Mine isn't as high as hers so I try to be up there and I don't want to look stupid. I don't think she would want me to be dumb. [Rob, 18; white]

While numerous studies have demonstrated concordance between adolescents' behaviors and that of their peers (see e.g., Matsueda & Anderson, 1998; Warr, 2002), the element of contrast provides a social platform for making incremental as well as more significant changes in life direction. Julie's positive regard may provide Rob a reflection of a "possible self" (Marcus & Nurius, 1986) that is transformative in a more fundamental way than we typically observe within the context of peer interactions. This general idea is consistent with emphases of theorists within the sociology of emotions tradition, who have argued that emotions frequently provide valence or energy to human action (Collins, 1993). Thus the

emotional bond that characterizes the romantic partnership may have clarifying as well as motivational significance. These influences and shifts in perspective, drawing definition and inspiration from the romantic partner, may be positive or negative, however, depending on the normative and behavioral orientation of this potentially important network other.

Links to Developmental Outcomes

In order to assess more systematically whether the partner "makes a difference" in relation to such consequential outcomes as delinquency and academic achievement and whether such effects appear to be gendered, we began with an analysis of the Add Health data. The Add Health design allowed us to link respondents' own reports of their delinquent involvement to the reports of teens with whom they were romantically involved (Haynie, Giordano, Manning, & Longmore, 2003). We also included an assessment of the delinquent behavior of those who constituted the adolescent's friendship network, measured by friends' own reports of their involvement. We found a significant effect of the partner, net of other predictors, including the measures of friends' involvement. We next examined whether effects of the partner were gendered for both minor and major forms of delinquency. A gender by partner's deviance interaction indicated a stronger effect of the romantic partner for girls in relation to status offenses such as drinking. With regard to more serious delinquency, however, the effects of the partner were similar. That is, the romantic partner contributed significantly to an understanding of boys' and girls' delinquency, net of peer effects and other traditional predictors. This finding suggests that the boyfriend/girlfriend deserves greater research scrutiny as a potential influence on a behavioral "outcome" that has been dominated by a focus on peer and family effects.

We also recently examined the association between romantic partner orientation toward school and the adolescent's own grades and school orientation. Using the TARS data (Phelps, Giordano, Longmore,& Manning, n.d.), we found that the romantic partner's grades were a significant predictor of the respondent's grades, net of peers' orientation toward academics and a measure of parental monitoring and interest in the child's academic endeavors. These studies add to prior work that has examined the influence of partners later on in the life course (e.g., Waite's assessment that "marriage matters" [Waite & Gallagher, 2000] or Sampson and Laub's [1993] depiction of a "good marriage effect" on former delinquents), and suggest the need to determine the impact of romantic partners earlier in the life course. A caution here is that, consistent with earlier studies of dating (Hirschi, 1969), the TARS data suggest that those who do not participate in the dating world, on average, have higher grades and are less delinquent than those who are involved in this relatively common but certainly not universal aspect of adolescent social life.

The final area included in our roster of "unique qualities" focuses on issues of exclusivity and commitment. The findings reported in Table 10.3 indicate that male and female adolescents do not differ significantly in scores on the overall index of cheating, although, as noted above, this index includes relatively minor forms of cheating such as flirting with someone else, as well as more serious levels of cheating. We expect that as respondents gain more relationship and sexual experience, future research will document more clearly gendered patterns in terms of sexual infidelity. This line of inquiry is especially critical to pursue because of the significant health consequences of multiple sexual partners and involvement in concurrent sexual behavior.

As part of this research, it will be important to understand more about the place of sexuality not only within traditional dating relationships (consistent with the emphasis above on a focal "romantic relationship"), but also about sexual behavior that occurs outside the traditional dating context. Past research has documented that a majority of first sexual encounters occur within dating relationships (e.g., Elo, King, & Furstenberg, 1999; Manning, Longmore, & Giordano, 2000), but a significant amount of sexual activity does occur outside the dating context. For example, again using Add Health data, we recently showed that over three-fifths of sexually active teens eventually have had sex with partners they are not dating (Manning, Longmore, & Giordano, forthcoming). Researchers, along with the general public, express alarm about non-dating liaisons because these are believed to be more "risky." In addition, these relationships may be considered more problematic from a social development standpoint, as such relations are not believed to include elements of stability or commitment (e.g., Ford, Sohn, & Lepkowski, 2001; Manning et al., 2000; Norris, Ford, Shyr, & Schork, 1996; Ott, Adler, Millstein, Tschann, & Ellen, 2002). Here the TARS data provide some useful if complicating background about these non-dating relationships.

As part of the TARS relational emphasis, we theorized that even though the latter are in some way perceived and defined as "non-relationships", respondents could nevertheless respond to relationship-style questions about them. In short, even a relationship that is shallow and brief can be described with respect to relationship quality. We found, however, that over 70% of the partners defined as "non-dating" sexual partners were a friend, acquaintance, or ex-boyfriend of the respondent. Only a small percentage (5.9%) indicated that they had become sexually intimate with someone they did not know prior to the sexual encounter. It is also interesting to note that the amount of time respondents indicated that they had known the non-dating sexual partners was similar to the amount of time respondents indicated that they had known their dating partners. This suggests that the idea of a one-night stand or other fleeting sexual relationship is not a particularly common occurrence, at least as observed within this rather large sample of adolescent respondents.

Our findings suggest that such sexual liaisons do frequently include traditional "relationship" dynamics that also warrant additional research scrutiny. For example, although the respondents explicitly defined these as non-dating relations, 32.8% indicated that the sexual behavior "brought them closer," and 34% indicated that they would like to become boy/girlfriend with their partner. In multiple respects, then, these non-dating liaisons may be especially important to pursue in terms of research/interventions because they are characterized by a level of comfort and familiarity. The adolescent is often well acquainted with this type of sexual partner, and may have even dated him/her in the past; yet because the relationship lacks elements of exclusivity and a firm commitment, such "seemingly safe" relations may actually present a higher level of risk than the truly casual partner who would be more likely to cue vigilant condom use.

Issues of Race/Ethnicity and Romantic Relationships

Researchers frequently note the importance of assessing whether basic knowledge about adolescent social relationships generalizes to diverse groups of teens (McLoyd & Steinberg, 1998). Nevertheless, the research based on ways in which minority adolescents experience the period and particularly their social relationships is much less developed than the knowledge base about gender and age effects. Our own prior research on family and peer relations documented a somewhat different balance to the intimacy patterns of African American and white youth, however (Giordano, Cernkovich, & DeMaris, 1993). Consistent with a large body of research on the salience and importance of the African American family, African American adolescents who participated in an earlier study scored higher than their white counterparts on a measure of family intimacy, but lower on reported intimacy with friends. African American adolescents also scored lower on perceptions of susceptibility to peer influence. Larson, Richards, Sims, and Dworkin's (2001) recent time-use studies indicate a consistent pattern. These researchers found that African American youths spent more time (relative to white youths) with family and somewhat less time interacting with their friends. We suggested that these results may indicate that many African American youth tend to navigate the period without the same level of distancing from the family that has been documented in studies of white youth.

As we began the TARS study, we wondered whether the peer findings would generalize to romantic relationships or whether, as Coates (1999) hypothesized, romantic relationships would take on a heightened salience and importance for the African American adolescent (perhaps resulting in more time spent with partners, or more emphasis on romantic involvements). When examining similarities and differences that may be related to race/ethnicity it is also important to add controls for socioeconomic status differences between groups. Results of Add Health analyses show that African American youths, on average, report lower frequency

of interaction with romantic partners, and were somewhat less likely to have recently 'talked about a problem' with the partner (an index of intimate self-disclosure). Add Health contains a significant oversample of middle-class African American adolescents, and this subset of youths also reported a lower frequency of interaction with their romantic partners (Giordano, Manning, & Longmore, 2002). However, relying on both Add Health and TARS we found that African American respondents reported relationships of somewhat longer average duration than their white counterparts. And, as data from Table 10.3 suggest, no differences in reports of "heightened emotionality" were found based on respondent race (in a comparison of African American and white respondents who participated in TARS). This finding about the current or most recent partner suggests the importance of focusing research attention on subjective as well as more objective indicators, if we are to develop a comprehensive portrait of the meaning/salience of these relationships from the adolescent's own point of view. The scores on "heightened emotionality" and results of our in-depth interviews do indicate a relatively high level of engagement in these relationships among a majority of African American as well as white teens. Scores on projected duration of the relationships and likelihood of marriage were also similar. These results show that some portraits in the existing literature (notably Anderson's [1989] depiction of African American inner-city youths' views of romance as a game or "con") may not accurately depict the emotions and feelings of a majority of young people. The in-depth interview data reveal that many adolescents have a strong awareness of the "player" social type, but most of our respondents apparently did not believe that their own relationship experiences provided an example of this rather disengaged and disingenous pattern.

Conclusion

Our early research concentrated on the character of adolescent peer relations (see, e.g., Giordano, 1995; Giordano, Cernkovich, & Pugh, 1986), and this work provided a good background for the current investigations of romantic relationships. As we began to conduct interviews and focus group sessions on issues of romance and sexuality, we were struck by differences in ways in which adolescents talked about their friends and the character and content of their talk about romance. To be sure, we observed some of the same references to intimacy processes (e.g., both relationships provide opportunities for socializing and intimate self-disclosure); but we were also drawn to the more distinctive elements of these relationships. The initial feelings of *awkwardness* with the partner, and lack of confidence in navigating many aspects of these relationships, contrasts with the more settled, confidence-building nature of adolescent friendship. Further, our qualitative and quantitative interviews suggest a level of engagement and *emotionality* in connection with romantic relations that does not have an analog within the

friendship arena. Romantic relationships also introduce elements of hierarchy and mismatch—our notion of *asymmetries*—as one partner is often more engaged in the relationship or viewed as somehow more desirable than the other. We also suggested that since romantic relationships must bridge considerable differences, and because the partner is often viewed as a direct reflection on one's own identity, it is much more likely that individuals will try to control or change the behavior of the partner in trivial and not-so trivial ways. Thus, *power* is a fundamentally more important dynamic within the romantic context. Finally, issues of *exclusivity and commitment* remain more central, abiding concerns within romance, even though our data and other recent analyses show that norms of exclusivity are in fact frequently violated (see also Ford, Sohn, & Lepkowski, 2001).

The TARS data set includes four waves of interviews. This longer window on the period will allow us to document how romantic relationships change in character and quality as adolescents begin the transition to adulthood. In this work, it is important to find ways to capture not just a focal relationship, but the total pattern of relationships in which young people are involved. For example, we plan to use new developments in modeling trajectories of delinquency involvement (see, e.g., Nagin &Tremblay, 2001) to document patterns of stability and change in the adolescent's social and sexual relationships. We expect to find some differences in these patterns from those elucidated in longitudinal research on delinquency involvement. While most serious delinquency is characterized by early onset, we may, for example, find a late-onset pattern of high-risk sexual behavior (frequent involvement in relationships with little commitment, high levels of concurrency). We also see a real need for studies that incorporate qualitative data, either as a part of larger structured data collection projects, or self-contained efforts. These qualitative studies provide needed context as we continue to explore how gender, race/ethnicity, or social class may affect relationship processes and perspectives, and cue us to important "subtypes" within the aggregate picture.

Qualitative studies are also an important resource for developing hypotheses about the continuing role of parents and peers in fostering attitudes that influence the course and conduct of the adolescent's romantic relationships. Studies that rely on structured data should also include more questions about parenting that are specific to the world of romance and sexuality. For example, in addition to providing support and control (the two domains typically covered in adolescent surveys), it is important to index parents' more specific attitudes about the child's movement into the heterosexual arena. As part of the TARS parent questionnaire, we also asked questions about the nature of the relationship the parent had forged with their child's current romantic partner. The degree to which the romantic partner was integrated into the family circle varied widely across the sample, and we plan to investigate whether and how these interactions with parents influence relationship processes and sexual decision-making.

It is also important to understand more about the ways in which parents influence the adolescent's developing salience hierarchy. For example, some parents may communicate the desirability of developing and maintaining a balanced portfolio of activities and interests, while others telegraph an intense interest in the heterosexual arena (a kind of "soap opera" effect). In short, a high level of communication about dating issues need not be conceptualized as inherently beneficial from a developmental standpoint. Parents are themselves more likely than in earlier eras to be involved in dating and cohabiting relationships, and effects of this phenomenon on adolescent romantic and sexual liaisons also warrant additional research scrutiny.

Research is also needed on specific peer attitudes that influence romantic and sexual behaviors, particularly those that may be limiting or have a negative impact on the adolescent's well-being (e.g., cheating, relationship violence). As suggested in the literature review, ethnographic research documents that the male peer group may foster such attitudes, and dynamics within girls' peer worlds can also contribute to the reproduction of these behaviors (Eder, Evans, & Parker, 1995). However, peer groups differ significantly in their adherence to such normative orientations, and we know little about the nature of these variations or how distinctive peer emphases influence individual conduct within the romantic context.

References

Adler, P. A. & Adler, P. (1998). *Peer power*: *Preadolescent culture and identity*. New Brunswick, NJ: Rutgers University Press.

Anderson, E. (1989). Sex codes and family life among poor inner-city youths. *Annual of the American Academy of Political Social Science, 501*, 59–79.

Billy, J., Brewster, K., & Grady, W. (1994). Contextual effects on the sexual behavior of adolescent women. *Journal of Marriage and the* Family, *56*, 387–404.

Blood, R., & Wolfe, D. (1960). *Husbands and wives: The dynamics of married living*. Glencoe, IL: The Free Press.

Brown, B. B. (2004). Adolescents' relationships with peer. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394.). New York: Wiley.

Brown, B. B., Mory, M. S., & Kinney, D. (1994). Casting adolescent crowds in a relational perspective: Caricature, channel and context. In R. Montemayer, T. Gulotta, & G. Adams (Eds.)*, Personal relationships during adolescence* (pp. 123–167). Thousand Oaks, CA: Sage.

Call, K. T., & Mortimer, J. T. (2001). *Arenas of comfort in adolescence: A study of adjustment in context.* Mahwah, NJ: Erlbaum.

Coates, D. (1999). The cultured and culturing aspects of romantic experience in adolescence. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 330–363). New York: Cambridge University Press.

Collins, R. (1993). Emotional energy as the common denominator of rational action. *Rationality ad Society, 5*, 203–230.

Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 125–147). New York: Cambridge University Press.

Corsaro, W. (1985). *Friendship and peer culture in the early years.* Norwood, NJ: Ablex.

Corsaro, W., & Eder, D. (1990). Children's peer cultures. *Annual Review of Sociology, 16*, 197–220.

Eder, D., Evans, C., & Parker, S. (1995). *School talk: Gender and adolescent culture*. New Brunswick, NJ: Rutgers University Press.

Eder, D., & Hallinan, M. T. (1978). Sex differences in children's friendships. *American Sociological Review*, *43*, 237–250.

Ellen, J. M., Cahn, S. C., Eyre, S. L., & Boyer, C. B. (1996). Types of adolescent sexual relationships and associated perceptions about condom use. *Journal of Adolescent Health, 18*, 417–421.

Elo, I. T., King, R. B., & Furstenberg, F. F. (1999). Adolescent females: Their sexual partners and the fathers of their children. *Journal of Marriage and the* Family, *61*, 74–84.

Eyre, S. L., Auerswald, C., Hoffman, V., & Millstein, S. F. (1998). Fidelity management: African American adolescents' attempts to control the sexual behavior of their partners. *Journal of Health Psychology, 3*, 393–406.

Ford, K., Sohn, W., & Lepkowski, J. (2001). Characteristics of adolescents' sexual partners and their association with use of condoms and other contraceptive methods. *Family Planning Perspectives*, *33,* 100–105 & 132.

Furman, W., Brown, B. B., & Feiring, C. (1999). *The development of romantic relationships in adolescence*. New York: Cambridge University Press.

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior* (pp. 3–22). Mahwah, NJ: Erlbaum.

Giordano, P. C. (1995). The wider circle of friends in adolescence. *American Journal of Sociology*, *101*, 661–697.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of* Sociology, *29*, 257–281.

Giordano, P. C., Cernkovich, S. A., & Demaris, A. (1993). The family and peer relations of black adolescents. *Journal of Marriage and the Family*, *55*, 227–287.

Giordano, P. C., Cernkovich, S. A., & Pugh, M. D. (1986). Friendships and delinquency. *American Journal of Sociology*, *91,* 1170–1202.

Giordano, P. C., Longmore, M. A., & Manning, W. D. (2001). A conceptual portrait of adolescent romantic relationships. In D. Kinney (Ed.), *Sociological studies of children and youth* (pp. 111–142). London: Elsevier Science.

Giordano, P. C., Longmore, M. A., & Manning, W. D. (2002). *The meaning(s) of adolescent romantic relationships: The structuring influence of race*. Paper presented at the Ninth Biennial Meeting of the Society for Research on Adolescence, New Orleans, LA.

Giordano, P. C., Longmore, M. A., & Manning, W. D. (2004). *Gender and the meaning(s) of adolescent romantic relationships: A focus on boys*. Paper presented at the Tenth Biennial Meeting of the Society for Research on Adolescence, New Orleans, LA.

Giordano, P. C., Manning, W. D., & Longmore, M. A. (2002). *The romantic relationships of African American and white adolescents*. Paper presented at the Ninth Biennial Meeting of the Society for Research on Adolescence, New Orleans, LA.

Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relations. *Journal of Adolescence, 9*, 383–410.

Haynie, D. (2002). Friendship networks and delinquency: The relative nature of peer delinquency. *Journal of Quantitative Criminology*, *18*, 99–134.

Haynie, D., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2003). *Adolescent romantic relationships and delinquency involvement*. Paper presented at the American Society of Criminology Conference, Denver, CO..

Hirschi, T. (1969). *Causes of crime.* Berkeley, CA: University of California Press.

Joyner, K., & Udry, J. R. (2000). You don't bring me anything but down: Adolescent romance and depression. *Journal of Health and Social Behavior*, *41*, 369–391.

Kandel, D. B. (1978). Homophily, selection, and socialization in adolescent friendships. *American Journal of Sociology*, *84*, 427–436.

Kompter, A. (1989). Hidden power in a marriage. *Gender and Society, 3*, 187–216.

Kotchick, B., Shaffer, A., & Forehand, R. (2001). Adolescent sexual risk behavior: A multi-system perspective. *Clinical Psychological Review, 21*, 493–519.

Ku, L., Sonenstein, F., & Pleck, J. (1994). The dynamics of young men's condom use during and across relationships. *Family Planning Perspectives*, *26*, 246–251.

Larson, R. W., Clore, R. L., & Wood, G. A. (1999). The emotions of romantic relationships: Do they wreak havoc on adolescents? In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 19–49). New York: Cambridge University Press.

Larson, R. W., Richards, M. H., Sims, B., & Dworkin, J. (2001). How urban African American young adolescents spend their time: Time budgets for locations, activities, and companionship. *American Journal of Community Psychology, 29*, 565–595.

Maccoby, E. (1990). Gender and relationships: A developmental account. *American Psychologist, 45*, 513–520.

Macleod, J. (1987). *Ain't no makin' it: Leveled aspirations in a low-income neighborhood.* Boulder, CO: Winterview Press.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive first intercourse. *Family Planning Perspectives*, *32*, 104–110.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (Forthcoming). Adolescents' involvement in non-romantic sexual activity. *Social Science Quarterly*.

Marcus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*, 954–969.

Matsueda, R., & Anderson, K. (1998). The dynamics of delinquent peers and delinquent behavior. *Criminology, 36,* 269–308.

McLoyd, V. C., & Steinberg, L. (1998). *Studying minority adolescents: Conceptual, methodological, and theoretical issues*. Mahwah, NJ: Erlbaum.

Mead, G. H. (1934). *Mind, self, and society from the standpoint of a social behaviorist*. Chicago: The University of Chicago Press.

Merten, D. E. (1996). "Goin-with": The role of a social form in early romance. *Journal of Contemporary Ethnography, 24*, 462–484.

Miller, B., Norton, M., Curtis, T., Hill, E., Schvaneveldt, P., & Young, M. (1997). The timing of sexual intercourse among adolescents: Family, peer, and other antecedents. *Youth and Society*, *29*, 55–83.

Morse, J. (1994). Designing funded qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 220–235). Thousand Oaks, CA: Sage.

Nagin, D., & Trmblay, R. E. (2001). Analyzing developmental trajectories of distinct but related behaviors: A group-based method. *Psychological Methods*, *6*, 18–34.

Norris, A., Ford, K., Shyr, Y., & Schork, M. A. (1996). Heterosexual experiences and partnerships of urban. Low-income African American and Hispanic youth. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology*, *11*, 288–300.

Ott, M., Adler, N., Millstein, S., Tschann, J., & Ellen, J. (2002). The trade-off between hormonal contraceptives and condoms among adolescents. *Perspectives on Sexual and Reproductive Health*, *34*, 6–14.

Phelps, K., Giordano, P. C., Longmore, M. A., & Manning, W. D. (n.d.). *The influence of adolescent romantic relationships on academic achievement.* Unpublished paper.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life.* Cambridge, MA: Harvard University Press.

Simmel, G. (1950). *The sociology of Georg Simmel.* K. H. Wolfe (Ed.). New York: Free Press.

Sullivan, H. (1953). *The interpersonal theory of psychiatry.* New York: Norton.

Thorne, B. (1993). *Gender play: Boys and girls in school*. New Brunswick, NJ: Rutgers University Press.

Waite, L. J., & Gallagher, M. (2000). *The case for marriage: Why married people are happier, healthier, and better off financially*. New York: Doubleday.

Warr, M. (2002). *Companions in crime: The social aspects of criminal conduct*. New York: Cambridge University Press.

Youniss, J., & Smollar, J. (1985). *Adolescent relations with mothers, fathers and friends*. Chicago: University of Chicago Press.

11

CONTEXTUAL PROCESSES OF ROMANTIC RELATIONSHIPS: PLAUSIBLE EXPLANATIONS FOR GENDER AND RACE EFFECTS

Velma McBride Murry
Tera R. Hurt
Steven M. Kogan
Zupei Luo
University of Georgia, Athens

Giordano, Manning, and Longmore (this volume) focus on three main issues. First, they revisit a basic question: Do adolescents' peer relationships differ from their romantic relationships? This question is rooted in symbolic interaction theory, which suggests that because romantic relationships are more novel to adolescents than are peer friendships, heightened manifestations of consciousness will characterize interaction patterns between adolescent romantic partners. Accordingly, Giordano and associates predict that youths involved in romantic relationships will experience high levels of social and communicative awkwardness, heightened emotionality, role asymmetries, and exclusivity issues that accompany romantic relationships.

Second, Giordano and associates note the importance of emotional bonding in romantic relationships as predictors of youths' antisocial behavior, such that involvement in a romantic relationship may have negative implications for academic performance and alcohol use among youth. Third, they emphasize the need to consider ways in which a range of structural variables, such as age, gender, and race/ethnicity, inform variations in romantic relationship development. To test these hypotheses, Giordano and colleagues utilized data from the Toledo Adolescent Longitudinal Study (TARS), an elegant data set that includes longitudinal assessments of romantic relationship variables from a representative sample of adolescents in the 7th, 9th, and 11th grades. In addition, they analyzed data from the Add Health study that provided them with a unique opportunity to link focal adolescents' responses to those of their nominated friends and romantic partners in assessing romantic and non-romantic sexual liaisons, academic performance, and alcohol use.

In exploring these issues, Giordano et al. found that as youth mature, they report less awkwardness and heightened emotionality in their relationships. Youth are also likely to believe that their relationships will endure and possibly lead to marriage. Adolescent males report awkwardness more often than do adolescent females; this is particularly true for White youth. In addition, asymmetries in relationships tend to favor adolescent females; males view their partners as more

influential than themselves in their relationships. Giordano and associates also note significant race/ethnicity effects on reports of commitment and infidelity, though the direction of causality is unclear. Findings from the Add Health data reveal that romantic partners contribute uniquely to adolescents' academic performance, sexual behavior, and alcohol use.

In sum, Giordano and colleagues note that youth develop both stronger attachments to their romantic partners and a greater sense of competence in romantic relationships as they mature. Furthermore, in some instances gender, race, and ethnicity appear to influence youths' experiences in romantic relationships. The reasons for these patterns are unclear and the findings remain indistinct. Evidence to support reliance on symbolic interaction theory to frame and inform the study findings is also limited. Although youths' romantic relationships are influenced by the larger contexts in which they develop, we encourage Giordano et al. to consider first the pathways by which youth learn about such relationships. We contend that contextual processes may account for the gender and race effects they found. Thus, rather than expounding on Giordano and associates' findings and conclusions from a conceptual perspective, we offer an empirical commentary using data from a longitudinal study of youth residing in rural communities and small towns in Georgia. Using data from 155 African American adolescents aged 15 to 18, we examine the links among family contextual processes, intrapersonal development, and romantic relationship quality. We begin our inquiry by asking a basic question: To what extent do parents shape the kind of romantic relationships that their sons and daughters experience? We focus on the parenting context because parents serve as primary role models for romantic relationships (Benson, Larson, Wilson, & Demo, 1993).

Conceptual Model

We use ecological theory to explain the family's role in transmitting symbols, messages, and expectations that influence youths' intrapersonal processes, which directly or indirectly influence their romantic relationships. Specific attention is given to understanding adolescents' perceptions of romantic relationship quality based on family, individual, and sociocultural influences. We view the family as the strongest direct socializing agent through which youth learn the language, symbols, and behavior characteristic of romantic relationships. This level of analysis includes examinations of parenting and family dynamics that shape adolescents' perceptions of romantic relationships. At the individual level, we describe personal characteristics and internal working models that may inform youths' behavior in romantic relationships (Murry et al., in press). By including the sociocultural level, we acknowledge the larger society's role in the formation of values and belief systems that influence both family and individual characteristics in ways that shape adolescents' romantic expectations and experiences (Murry, 1996). In the

present study, we posed three questions: (1) Is family relationship quality associated with romantic relationship quality, (2) How does family context influence romantic relationship quality, and (3) How does parental socialization about romantic relationships transmit messages that in turn influence sons' and daughters' perceptions of romantic relationships and reasons for engaging in them? We used several measures to address these questions. Parent-adolescent relationship quality was assessed using the 20-item Interaction Behavior Questionnaire ($\alpha = .90$). Parental monitoring was measured using 5 items indicating how often caregivers were aware of the adolescents' whereabouts, companions, behavior in various contexts, antisocial behavior, and noncompliance with parents' rules and standards ($\alpha = .72$). We selected the Rosenberg Self-Esteem Scale ($\alpha = .76$) to measure the individual-level factor. The outcome, romantic relationship quality, was measured using the Dating version of the Best Friend Questionnaire (BFQ), which included three subscales: Support, which includes questions about the degree to which adolescents feel their partners are helpful and make them feel good about themselves ($\alpha = .91$); Positive Relationship, which indexes adolescents' comfort with disclosing personal information to their partners, being included in their partners' lives, sharing thoughts and feelings, and speaking openly ($\alpha = .86$); and (3) Negative Relationship, which addresses partners' expectations for perfection in the relationship, willingness to negotiate, and understanding of youths' life situations ($\alpha = .70$).

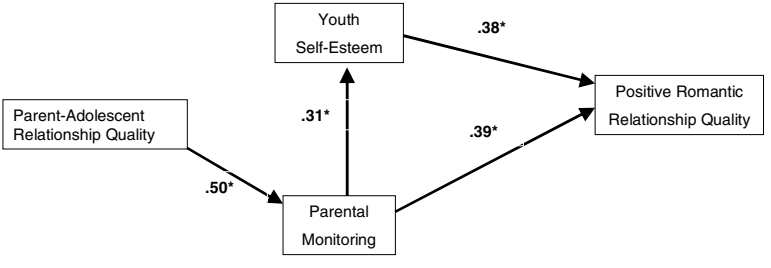
First, we explored the extent to which structural variables explain differences in romantic relationship quality, beginning with age and gender. Although we found no age differences in rural African American youths' reports of romantic relationship, we did find adolescent males to be significantly more likely than their female counterparts to report negative interactions in their romantic relationships ($t = 2.6$, $p < .01$; $m = 13.08$, males; $m = 11.07$, females). No other gender differences emerged.

Next, we focused on the associations among parent-adolescent relationship quality, parental monitoring, self-esteem, and positive romantic relationship quality. Adolescent romantic relationship quality was positively associated with parent-adolescent relationship quality ($r = .3$, $p < .001$), parental monitoring ($r = .5$, $p < .001$), and adolescent self-esteem ($r = .5$, $p < .001$). Warm, supportive relationships with parents who set limits and monitored their whereabouts enhanced youths' self-esteem and perceptions of romantic relationship quality. Based on these findings, we conducted hierarchical regression analyses to specify the contributions of parent-adolescent relationship quality, parental monitoring, and self-esteem to predictions of romantic relationship quality.

We entered parent-adolescent relationship quality at the first step, followed by parental monitoring, then youth self-esteem. The results revealed that high levels of parental monitoring and youth self-esteem consistently predicted positive romantic relationship quality. Parent-adolescent relationship quality was significant only when parental monitoring and youth self-esteem were removed from the model. This suppression of effects suggests that both parental monitoring and

youth self-esteem mediate the influence of family relationships on romantic relationships. This finding led us to identify the contextual processes that are directly and indirectly linked with positive romantic relationships among African American adolescents.

We hypothesized that self-esteem and parental monitoring mediated the association of positive parent-adolescent relationship quality on positive romantic relationship quality. We tested this hypothesis using structural equation modeling (SEM) with maximum likelihood estimation procedures from LISREL 8 (Jöreskog & Sörbom, 1996). The model provided an excellent fit to the data, $\chi^2(2) = 3.65$, $p = .16$. Figure 11.1 presents the findings for the total sample. Both direct and indirect links to romantic relationship quality emerged. Both parental monitoring ($\beta = .39$, $p < .01$) and youth self-esteem directly predicted positive romantic relationship quality ($\beta = .38$, $p < .01$). Parental monitoring also mediated the association between parent-adolescent relationship quality and romantic relationship quality ($\beta = .50$, $p < .01$); positive relationships with their parents and high levels of parental monitoring increased youths' likelihood of involvement in positive romantic relationships. Furthermore, parental monitoring was linked indirectly and positively with romantic relationship quality through youth self-esteem ($\beta = .31$, $p < .01$).

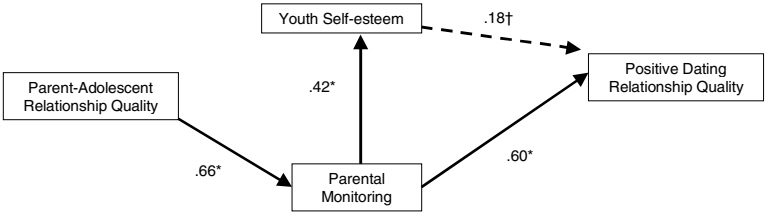


X2=3.7, *p*=.16
RMSEA=.074 (.000, .194)
NFI=.97 IFI=.99, CFI=.98
R^2, PDR=.38

Figure 11.1. SEM analysis predicting positive romantic relationship quality.

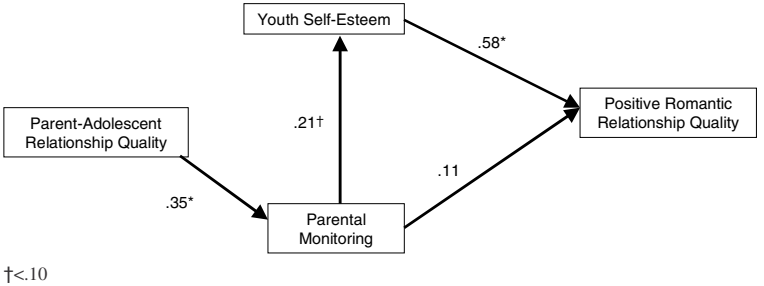
Given potential gender effects, we conducted a multigroup analysis (see Figure 11.2 for females and Figure 11.3 for males). For adolescent girls, family contextual processes were important mechanisms for understanding their romantic relationship experiences. Similar to the patterns presented in Figure 11.1, parent-adolescent relationship quality directly influenced parental monitoring, which in turn influenced romantic relationship quality. A marginal mediational effect of parental monitoring on the association between parent-adolescent and romantic relationship quality emerged. Parental monitoring also was indirectly linked with positive romantic relationship quality through heightened self-esteem among

adolescent females. Conversely, for adolescent males, family contextual processes are less influential in romantic relationship experiences. Males' self-esteem was the strongest predictor of positive romantic relationship quality. To identify possible reasons for these gender effects, we reviewed data obtained from in-depth interviews conducted with African American mothers, sons, and daughters who resided in rural communities and small towns in Georgia. These data enhanced our understanding of the meanings that mothers and adolescents attach to romantic relationships.



†<.10

Figure 11.2. SEM analysis predicting positive romantic relationship quality–Girls only.



†<.10

Figure 11.3. SEM analysis predicting positive romantic relationship quality–Boys only.

Qualitative Analyses of Gender Effects

Twelve focus groups—one each for mothers, sons, and daughters in each of four counties—were conducted with 31 low-income African American families that included both a son and a daughter aged 12 to 18 years; 29 sons and 28 daughters participated. The mothers and at least one of the responding adolescents had taken part in a larger survey conducted in northeast Georgia. Collecting qualitative data enabled us to explore the contexts in which adolescents were socialized about

romantic relationships. Two focus group facilitators, an African American male and female, were matched with the groups on gender to increase trust and rapport with the respondents. In their focus groups, mothers were asked, "What do you tell your son about females and your daughter about males?" Similarly, adolescent sons and daughters were asked, "What does your mother tell you about girls/boys?" We examined the data to detect the messages that mothers shared with their adolescents about romantic ties. We also identified ways in which mothers' parenting strategies conveyed information to adolescents about intimate relationships and sex. We considered these factors to be important in determining how contexts influenced teens' expectations of romantic relationships.

The focus groups, which met for 1-hour, were videotaped and audiotaped. The audiotapes were later transcribed and the transcripts served as the primary source of data for our analyses. We reviewed all transcripts of mothers', sons', and daughters' remarks for passages relevant to romantic relationships. In the process, we developed summaries about patterns we observed in the data (Creswell, 1998). Next, we compared and contrasted these patterns to detect gender differences. We then sought feedback on a preliminary list of themes from one of the focus group facilitators and from other scholars who worked with the participants. Our conversations with these individuals helped us to verify and fine-tune our analyses, the results of which are described next.

Family Relationship Quality and Communication Patterns

Mothers said that they worked hard to keep the lines of communication open with their adolescent sons and daughters about topics such as relationships and sex. Although both sons and daughters reported high-quality relationships with their mothers, the mothers noted that daughters appeared to be more comfortable than sons in talking with them, the same-sex parent. Adolescents confirmed this observation; daughters felt that they could talk with their mothers, whereas their brothers felt uncomfortable conversing with mothers about "men's stuff." Adolescent sons simply felt that their mothers could not relate to their experiences as males. They longed for strong relationships with their fathers or father figures who could provide guidance and support. Sons seemed envious of the mother-daughter bond, noting that their mothers understood their sisters' issues better. Despite this difference in communication, sons acknowledged their mothers' attempts to fill the roles of absent fathers and father figures in matters of romantic relationships and sex.

Conversations about Romantic Relationship Development

Mothers unanimously encouraged their adolescents to delay forming serious intimate relationships to avoid "getting caught" by pregnancy. Their common instruction was, "Just friends, no sex." Other advice about relationships that mothers gave to their adolescents differed by gender. Possibly drawing upon their own experiences with men, mothers encouraged their daughters to maintain their distance from males and to become independent women, prepared to live without a man. Daughters reported that their mothers cautioned them about how to avoid pregnancy and encouraged them to remain uninvolved with men to avoid heartache. Daughters said that their mothers warned them about men's dishonesty, selfishness, lack of dependability, and untrustworthiness. Some daughters accepted their mothers' perceptions of the opposite sex. One adolescent daughter said, "You'll don't be wanting to admit [the mother] be right, but she'll be right."

Adolescent sons also said that their mothers constantly advised them about the nature of their involvement with females. Mothers' messages to their sons complemented those they gave to their daughters in discouraging close or lasting ties with females. Sons were encouraged to leave relationships before they hurt a girl's feelings. One adolescent recalled his mother saying, "Leave them before you disrespect them or hurt them." Mothers also encouraged their sons to avoid being seriously involved in romantic ties; mothers of sons who chose to form such relationships anyway insisted that their sons respect their partners. Sons agreed with this point, noting that being raised by single mothers helped them learn more about females. One adolescent son stated, "Being raised by a single mom, you have more respect for and understand your girlfriend a little better." Above all, mothers wanted their sons to guard against the possibility of causing a pregnancy. Mothers warned their sons about how quickly pregnancy could occur and told them about the responsibilities fatherhood entails.

Discussions and Thoughts about Marriage

Sons did not readily discuss with their mothers their thoughts about expectations about but daughters did. Adolescent daughters expressed reservations about marrying. They viewed marriage as a lifelong commitment that was beneficial for obtaining additional income, securing constant companionship and support, and joining with a person with whom one is in love. Others were skeptical about marriage, feeling that it involved too much hard work. They feared selecting the wrong partner, then coping with divorce and its consequences: difficult legal procedures, children's distress, and stressful custody arrangements. Moreover, they could not imagine being with the same man day after day. They also worried about opening themselves to the potential for drama (e.g., relational conflict and

stress). Daughters questioned men's ability to be faithful to them. One daughter stated: "You don't know what they be doing if they claim they be going to work. You don't know where they be going."

Parental Monitoring: Differential Approaches for Sons vs. Daughters

Findings on parenting strategies clearly indicated that mothers, the only parents interviewed in the focus groups, constantly monitored their children's activities and whereabouts. Because, in many cases, they had become parents during adolescence themselves, mothers insisted upon knowing where the youth were at all times and in whose company they were. Most mothers preferred that their adolescents socialize with friends and romantic partners in the family home rather than in unsupervised contexts.

Similarly, adolescent daughters and sons spoke at length about their mothers' efforts to monitor their activities. Daughters noted that their mothers were more vigilant with them than with their brothers. This was attributable to the likelihood that female adolescents' families would assume primary responsibility for a child born to an adolescent mother and that teen mother's opportunities for advancement would be compromised. As part of the monitoring effort, mothers often questioned their daughters about involvement with various males. Daughters tried to explain the nature of their involvements, but felt that their mothers could not understand their having male friends who were not romantic partners. One daughter asserted, "Our parents think you can't have a boy as your friend, but you can." Another was frequently asked, "What you doing with this boy? What's his name? What you doing with him anyway?"

Adolescent daughters said that their mothers were more lenient with sons. One sister shared, "They weren't worried about my brother having sex but they were worried about me having sex. Things like that." The brothers firmly disagreed. In the focus groups, adolescent sons reported frustration with their mothers' monitoring strategies. Sons were not permitted to be alone with females and were often prevented from communicating with them on a regular basis, either through visitation or by telephone conversation. One son said, "She don't hardly want her to call." Nevertheless, these determined sons found opportunities to court females in whom they were interested, after school or when their mothers were away from home. Sons reported secrecy about their romantic interests and activities; they did not share information with their mothers. One young man stated, "I'll sneak at everything, like if my sister find out, she'll try to tell my mama."

Conclusion

The data analyses presented in this commentary answered the questions around which it was structured. Findings from the quantitative analyses revealed several gender effects. First, similar to Giordano et al., we found that boys reported more negative experiences in romantic relationship than did girls. In addition, findings from our study revealed that family relationships and parental monitoring were important to romantic relationship quality for girls. Parent-adolescent relationship quality directly influenced parental monitoring, which in turn directly influenced romantic relationship quality. For girls, parental monitoring was also associated with romantic relationship quality indirectly through self-esteem. The link between family contextual processes and adolescent males' romantic relationship quality, however, was unclear. In fact, there was no significant links among parenting processes, parent-adolescent relationship quality, and the quality of adolescent males romantic relationship. Adolescent males' self-esteem strongly predicted the positivity of their romantic relationships. One explanation for these findings may lie in differential expectations and meanings of the concept of romantic relationship. In particular, adolescent males are more attuned to emphasize individual traits, such as physical attractiveness, whereas females focus more on social interactions, such as support and intimacy, as the most prominent qualities of a romantic relationship (Shulman & Scharf, 2000). Gender socialization may be important to consider in this respect, such as the experiences of girls in families who are more likely to encourage them to organize their life around close relationships. Similar relationship connectedness is not as apparent in the socialization experiences of boys (Gilligan, 1982).

The qualitative data suggest that the meaning and purpose of romantic relationships are embedded in families' socialization. In fact, gender socialization was very prominent among rural African American parents. The extent to which gender socialization fostered or inhibited positive romantic relationship quality for rural African American youth remains unclear; this warrants further investigation. What is apparent is that mothers' personal relationship histories appeared to influence the messages they conveyed to their sons and daughters, framing the messages and symbols that youth used to guide their own relationship formation. Romantic relationships did not develop in a vacuum. Sons' and daughters' experiences, as well as the symbols they perceived, appeared to differ as a function of contextual processes. These results indicate a need for careful theoretical and empirical analyses in understanding adolescents' romantic relationships.

References

Benson, M. J., Larson, J., Wilson, S. M., & Demo, D. H. (1993). Family of origin influences on late adolescent romantic relationships. *Journal of Marriage & Family, 55,* 663–672.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among the five traditions*. Thousand Oaks, CA: Sage.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Jöreskog, K., & Sörbom, D. (1993*). LISREL 8: User's reference guide*. Chicago: Scientific Software.

Murry, V. M. (1996). An ecological analysis of coital timing among middle-class African-American adolescent females. *Journal of Adolescent Research, 11,* 261–279

Murry, V. M., Brody, G. H., McNair, L. D., Luo, Z., Gerrard, M., Gibbons, F. X., & Wills, T. (In Press). Promoting self-pride and sexual self-concept among rural African American pre-adolescents through the Strong African American Families Program. *Journal of Marriage and Family*.

Shulman, S., & Scharf, M. (2000). Adolescent romantic behaviors and behavior: Age- and gender-related differences, and links with family and peers. *Journal of Research on Adolescence, 10,* 99–118.

12

RISKY AND CASUAL SEXUAL RELATIONSHIPS AMONG TEENS

Anastasia R. Snyder
Pennsylvania State University

Introduction

Giordano, Manning, and Longmore (this volume) provide us with a thoughtful and innovative study of romantic relationships among teens, the quality of these relationships, and links to outcomes in other domains of well-being. The combination of qualitative and quantitative data from the Toledo Adolescent Relationships Study (TARS) and the National Longitudinal Study of Adolescent Health (Add Health) contributes a solid foundation of information about the quality of teen romantic and sexual relationships.

Romantic relationships as envisioned in their study are conceptualized as a distinct category of peer relationship with unique characteristics and impacts on educational and delinquency outcomes. The authors conduct a thorough review of the existing literature on the developmental aspects of teen romantic relationships, emphasizing gender differences and dynamics of the "crossing over" phase, where teens shift some of their focus from peer social relationships to romantic relationships and the problems associated with this transition. The comparisons made in Table 12.1 (this chapter) between peer and romantic relationships highlight the different and often opposing qualities of these two types of friendship, helping us to understand why romantic relationships need to be considered separately from other peer relationships. The focus on the quality of these early romantic relationships, and how they differ by age, gender, and race/ethnicity, is new information and an important contribution to the research on youth development.

Learning how to form, maintain, and gracefully end romantic and sexual relationships with others is arguably one of the critical developmental tasks of adolescence and early adulthood. However, research emphasis has often been placed on the sexual behavior part of this story, and with good reason. Recent declines in the rates of teen pregnancy and child-bearing notwithstanding, the United States has long held the dubious honor of possessing the highest teen pregnancy and child-bearing rates in the entire industrialized world (Singh & Darroch, 2000), and has been plagued by high rates of sexually transmitted infections among our youth (Centers for Disease Control and Prevention, 2004). Perhaps the integration of behavioral data with youth's perceptions of relationship quality can

provide a more complete story of the romantic relationship experiences of youth. This combination of information may also provide some added insight into prevention programs aimed at reducing the negative consequences of teen romance, which often stem from risky and casual sexual behavior.

Most research aimed at understanding the sexual behavior of youth has focused on disentangling the effects of the peer, family, and community contexts. These data about romantic partners add a new layer to our understanding of the variation in sexual behaviors and related outcomes of our youth. Indeed, analysis of the TARS data reveals that romantic partners have considerable influence on the educational and delinquent outcomes of youth, separate from those of other peer influences. The inclusion of qualitative data from a subset of 100 TARS participants attests to the importance of these romantic relationships in their lives, and how they influence a wide range of well-being outcomes. Thus, incorporating characteristics of teen romantic relationships can help us better understand a wide range of important behavioral outcomes among youth, not just their sexual behavior.

The Present Study

Giordano and colleagues emphasize romantic relationships, and when examining sexual behavior, those that involve sexual intercourse. This chapter expands upon their study by shifting our focus to the behavioral aspects of teen romantic relationships and closely examining risky sexual behavior. Risky sexual behavior is a critical factor to examine because it is this type of sexual behavior that is most likely to result in pregnancy and the spread of sexually transmitted infections. Also included here is a brief discussion of casual, non-committed sexual relationships among teens, and what we do and do not know about these relationships.

Throughout, this chapter highlights differences in these behavioral outcomes by residential location and compares the behavior of teens living in rural, urban, and suburban areas of the United States. The implications of these findings are discussed for rural youth in particular. The reason for this is two-fold. First, much of what we know about youth development, teen romantic relationships, and behavioral outcomes of teens is based on samples of urban and suburban youth. Rural populations represent approximately 20% of the entire U.S. population, and for this reason alone they require focused research attention. From a demographic standpoint, ignoring 20% of the population means missing a considerable part of the story. Most of the data on rural youth comes from small non-representative samples and is thus not generalizable to the population. Recently available nationally representative data sets, such as the National Longitudinal Study of Adolescent Health, among others, are large enough to allow some residential comparisons.

Second, existing studies in rural family demography have historically documented distinct family behaviors among rural populations. Nonmetropolitan women engage in all forms of family behavior at earlier points in the life course than their counterparts who live in metropolitan areas. This includes age at first sex, first birth, and first marriage (Heaton, Lichter, & Amoateng, 1989; Meyers & Hastings, 1995; Snyder, Brown, & Condo, 2004). Rural populations also maintain more traditional attitudes towards the family and family relationships (Bokemeier, 1997; Struthers & Bokemeier, 2000), yet when examining well-being outcomes for youth, those in rural areas are not protected by this more traditional family structure (Snyder & McLaughlin, 2004). Child poverty, for example, is highest among rural populations (Lichter, Rocgicno, & Condron, 2004). It follows that we should expect some unique behavioral patterns and associations of peer, family, community, and romantic partner factors on rural youth outcomes. The challenge is to understand the unique patterns of rural youth and develop programs that meet their specific needs.

Risky Sexual Behavior

Risky sexual behavior is defined as sexual activity that places youth at heightened risk of pregnancy or contracting a sexually transmitted infection. Three measures of risky sexual behavior are examined: having multiple lifetime partners, combining sex with alcohol or drug use, and not using condoms. The findings from Giordano and colleagues emphasize the need to examine the quality of romantic relationships that involve risky sexual behavior, and compare them to those that do not. To the extent that risky sex occurs within romantic relationships, knowing more about that relationship could shed some new and important light on the sexual behavior itself, as well as on outcomes associated with risky sexual behavior. The assumption is often that risky sexual behavior occurs within low-quality relationships, or at least those that forego conventional concerns for health, but in fact little is known about the quality of these relationships. And, as we will see, the majority of teens who have ever had sex have also engaged in some form of risky sexual behavior, some of it likely in typical teen romantic relationships.

A brief discussion of risk-taking behaviors as perceived and experienced by both adults and adolescents is required. Risk-taking behavior is recognized as a normative part of adolescent development and identity formation (Jessor, 1998; Ponton, 1997). Perceptions of the level of risk for specific behaviors likely differ for adults and adolescents, at least in part due to the corresponding perception of the alternative to not engaging in the risk behavior in question. For example, some teens without a solid future orientation may consider the risks of not using a condom less problematic than the risk of requiring a condom and possibly losing a boyfriend or girlfriend. Moreover, some measures of risky sexual behavior are probably considered "risky" for both adults and youth (i.e., multiple partners),

whereas others may not be considered risky for adults but risky for adolescents. For example, combining sex with moderate alcohol use is likely quite common for adults, yet represents multiple risks for teens. Illegally acquiring alcohol and consuming it prior to sex is a qualitatively different experience for youth. One critical difference is the role of alcohol in the sexual experience—does the consumption of alcohol prompt youth to engage in sexual behavior that would not have otherwise occurred? This distinction can be examined using secondary data sources and is pursued later in this chapter.

Data and Measures

Analyses for this study draw upon data from two secondary sources: the 2003 Youth Risk Behavior Survey (YRBS) and the 1995 National Longitudinal Study of Adolescent Health (Add Health[1]). The 2003 YRBS is a nationally representative cross-sectional sample of 15,214 U.S. high school students. The YRBS has been collected every other year since 1991 by the Centers for Disease Control to monitor trends in the behavioral health of our nation's youth. When considering sexual behavior, the YRBS asks exclusively about sexual intercourse. Add Health is a nationally representative study of youth in the 7th through 12th grades in the United States in 1995. The initial wave of Add Health was administered in 1995 and includes 16,000 youth. The third wave was recently released in 2003. The Add Health study examines sexual intercourse, kissing, and hand-holding. These analyses are restricted to the data on sexual intercourse.

Measures. This descriptive study examines four types of sexual behavior. The first type involves the percent of all youth in the YRBS and Add Health who reported ever having sexual intercourse. In both studies all students were asked this question. Slight differences existed, however, in the way the YRBS and the Add Health measure risky sexual behavior, and the sample included in the analyses.

In the YRBS any student who answered 'yes' to ever having sex was further asked several questions about risky sexual behavior. The risky sexual behavior items included from the YRBS are: 'Percentage of students who had sexual intercourse with four or more people during their life', 'The percent who drank

[1] This research uses data from the Add Health project, a program project designed by J. Richard Udry (PI) and Peter Bearman, and funded by NICHD grant P01 HD31921 to the Carolina Population Center, University of North Carolina at Chapel Hill, with cooperative funding participation by the National Cancer Institute; the National Institute on Alcohol Abuse and Alcoholism; the National Institute on Deafness and Other Communication Disorders; the National Institute on Drug Abuse; the National Institute of General Medical Sciences; the National Institute of Mental Health; the National Institute of Nursing Research; the Office of AIDS Research, NIH; the Office of Behavior and Social Science Research, NIH; the Office of the Director, NIH; the Office of Research on Women's Health, NIH; the Office of Population Affairs, DHHS; the National Center for Health Statistics, Centers for Disease Control and Prevention, DHHS; the Office of Minority Health, Centers for Disease Control and Prevention, DHHS; the Office of Minority Health, Office of Public Health and Science, DHHS; the Office of the Assistant Secretary for Planning and Evaluation, DHHS; and the National Science Foundation. These data are not available from the authors.

Persons interested in obtaining data files from the National Longitudinal Study of Adolescent Health should contact the Add Health Project, Carolina Population Center, 123 West Franklin Street, Chapel Hill, NC 27516-3997 (http://www.cpc.unc.edu/addhealth).

alcohol or used drugs before last sexual intercourse,' and 'The percent who used a condom during last sexual intercourse.' The Add Health asked similar questions although there were slight differences. First, respondents needed to reply 'yes' to ever having sex *and* being 15 years or older in order to be asked the questions about risky sexual behavior. Second, two of the risky sex questions asked about slightly different elements of risky sex. The condom use question asked about not using condoms during the first sexual experience and most recent sexual experience, or if data were missing on those questions, whether condoms were used during most sexual experiences. The question on combining substance use with sex was more specific than in the YRBS and asked about drinking alcohol or taking drugs before engaging in sex *that was later regretted*. These slight differences in the questions partially explain some of the differences in the percent of adolescents who reported risky sexual behavior in Table 12.1.

Results

Table 12.1 presents the percent of adolescents in the YRBS and Add Health who reported ever having sex and engaging in risky sexual behavior. Analysis of the YRBS data revealed that between 45% and 50% of all youth reported ever having sexual intercourse. Equal percentages of rural and suburban youth reported ever having sex, and a significantly larger percent of urban youth reported ever having sex. Analysis of the Add Health data showed slightly different proportions of rural, urban, and suburban youth reporting ever having sex. A larger percentage of urban youth reported ever having sex, followed by rural youth and suburban youth. The differences between urban and suburban youth were statistically significant.

Table 12.1
*Prevalence of Risky Sexual Behavior: Data From the 2003 Youth Risk Behavior Survey and the 1995 National Longitudinal Study of Adolescent Health**

	Ever Had Sex		No Condoms		Four or More Partners		Substance Use and Sex	
Residence	YRBS	Add Health	YRBS	Add Health	YRBS	Add Health	YRBS	Add Health
Rural	45.5	50.2	37.2	23.2	27.6	35.2	24.6	10.7
Suburban	45.0	47.1	34.1	24.2	29.2	33.4	25.3	13.5
Urban	50.5	54.3	31.8	26.1	35.8	33.7	20.6	12.6

Note: Weighted frequencies are reported. The 2003 YRBS included 15,241 respondents and the 1995 Add Health included 13,298 respondents.

The analyses of risky sexual activity included only those who had ever had sex. The next column of Table 12.1 reveals that between 27% and 36% of youth in the YRBS reported having four or more lifetime sexual partners. A greater proportion of those from urban areas reported this behavior in the 2003 YRBS, and a smaller proportion of those from rural areas. A different pattern of residential variability in this outcome is found in the Add Health study. Approximately 33% of all youth in Add Health reported four or more lifetime partners, and a greater percentage of rural youth reported this behavior, although these differences are not statistically different.

When considering condom use, analysis of the 2003 YRBS reveals that a significantly larger percent of rural youth did not use a condom at last sex, followed by suburban youth, and then urban youth. Between 23% and 26% of youth in the 1995 Add Health reported not using a condom at either their first or last sexual encounter. These differences are not statistically different. Finally, when considering combining substance use and sex, a comparison of the YRBS and the Add Health data allow us to determine the prevalence of this behavior, and also the proportion who later regretted their actions. Fewer urban youth in the YRBS reported combining sex with substance use (20.6%) compared to suburban (25.3%) and rural (24.6%) youth. A smaller proportion of youth reported regretting sexual experiences while using alcohol or drugs than just reported combining the two, in the Add Health. The Add Health data showed no significant differences in ever having sex or risky sexual behavior by residential location. Finally, when we consider youth who had engaged in any form of risky sexual behavior, the 2003 YRBS revealed that approximately 60% of all high school students who reported ever having sex had engaged in some form of risky sexual behavior. The proportions in this outcome are similar across residential areas (61% among urban youth, 59.7% among suburban youth, and 61.2% among rural youth; analyses not shown in Table 12.1).

What these descriptive data tell us is that about half of youth have ever had sex, and that a majority of those have engaged in some form of risky sexual behavior. These analyses reveal very little about the relationship context of these behaviors, and nothing about their quality. Future research using the TARS data could examine the relationship context of risky sexual behavior among youth, presuming measures of risky sex are included, and add to this important area of study. The one concern in this regard relates to how the TARS study defines a romantic relationship, Awhen you like someone who also likes you back." This definition presents some difficulties in differentiating between teen romantic couples with an exclusive commitment from those without a commitment. This distinction may play an important role in who engages in risky sexual behavior.

Casual Sex

Next we'll look at casual sexual behavior among teens, what we know about its occurrence, what we do not know, and what the TARS study can contribute to this topic. Giordano and colleagues present some information describing the relationships within which casual sex occurs, although what proportion of their sample reported engaging in casual sex with a non-romantic partner, and what kind of sex was being described, are not clear. Nonetheless, the TARS study showed that the overwhelming majority of casual sexual relationships occur with long-term friends. Respondents who engaged in casual sex reported knowing their partner about as long as did the respondents who reported sex within a romantic relationship. The casual sexual liaisons described in their study appear to be consistent with the "friends with benefits" relationships that have recently received some attention in the popular media and are discussed widely among teen sex educators, program providers, and parents. Anecdotal and other evidence from smaller-scale studies suggests that these relationships are becoming an important part of teen's sexual experiences, and perhaps even more so for younger teens. This evidence also suggests that much of these sexual experiences involve non-coital sexual behavior, especially oral sex. A recent study of 212 10th-grade students, for example, found that teens are more likely to engage in oral sex than intercourse, have more oral sex partners, and are less likely to use protection against sexually transmitted infections when they engage in oral sex (Prinstein, Meade, & Cohen, 2003).

This "friends with benefits" phenomenon is intriguing, in part because it is so unclear what is going on. Providing information about the quality of these relationships would help us understand this behavior and possibly its implications for future well-being outcomes and other romantic, or at least sexual, relationships. The term used to describe these relationships, "friends with benefits", does imply some sort of a positive relationship, or at least not a negative one. The image that comes to mind is teens experimenting with sex in a safe and friendly context without the added emotional complications that are often inherent in romantic relationships. Perhaps this description reflects some of this behavior. However, the potentially unbalanced and exploitative nature of these relationships, not to mention the risks for spreading infections, is also obvious and difficult to ignore. Giordano's concept of power inequalities would be interesting to explore within the context of these casual sexual relationships.

We do not know the prevalence of these types of adolescent sexual behavior, however, because we have few data sources from which to draw this information. The YRBS, for example, does not ask about the relationship context of sexual experiences at all. And although the Add Health does ask about relationship context, both it and the YRBS ask mostly about sexual intercourse. The recently released Wave 3 of the Add Health does contain questions about oral sex, but by Wave 3

the youngest respondents are 18 years old, so these data are not a good source of information for teen non-coital sexual activity. The soon-to-be-released wave of the 2002 National Survey of Family Growth (NSFG) will have information about non-coital sexual activity, including oral sex, and contains a sample of 15- to 19-year olds that will make it a good nationally representative data source for this information. Even with the addition of the 2002 NSFG, however, patterns and prevalence statistics of oral sex among younger teens will not be available and we still will not know the extent to which oral sex is becoming an important part of the sexual behavior of younger teens.

Program and Policy Implications

Finally, this study has implications for sex education programs and for rural youth. My extension and outreach work with pregnancy and STI prevention educators throughout rural Pennsylvania has been an interesting educational experience. In rural areas of Pennsylvania, abstinence education programs are very common, and often the only source of formal sex education received by youth in these communities. Rural populations possess more conservative and traditional attitudes related to the family and parenting (Struthers & Bokemeier, 1997), so it makes sense that they have embraced this approach to sex education. At the same time though, analyses of the YRBS and Add Health data sets reveal that approximately equal proportions of rural and urban youth appear to be engaging in risky sexual behavior, and perhaps casual sexual relationships. These behavioral trends among rural youth, in combination with the recognized lack of reproductive health services available to youth in rural areas, potentially places them at heightened risk of poor outcomes associated with risky and casual sexual behavior. We know that children and youth in rural areas experience high rates of poverty, they have lower educational attainment, and their substance use behavior is on par with their urban counterparts. Now we have the added information that rural youth engage in risky sexual behavior about as often as urban youth. For these reasons, the unique family, community, and perhaps romantic relationship contexts of this vulnerable population need more focused study.

References

Bokemeier, J. L. (1997). Rediscovering families and households: Restructuring rural society and rural sociology. *Rural Sociology*, *62*, 1–20.

Centers for Disease Control and Prevention. (2004). *Surveillance summaries*, *Morbidity and Mortality Weekly Report*. Atlanta, GA: Author.

Heaton, T. B., Lichter, D. T., & Amoateng, A. (1989). The timing of family formation: Rural urban differentials in first intercourse, childbirth, and marriage. *Rural Sociology, 54*, 1–16.

Jessor, R. (Ed.). (1998). *New perspectives on adolescent risk behavior*. New York: Cambridge University Press.

Lichter, D. T., Rocgicno, V. J., & Condron, D. J. (2004). Rural children and youth at risk. In T. Brown & L. Swanson (Ed.), *Challenges for rural America in the twenty-first century* (pp. 97–108). University Park, PA: Penn State Press.

Meyers, S. M., & Hastings, D. W. (1995). Convergence of rural urban patterns of nuptiality and mortality: A life table update. *Sociological Spectrum, 15*, 227–256.

Ponton, L. E. (1997). *The romance of risk: Why teenagers do the things they do*. New York: Basic Books.

Prinstein, M. J., Meade, C. S., & Cohen, G. L. (2003). Adolescent oral sex, peer popularity, and perceptions of best friends' sexual behavior. *Journal of Pediatric Psychology*, *28*, 243–249.

Singh, S., & Darroch, J. E. (2000). Adolescent pregnancy and childbearing: Levels and trends in developed countries. *Family Planning Perspectives, 32*, 14–23.

Snyder, A. R., & McLaughlin, D. K. (2004). Female headed families and poverty in rural America. *Rural Sociology*, *69*, 127–149.

Snyder, A. R., Brown, S. B., & Condo, E. P. (2004). Residential differences in family formation: The significance of cohabitation. *Rural Sociology*, *69*, 235–250.

Struthers, C. B., & Bokemeier, J. L. (2000). Myths and realities of raising children and creating family life in a rural county. *Journal of Family Issues, 21*, 17–46.

This page intentionally left blank

13

THE SLIPPERY NATURE OF ROMANTIC RELATIONSHIPS: ISSUES IN DEFINITION AND DIFFERENTIATION[1]

Wyndol Furman
University of Denver

Laura Shaffer Hand
Augusta State University

In the introductory chapter of our volume on adolescent romantic relationships (Brown, Feiring, & Furman, 1999), we suggested that studying these romantic ventures is somewhat like chasing a greased pig. The adolescent peer culture is notoriously evanescent. Romantic relationships can be short-lived. They can end and restart—repeatedly. The norms regarding what these relationships are supposed to be like keep changing. Once upon a time ago, the boy asked the girl out in advance for a formal date on a Saturday night. That still happens, but it only constitutes a small proportion of romantic interactions. When adolescents tell peers that they "hooked-up" with someone, they are leaving some ambiguity about exactly what happened, often intentionally. In effect, dating and adolescent romantic relationships are notoriously slippery.

Happily, we social scientists are capturing some of these slick little beasts. Giordano, Manning, and Longmore's chapter (this volume) illustrates the progress being made in understanding adolescent romantic relationships. Their research program has many of the cutting-edge features of contemporary romantic research, including large-scale representative sampling, the integration of quantitative and qualitative approaches, the consideration of partner influences, and the examination of subjective relationship factors. The sophistication of their approach has yielded a range of interesting findings, from surprising asymmetries in power to the demonstration of the unique influence of romantic partner delinquent behavior on adolescent problem behavior, to the importance of relationship dynamics in sexual encounters.

Unfortunately, in the process of capturing some of these little darlings, Giordano et al. also have revealed something else. Relationships are not all the same animal. In the process of chasing these relationships, it appears that we have caught a number of different phenomena. Some, in fact, seem rather mysterious and almost exist to thwart anyone who likes simple answers.

[1] This research was supported by National Institute of Mental Health grant 50106 (W. Furman, P.I.).

In this chapter, we focus on some key issues and distinctions needed if we are to understand these mysterious relationships and the role they play in development. We first discuss the similarities and differences between friendships and romantic relationships and the ensuing implications for understanding their links. We then focus on some definitional issues and discuss the critical implications they have for interpreting the results we obtain. Finally, we discuss related relational phenomena, such as friends with benefits.

Friends and Lovers

One of the key points that Giordano et al. make is that romantic relationships are distinct from friendships on a number of dimensions. They propose and show that romantic relationships are characterized by greater social and communication awkwardness, heightened emotionality, asymmetries, and issues of exclusivity. The effort to delineate these differences is a healthy tonic to the field of peer research. In the not so distant past, romantic relationships and platonic other-sex friendships were combined into a single category of other-sex friendships. Same-sex romantic relationships seem to have been simply ignored, a problem that unfortunately remains to some degree (Diamond, 2003).

In our own work (Hand & Furman, 2004) we also have looked at the differences between friendships and romantic relationships. When we have asked adolescents about the advantages and disadvantages of same-sex friendships and romantic relationships, we have found that physical intimacy, caretaking, and love and romance were mentioned more often as advantages of having romantic relationships than friendships. Another advantage is that having a romantic relationship eliminated the pressure to find someone to date or go out with. On the other hand, adolescents also mentioned that having a romantic partner constrained one's freedom in some way or another, came at some emotional or material cost, and involved some risk or vulnerability.

Some similarities may be found in the characteristics identified by the adolescents we interviewed and those in Giordano et al.'s framework. Adolescents' references to love and romance probably reflect the heightened emotionality that Giordano et al. discuss; the restrictions of autonomy are linked to the issues of commitment. At the same time, the lists do not overlap fully. Social scientists and adolescents seem to characterize these relationships in somewhat different terms. A comprehensive picture will require incorporating both perspectives (see Furman, Jones, Buhrmester, & Adler, 1988). The inclusion of both quantitative and qualitative data, as Giordano et al. plan in their TARS project, is one way to obtain such multiple perspectives.

In our study, we also asked adolescents about the advantages and disadvantages of other-sex friendships in addition to same-sex friendships and romantic relationships. Once again, the adolescents described these relationships

somewhat differently. In particular, they thought that these relationships were especially valuable in terms of providing insight into the other sex and opportunities for perspective-taking. At the same time, they also commonly reported being confused about the nature and direction of the relationship, and about whether it was a friendship or a budding romantic relationship. Clearly, each of these three relationships is distinct from the others. Not only will it be important to differentiate between friends and romantic partners, but among different types of friendship. In fact, it appears that other-sex friends may play a particularly important role in fostering the emergence of heterosexual romantic relationships (Connolly, Furman, & Konarski, 2000). Perhaps same-sex friendships play a similar role for lesbian, bisexual, and gay youth. Certainly, we will need to consider the gender and sexual orientation of the adolescent, as the functions and nature of these different relationships are not likely to be the same for these different groups of adolescents (Diamond, Savin-Williams, & Dube, 1999).

At the same time, the differences between romantic relationships and friendships should not be overstated. The majority of our adolescents reported that intimacy was an advantage of same-sex friendships and romantic relationships; negative interactions were a disadvantage of all three relationships.

Moreover, it is important to remember that a comparison of the characteristics of various types of relationships addresses a separate question from whether the characteristics of adolescents' different relationships are related to each other. The mean levels of a characteristic for adolescents in general can be different for two relationships, but the ratings of the characteristics for individual adolescents can be correlated with each other. For example, in general adolescents may communicate more awkwardly with romantic partners than with friends, but adolescents who are very awkward in communicating with romantic partners may also be likely to be awkward communicators with their friends. Those who are not as awkward with romantic partners may not be very awkward with friends as well. The chapter by Collins and van Dulmen (this volume) provides a thoughtful review of the literature on the relationship between the characteristics of adolescents' romantic relationships and other close relationships. The Giordano et al. chapter provides an important complement, emphasizing the discontinuities. Giordano et al. argue that romantic relationships are "something of a new ballgame." In our own theory (Furman & Wehner, 1994), we too have argued that romantic relationships are not a simple recreation of past relationships. As Giordano et al. note, the relationships are somewhat different in nature and entail new experiences. And of course, the specific partners are different in the different types of relationships. That other person—be it a parent, friend, or romantic partner—also shapes the particular nature of the relationship experience. In fact, Giordano et al. demonstrate that the partner's academic behavior and delinquency were related to the adolescent's own behavior in these domains.

At the same time, the relationships do share some common properties and carryover has been found, as Collins and van Dulmen (this volume) show. Thus, we would like to suggest that romantic relationships may be a new game, but some of the rules and skills are the same. In effect, the challenge is to identify and understand exactly what carries over, when it does, and for whom, in addition to what does not, when it does not, and for whom it does not. Different peer relationships have both similarities and distinct features, and we need to integrate both in our theories and research.

Defining Romantic Relationships

Giordano and her colleagues observed that romantic relationships have been defined differently by different investigators. For example, in TARS they defined romantic relationships broadly as "when you like a guy [girl] and he [she] likes you back" (Giordano et al., this volume, p. 124). In our ongoing longitudinal study (Project Star), we too use a broad definition of romantic relationships. Specifically, we inquire about relationships in which participants have been dating for one month or longer. Dating is defined broadly as spending time with someone you are seeing or going out with. Like Giordano et al., we explicitly note that dating does not have to mean going out on a formal date. Similarly, the relationships are not constrained to "schmoopy" ones (lovesick or mushy relationships). In contrast, the classic Add Health study inquired about "special romantic relationships." (Add Health also includes "liked relationships," although these only comprise a small proportion of the relationships examined—see Carver, Joiner, & Udry [2003] for details.)

Although some definitional differences can have little impact, we believe that this one has a significant effect on the results we obtain and their interpretation. Giordano et al. note that the proportion of individuals currently in a relationship differs substantially between Add Health and their TARs study. For example, in the 7th grade, Add Health finds 17% are involved, whereas TARS reports 32%. In the 9th grade, Add Health finds 32% involved, and TARS reports 41%. In the 11th grade, Add Health finds 44% are involved and Giordano et al.'s TARS project finds 59%. Similarly, we find 68% have been involved in the 11th grade. In fact, the differences are greater than this, as TARs and Project Star examined the proportion in the last 12 months, and Add Health looked at 18 months.

The lengths of the relationships also differ as a function of the definition. In our study, the median length of relationships is 4 months; in Add Health it is 20+ months for 16+-year olds. The Add Health length may be higher in part because their group contains older participants as well as ones of comparable ages to those in our study; the median length for their 14- and 15-year olds, who are younger than our participants, is 7.9 months, which is still greater than our length. Interestingly, a little more than half of the Add Health relationships are not

reciprocated (Carver et al., 2003). As they noted, the relationship may be interpreted differently by two people; the partner may not consider it to be a special romantic relationship, and may not report it even if they are dating each other.

A major strength of Add Health is that it is a national sample. It is possible that some of the differences could stem from differences between Toledo and Denver and other parts of the country, but both TARS and our study obtained estimates that were very similar to Add Health on related variables such as the proportion of adolescents who are sexually active. Thus, it appears that the findings in Giordano et al. and our study include relationships not included in Add Health.

One of the strengths of Giordano et al.'s work is that they have successfully used both definitional approaches. Each has its advantages and disadvantages. By using a narrow definition of romantic relationships, an investigator may be more likely to focus on the important relationships that are likely to have an impact on adolescents' lives. For example, using the Add Health data, Haynes, Giordano, Manning, and Longmore (2003) found that romantic partners' delinquency was linked to adolescents' delinquency, net of other predictors. This finding provides a nice contribution to the delinquency literature, which had almost exclusively focused on friends' delinquency in adolescence. Would we find such links if we included the shorter, "nonspecial" romantic relationships? It is quite possible that we could because individuals are generally attracted to those who are similar to themselves. On the other hand, we may not, especially if we were examining partners' unique contribution or their impact on delinquency at a later point in time. In other words, it is unclear if a one- or two-month relationship will influence how delinquent one is after the relationship has ended.

Regardless of what proves to be the case in this particular instance, the general point is the same. The advantage of focusing on the romantic relationships most likely to be influential is counterbalanced by the need to determine the generalizability of the findings. If we use a narrow definition, we may have findings that only apply to a subset of romantic relationships; if we use a broad definition, we may miss findings that only apply to a smaller array of romantic relationships. Ideally, an investigator would have information to generate multiple definitions to determine how to carve up the domain of romantic relationships into coherent sets, and to determine the subsets of relationships to which certain findings apply. To the best of our knowledge, this has not been done yet.

Up to this point, we have discussed how definitions might influence comparisons among different romantic relationships. For instance, in the previous example we were examining the delinquency of adolescents with highly delinquent romantic partners compared to those with partners low in delinquency. The definitional issues also have implications for comparisons between adolescents with romantic relationships and those without. If a narrow definition is of interest, our comparison group contains individuals with romantic relationships that do not meet the narrower definition. For example, the comparison group with the Add

Health definition would contain those with only "nonspecial" romantic relationships as well as nonromantic relationships. The narrow definition can prove to be valuable if those with "special" or other narrowly defined relationships differ from those with other romantic relationships as well as those without relationships. The narrow definition can mask findings if those with special and nonspecial relationships are more similar to each other than they are to those without relationships.

Either way, it is important that we be clear about the nature of the comparison. For example, using the Add Health data set, Manning, Longmore, and Giordano (in press) and others (Grello, Welsh, Harper, & Dickson, in press) observed that a significant amount of sexual activity occurs outside of special romantic relationships. Some of this activity may occur in other nonspecial romantic relationships and not just with nonromantic or casual partners. Note, for example, that in their TARS study, Giordano et al. report that the adolescents had known their nondating sexual partners as long as their romantic sexual partners. They observe that one-night stands and fleeting relationships are not particularly common. These findings and precise descriptions of our comparison groups are important counterbalances to recent media descriptions that stress how pervasive casual sex seems to be among adolescents.

Sex and Romance

These considerations of relational definition and context also underscore the importance of examining both sexual behavior and romantic experiences simultaneously. As Giordano et al. observed, the link between the two has not received much attention (see Furman & Shaffer, 2003). We know remarkably little about the role that partner and relationship characteristics play in sexual behavior (and vice-versa). Studies simultaneously examining sexual activity and relationship context may help identify what factors are responsible for particular effects. Grello et al. (in press) nicely illustrated this point by using the Add Health data set to examine the effects of dating, sexual intercourse in special romantic relationships, and sexual intercourse outside of these relationships. The transition to dating and intercourse in special romantic relationships was not associated with increases in depression, but those who engaged in sexual intercourse outside of these relationships were more depressed both before and after the transition. Without examining both the characteristics of the relationship and sexual behavior, they could not have identified this pattern.

Examination of the relational context of sexual behavior also aids our understanding of the related phenomena of friends with benefits, bed buddies, or sex friends (see Hand & Furman, in preparation). In effect, these friendships and acquaintanceships entail some form of sexual contact on some occasions. Although the distinctions among them are somewhat vague, friends with benefits seem to be closer relationships that meet other functions as well as sexual pleasure and experimentation, whereas the latter two are more likely to be acquaintances in

which sexual behavior is a primary purpose. These kinds of relationships have not received much attention to date, yet we think they have the potential to shed light on both adolescent sexuality and the development of romantic relationships.

Fortunately, Giordano et al. and others are beginning to gather information about these relationships. First, they appear to be the context for the majority of sexual behavior that occurs outside romantic relationships. Giordano et al. report that over 70% of the partners defined as "non-dating" sexual partners were a friend, acquaintance, or ex-boyfriend. Moreover, the length of time they had known these individuals was similar to the time they had known their dating partners. Although they do not involve the commitment or expectations regarding future contact that romantic relationships usually do, they are not exactly the one-night stands sometimes depicted in the media.

Adolescents' reports regarding the characterizations of these partners, the timing of the behaviors, and motivations for sexualized behaviors have important implications for better understanding functions of sexual behavior in adolescent relationships. For instance, we find that friends who doubled as sexual partners were sometimes past romantic or desired future partners, as was also the case for 34% of the Add Health participants described by Giordano et al. Similarly, we found that sexual activity occurred more often during ambiguous phases of the relationship than during clear friendship phases (Hand & Furman, in preparation). These findings suggest a possible relationship changing purpose to sexual activity with friends. Also, both Giordano and her colleagues and we find that a number of our adolescents reported that sexual activity with nonromantic partners served intimacy-building functions. In the future, further work on friends with benefits and the contextual factors surrounding sexual behavior may help us better understand the role of sexuality in the formation of romantic relationships and the role of sexuality outside of relationships.

Conclusion

In summary, Giordano et al. have demonstrated the importance of differentiating romantic relationships from other peer relationships and considering the functions and context of relationships in so doing. As with all good research, the findings raise as many questions as they answer. We suggest that we could further profit by additional comparisons among different types of friendships, such as same-sex friendships, other-sex friendships, and friends with benefits. Each is interesting in its own right as well as important to the development of romantic relationships. Given the range of these different types of relationships, careful consideration must be afforded to definitions and their implications for interpretation. Further integration of sexuality and romantic relationships will also enhance our understanding of both. After all, romantic relationships are not platonic relationships, and sex does not happen in a vacuum. In effect, Giordano et al. have

not only helped in capturing the greased pig called romantic relationships, but they have led us to recognize that other animals out there are just as slippery and just as important to catch.

References

Brown, B. B., Feiring, C., & Furman, W. (1999). Missing the love boat: Why researchers have shied away from adolescent romance. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 1–16). New York: Cambridge University Press.

Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 23–56). Mahwah, NJ: Erlbaum.

Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71,* 1395–1408.

Diamond, L. M. (2003). New paradigms for research on heterosexual and sexual-minority development. *Journal of Clinical Child & Adolescent Psychology*, *32*, 490–498.

Diamond, L. M., Savin-Williams, R. C., & Dube, E. M. (1999). Sex, dating, passionate friendships, and romance: Intimate peer relations among lesbian, gay, and bisexual adolescents. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). Cambridge, UK: Cambridge University Press.

Furman, W., Jones, L., Buhrmester, D., & Adler, T. (1988). Children's, parents' and observers' perspective on sibling relationships. In P. G. Zukow (Ed.), *Sibling interaction across culture* (pp. 165–183). New York: Springer-Verlag.

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 3–22). Mahwah, NJ: Erlbaum.

Furman, W., & Wehner, E. A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. R. Adams, & G. P. Gullota (Eds.*), Advances in adolescent development: Volume 6, Relationships during adolescence* (pp. 168–195). Thousand Oaks, CA: Sage.

Grello, C. M., Welsh, D. P., Harper, M. S., & Dickson, J. W. (in press). Dating and sexual relationship trajectories and adolescent functioning. *Journal of Adolescent Health*.

Hand, L. S., & Furman, W. (2004). *Salient features and relationship characteristics of other-sex friendships in adolescence: Comparisons to same-sex friendships and romantic relationships.* Manuscript under review.

Hand, L. S., & Furman, W. (in preparation). Friends with benefits: Adolescent sexual experience in other-sex friendships.

Haynes, D., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2003). *Adolescent romantic relationships and delinquency involvement.* Paper presented at the American Society of Criminology Conference, Denver, CO.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (in press). Adolescents' involvement in non-romantic sexual activity. *Social Sciences Quarterly.*

IV

To What Extent Are Current Trends in Sexual and Romantic Relationships Problematic for Individuals, Families, and Society? What Are Effective Intervention Approaches at the Level of Practice, Program, and Policy?

This page intentionally left blank

14

ADOLESCENT SEXUAL RELATIONSHIPS, CONTRACEPTIVE CONSISTENCY, AND PREGNANCY PREVENTION APPROACHES

Jennifer Manlove
Kerry Franzetta
Suzanne Ryan
Kristin Moore
Child Trends

Positive trends in adolescent sexual activity, contraceptive use, pregnancy, and childbearing have occurred over the past decade. Between 1993 and 2003, the percentage of high school-aged teens who reported that they ever had sexual intercourse declined from 53% to 47% (Centers for Disease Control and Prevention, 2004). These declines were found among males and females and among white and African American teens. However, Hispanic teens did not show as significant a decline as other racial/ethnic groups. Some research also suggests that contraceptive use is improving, with the percentage of sexually experienced high school teens who reported using contraception the most recent time they had sex increasing from 83% in 1991 to 87% in 2001 (Santelli et al., 2004). In addition, the teenage birth rate has declined since 1991 for all racial/ethnic and age groups, and for all states and the District of Columbia (Martin et al., 2003).

Despite these positive trends, unintended pregnancy and birth rates remain very high in the United States, and they are especially high among young teens, with 83% of pregnancies to teens aged 15–17 and 75% of pregnancies to teens aged 18–19 categorized as unintended (either mistimed or unwanted) (Henshaw, 1998). Unintended childbearing is the result of too early sexual activity, contraceptive inconsistency or nonuse, and method ineffectiveness (Brown & Eisenberg, 1995).

Significant racial and ethnic differences exist in adolescent sexual activity, contraceptive use, and childbearing. Among high-school teens, African Americans (67%) and Hispanics (51%) are more likely than whites (42%) to be sexually experienced (Centers for Disease Control and Prevention, 2004). Almost one in two African American high school-aged teens (49%) is currently sexually active, compared with 37% of Hispanics and 31% of whites. Among females, Hispanics are least likely to use contraception at the first and most recent time they have sex (Terry & Manlove, 2000). African Americans and Hispanics have teen birth rates that are two and one-half to three times higher than birth rates for whites. Since the mid-1990s, Hispanics have had the highest teen birth rates (Papillo et al., 2003).

Having a better understanding of factors associated with reproductive health behaviors among racial and ethnic subpopulations would help to put these numbers in perspective.

While extensive research has focused on teens' transitions to their first sexual experience and to childbearing, little information is available on the characteristics of teens' sexual relationships and partners. Adolescents do not make sexual and contraceptive use decisions on their own—they are made along with a partner. Assessing characteristics of teens' sexual relationships and their association with reproductive health outcomes may help us to better reduce high rates of adolescent unintended pregnancy and childbearing.

Previous research has documented characteristics of teens' romantic relationships and partners (Carver, Joyner, & Udry, 2003), and our own research has described teens' first sexual relationships (Manlove, Ryan, & Franzetta, 2003; Ryan, Manlove, & Franzetta, 2003). In order to provide information on changing patterns of teens' sexual relationships and partners, we assess in this chapter how teens' relationship and partner characteristics have changed across their sexual histories. Thus, we focus on patterns among teens who have had more than one sexual relationship.

This chapter includes three components. First, we provide information on teens' first and most recent sexual relationships. Second, we document how these relationship and partner characteristics are associated with contraceptive consistency and the risk of unintended pregnancy. In order to better understand racial/ethnic disparities in health outcomes due to higher rates of unintended pregnancy and adolescent childbearing, we provide separate analyses by race/ethnicity. Third, we profile characteristics of effective, rigorously evaluated pregnancy prevention programs and how they address adolescent sexual partners and relationships.

Background

We examine multiple dimensions of adolescent sexual relationships and partners. Because our multivariate analyses focus on contraceptive use, we also briefly highlight literature linking relationship and partner characteristics to contraceptive use and consistency, and thus the risk of unintended pregnancy.

Partner Characteristics

As discussed by Giordano and colleagues (this volume), adolescent sexual relationships are distinguished from friendship relationships by having more relationship *asymmetries*, and these relationship asymmetries are often linked with poorer reproductive outcomes. Some researchers have found that differences between sexual partners in age, race/ethnicity, and level of familiarity are associated with contraceptive use and consistency (Ford, Sohn, & Lepkowski, 2001).

For example, teens (especially teen females) with older sexual partners are less likely to use contraception consistently over time and within sexual relationships (Abma, Driscoll, & Moore, 1998; Ford, Sohn, & Lepkowski, 2001; Glei, 1999; Manlove, Ryan, & Franzetta, 2003). Large age differences may influence the balance of power in decision making, and those with much older partners may have more difficulty negotiating decisions about contraceptive use. Having a violent relationship partner could also influence the ability to make decisions about using contraception. For example, researchers have found that having a physically violent partner is associated with inconsistent contraceptive use among females (Manlove, Ryan, & Franzetta, forthcoming) and with reduced condom use among males and females (Howard & Wang, 2003a,b). Teens who are less familiar with their sexual partners (e.g., those who met their partner outside of a school or neighborhood setting) or who have a partner of a different race/ethnicity may have greater difficulties in communicating about sex and contraception and may face a greater risk of unintended pregnancy (Ford, Sohn, & Lepkowski,, 2001). Among teens whose partners are a different race/ethnicity, these potential communication problems may be due to different expectations about relationship roles among sexual partners.

Relationship Characteristics

Multiple dimensions of adolescents' sexual relationships are potentially associated with contraceptive use and consistency. Self-defined relationship type is the most commonly used measure of sexual relationship in studies of adolescent contraceptive and condom use. Researchers report mixed findings about the direction of the association between relationship type and contraceptive use. Some researchers have found greater contraceptive use and consistency among teens who were going steady with their partner or who were in romantic relationships than teens in more casual relationships (Abma, Driscoll, & Moore, 1998; Ford, Sohn, & Lepkowski, 2001; Manlove, Ryan, & Franzetta, 2003; Manning, Longmore, & Giordano, 2000; Stone & Ingham, 2002). In contrast, other researchers have found *lower* condom use and consistency among males and females in more romantic relationships (Ellen, Cahn, Eyre, & Boyer, 1996; Katz, Fortenberry, Zimet, Blythe, & Orr, 2000; Ku, Sonenstein, & Pleck, 1994; Sheeran, Abraham, & Orbell, 1999), which may be due in part to an accompanying higher use of birth control pills (Ku et al., 1994).

Few of these studies have included other important behavioral measures of relationship type that may also be associated with contraceptive consistency. For example, previous research has shown that girls are more likely to report romantic relationships (Carver, Joyner, & Udry, 2003); however, there has been limited research that assesses how self-defined relationship type is associated with contraceptive use *net of* other behavioral relationship measures. Recent research by our study team and others suggests that several dimensions of adolescent sexual relationships

are associated with contraceptive use and consistency. One dimension of adolescent relationships that we posit would be associated with contraceptive use patterns is relationship intimacy and connections to social networks. One study has shown a positive association between intimate and social activities with one's partner and greater contraceptive use and consistency among male teens (Manlove, Ryan, & Franzetta, forthcoming).

A second relationship dimension is the length of time that teens dated *before* having sex. One study found that teens who waited longer in a dating relationship before engaging in sexual intercourse used contraception more consistently, possibly because they were more comfortable discussing sex and contraception with a partner whom they knew better (Manlove et al., 2003). However, a separate study found no association between the length of the pre-sexual relationship and recent condom use among males (Ku, Sonenstein, & Pleck, 1994). Relationship length is another measure of the seriousness of a relationship. Studies of relationship length indicate that teens are less likely to have consistent contraceptive use in longer relationships, presumably because it is difficult to maintain contraceptive use over time (Ford, Sohn, & Lepkowski, 2001; Ku, Sonenstein, & Pleck, 1994; Manlove, Ryan, & Franzetta, 2003).

A third important dimension of adolescent sexual relationships is communication between teens and their sexual partners. For example, Giordano et al. (this volume) suggest that females' experiences with adolescent friendships may improve their ability to communicate with their romantic partners. Females, in particular, appear to have improved contraceptive use and consistency when they are more comfortable talking with males in general (Stone & Ingham, 2002), and teen females who specifically report discussing contraception with their partner are also more likely to use contraception consistently (Manlove, Ryan, & Franzetta, forthcoming)

Data and Sample

The National Longitudinal Study of Adolescent Health (Add Health) is a school-based survey of teenagers who were in the 7th through 12th grades in the United States in 1995. It is a nationally representative study that involves three waves of in-home interviews and several data collection components, including self-administered in-home and in-school questionnaires, as well as school administrator data on each school's characteristics (Harris et al., 2003). In 1995 (Wave I), more than 20,700 students participated. Approximately 14,700 students were reinterviewed in 1996 (Wave II) and 15,197 in 2002 (Wave III).

In this chapter, we use adolescent data from the Wave I and Wave II in-home interviews, focusing on questions from partner histories that collected data on recent romantic or sexual relationships. The longitudinal nature of the Add Health data makes it possible to examine how first sexual relationships, as well as individual

characteristics and partner and relationship characteristics, are associated with contraceptive use in teens' most recent sexual relationships. Information on contraceptive consistency and characteristics of the *recent* sexual relationship are drawn from the Wave II survey, while characteristics of teens' *first* sexual relationships come from either Wave I or Wave II, depending upon the timing of first sex. Individual and family background characteristics are taken from the Wave I survey.

We required a sample that would allow us to examine characteristics of the first and last relationships, to assess how relationship and partner characteristics are associated with contraceptive consistency in most recent relationships and to test whether experiences in first sexual relationships are linked to contraceptive use in last sexual relationships. Thus, our sample includes unmarried adolescents who participated in both survey waves, had valid sample weights, had at least two sexual relationships, and had information on their first sexual experience.[1] The final sample consists of 1,468 teens with valid relationship and partner characteristics for at least two sexual relationships. Note that because we excluded teens with only one sexual relationship, our sample is at a higher risk of unintended pregnancy than a nationally representative sample of sexually experienced teens. For example, compared with teens with only one sexual relationship, our sample had a younger age at first sexual intercourse and was less likely to live in a two-parent family.[2] However, our sample does provide a portrait of higher-risk sexually experienced teens in need of intervention, and it allows us to compare how their relationship and partner characteristics changed across sexual relationships. Our analyses focused particularly on racial/ethnic differences, with subsamples of 758 non-Hispanic whites, 350 non-Hispanic blacks, and 253 Hispanics.

Characteristics of Teens' First and Most Recent Sexual Relationships and Partners

In order to provide a portrait of how teens' sexual partners and relationships change across their relationship history, we provide information on teens' first and most recent sexual relationships. For these analyses, we are interested primarily in two research questions: (1) Do characteristics of teens' first and most recent sexual relationships differ, and (2) do characteristics of teens' most recent sexual

[1] Among unmarried sexually experienced teens with partner-specific information about sexual relationships, we excluded 1,658 teens who had only one sexual partner and 1,612 whose first sexual relationship occurred more than 18 months before the interview. See the Manlove, Ryan, and Franzetta manuscript (Manlove, Ryan et al., forthcoming) for a complete description of the sample creation. Our sample includes 559 teens with two relationships, 413 with three relationships, 246 with four relationships, and 250 with five or more relationships.

[2] We excluded the 1,612 teens whose first sexual relationship occurred more than 18 months before the interview date because they did not report relationship and partner information on this relationship. Compared with the combined excluded sample of all other sexually experienced teens, our sample was more likely to be female and had an older age at first sex. Our sample did not differ from other sexually experienced teens on race/ethnicity, parent education, family structure, age, or test scores.

relationships differ by gender and by race/ethnicity? Because older teens are more likely to choose sexual partners of different ages and backgrounds than their own (Ford, Sohn, & Lepkowski, 2001), we hypothesize greater differences between sexual partners in most recent relationships, compared with first relationships. In addition, based on previous research, we hypothesize that Hispanic teens will be more likely to choose a different race/ethnicity sexual partner, in part because they are more likely to attend schools with a lower proportion of same race/ethnicity teens (Carver, Joyner , & Udry, 2003; Ford, Sohn, & Lepkowski, 2001).

We hypothesize that girls will be more likely to categorize their relationships as romantic, and that they will report better communication than boys (Ford, Sohn, & Lepkowski, 2001; Giordano, Manning et al., 2004; Ryan, Manlove et al., 2003). Past research also suggests different definitions of dating among racial and ethnic minorities, and therefore we anticipate lower reports of romantic relationships and fewer intimate and social connectedness behaviors among racial and ethnic minorities (Albert, Brown, & Flanigan, 2003; Giordano, 2003). Because older teens are more likely to report longer relationships (Carver, Joyner , & Udry, 2003; Ford, Sohn, & Lepkowski, 2001), we anticipate longer most recent sexual relationships, compared with first sexual relationships.

In Tables 14.1 and 14.2, we used t-tests to compare characteristics of first and most recent relationships for the full sample and by gender. Table 14.3 incorporates chi-square analyses to examine racial/ethnic differences in relationship and partner characteristics for the total sample.

Table 14.1
Characteristics of Sexually Experienced Teens' First and Most Recent Sexual Relationships

	Total (*N*=1,468)		
	First	Most Recent	Sig.
Characteristics of Sexual Partners			
R and partner age difference			
Partner ≥ 1 year younger	21.8%	21.8%	
Same age	23.4%	21.5%	
Partner 1 year older	19.9%	19.4%	
Partner 2–3 years older	24.9%	22.9%	
Partner 4+ years older	10.1%	14.4%	*
Average # of years partner is older than R	1.1	1.3	
R and partner same race/ethnicity	79.3%	79.6%	

Table 14.1 cont'd.

	Total (*N*=1,468)		
	First	Most Recent	Sig.
How R met partner			
Friends	40.2%	35.0%	*
Same school or place of worship	47.7%	41.8%	+
Friend of another friend	45.4%	42.4%	
Other (neighbor, casual acquaintance, other)	35.2%	35.7%	
Stranger	5.7%	5.8%	
Violence in relationship			
No violence	—	71.0%	
Verbal violence	—	18.6%	
Physical violence	—	10.5%	
Characteristics of Sexual Relationships			
Self-Defined Relationship Type			
Romantic	71.1%	77.1%	*
"Liked"	10.4%	9.9%	
Non-romantic	18.5%	13.0%	*
# of pre-sexual couple-like activities† (0–8)	5.8	5.2	*
Length of pre-sexual relationship†			
Sex before/same month relationship began	29.2%	35.7%	*
Sex 1–3 months after relationship began	34.6%	35.2%	
Sex 4–5 months after relationship began	12.4%	6.2%	*
Sex 6 or more months after relationship began	23.8%	22.9%	
Average length of pre-sexual relationship†	4.1	4.4	
Talked about birth control before sex†	50.0%	49.9%	
Length of sexual relationship			
1 time only	23.1%	16.6%	*
1–3 months	31.3%	34.0%	
4–6 months	12.7%	16.7%	*
7 or more months	32.9%	32.7%	
Average length of sexual relationship (1–38)	7.1	5.8	*
Contraceptive Consistency in Sexual Relationships			
Contraceptive consistency			
Never	23.4%	20.4%	
Sometimes	18.2%	19.9%	
Always	55.2%	59.7%	

+p<0.10 *p<0.05 **p<0.01 ***p<0.001 †Among 1,297 respondents with romantic partners.

Table 14.2
Characteristics of Sexually Experienced Teens' First and Most Recent Sexual Relationships, by Gender

	Females (*N*=862)			Males (*N*=606)			Gender Dif.
	First	Most Recent	Sig.	First	Most Recent	Sig.	Sig.
Characteristics of Sexual Partners							
R and partner age difference							***
Partner ≥ 1 year younger	13.0%	10.2%		37.7%	37.9%		
Same age	18.3%	15.7%		32.6%	29.5%		
Partner 1 year older	20.9%	20.9%		18.0%	17.4%		
Partner 2–3 years older	33.5%	31.5%		9.2%	11.0%		
Partner 4+ years older	14.3%	21.7%	*	2.5%	4.3%		
Average # of years partner is older than R	1.6	2.1	*	0.0	0.1		***
R and partner same race/ethnicity	81.6%	80.0%		76.1%	79.0%		
How R met partner							
Friends	42.3%	36.6%	+	37.3%	32.8%		
Same school or place of worship	44.4%	39.9%		52.3%	44.4%	+	
Friend of another friend	51.0%	48.3%		37.6%	34.2%		***
Other (neighbor, casual acquaintance, other)	40.8%	39.7%		27.3%	30.0%		**
Stranger	6.3%	6.0%		4.9%	5.5%		
Violence in relationship							
No violence	—	69.7%		—	72.7%		
Verbal violence	—	20.3%		—	16.2%		
Physical violence	—	10.1%		—	11.1%		
Characteristics of Sexual Relationships							
Self-Defined Relationship Type							**
Romantic	71.9%	81.2%	*	70.0%	71.5%		
"Liked"	12.7%	9.0%	+	7.2%	11.2%	*	
Non-romantic	15.5%	9.8%	*	22.8%	17.4%	+	
# of pre-sexual couple-like activities† (0–8)	6.0	5.4	*	5.6	4.9	*	**
Length of pre-sexual relationship†							
Sex before/same month relationship began	24.9%	34.1%	*	36.7%	38.3%		
Sex 1–3 months after relationship began	33.8%	37.4%		36.2%	31.8%		
Sex 4–5 months after relationship began	12.7%	6.1%	*	11.9%	6.3%	*	
Sex 6 or more months after relationship began	28.7%	22.4%	+	15.2%	23.6%	*	

Table 14.2 cont'd.

	Females (*N*=862)			Males (*N*=606)			Gender Dif.
	First	Most Recent	Sig.	First	Most Recent	Sig.	Sig.
Average length of pre-sexual relationship†	5.3	4.5		1.9	4.3	*	
Talked about birth control before sex†	53.9%	55.7%		44.8%	41.2%		***
Length of sexual relationship							+
1 time only	18.9%	15.1%		28.9%	18.7%	*	
1–3 months	29.5%	31.4%		33.8%	37.6%		
4–6 months	14.5%	17.6%		10.2%	15.4%	*	
7 or more months	37.1%	35.9%		27.2%	28.3%		
Average length of sexual relationship (1–38)	7.4	6.3	+	6.8	5.0	*	**
Contraceptive Consistency in Sexual Relationships							
Contraceptive consistency							
Never	23.4%	20.2%		23.4%	20.7%		
Sometimes	21.5%	21.4%	*	13.6%	17.8%		
Always	55.1%	58.4%		63.0%	61.5%		

+p<0.10 *p<0.05 **p<0.01 ***p<0.001 †Among 1,297 respondents with romantic partners.

Table 14.3
Characteristics of Teens' Most Recent Sexual Relationships, By Race/Ethnicity

	Whites (*N*=758)	Blacks (*N*=350)	Hispanics (*N*=253)	Total Sig.
Characteristics of Most Recent Sexual Partner				
R and partner age difference				
# of years partner is older than R	1.4	1.1	1.0	+
Partner 4+ years older	15.7%	12.2%	13.0%	
R and partner same race/ethnicity	86.9%	88.3%	53.8%	***
How R met partner				
Friends	37.5%	34.6%	23.1%	*
Same school or place of worship	44.0%	44.1%	28.8%	*
Friend of another friend	40.9%	38.1%	47.0%	
Other (neighbor, casual acquaintance, other)	36.0%	36.2%	28.9%	
Stranger	6.9%	2.6%	5.1%	+
Violence in relationship				
No violence	70.9%	74.2%	67.5%	
Verbal violence	19.2%	12.7%	22.2%	
Physical violence	9.9%	13.1%	10.3%	
Characteristics of Most Recent Sexual Relationship				
Self-defined relationship type				*
Romantic	80.1%	68.5%	75.9%	
"Liked"	7.8%	15.3%	13.2%	
Non-romantic	12.1%	16.3%	10.9%	
# of pre-sexual couple-like activities† (0–8)	5.5	4.2	4.9	***
Average length of pre-sexual relationship†	4.4	4.5	4.5	
Talked about birth control before sex†	50.3%	50.1%	46.4%	
Length of sexual relationship				
Relationship was a one-night stand	15.5%	18.6%	20.0%	
Length (in months) of relationship	5.9	4.8	6.4	*
Contraceptive Consistency				
Never				
Sometimes	18.9%	22.6%	25.1%	
Always	22.2%	15.0%	17.0%	

+p<0.10 *p<0.05 **p<0.01 ***p<0.001 †Among 1,297 respondents with romantic partners.

Partner Characteristics

This section examines the extent to which teens in our sample chose sexual partners who were different from them on multiple dimensions (including age and race/ethnicity), how they knew their partners before they started dating (e.g., already being friends with or attending the same the school vs. more casual acquaintances), and whether their sexual partners were verbally or physically abusive. We examine how sexual partner characteristics change between teens' first and most recent relationships, and we consider differences by gender and race/ethnicity.

Age difference. Teens in our sample, on average, reported first sexual partners who were about one year older than them in their first and most recent sexual relationships. Teen females reported most recent sexual partners who were slightly more than two years older than them, while teen males reported same-age sexual partners. Almost one-half of teen females (48%) reported a first sexual partner who was two or more years older than them, with 14% reporting a first partner who was at least four years older. In contrast, teen females chose slightly older partners in their most recent relationship, with 22% reporting a partner who was at least four years older than them.

Racial/ethnic difference. Approximately one in five teens was of a different race/ethnicity than the teen's first and most recent partner (19% and 20%, respectively). Hispanics, however, were more likely than either whites or blacks to have a recent sexual partner who was of a different racial or ethnic background (46% vs. 13% and 12%, respectively).

How teens met their partners. The survey provided eight possible ways in which teens could have known their partner before the relationship began, and allowed them to indicate more than one category. For these analyses, we grouped these responses into five categories: friends, same school or place of worship, friend of another friend, other (including neighbors and casual acquaintances), and stranger. Teens were most likely to report that they had met their first sexual partner at their school or place of worship (48%), that they were already friends with their first sexual partner before they started dating (40%), and that they had met them through their friends (45%). One in three (35%) reported that the teen's first sexual partner was a neighbor, a casual acquaintance, or other, and only 6% reported that they were strangers before they started dating. In their most recent sexual relationships, teens were less likely to be friends with their partners and less likely to have met them through school or a place of worship. Sexually experienced female teens were more likely than their male counterparts to have met their sexual partner through friends or in other ways. In addition, Hispanics were least likely to report being friends with their partner before they dated them (23% of Hispanics, compared with 35% of African Americans and 38% of whites), and were least likely to report meeting their most recent sexual partner at school or a place of worship.

Violent sexual partners. Almost one in three teens in our sample reported physical or verbal violence from his or her most recent sexual partner (this information was reported only in Wave II relationships). One in ten teens reported suffering some type of physical violence from their most recent sexual partner (including pushing or shoving and throwing something that could be harmful), and 19% reported no physical violence but did report verbal violence (including being called names, insulted or treated disrespectfully in front of others, being sworn at, and being threatened with violence). Analyses show similar levels of violence by gender and race/ethnicity.

Relationship Behavior Characteristics

This section examines self-defined relationship type, as well as other behavioral characteristics of teens' sexual relationships, including intimate activities and social connectedness, how long teens dated before having sexual intercourse, and the duration of their sexual relationships. We compare relationship characteristics for teens' first and most recent relationships and differences by subpopulation.

Relationship type. We also examine patterns in how teens define their relationships. Respondents could self-identify their most recent sexual relationship as: (1) romantic; (2) "liked" (identified in Add Health as relationships not self-defined as romantic, but ones in which respondents had held hands with, kissed, and told their partner they liked or loved them); or (3) non-romantic (not self-nominated as romantic and not meeting the conditions of a "liked" relationship). On average, 71% of teens' in our sexually experienced sample self-defined their first sexual relationship as "romantic." An additional 10% of these relationships were not defined as romantic, but fit the criteria of a "liked" relationship. The remaining 19% of first sexual relationships were categorized as nonromantic. On average, teens were more likely to define their most recent sexual relationship as romantic (77%) than their first relationship (71%), and this increase is evident among teen females but not teen males. Teen females were more likely to report romantic sexual relationships (81% of females' most recent relationships, compared with 72% of males), and non-Hispanic blacks were least likely to report a romantic sexual relationship (69%), compared with Hispanics (76%) and whites (80%).

Presexual couple-like activities. For teens in romantic or "liked" relationships, we capture the perceived seriousness of sexual relationships by measuring the strength of a couple's identity. Couple-like activities were measured by both intimate activities (including thinking of themselves as a couple, going out together alone, exchanging "I love you's," exchanging presents, and spending less time with friends in order to spend more time with each other) and by social connectedness (including telling others they were a couple, meeting the partner's parents, and going out together in a group) (Carver, Joyner, & Udry, 2003). On average, teens in our sample reported 5.8 out of 8 presexual couple-like activities with their first partner, and reported *fewer* couple-like activities with their most recent sexual

partner, compared with their first partner. Also, teen females reported more couple-like activities than teen males, and African Americans reported fewer couple-like activities than Hispanics and whites.

Length of presexual relationship. Length of presexual relationship measures the number of months between the start of the dating relationship and sexual initiation, and is asked only of teens in romantic or "liked" relationships. Almost one in three teens in the sample of "liked" or romantic sexual relationships (29%) reported that they had had sex with his or her first partner in the same month or before their dating relationship began. Another 35% reported that they had had sex in the first three months of their relationship. This finding highlights how soon teens move from dating to sexual relationships. Compared with first relationships, teens were even more likely to have sex early in their most recent relationship (36% had sex in the same month or before their dating relationship began). Teen females, on average, waited a little longer to have sex with their *first* sexual partner (5.3 months among females, compared with only 1.9 months among males); however, no differences were found on pre-sexual relationship length at most recent sex. Blacks, whites, and Hispanics reported similar lengths of presexual periods for most recent relationships. Note that this information reflects the relationships of sexually experienced teens. There are teens in dating relationships who never have sex with their dating partners or who wait for extended periods before sexual intercourse.

Length of sexual relationship. Relationship length for each partner was measured as the number of months from the date of first sex to the date of last sex with each partner. Teens tended to report short sexual relationships. In fact, almost one in four first sexual relationships (23%) could be described as "one-night-stands," while 31% lasted only one to three months, and one in three (33%) lasted seven or more months. More recent sexual relationships were less likely to be short term, with 17% being characterized as one-night-stands. On average, females reported longer recent sexual relationships than males (6.3 months vs. 5.0 months), and African Americans reported the shortest most recent relationships (4.8 months, on average, compared with 5.9 among whites and 6.4 among Hispanics).

Contraceptive Use in Sexual Relationships

This section includes our one measure of discussions between sexual partners (highlighting specific conversations about contraception before first having sex with their first and most recent partner), and patterns of contraceptive use and consistency across relationships.

Discussions about contraception. This measure was collected only from teens in romantic or "liked" relationships. One-half of teens in this sample reported discussing contraception with his or her partner before their first sexual relationship, and one-half did in their most recent relationship, which suggests that communication did not improve, on average, across sexual relationships. Females

were more likely to report discussing contraception with their most recent partner than males (56% compared with 41%). Similar proportions of white (50%), black (50%), and Hispanic teens (46%) reported discussing contraception with their most recent partner before sex.

Contraceptive use and consistency. More than one-half of teens (55%) in our sample reported that they used contraception every time they had sexual intercourse in their first relationship. Another 18% reported sometimes, but not always, using contraception, and more than one in five (23%) reported he or she never used contraception in a first relationship.[3] These percentages are similar in most recent sexual relationships, in which 20% of teens never used a method and 20% only used contraception some of the time. Thus, teens in this sample did not, on average, improve contraceptive use across their sexual relationships. These findings highlight the high risk in which young people place themselves for having an unintended pregnancy in their teens. Males and females reported similar levels of contraceptive consistency, as did teens in different racial/ethnic groups.

In summary, several characteristics of adolescents' sexual relationships may place them at risk of unintended pregnancy: teens begin having sexual experiences at young ages; some females have sex with much older partners; many teens have sex very early in their dating relationships; and teen sexual relationships do not last long, which can lead to feelings of abandonment and depression (Fisher, 2004). In addition, a substantial percentage of teens put themselves at risk of unintended pregnancy by using contraception inconsistently or not at all. But there are also positive characteristics of teen sexual relationships: most teens report that they are in romantic relationships; many teens were friends with their sexual partners before dating them (which may improve familiarity and communication); and many teens engage in multiple couple-like intimate and social activities with their partners before engaging in sexual intercourse. In addition, one-half of teens in this sample discussed contraception with their first and most recent sexual partners, which indicates motivation to avoid unintended pregnancy.

These tables also document how teens' sexual partners and relationships changed across their sexual histories. On the one hand, teen females were more likely to define their most recent (compared with their first) sexual relationship as romantic. On the other hand, our analyses suggest that teen females chose older partners in most recent relationships, and that teens were more likely to meet their most recent partners outside of their friendship and school networks, which may reduce their level of familiarity and comfort in having conversations about contraception. In addition, teens had sex earlier in their dating relationships with their most recent sexual partners than with their first partners, and they reported

[3] Estimates of contraceptive non-use and inconsistency are higher in this sample of teens with two or more sexual relationships than in our sample of all teens with a first sexual relationship. However, a substantial percentage of all teens with a recent first sexual relationship did not use contraception (21%) or only used contraception inconsistently (16%), indicating that contraceptive use and consistency are problematic for all sexually experienced teens.

fewer couple-like activities before beginning their most recent sexual relationships, which may place them at a higher risk of contraceptive inconsistency and unintended pregnancy. Teens' most recent sexual relationships were also shorter than their first relationships, although many of these relationships were ongoing.

Our sample also revealed substantial racial/ethnic differences in relationship and partner characteristics. Whites were the most likely to report that their most recent sexual relationship was romantic, and they reported the highest number of presexual couple-like activities. In contrast, African Americans were least likely to report a romantic recent sexual partner, and they reported the lowest number of pre-sexual couple-like activities. African Americans also reported the shortest sexual relationships. These findings could reflect different conceptions of dating among racial/ethnic sub-populations; however it's important to note that the majority of teens in all racial/ethnic groups reported romantic sexual relationships.

Hispanic teens were less likely to have been friends with their most recent sexual partner before their relationship began or to have met their partner through school or a place of worship, and they were most likely to report a partner of a different race/ethnicity. This pattern reflects the higher prevalence, among Hispanics, of finding partners outside of their friendship networks.

Analyses of Factors Associated with Contraceptive Consistency, By Race/Ethnicity

The next set of analyses examines the association between relationship and partner characteristics and contraceptive consistency among white, black, and Hispanic teens, net of controls. We included an updated set of variables in these models. Our dependent variable, contraceptive consistency with most recent sexual partner, compared teens who *always* used contraception every time they had sex with those who only *sometimes or never* used a method. In order to restrict the number of variables we used with relatively small samples of racial/ethnic subpopulations, we included only relationship and partner characteristics that were theoretically important and/or were significant in bivariate models.[4] We have four hypotheses:

1. **Differences between teens and their partners will be associated with reduced contraceptive consistency.** Specifically, having an older partner, a different racial/ethnic partner, and having a violent partner will be associated with reduced contraceptive consistency.
2. **Self-defined relationship type and behavioral characteristics of teens' sexual relationships will be associated with contraceptive consistently.** Specifically, teens who self-define relationships as romantic will be more

[4] Note that the length of the pre-sexual relationship and how teens met their partner were not significant in preliminary bivariate or multivariate models, and were removed from our final models.

likely to use contraception consistently. In addition, teens whose partners are better integrated into their social networks, who wait longer in their dating relationship before having sex, and who communicate with partners will be more likely to use contraception consistently.

3. **Contraceptive use in teens' first relationships and their sexual history may be associated with their likelihood of contraceptive consistency in their most recent relationship.** Measures describing the first sexual relationship include age at first sex with their first partner and consistency of contraceptive use within their first sexual relationship (never used a method, sometimes used a method or always used a method).[5]
4. **Teens may experience contraceptive "fatigue" across relationships and be less likely to use contraception if they have multiple previous partners.** Thus, we included a measure for total number of lifetime sexual partners.

We controlled for the following family characteristics in our analyses: family structure (two biological or adoptive parents vs. all others) and parent education, which ranges from 1 (never completed high school) to 7 (graduate or professional school). We also controlled for individual characteristics, including: gender; religious attendance, ranging from 0 (never or no religion) to 4 (at least once a week); and a self-report of whether the teen received pregnancy and AIDS prevention education in school. Analyses were conducted separately by race/ethnicity.[6]

For this section of the chapter, we tested whether: (1) relationship and partner characteristics are associated with contraceptive consistency; (2) characteristics of teens' sexual histories and their first sexual relationships are associated with contraceptive consistency; and (3) there are racial/ethnic differences in the association between relationship characteristics and contraceptive outcomes. To answer these questions, we used multivariate logistic regression to analyze two samples: (1) our full sample of teens; and (2) a "romantic sample" that only included teens in romantic or "liked" relationships, which allowed us to include measures that were not asked of adolescents in nonromantic relationships.[7] We do not present full results for the romantic sample; for simplicity, we only show the direction of association for the additional variables at the bottom of the multivariate table.

---

[5] Five percent of the sample did not provide information about contraceptive consistency in their first relationship. We assigned them the modal value and, therefore, combined them with the reference category. In addition, we controlled for whether the respondents initiated sexual intercourse with their first sexual partners after Wave I (only 7–9% did) and for the length of time between first sex with the first and most recent partners. Neither measure was associated with the outcome variables.

[6] In analyses not shown here, we found family and individual differences among white, black and Hispanic teens. As shown in other research, black teens were less likely to live with two biological or adoptive parents than white and Hispanic teens, and parents of Hispanic teens showed significantly lower educational attainments than other teens. In addition, Hispanic teens in our sample were more likely to be male, and African American teens showed the highest levels of religious attendance, on average.

[7] For simplicity, we use the term "romantic sample" throughout the text, but note that it includes teens in *both* romantic and "liked" relationships.

All analyses are weighted and are adjusted for the data's clustered sampling design by using survey estimation procedures in Stata (StataCorp, 2001), and most analyses are run separately by racial/ethnic group.[8]

We also tested for potential sample selection effects (using Heckman selection models in Stata) because we were concerned that our sample of sexually experienced teens might differ systematically from sexually experienced teens we excluded from our sample (i.e., those who only had one sexual partner and those whose information on first sexual experience was not collected).[9] However, the selection equations had nonsignificant rho values, indicating that selection is not a problematic issue for our sample. In other words, the preexisting family and individual characteristics of our sample of sexually experienced adolescents did not alter the associations between relationship and partner factors and contraceptive consistency. As a result, to simplify the presentation, we present findings from models that do not adjust for selection.

Contraceptive Consistency Across Relationships

We found no improvements in contraceptive consistency between teens' first and most recent relationships; however, on average we did find substantial variation across individuals in contraceptive consistency. Table 14.4 shows contraceptive consistency in *first* sexual relationships among those who (1) never or only sometimes used contraception, and (2) always used contraception in their *most recent* sexual relationship. This table shows that teens who were consistent users of contraception in one sexual relationship may not have been consistent users of contraception in another relationship. For example, among whites who always used contraception in their most recent sexual relationship, 22% never used a method in their first relationship, and 14% only used a method inconsistently in their first relationship. A substantial percentage of black and Hispanic teens who always used contraception in their most recent sexual relationship had never or only sometimes used contraception in their first sexual relationship (26%–30%). In contrast, among teens who never or only inconsistently used contraception in their most recent sexual relationship, between 39% and 59% always used contraception in their first sexual relationship. Thus, we have found that teens are inconsistent users of contraception, and that using contraception varies across sexual partners.

[8] When analyses are done by race/ethnicity, only non-Hispanic whites, non-Hispanic blacks, and Hispanics are included. The number of Asians and others were too small for subgroup analyses, but these racial/ethnic groups are included in the total sample shown in Tables 14.1 and 14.2.

[9] We used the "heckprob" command to analyze probit models adjusted for selection characteristics.

Table 14.4
Consistency of Contraceptive Use in First Relationship by Consistency in Most Recent Relationship, by Race/Ethnicity

	Never/ Sometimes	Always	Sig.
Whites	(*N*=285)	(*N*=473)	
Contraceptive consistency with 1st partner			***
Never used a method	24.6%	21.7%	
Sometimes used a method	29.1%	14.4%	
Always used a method	46.3%	63.9%	
Blacks	(*N*=134)	(*N*=216)	
Contraceptive consistency with 1st partner			
Never used a method	25.4%	16.1%	
Sometimes used a method	15.6%	13.4%	
Always used a method	59.0%	70.6%	
Hispanics	(*N*=119)	(*N*=134)	
Contraceptive consistency with 1st partner			***
Never used a method	43.9%	18.3%	
Sometimes used a method	17.7%	7.7%	
Always used a method	38.5%	74.0%	

+$p<0.1$ *$p<0.05$ **$p<0.01$ ***$p<0.001$ Note: Significance measures the difference between levels of contraceptive use.

Multivariate Results

Table 14.5 presents the results of multivariate models showing relationship and partner characteristics associated with contraceptive consistency in teens' most recent sexual relationships. Results are shown separately by race/ethnicity, and discussions of racial/ethnic differences are based on whether different factors were significantly associated with contraceptive consistency for white, black, and Hispanic teens. Note that to consolidate the presentation of findings, we show only whether associations were positive, negative, or nonsignificant, for the full sample and by gender (based on interactions by gender).

Partner characteristics. Two of the three partner characteristics were associated with contraceptive consistency for at least one racial/ethnic group. The presence of physical violence in sexual relationships was associated with reduced consistency among blacks and Hispanics, which confirms findings from prior research (Howard & Wang, 2003a,b; Manlove, Ryan, & Franzetta, forthcoming). While few teens in our sample reported physical violence in their relationships, this finding demonstrates the need for health practitioners and service providers to discuss issues of violence with their reproductive health clients. A larger age

difference between partners was not associated with the odds of always using contraception, contrary to our hypothesis and to other research studies. This finding suggests that in later sexual relationships, other relationship and partner characteristics may have a more important influence on contraceptive outcomes.

Table 14.5
Odd Ratios From Logistic Regression Models, Predicting if Teens Always Used Contraception in Their Most Recent Sexual Relationship (Weighted)

	Whites (*N*=758)	Blacks (*N*=350)	Hispanics (*N*=253)
Sexual History			
Age at first sex	n.s.	n.s.	n.s.
Contraceptive consistency with 1st partner			
Never used a method	-	n.s.	-
Sometimes used a method	-	n.s.	-
Always used a method	reference	reference	reference
Total # of sexual partners	-[a]	-	n.s.
Characteristics of Most Recent Sexual Partner			
# of years partner is older than R	n.s.	n.s.	n.s.
R and partner same race/ethnicity	+	-	n.s.
Partner was physically violent	n.s.	-	-
Characteristics of Most Recent Sexual Relationship			
Self-defined relationship type			
Romantic	reference	reference	reference
"Liked"	+[a]	+	n.s.
Non-Romantic	+[b]	+	n.s.
Length of sexual relationship	-	n.s.	n.s.
# of pre-sexual couple-like activities[†]	n.s.	+[c]	+
Talked about contraception before sex[†]	+[a]	+	n.s.

+p<0.10 *p<0.05 **p<0.01 ***p<0.001 Note: The models include controls for whether the respondent had sex before Wave I and for time between first sex with first and recent partners. Significance measures the difference between levels of contraceptive use.

[†]Based on samples including only romantic or "liked" relationships, 680 whites, 302 blacks, and 221 Hispanics.

- negative association; + positive association; n.s. not significant

[a] significant for white females only

[b] significant for white males only

[c] significant for black males only

One partner measure—whether or not the teen's most recent sexual partner was the same race/ethnicity—was *positively* associated with contraceptive consistency among whites but *negatively* associated with consistency among African Americans. Couples in which both partners were non-Hispanic white had higher odds of contraceptive consistency, which matches our hypothesis that partner similarity would be associated with greater consistency. However, while black teens had similar levels of contraceptive consistency as other racial/ethnic groups, on average, relationships in which both partners were African American may compromise contraceptive consistency (Table 14.5).

Relationship characteristics. All measured relationship characteristics were associated with contraceptive consistency, although few factors were associated with contraceptive consistency for all racial/ethnic groups. Self-defined relationship type was associated with contraceptive consistency among black teens and white teens in this sample. Compared to their peers who classified their most recent relationships as romantic, white teen females and African American teens in "liked" relationships, and white male teens and African American teens in non-romantic relationships, had higher odds of always using contraception. This finding matches results of some other studies that suggest that teens may be less careful about contraception (or condom use) when they are in more committed relationships (Ellen, Cahn, Eyre, & Boyer, 1996; Katz et al., 2000; Ku, Sonenstein, & Pleck, 1994; Sheeran, Abraham, & Orbell, 1999), but it reaches the opposite conclusion of research that found greater contraceptive use in romantic vs. "liked" *first* sexual relationships (Manlove, Ryan, & Franzetta, 2003; Manning, Longmore, & Giordano, 2000). Program providers should address the possibility that contraceptive use decisions may be compromised by teens' needs for intimacy (Gebhardt, Kuyper, & Greunsven, 2003).

In addition to self-defined relationship type, all other measured relationship characteristics were associated with contraceptive consistency for at least one racial/ethnic group. White teens in longer sexual relationships were less likely to always use contraception ($p<.10$), which is consistent with findings of other studies, indicating the difficulty of maintaining consistency in longer sexual relationships (Ford, Sohn, & Lepkowski, 2001; Ku, Sonenstein, & Pleck, 1994; Manlove, Ryan, & Franzetta, 2003).

For measures asked only of teens in the romantic sample, having more pre-sexual couple-like activities was associated with greater odds of always using contraception among African American teen males and Hispanic teens ($p<.10$), suggesting that those with partners who were more intimate or socially connected were more likely to always use contraception. Also, teens who engaged in more couple-like activities before having sex may have had more time to prepare for sex and contraception. In addition, among white teen females and African American teens of both genders, discussing contraception with their most recent sexual partner before their first sexual activity was associated with greater odds of always using contraception. These findings show an important link between discussing

contraception with partners and using contraception consistently. However, only one-half of teens discussed contraception in their most recent relationships. Integrating role-playing exercises to help improve negotiation and communication skills among teens is one part of effective pregnancy prevention programs (Kirby, 2001; Manlove, Franzetta, McKinney, Romano-Papillo, & Terry-Humen, 2003, 2004; Manlove, Papillo, & Ikramullah, 2004).

Relationship history. In addition to most recent sexual relationship and partner characteristics, teens' sexual histories were associated with contraceptive consistency in their most recent sexual relationships. Among whites and Hispanics, not using contraception or using it inconsistently within teens' *first* sexual relationships was associated with reduced odds of always using contraception in their *most recent* relationships. These findings suggest some continuity in contraceptive patterns across relationships—teens who started out their sexual relationships with risky contraceptive behaviors were less likely to be consistent users of contraception in their most recent relationships as well. Among white teen females and African American teens, having a larger number of sexual partners was associated with reduced odds of contraceptive consistency in their most recent relationships, showing that those teens who had several sexual partners were at a higher risk of unintended pregnancy than those who had fewer partners. This finding also suggests that teens tend to reduce their contraceptive consistency across relationships or that teens who are predisposed to having multiple partners are at greater risk for being poor users of contraception.

Racial/ethnic differences. The analyses in this chapter suggest that factors associated with contraceptive consistency differ by race/ethnicity. However, although some factors may be significant for one racial/ethnic group only, most associations are in a similar direction for white, black, and Hispanic teens (with the exception of same race/ethnicity partner).[10]

Limitations. Our analyses have some limitations, primarily due to data issues. Teens provided information on partner characteristics and contraceptive use retrospectively, while we would ideally measure contraceptive use using a daily calendar format. Fortunately, though, the length of time between Waves I and II of Add Health was relatively short, which limits recall bias. Add Health also incorporated audio computer-assisted self-interviews to help improve the validity of reports of risky or sensitive behaviors (Turner et al., 1998), and analyses of Add Health reports of sexual behaviors and STDs suggest they are valid measures (Upchurch, Mason, & Kusunoki, 2003). Our sample is also higher risk than a full sample of sexually experienced teens in Add Health, because we excluded teens with only one sexual relationship and teens whose first relationship occurred more

[10] In separate analyses combining racial/ethnic groups and testing for interaction effects by race/ethnicity, we found that the negative coefficient for having a same race/ethnicity partner for blacks was significantly different and in an opposite direction from the positive coefficients for whites and Hispanics. In addition, the negative coefficient for never using contraception in a first relationship is significantly lower for Hispanics than for whites or blacks. Among the romantic sample analyses, the positive coefficient for discussions about contraception among African Americans is significantly higher than those for whites and Hispanics.

than 18 months before the study began. However, selection models for our full sample and by race/ethnicity indicate that selection did not influence our findings. Note also that some teens may have a greater underlying propensity towards contraceptive risk-taking. We plan to conduct further research to control for unobserved individual-level factors that may be associated with contraceptive consistency in both first and subsequent sexual relationships.

In summary, our bivariate and multivariate models suggest that: (1) teens are inconsistent contraceptive users; (2) consistency varies across relationships so that teens who are *consistent* in one relationship may be *inconsistent* in another; and (3) relationship and partner characteristics are associated with contraceptive consistency. The next section of this chapter addresses how pregnancy prevention programs address relationship and partner factors.

Program and Policy Approaches

Several studies have evaluated programs to improve reproductive health outcomes among adolescents. These programs focus on delaying sexual initiation, reducing sexual activity, improving contraceptive use and/or condom use, and preventing pregnancy and childbearing. We briefly highlight three types of curriculum-based sexuality education programs, including (1) abstinence education programs; (2) more comprehensive sexuality education programs; and (3) HIV/AIDS education programs. Note that we have limited our assessment of program evaluations to those conducted in the U.S. or Canada, those completed after 1980, those targeted towards adolescents under age 18, and those that incorporated an experimental random assignment design, which allows us to interpret whether or not a program is effective.

While abstinence-only education programs focus primarily on delaying sexual experience, it is important to note that most sexuality education and HIV/AIDS education programs also include messages about abstinence as the most effective method for pregnancy/STD prevention. These more comprehensive sex education and HIV/AIDS education programs also include messages that stress the importance of using contraception and/or condoms when teens do become sexually active.

Table 14.6 lists experimentally evaluated, curriculum-based abstinence, sex education, and HIV/AIDS education programs that were evaluated in school and community settings. Note that a "+" indicates an impact in a positive direction (e.g., postponed sexual initiation), a "-" represents an impact in a negative direction (e.g., earlier sexual initiation), a "0" represents no impact on a measured outcome, and blank cells indicate the program did not measure this outcome. For more detailed information on these and other types of pregnancy programs, see recent compilations of pregnancy prevention programs (Kirby, 2001; Manlove, Franzetta et al., 2003, 2004; Manlove, Papillo, & Ikramullah, 2004; Manlove, Ryan, & Franzetta, forthcoming).

Table 14.6
Curriculum-based Sex Education Programs: Impacts on Outcomes

Program Name	Sexual Initiation	Sexual Activity	# of Partners	Condom Use	Contraceptive Use
Sexuality Education Programs					
Draw the Line/Respect the Line	+	+	+	0	
Healthy For Life	-			0	
McMaster Teen Program	0				+
Michigan Skills-Based Sex Education	0	0			
Postponing Sexual Involvement, Human Sexuality, and Health Screening	+				+
Project SNAPP	0	0	0	0	0
Safer Choices	+	0	0	+	+
Teen Talk	+				- / +
HIV/AIDS and Other STD Education Programs					
AIDS Risk Reduction Education and Skills Training (ARREST)		0	0	0	
Be Proud, Be Responsible		+	+	+	
Becoming a Responsible Teen	+	+	0	+	
Facts and Feelings	0				
Focus on Kids				+	
Making Proud Choices! A Safer-Sex Approach to HIV/STDs and Teen Pregnancy Prevention	0	+		+	
Seattle Youth in Juvenile Detention or Clinics			0	0	
St. Louis AIDS Prevention for Delinquent Abused Youth				0	
Youth AIDS Prevention Project (YAPP)	0	+	0	0	
Abstinence Programs					
Making a Difference! An Abstinence-Based Approach to HIV/STDs and Teen Pregnancy Prevention	+	0		+	
Postponing Sexual Involvement/ENABL	0	0	0	0	0

+ :positive impact, - :negative impact, 0 :no impact

Sexuality Education Programs

We found that five of the eight sexuality education programs (*Draw the Line/ Respect the Line; McMaster Teen Program; Postponing Sexual Involvement, Human Sexuality and Health Screening; Safer Choices;* and *Teen Talk*) showed positive impacts on some behavioral outcomes for at least some populations (Aarons et al., 2000; Coyle et al., 1999; Coyle, Kirby, Marin, Gomez, & Gregorich, 2004; Eisen, Zellman, & McAlister, 1990; Kirby et al., 2004; Mitchell-DiCenso et al., 1997). Among these effective programs, four delayed sexual initiation, one reduced sexual activity and/or the number of sexual partners, one improved condom use, and four increased contraceptive use. The remaining three programs (*Healthy for Life; Michigan Skills-Based Sex Education;* and *Project* [*SNAPP*]*)* showed no positive impacts on sexual and contraceptive outcomes (Blake et al., 2000; Kirby, Korpi, Adivi, & Weissman, 1997; Moberg & Piper, 1998; Piper, Moberg, & King, 2000).

Effective sexuality education programs range in duration from one with six two and one-half hour sessions across two to three weeks (*Teen Talk*), to those with eight to ten sessions (*McMaster Teen Program; Postponing Sexual Involvement*), to those with 19 to 20 sessions across two to three years (*Safer Choices and Draw the Line/Respect the Line*). All of these effective programs were implemented in school settings, although one program (*Teen Talk)* was also implemented in community settings.

Sexuality education programs with positive impacts were implemented with diverse groups of teens. Three of the effective programs were evaluated with middle school-aged students (*Draw the Line/Respect the Line; McMaster Teen Program;* and *Postponing Sexual Involvement, Human Sexuality and Health Screening*), while *Safer Choices* was evaluated with teens in the 9th and 10th grades and *Teen Talk* was implemented among teens aged 13 to 19. The effective programs were implemented with a variety of target populations, with *McMaster Teen Program* evaluated with mostly white students in Canada, and the majority of teens in *Draw the Line/Respect the Line* and *Teen Talk* being Hispanic, while *Postponing Sexual Involvement* was implemented and evaluated with a primarily African American population, and *Safer Choices* implemented with Hispanic, white, black, and Asian teens.

Note that some programs showed more positive impacts with some teens than others. For example, *Draw the Line/Respect the Line, McMaster Teen Program,* and *Teen Talk* exhibited positive impacts on sexual and contraceptive behaviors among teen males only, while *Postponing Sexual Involvement, Human Sexuality, and Health Screening* only showed positive impacts among teen females. *Safer Choices* only delayed sexual initiation among Hispanics. Program evaluators suggest multiple reasons behind these gender and race/ethnicity-associated differences (for details, see Manlove, Franzetta et al., 2003, 2004; Manlove, Papillo, & Ikramullah, 2004).

HIV/AIDS Education Programs

Five of the nine HIV/AIDS programs showed positive impacts on sexual and/or condom use behaviors (*Be Proud, Be Responsible; Becoming a Responsible Teen; Focus on Kids; Making Proud Choices! A Safer-Sex Approach to HIV/STDs and Teen Pregnancy Prevention;* and *Youth AIDS Prevention Project [YAPP])* (Jemmott, Jemmott, & Fong, 1992, 1998; Levy et al., 1995; St. Lawrence et al., 1995; Stanton, Li, Galbraith, Feigelman, & Kaljee, 1996). One effective program delayed sexual initiation, four reduced sexual activity or number of sexual partners, and four increased condom use. The remaining four HIV/AIDS education programs (*ARREST; Facts and Feelings; Seattle Youth;* and *St. Louis AIDS Prevention)* showed no positive impacts on the measured behavioral outcomes (Gillmore et al., 1997; Kipke, Boyer, & Hein, 1993; Miller et al., 1993; Slonim-Nevo, Auslander, Ozawa, & Jung, 1996).

Effective HIV/AIDS education programs are relatively short in duration, ranging from one or two four- to five-hour sessions (*Be Proud, Be Responsible; Making Proud Choices*) to eight weekly 90- to 120-minute sessions (*Focus on Kids; Becoming a Responsible Teen*), to 12 50-minute school-based sessions across two grades (*YAPP).* These programs were implemented in school and community sessions, and all but *YAPP* were implemented as after-school or weekend programs. Four of the effective programs were implemented with inner-city African American populations (*Be Proud, Be Responsible; Becoming a Responsible Teen; Focus on Kids; Making Proud Choices! A Safer-Sex Approach to HIV/STDs and Teen Pregnancy Prevention)*, one of which was all male (*Be Proud, Be Responsible).* The fifth program *(YAPP),* primarily included African American and Hispanic teens, as well as white teens.

Abstinence Education Programs

There have been few rigorously evaluated abstinence education programs with findings available. One of the two experimentally evaluated abstinence-based programs—*Making a Difference* (Jemmott, Jemmott et al., 1998), which is also an HIV/AIDS education program—delayed sexual initiation and increased condom use among program participants. This program was implemented as a weekend program for inner-city African American teens in 6th and 7th grades. The other program (*Postponing Sexual Involvement / ENABL*) showed no positive impacts on sexual or contraceptive use outcomes (Howard & McCable, 1990; Kirby, Korpi, Barth, & Cagampang, 1997).

Characteristics of Effective Programs

In a synthesis of curriculum-based programs, Kirby (2001) suggested several important characteristics of effective programs. These effective programs focus on specific outcomes; are based on theoretical approaches; deliver clear, accurate messages; are appropriate to the age, culture, and experiences of participants; last long enough to have an impact; and provide appropriate training for teachers and/or peer leaders. Effective programs also involve participants in activities that address social pressures to engage in sexual behaviors. Thus, such programs provide teens with opportunities to practice refusal skills as a way to avoid risky sexual behaviors and to develop communication and negotiating skills as a way to improve contraceptive use. In contrast, short, knowledge-based programs that provide teens with information but do not engage them in activities appropriate to their age, sexual experience, or cultural environments tend to be ineffective.

In summary, many programs are effective with diverse groups of teens in school and/or community-based settings. Different types of effective programs may be more appropriate for different types of communities, depending on their approach or interest in providing comprehensive sexuality education, abstinence education, or HIV/AIDS and STI education, as well as their resources available for pregnancy prevention.

Conclusion

Despite recent declines in sexual experience and increases in contraceptive use among teens, many teens are at a high risk of unintended pregnancy and childbearing. Contraceptive decisions and behaviors are relationship-specific, and many teens who consistently use contraception in one relationship frequently may not do so consistently in others. We have highlighted a number of curriculum-based pregnancy-prevention programs that help teens delay sex, reduce sexual activity and number of partners, and increase contraceptive use and condom use. Several key conclusions and insights result from this research on relationships and programs:

It is critical, but difficult, to sustain positive reproductive health outcomes. As we discussed in the multivariate analyses, many teens are not consistent users of contraception, and those who are consistent users in one relationship may not be consistent users in another. Parents, policy makers, program providers, and teens themselves must continue to address how to help motivate teens to avoid pregnancy risk over time and across relationships, even in the face of potential social and partner pressures to do otherwise. Evaluations of pregnancy prevention programs also have found that many positive impacts on sexual and contraceptive use behaviors are only short term. In response to these findings, some promising short-term programs are adding booster sessions to help sustain positive outcomes among teens over time, especially in the face of strong social pressures (e.g.,

Making a Difference and *Making Proud Choices*). Alternatively, longer-term programs appear to sustain behavioral impacts for the longest period of time among teens. For example, boys in the *Draw the Line/Respect the Line* sexuality education program showed positive impacts across the three-year intervention, and differences between program group and control group members widened over time. More intensive interventions, combined with consistent messages and motivations to prevent pregnancy, are critical to reducing pregnancy among high-risk teens.

Only limited relationship and partner characteristics are addressed in pregnancy prevention programs. Publicly funded pregnancy prevention programs currently focus mainly on relationships that can be classified as statutory rape or that involve sexual abuse, because of mandatory reporting requirements (Office of Population Affairs, 2004). However, our research and the research of others have highlighted multiple important relationship and partner factors that can increase pregnancy risk. In particular, teens may face issues related to an unequal balance of power in relationships with older partners, with partners who they do not know well or who are not part of their current friendship networks, and in relationships that involve violence. In relationships with an unequal power balance, teens may be less able to negotiate their needs about sexual activity and contraceptive use. In addition, in some cases, teens in romantic relationships may compromise contraceptive use, due to needs for intimacy. In fact, in a study of couples with different feelings about using condoms, the individual with more perceived emotional intimacy power was more likely to have their desires about condom use met (Tschann, Adler, & Millstein, 2002). Thus, improved programs will integrate information on how relationship and partner characteristics may improve or compromise decision making or negotiating skills.

Communication and negotiating skills are critical components of pregnancy prevention programs. Effective pregnancy prevention programs often do maintain a critical focus on communication and negotiation skills between teens and their partners, and our multivariate analyses have found that communication between partners is strongly associated with contraceptive use and consistency. However, only about one-half of teens reported discussing contraception with their most recent partner before they had sex with him or her. As reported earlier, communication with partners is associated with improved contraceptive consistency, which highlights the importance of role playing exercises to help improve this communication and reduce the risk of unintended pregnancy.

Ideas for the Future

Reducing sexual risk behaviors and improving contraceptive use have implications for society, including the potential reduction in unintended pregnancies, abortions, and births. Reducing risks among racial and ethnic minorities may help reduce

health disparities due to higher rates of teenage pregnancy and childbearing among Hispanics and African Americans. Reducing teen pregnancy may also reduce child poverty (Moore, Morrison, & Greene, 1997). However, while there is a growing demand for programs addressing unique cultural needs of Hispanic teens and/or African American teens, there are few evaluated programs that focus specifically on potential cultural needs of minority populations (Kirby, 2001; Manlove, Franzetta et al., 2003, 2004; Manlove, Papillo, & Ikramullah, 2004). In addition, program providers would benefit from additional program evaluations assessing specific curricula that focus on improving male involvement in decisions about sex and contraceptive use.

Relatively few programs actually have been evaluated using rigorous research designs; the programs that we have mentioned represent a small portion of all the programs that have been developed. As a result, reliable information about effective programs is limited. In addition, we know little about how these programs work with various populations and in different settings, or how specific elements of curricula and programs affect teens' behavior. Studies designed to identify the most effective elements would greatly contribute to our knowledge in these areas. And all programs should include a rigorous evaluation component in order to contribute further to our understanding about how to improve reproductive health outcomes among teens. In the meantime, the information presented here can help to guide program providers, policy makers, and funders in finding and supporting promising programs for their communities.

Acknowledgments

The research on which this article is based was funded through the National Institute of Child Health and Human Development grant R01 HD40830-01 and the Centers for Disease Control and Prevention grant U88/CCU322139-01. Materials developed as part of this project are solely the responsibility of the authors and do not necessarily represent the official views of the CDC. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (*www.cpc.unc.edu/addhealth/contract.html*). The authors thank Constantijn Panis for his methodological advice and guidance, and Elizabeth Terry-Humen for valuable comments on conceptual design.

References

Aarons, S. J., Jenkins, R. R., Raine, T. R., El-Khorazaty, M. N., Woodward, K. M., Williams, R. L., Clark, M. C., & Wingrove, B. K. (2000). Postponing sexual intercourse among urban junior high school students—A randomized controlled evaluation. *Journal of Adolescent Health, 27*, 236–247.

Abma, J., Driscoll, A., & Moore, K. (1998). Young women's degree of control over first intercourse: An exploratory analysis. *Family Planning Perspectives, 30*, 12–18.

Albert, B., Brown, S., & Flanigan, C. (2003). *14 and younger: The sexual behavior of young adolescents*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.

Blake, S. M., Ledsky, R., Lohrmann, D., Bechhoffer, L., Nichols, P., Windsor, R., Banspach, S., & , & Jones, S. (2000). *Overall and differential impact of an HIV/STD prevention curriculum for adolescents.* Washington, DC: Academy for Educational Development. Unpublished Manuscript.

Brown, S., & Eisenberg, L. (Eds.). (1995). *The best intentions: Unintended pregnancy and the well-being of children and families*. Washington, DC: National Academy Press.

Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behaviors: Theory, research, and practical implications* (pp. 23–56). Mahwah, NJ: Erlbaum.

Centers for Disease Control and Prevention. (2004). Surveillance summaries: Youth risk behavior surveillance—United States, 2003. *MMWR*, *53* (SS-2), n.p.

Coyle, K., Basen-Engquist, K., Kirby, D., Parcel, G., Banspach, S., Harrist, R., Baumler, E., & Weil, M. (1999). Short-term impact of Safer Choices: A multicomponent, school-based HIV, other STD, and pregnancy prevention program. *Journal of School Health, 69*, 181–188.

Coyle, K. K., Kirby, D. B., Marin, B. V., Gomez, C. A., & Gregorich, S. E. (2004). *Draw the Line/Respect the Line*: A randomized trial of a middle school intervention to reduce sexual risk behaviors. *American Journal of Public Health, 95*, 843–851.

Eisen, M., Zellman, G. L., & McAlister, A. L. (1990). Evaluating the impact of a theory-based sexuality and contraceptive education program. *Family Planning Perspectives, 22*, 261–271.

Ellen, J. M., Cahn, S., Eyre, S. L., & Boyer, C. B. (1996). Types of adolescent sexual relationships and associated perceptions about condom use. *Journal of Adolescent Health, 18*, 417–421.

Ford, K., Sohn, W., & Lepkowski, J. (2001). Characteristics of adolescents' sexual partners and their association with use of condoms and other contraceptive methods. *Family Planning Perspectives, 33*, 100–105, 132.

Gebhardt, W. A., Kuyper, L., & Greunsven, G. (2003). Need for intimacy in relationships and motives for sex as determinants of adolescent condom use. *Journal of Adolescent Health, 33*, 154–164.

Gillmore, M. R., Morrison, D. M., Richey, C. A., Balassone, M. L., Gutierrez, L., & Farris, M. (1997). Effects of a skill-based intervention to encourage condom use among high risk heterosexually active adolescents. *AIDS Education & Prevention, 9* (Supplement A), 22–43.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology, 29*, 257–281.

Glei, D. A. (1999). Measuring contraceptive use patterns among teenage and adult women. *Family Planning Perspectives, 31*, 73–80.

Harris, K. M., Florey, F., Tabor, J., Bearman, P. S., Jones, J., & Udry, J. R. (2003). The National Longitudinal Study of Adolescent Health: Research Design. Internet. 30 August 2004. Available: *http://www.cpc.unc.edu/projects/addhealth/design.*

Henshaw, S. K. (1998). Unintended pregnancy in the United States. *Family Planning Perspectives, 30*, 24–29, 46.

Howard, D. E., & Wang, M. Q. (2003a). Psychological factors associated with adolescent boys' reports of dating violence. *Adolescence, 38*, 519–533.

Howard, D. E., & Wang, M. Q. (2003b). Risk profiles of adolescent girls who were victims of dating violence. *Adolescence, 38*, 1–14.

Howard, M., & McCable, J. B. (1990). Helping teenagers postpone sexual involvement. *Family Planning Perspectives, 22*, 21–26.

Jemmott, J. B., III, Jemmott, L. S., & Fong, G. T. (1992). Reductions in HIV risk-associated sexual behaviors among black male adolescents: effects of an AIDS prevention intervention. *American Journal of Public Health, 82*, 372–377.

Jemmott, J. B., III, Jemmott, L. S., & Fong, G. T. (1998). Abstinence and safer sex: HIV risk-reduction interventions for African American adolescents. A randomized controlled trial. *Journal of the American Medical Association, 279*, 1529–1536.

Katz, B. P., Fortenberry, J. D., Zimet, G. D., Blythe, M. J., & Orr, D. P. (2000). Partner-specific relationship characteristics and condom use among young people with sexually transmitted diseases. *The Journal of Sex Research, 37*, 69–75.

Kipke, M. D., Boyer, C. B., & Hein, K. (1993). An evaluation of an AIDS risk reduction education and skills training (ARREST) program. *Journal of Adolescent Health, 14*, 533–539.

Kirby, D. (2001). *Emerging answers: Research findings on programs to reduce teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Kirby, D., Baumler, E., Coyle, K., Basen-Engquist, K., Parcel, G. S., Harrist, R., & Banspach, S. (2004). The "Safer Choices" intervention: Its impact on the sexual behaviors of different subgroups of high school students. *Journal of Adolescent Health, 35*, 442-452.

Kirby, D., Korpi, M., Adivi, C., & Weissman, J. (1997). An impact evaluation of Project SNAPP: An AIDS and pregnancy prevention middle school program. *AIDS Education & Prevention, 9*, 44–61.

Kirby, D., Korpi, M., Barth, R. P., & Cagampang, H. H. (1997). The impact of the Postponing Sexual Involvement curriculum among youths in California. *Family Planning Perspectives, 29*, 100–108.

Ku, L., Sonenstein, F., & Pleck, J. (1994). The dynamics of young men's condom use during and across relationships. *Family Planning Perspectives, 26*, 246–251.

Levy, S. R., Perhats, C., Weeks, K., Handler, A. S., Zhu, C., & Flay, B. R. (1995). Impact of a school-based AIDS prevention program on risk and protective behavior for newly sexually active students. *Journal of School Health, 65*, 145–151.

Manlove, J., Ryan, S., & Franzetta, K. (2003). Contraceptive use patterns within teens' first sexual relationships. *Perspectives on Sexual and Reproductive Health, 35*, 246–255.

Manlove, J., Franzetta, K., McKinney, K., Romano-Papillo, A., & Terry-Humen, E. (2003). *A good time: After-school programs to reduce teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Manlove, J., Franzetta, K., McKinney, K., Romano-Papillo, A., & Terry-Humen, E. (2004). *No time to waste: Programs to reduce teen pregnancy among middle school-aged youth*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Manlove, J., Papillo, A. R., & Ikramullah, E. (2004). *Not yet: Programs to delay first sex among teens*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Manlove, J., Ryan, S., & Franzetta, K. (2004). Contraceptive use and consistency within teens' most recent sexual relationships. *Perspectives on Sexual and Reproductive Health*, *36*, 265–275.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives, 32*, 104–110.

Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Menacker, F., & Munson, M. L. (2003). *Births: Final data for 2002. National Vital Statistics Reports, 52*. Hyattsville, MD: National Center for Health Statistics.

Miller, B. C., Norton, M. C., Jenson, G. O., Lee, T. R., Christopherson, C., & King, P. K. (1993). Impact evaluation of FACTS & *feelings*: A home-based video sex education curriculum. *Family Relations, 42*, 392–400.

Mitchell-DiCenso, A., Thomas, B. H., Devlin, M. C., Goldsmith, C. H., Willan, A., Singer, J., Marks, S., Watters, D., & Hewson, S. (1997). Evaluation of an educational program to prevent adolescent pregnancy. *Health Education & Behavior, 24*, 300–312.

Moberg, D. P., & Piper, D. L. (1998). The Healthy for Life Project: Sexual risk behavior outcomes. *AIDS Education & Prevention, 10*, 128–148.

Moore, K. A., Morrison, D. R., & Greene, A. D. (1997). Effects on the children born to adolescent mothers. In R. A. Maynard (Ed.), *Kids having kids: Economic costs and social consequences of teen pregnancy* (pp. 145–180). Washington, DC: The Urban Institute Press.

Office of Population Affairs. (2004). *Office of Family Planning*. Retrieved May 29, 2004, from the World Wide Web: *http://opa.osophs.dhhs.gov/titlex/ofp.html*

Papillo, A. R., Franzetta, K., Manlove, J., Moore, K. A., Ikramullah, E., Ryan, S., & Terry-Humen, E. (2003). *Facts at a glance*. Washington, DC: Child Trends.

Piper, D. L., Moberg, D. P., & King, M. J. (2000). The Healthy for Life Project: Behavioral outcomes. *The Journal of Primary Prevention, 21*, 47–73.

Ryan, S., Manlove, J., & Franzetta, K. (2003). *The first time: Characteristics of teens' first sexual relationships*. Washington, DC: Child Trends.

St. Lawrence, J. S., Brasfield, T. L., Jefferson, K. W., Alleyne, E., O'Bannon, R. E. I., & Shirley, A. (1995). Cognitive behavioral intervention to reduce African American adolescents' risk for HIV infection. *Journal of Consulting & Clinical Psychology, 63*, 221–237.

Santelli, J. S., Abma, J., Ventura, S. J., Lindberg, L., Lyss, S., & Hamilton, B. E. (2004). Can changes in sexual behaviors among high school students explain the decline in teen pregnancy rates in the 1990s. *Journal of Adolescent Health, 35*, 80–90.

Sheeran, P., Abraham, C., & Orbell, S. (1999). Psychosocial correlates of heterosexual condom use: A meta-analysis. *Psychological Bulletin, 125*, 90–132.

Slonim-Nevo, V., Auslander, W. F., Ozawa, M. N., & Jung, K. G. (1996). The long-term impact of AIDS-preventive interventions for delinquent and abused adolescents. *Adolescence, 31*, 409–421.

Stanton, B., Li, X., Galbraith, J., Feigelman, S., & Kaljee, L. (1996). Sexually transmitted diseases, human immunodeficiency virus, and pregnancy prevention. Combined contraceptive practices among urban African-American early adolescents. *Archives of Pediatrics & Adolescent Medicine, 150*, 17–24.

StataCorp. (2001). Stata Statistical Software: Release 7.0. Station, TX: Stat Corporation.

Stone, N., & Ingham, R. (2002). Factors affecting British teenagers' contraceptive use at first intercourse: The importance of partner communication. *Perspectives on Sexual and Reproductive Health, 34*, 191–197.

Terry, E., & Manlove, J. (2000). *Trends in sexual activity and contraceptive use among teens*. Washington, DC: Child Trends.

Tschann, J. M., Adler, N. E., Millstein, S. G. (2002). Relative power between sexual partners and condom use among adolescents. *Journal of Adolescent Health, 31*, 17–25.

Turner, C. F., Ku, L., Rogers, S. M., Lindberg, L. D., Pleck, J. H., & Sonenstein, F. L. (1998). Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science, 280*, 867–873.

Upchurch, D. M., Mason, W. M., & Kusunoki, Y. (2003). *The influences of multiple social contexts on time to first sex.* Paper presented at the Add Health Users Workshop, Bethesda, MD.

15

THE ECONOMIC APPROACH TO MODELING ADOLESCENT SEXUAL BEHAVIOR: EMPIRICAL IMPLICATIONS

V. Joseph Hotz
University of California, Los Angeles

In reviewing the work by Manlove, Franzetta, Ryan, and Moore (this volume), I begin with a brief discussion of the economic approach to the modeling of adolescent sexual behavior and discuss its empirical implications. To illustrate this approach, I discuss several recent studies by economists of several aspects of the sexual behavior of teens. Then, I pay particular attention to the appropriateness of some of the empirical methods used by Manlove et al. in their study and the types of relationships they attempt to identify using these methods. Not discussed here is the authors' organization of the data from the National Longitudinal Study of Adolescent Health (Add Health) since that is covered in Upchurch (this volume).

Economic Approaches to Adolescent Sexual Behavior

Since Becker (1960), economists have taken a serious interest in modeling and analyzing various aspects of fertility and sexual behavior. The hallmark of this approach to sexual behavior is twofold. First, all actions or activities are viewed—either explicitly or implicitly—as the result of *choices* taken by the actors (adolescents, in our case) involved in these behaviors. In making these choices, economists assume that actors do so to maximize some objective or, in the economist's language, the actor's *utility*.

To illustrate this approach, I provide in Figure 15.1 what economists refer to as a "decision tree" for pregnancy choices made by adolescents. The figure illustrates the various stages of the decisions that characterize sexual activity for an adolescent. In particular, adolescents first decide whether or not to engage in sexual intercourse and, if they do, what type of contraception they will use. In this theoretical framework, adolescents may face uncertainties associated with their actions. For example, the occurrence of a pregnancy, conditional on engaging in sexual intercourse and on the effectiveness of the contraceptive method they choose, will be stochastic. This is illustrated in Figure 15.1 by the fact that a

pregnancy occurs with some probability, p. Conditional on a pregnancy, the adolescents (the female and possibly the male) will choose whether to have an abortion or bring their pregnancy to term. [1]

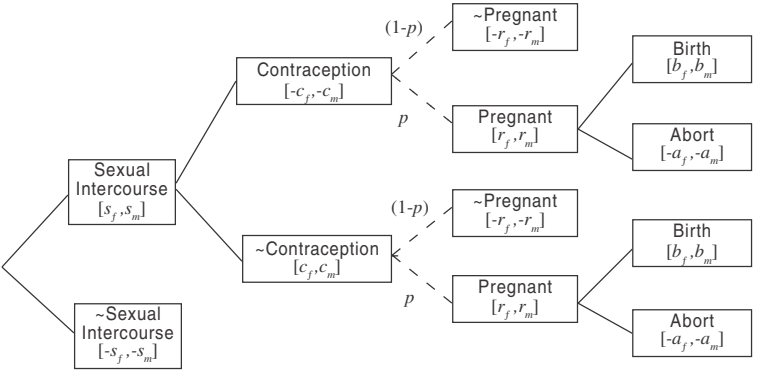


Figure 15.1. Teen sexual activity decision tree.

At each stage of the multi-stage decision process illustrated in Figure 15.1, the adolescent(s) will decide what action to take (contracept or not contracept, have an abortion or have a birth). In evaluating what choice to make, she (or they) will consider the payoffs or utilities associated with these choices, where s_i, c_i, etc., denote the payoffs for person $i = f$ (females) and m (males). These utilities reflect the costs and benefits of a particular choice *and* the "upstream" consequences of that choice (i.e., engaging in sexual intercourse, depending on the probability of a pregnancy, exposing the couple to the possibility of the birth of a child or an abortion), which are the result of choices.[2] Obviously, the payoffs that adolescents consider when making these choices may not account for all of the consequences that parents, adults, or society might like, but the economic approach assumes that teens will take account of the payoffs to them when making their decisions.

Second, the economic approach is clear about the fact that while actions are subject to choice they are *constrained* in various ways. Economists have focused on how choices are constrained by (financial) resources and the costs (prices) associated with them, such as the cost of contraceptive methods. However, I hasten to add that the factors that constrain choices are not all financial in nature.

[1] For the sake of simplicity, I ignore the possibility that the pregnancy is aborted via a spontaneous abortion (miscarriage), which may occur at random and/or be influenced by such factors as whether the woman smoked, used drugs, or employed an inter-uterine device (IUD).

[2] I note that a more elaborate model of this set of decisions might take account of the fact that the costs and benefits of actions taken by adolescents may accrue at different times over the life cycle and may be valued differently (discounted) by adolescents, such as the immediate gratification of sex today, may outweigh the discounted future costs associated with having a child as a teen.

For example, economic models have emphasized the limits and opportunity costs of a person's time as an important constraint on the fertility choices made by women and/or couples (Becker, 1960; Willis, 1973). Furthermore, as noted above, economic models of fertility, especially life cycle models of such behavior, emphasize the role of biological constraints, e.g., limits on fecundity and contraceptive effectiveness (Heckman & Willis, 1975; Hotz & Miller, 1988). Finally, I note that many economic models of fertility incorporate the role of governmental and social programs available to either finance (such as welfare and/or health programs such as Medicaid) and/or to help prevent pregnancies (Grossman & Joyce, 1990; Joyce & Kaestner, 1996).

A large literature uses the economic approach to model and analyze the sexual behaviors of adolescents and young adults. Three of these studies are mentioned here. In two innovative papers (Akerlof, Yellen & Katz, 1996; Willis, 1999), economists have used the economic approach to explain and generate testable hypotheses about an important aspect of adolescent sexual behavior, namely, the incidence and nature of out-of-wedlock childbearing. For example, Akerlof, Yellen, and Katz (1996) developed game-theoretic models of the change in the relative "bargaining power" of women versus men in sexual activities that result from the Contraceptive Revolution in the United States. In particular, they presented two models in which the greater availability and lower costs of contraceptive methods, especially the Pill and access to abortion, reduced, rather than increased, the power of women with respect to having sexual intercourse outside of marriage and/or obtaining a commitment from her sex partner that he would marry (and/or support) the woman (and child) in the event of a pregnancy. Their argument, simply put, was that the Contraceptive Revolution gave rise to cheaper and more accessible contraceptive methods and induced abortions. As a result, unmarried women were less able to extract (or expect) a commitment of marriage and support from her sex partner in the event of a pregnancy.

These conclusions are clearly counter to the popular notions that women gained more control and freedom in their sexual activities from the Contraceptive Revolution, but they do provide an explanation for the apparent rise in sexual activity *and* the concomitant rise in out-of-wedlock childbearing that has occurred in the U.S. over the last 30–40 years, especially among adolescents.

In a related paper, Willis (1999) examined how the "market" for male mates can affect the incidence and nature of out-of-wedlock childbearing observed in the United States. In particular, Willis developed a model in which the decision for women to have births out-of-wedlock and without a credible commitment from the father to provide child support results from the interplay of the demand for children by women (and men) and the relative supply of "desirable" male partners, where desirable refers to the ability of men to provide financial and parenting support for offspring. Again, Willis established that women's bargaining power with respect to obtaining such commitments from male partners will vary directly relative to the

supply of desirable men. Furthermore, the model predicts that out-of-wedlock rates will tend to be concentrated among certain groups, namely women who are less educated and who have male counterparts who are economically disadvantaged.

Finally, a recent paper by Hao, Hotz, and Jin (2004) used the economic paradigm to examine parents' ability to influence the sexual activity and childbearing decisions of their daughters. The role of parental control of children's sexual activities has certainly been considered by many social scientists, especially developmental psychologists. Surprisingly little attention has been devoted to parents' effectiveness in "controlling" the risk-taking behaviors of their adolescent children, including their sexual activity and child-bearing. Hao, Hotz and Jin developed an economic model that addresses this issue. They adapted a theoretical frame used in the study of the behavior of firms to examine the interactions between parents and their daughters when there is conflict between the two over the desirability of certain behaviors, like teenage sexual activity and child-bearing. According to their model, parents have the capacity to influence their children's decisions by providing or withholding support (financial and otherwise) to their children that are contingent on their child's actions. At the same time, parents are assumed to be *altruistic* towards their children, i.e., parents care about the utility (payoffs) their teen daughters receive from sex, even if they "disapprove" of such behaviors. That parents are altruistic may limit their willingness to withhold support of their child, even if the child's actions disappoint them. Thus, in the Hao, Hotz, and Jin model of parental control, there are rational limits on the ability of parents to "discipline" their children. Knowing this, children have an incentive to take advantage of their parents by their actions. Knowing this, parents themselves have an incentive to take actions to establish that they will punish some of their children if the latter engages in behaviors they do not like. And so goes the (strategic) interactions between parents and their daughters!

While an interesting (and potentially apt) description of parent-child interactions, the more important aspect of the theoretical analysis in the Hao, Hotz, and Jin paper is that it generates testable implications about how these interactions are likely to play out and the circumstances under which parents or their children are likely to prevail. In particular, their model predicts that parents are more likely to punish older daughters (relative to their younger daughters) and older daughters (relative to their younger sisters) are more likely to refrain from behaviors that parents dislike. This tendency is more pronounced the greater the number of daughters that parents have. In essence, the Hao, Hotz, and Jin model generates a set of "birth order" predictions about observed behaviors (i.e., punishing their children and the incidence of risky behaviors by children). Furthermore, Hao, Hotz, and Jin found that these hypotheses are supported in data about parent-daughter interactions relating to the teenage child-bearing of daughters.

Empirical Methods in Manlove et al.

The economic approach taken in Manlove et al. (this volume), as illustrated in the three studies discussed above, has implications for analyzing the sexual behaviors of adolescents.

First, by emphasizing the belief that sexual practices are choices, the economic approach immediately suggests that analyzing the relationships among practices is likely subject to the standard problem of *endogeneity bia*s. It implies, for example, that the estimated effects of past contraceptive choices (with previous partners) on the contraceptive strategies with current partners are, at best, difficult to interpret, given that they are both endogeneously determined. Much attention in the empirical economics literature has been devoted to the problematic nature of such empirical correlations, to their interpretation, and to developing strategies for mitigating the problem of endogeneity bias. With respect to the latter, economists (and other social scientists) have sought to use various statistical methods, with varying degrees of success, in situations where true randomized experimental methods are not feasible.

This is the case in much of the empirical analyses reported in the first part of the Manlove et al. The authors are not unaware of the issue of endogeneity bias. They attempt to use various multivariate methods to account for this problem. But, I remain rather skeptical of their success on this score. More to the point, I am not very optimistic about the success of any of these methods, at least not without a more serious theoretical discussion that motivates why they are likely to isolate the true (causal) effect of early contraceptive behaviors on subsequent ones that the authors seek to identify.

A second related concern about the analyses regarding the relationships between the various types of sexual behaviors analyzed in the first part of Manlove et al. centers on the potentially selective nature of the data they use to analyze these relationships. In particular, the authors limit their analyses to those teens in the sample who had two or more sexual relationships across the waves of the Add Health data, when examining the relationships between past and current sexual practices. I note that this sample clearly is not representative of the entire population of adolescents, let alone the population of adolescents who had any sexual relationships. That is, the selectivity of their sample necessarily limits the generalizability of their findings. Again, the authors are aware of this sample selection issue. They attempt to deal with this by applying sample selection correction methods developed by Heckman (1979). While there is nothing inherently wrong with using these procedures, there is also nothing inherently right about using them.

Put differently, the authors need to provide a much more compelling justification that these methods are likely to allow them to generalize their findings to a broader population than the selective samples that they use in their empirical analyses. For example, the Heckman methods require the imposition of "exclusion restrictions," such as having some variable(s) that affects whether an adolescent has had two or more sexual relationships (in the time frame that the time between waves implies) but that is, at the same time, not itself (themselves) determinants of sexual activity being analyzed. Coming up with such variables, other than by assumption, is a tall order in my view. I am not convinced that the authors have identified such exclusion restrictions and remain skeptical that they can do so.

The second part of Manlove et al., in which they analyzed the effects of different pregnancy prevention programs, is much more interesting and, more importantly, much more credible than the first part of their chapter. Their reporting on the program evaluation literature on pregnancy prevention programs focuses on an interesting set of issues, namely whether these programs are effective. From the perspective of public policy, we have much more to gain from determining whether (and which) prevention methods are effective than whether there is a causal effect of the contraceptive methods used by an adolescent in early sexual relationships on the methods used and nature of later relationships. I also would note that we have an easier time of assessing the reliability of the different studies presented, especially given that some of them were based on random assignment of (pregnancy prevention) treatments and others were not. Thus, the real value of this chapter is in its summary of the state of our knowledge about the effectiveness of existing pregnancy prevention programs for a range of different sexual practices of adolescents. I hope that the authors will continue to provide us with updates as further programs are designed, implemented, and evaluated.

References

Akerlof, G., Yellen, J., & Katz, M. (1996). An analysis of out-of-wedlock childbearing in the United States. *Quarterly Journal of Economics, 111*, 277–317.

Becker, G. (1960). An economic analysis of fertility. In A. Coale (Ed.), *Demographic and economic change in developed countries* (pp. 209–231). Princeton: National Bureau of Economic Research.

Grossman, M., & Joyce, T. (1990). Unobservables, pregnancy resolutions, and birthweight production functions in New York City. *Journal of Political Economy*, *98*, 983–1007.

Hao, L., Hotz, V. J., & Zhe Jin, G. (2004). Games parents and adolescents play: Risky behaviors, parental reputation, and strategic transfers. Unpublished manuscript.

Heckman, J. (1979). Sample selection bias as a specification error**.** *Econometrica, 47,* 153–161.

Heckman, J., & Willis, R. (1975). Estimation of a stochastic model of reproduction: An econometric approach. In N. E. Terleckyj (Ed.), *Household production and consumption* (pp. 99–145). New York: Columbia University Press for NBER.

Hotz, V. J., & Miller, R. A. (1988). An empirical analysis of life cycle fertility and female labor supply. *Econometrica*, *56*, 91–118.

Joyce, T., & Kaestner, R. (1996). State reproductive policies and adolescent pregnancy resolution: The case of parental involvement laws. *Journal of Health Economics*, *15*, 1–10.

Willis, R. (1973).A new approach to the economic theory of fertility behavior. *Journal of Political Economy*, *81*, S14–S64.

Willis, R. (1999). A theory of out-of-wedlock childbearing**.** *Journal of Political Economy*, *107*, S33–S64.

This page intentionally left blank

16

ADOLESCENT SEXUAL RELATIONSHIPS AND REPRODUCTIVE HEALTH OUTCOMES: THEORETICAL AND METHODOLOGICAL CHALLENGES

Dawn M. Upchurch
Yasamin Kusunoki
University of California, Los Angeles

Introduction

The explicit focus of Manlove and colleagues (Manlove, Franzetta, Ryan, & Moore, this volume) is to investigate adolescent sexual relationships in order to better understand their impact on adolescent reproductive health. Specifically, they examine a key proximate determinant of pregnancy—contraceptive consistency. The findings presented in their chapter, along with those in their previous studies (e.g., Manlove, Ryan, & Franzetta, 2003), provide a new contribution to what we know about adolescents' reproductive behaviors because they examine *relationship-specific* contraceptive consistency, and demonstrate that, indeed, relationship (as well as individual) characteristics do matter. Given their emphasis, as well as our own areas of expertise, we develop our comments in the context of adolescent reproductive health outcomes, namely, unintended pregnancy and sexually transmitted diseases (STDs).

There is no question that adolescent reproductive health issues are of continuing concern and have been prominently highlighted as part of the national public health agenda for decades (*http://www.healthypeople.gov/*, accessed September 20, 2004). Although there have been improvements over time, two key reproductive health issues, unintended pregnancy and STDs, continue to be formidable challenges faced by adolescents, their families, and society. The statistics are dramatic. Of the approximately 780,000 pregnancies that occur annually among girls ages 15–19, almost 80% are unintended. These pregnancies account for 25% of all unintended pregnancies (Henshaw, 1998). Moreover, approximately three million cases of STD occur each year among adolescents; these cases account for 25% of reportable STD infections (Centers for Disease Control and Prevention, 2004). Compared to adults, adolescents are at higher risk for these outcomes because they are more likely to engage in unprotected intercourse, to have multiple sexual partners and short-term relationships, and to have high-risk partners (Centers for

Disease Control and Prevention, 2000; Institute of Medicine, 1997; Ventura, Mosher, Curtin, Abma, & Henshaw, 1999); additionally, adolescent girls have increased physiological susceptibility to STD infection (Berman & Hein, 1999).

In this chapter we present an overview of the central challenges faced by reproductive health researchers with regard to the theoretical, measurement, and methodological issues pertaining to adolescent sexual behavior, their sexual relationships, and reproductive health outcomes. Within this broad context, we highlight specific issues relevant to Manlove et al. and unintended pregnancy and present some of our own work on another key reproductive health outcome—risk of sexually transmitted disease. We end with a few summary remarks and recommendations for future research.

Theoretical and Conceptual Issues

The field of reproductive health, particularly the subspecialty of teen pregnancy, has only recently begun to investigate the influences of relationships in a systematic way. STD-related research has a somewhat longer history of recognizing their significance, but the ways in which relationships have been conceptualized and characterized have been quite limited. Despite a voluminous literature on adolescent reproductive health spanning more than three decades, beyond the most basic description, we know surprisingly little about the ways in which sexual relationships influence adolescent contraceptive use, risk of pregnancy, or risk of disease. Much of this research has a problem-based orientation, is often atheoretical, and is concerned with primarily assessing "exposure" to pregnancy or STD. For example, in the teen pregnancy literature, age at first sexual intercourse is commonly used as a measure of exposure and a marker for other related (and often unmeasured) sexual risk-taking behaviors. In the STD literature, measures such as number of sexual partners and number of sex acts are often used. Overall, there is a lack of theoretical development regarding "what matters" in adolescent sexual relationships beyond these descriptive exposure variables and a few general characterizations of relationship "type."

Fortunately, an emerging area of investigation is attempting to more comprehensively characterize adolescent sexual relationships and examine reproductive health in the context of these relationships. Manlove and her colleagues (Manlove et al., this volume; Manlove, Ryan, & Franzetta, 2003) along with several other chapter authors with prior work in this area (e.g., Manning, Longmore, & Giordano, 2000) have made significant contributions to this topic.

Manlove et al. are to be commended for incorporating a number of different characteristics of adolescent sexual relationships that are potentially relevant to relationship-specific contraceptive consistency. Their basic premise is that adolescents make decisions about contraceptive use *within the context of specific sexual relationships*. Not only are the characteristics of the individuals forming

the relationship of importance in determining sexual behavior and contraceptive practices, but so too are the unique features of the relationship itself. Contraceptive practices cannot be fully understood without concurrently studying the relationship. For instance, adolescents engage in different contraceptive practices depending on the features of their relationships such as the length and level of commitment (Ford, Sohn, & Lepowski, 2001; Katz, Fortenberry, Zimet, Blythe, & Orr, 2000; Ku, Sonenstein, & Pleck, 1994; Manlove et al., 2003; Manning, Longmore, & Giordano, 2000). As Manlove et al. acknowledge, the literature is mixed with respect to the direction and magnitude of the association between relationship characteristics and contraceptive use. We believe this reflects, in part, potentially different motivations for using condoms as compared to other methods (especially hormonal) within the relationship context.

Despite difficulties in achieving standardized definitions for relationship type, most research indicates that relationships that are new or casual are more likely to include condom use, and relationships that are steady or committed are less likely to include condom use and more likely to include hormonal methods (Catania et al., 1989; Fortenberry, Tu, Harezlak, Katz, & Orr, 2002; Katz et al., 2000; Macaluso, Demand, Artz, & Hook, 2000; Sheeran, Abraham, & Orbell, 1999; Upchurch et al., 1992). In addition, the *meaning* of using a specific method may be contingent on relationship type. For example, in intimate or more serious relationships, individuals may not consider using condoms because it may imply infidelity, signify distrust, or symbolize casual sex (Gilmore, DeLamater, & Wagstaff, 1996; Hynie, Lydon, Cote, & Weiner, 1998; Wingood & DiClemente, 1998). In contrast, individuals who have both main and side partners are more likely to use condoms with side partners (Lansky, Thomas, & Earp, 1998; Macaluso et al., 2000; Santelli et al., 1996), in part because they are more concerned about protection from STD (Ku et al., 1994). Furthermore, the method of contraception changes as the nature of the relationship changes (i.e., as new or casual relationships become more steady or exclusive). Consequently, using a combined measure of contraceptive use, as Manlove et al. have done, may unnecessarily confound these disparate motivations for method-specific use.

Manlove et al. also propose that (at least) three dimensions of sexual relationships influence contraceptive consistency within the relationship: (1) the *perceived seriousness* of the relationship (several different measures are considered); (2) the *balance of power* in (contraceptive) decision making within the relationship (operationalized as age difference); and (3) *relationship dynamics*, including dating violence. By our count they examined a dozen or more different relationship-specific variables (many of which are composite measures, suggesting that even more variables were originally examined), which almost exhausts the available relevant information collected in the Add Health data. Still, their investigation is largely exploratory and atheoretical. Although investigating these

three dimensions of sexual relationships is reasonable, can we more fully develop a meaningful conceptualization and depiction of adolescent sexual relationships in the context of reproductive health research?

We think the answer is "yes." Because of our public health training and emphasis, we advocate a multidisciplinary approach that synthesizes theoretical and empirical insights from sociology, demography, and developmental and social psychology, including the work of our fellow chapter authors. First and foremost, although reproductive health research questions are almost always problem-based, we believe there is much to be gained by conceptualizing these questions within a framework that views adolescent romantic and sexual relationships as a normal part of growing up (i.e., "normative" and "salient" as described by Collins and van Dulmen, this volume). That is, romantic and sexual relationships provide a significant interpersonal context for psychosocial and sexual development during adolescence. Intimacy and sexuality, which often emerge as these relationships develop, are key components of identity formation and are central developmental accomplishments during adolescence (Adams, Montemayor, & Gullotta, 1996; Collins, 2003; Connolly & Johnson, 1996; Furman, Brown, & Feiring, 1999). Clearly there are reproductive health consequences of adolescent sexual relationships, but describing those individual and relationship factors that are protective as well as those that are detrimental will lead to a richer understanding. Furthermore, adolescents are involved in other complex social contexts that play a significant role in shaping their attitudes, values, beliefs, and experiences; they are also sources of prospective partners. Accordingly, it is also important to consider these relationships and reproductive health outcomes within broader social, cultural, and epidemiological contexts.

Second, within this broad framework, dimensions of relationships can be usefully characterized as Manlove et al. have done, but we believe further elaboration and development is warranted. For example, it might be useful to think about both *structural* and *process* aspects of relationships. Structural dimensions can include the standard sociodemographic measures of the individual (e.g., age, race/ethnicity, nativity status, gender, socioeconomic status), as well as structural dimensions of the relationship. Because the characteristics of each person in a given relationship are not independent, they can sometimes be usefully combined into composite variables that are measured at the relationship level (e.g., the degree of age, race/ethnic, and SES homogamy). The underlying hypothesis is that couples whose sociodemographic traits are more similar will have more positive reproductive health outcomes. Relationship process dimensions include the degree of emotional closeness, the power dynamics, and other salient aspects of interpersonal interactions, such as activities done together and the like. Process dimensions may well mediate some of the effects of the structural dimensions on reproductive health outcomes. For example, age differences may matter less if the couple is emotionally close. Process dimensions are probably also jointly endogenous.

Measurement and Methodological Considerations

Another challenge faced by reproductive health researchers has been, until recently, the lack of high-quality data that included relationship-specific sexual information and salient reproductive health outcomes. Prior to the availability of the National Longitudinal Study of Adolescent Health (Add Health), reproductive health researchers most often relied on regional, convenience, or purposive (e.g., STD clinics) samples to investigate the influences of relationship factors on reproductive health outcomes among adolescents. Moreover, the relationship measures that were included were often very limited. The data available in Add Health are of generally higher quality in part because of the longitudinal design and greater generalizability of the sample, the inclusion of multiple reproductive health-related measures, and specifically the details of the relationship history information. Because we are long-time users of Add Health and because it is widely used, we thought it would be constructive to highlight a few key design and measurement issues that are relevant to Manlove et al. and, more generally, for those interested in using Add Health to investigate adolescent reproductive health. Specifically, we elaborate on the relationship history information and problems in defining who is sexually active.[1]

Although the relationship history is much more comprehensive than those available in earlier studies, it is constrained in a number of ways that have potential substantive and methodological implications. Specifically, for both Waves I and II, relationship histories are obtained for the 18-month period prior to the interview date. Thus, there is left censoring of relationships at Wave I, especially the earliest relationships for the oldest adolescents, making it possible to characterize "first" sexual relationships for only a subset of teens. In fact, our calculations suggest that for those teens who reported having ever had sexual intercourse by the Wave I interview date (and who provided complete dates [i.e., month and year] of first sex), over 48% reported a date of first sexual intercourse that was earlier than the 18-month interval for which the detailed relationship information was collected. To examine the extent to which there may be substantively relevant biases in the sample used by Manlove et al. compared to the 48% who were excluded, we performed four weighted logistic regressions that included sociodemographic variables (age, gender, race/ethnicity)[2] and one of four reproductive health risk behaviors (age at first intercourse, condom use at first sex, ever had a STD, and lifetime number of sexual partners) reported at Wave I. Controlling for sociodemographic characteristics, adolescents who were not eligible to be included

[1] We operationally define "sexually active" as ever having had vaginal sexual intercourse, which is also the primary operational definition used in Add Health. We recognize that this excludes a variety of other potentially relevant forms of sexual expression. A detailed description of the Add Health study design can be found elsewhere (*http://www.cpc.unc.edu/projects/addhealth/design*, accessed September 20, 2004).

[2] Preliminary specifications also included numerous family background characteristics; they were not significant so were excluded from the final models.

in the Manlove et al. sample are significantly more likely to have younger ages at first sex, are less likely to use a condom at first sex, are more likely to report ever having had a STD, and are more likely to have greater numbers of lifetime sexual partners (results available upon request). Thus, there are selection issues at the individual level when looking at first and last sexual relationships as Manlove et al. have done here.

Additionally, undoubtedly out of necessity, there is a hierarchy in the way in which relationship information was obtained in Add Health, with a priority on capturing "romantic" relationships, regardless of sexual activity. Information is collected on up to three romantic relationships and up to three non-romantic relationships; detailed information, however, is lacking for any additional sexual relationships. This has implications for assessing risk of both unintended pregnancy and STD because teens with greater numbers of sexual partners are less likely to consistently use contraception, including condoms. Consequently, there are selection issues at the relationship level as well. This type of data limitation plagues all researchers performing secondary data analysis—Manlove et al. are not unique here. Lastly, because of the overlap in reporting periods and interview dates (and the way in which the questions were asked), it is possible to "double count" some relationships reported at both Wave I and Wave II, which requires the investigator to do some detective work to sort out new, unique relationships during that interval and then to make assumptions regarding which relationships are likely to be duplicates.[3] This is particularly relevant if one is interested in assessing relationship change over time and the extent to which adolescents behave similarly or differently across relationships.

A second key measurement concern is that adolescents are inconsistent in their reporting of whether or not they are sexually active; there are both inter-item discrepancies at each wave and logical inconsistencies across the two waves of data. Teens were asked a global question about whether or not they had ever had vaginal intercourse and were also queried about relationship-specific sexual activity. We have found, along with other investigators (e.g., Ford & Lepkowski, 2004), that this is potentially non-trivial. Using the Wave I interview, we found that approximately 7% of teens who said no to the global measure of vaginal intercourse subsequently said yes to either the relationship-specific sex questions or reported ever having at least one lifetime sexual partner. Almost 15% who said yes to the global measure of vaginal intercourse then did not identify any relationships that were sexual or did not report any lifetime sexual partners. In related published work (Upchurch, Lillard, Aneshensel, & Li, 2002), we found that 11% of teens who reported they were sexually active at Wave I denied this at Wave II, and that there was substantial inconsistency in reporting date of first sexual intercourse across the two waves. As might be expected, these inconsistencies are non-random.

[3] Other investigators with extensive experience using the Add Health relationship data have developed algorithms for comparing relationships reported by the same respondents in Waves I and II (e.g., see Ford & Lepkowski, 2004).

The question that may arise is, with all of these concerns, can the data still be used to good result? Our answer is "yes," and our comments are more cautionary than fatal—Add Health remains one of the richest sources of data to study adolescent reproductive health. These issues do underscore, however, the importance of assessing data quality and measurement, especially when dealing with data as complex and sensitive as relationship and sexual histories. For example, to assess the overall contribution of inconsistency in reporting sexual experience, we performed a set of sensitivity analyses under seven different types of assumptions. We found that, fortunately, regardless of the assumption used, the substantive results (gender by race/ethnicity differentials and family background factors) for predicting the time to first sexual intercourse did not change much (Upchurch et al., 2002). Our findings were somewhat more troublesome with respect to prevalence estimates of sexual experience. Our estimates varied from 38.9% to 48.3%, depending on the assumptions. In other related work, we assessed the face-validity of STD self-report information available in Add Health with STD surveillance data and found that the relative gender and race/ethnic differences for risk of STD were similar across the two data sources (Upchurch & Mason, 2002).

Moreover, we are heartened by empirical findings from Add Health that make sense in terms of what theory might predict. This is true for the Manlove et al. analysis (this volume) as well as our own work investigating social and behavioral determinants of STD (Upchurch, Mason, Kusunoki, & Kriechbaum, 2004). To emphasize the point, we present a simple descriptive table, using data from Wave I. Table 16.1 shows the weighted percentages for concurrency, condom use, and ever having had a STD, conditioned on number of sexual partners.[4] Concurrency is measured as any overlap in the dates of first and last sex across any sexual relationship (by definition there is no concurrency for teens with only one relationship). Condom use is specifically measured as ever having used a condom with all partners. These descriptive results are compelling and show patterns one would predict. Partner concurrency increases with the number of sexual partners; 70% of teens who have had four or more partners (in the past 18 months) have concurrent relationships. Column three shows that condom use with all partners decreases as the number of partners increases (from 75% to 12%). Column four shows that the risk of contracting a STD increases with the number of sexual partners, from 2% for teens with one partner to 14% for teens with four or more.

[4] This analysis is conducted for the up to six recent (in the past 18 months) romantic and/or non-romantic partners identified in the relationship sections.

Table 16.1
By Number of Sexual Partners: Concurrency, Condom Use, and STD at Wave I, Add Health [a]

Number Sexual Partners	% Any Concurrency [b]	% Condom All Partners	% STD Ever	*N*
1	0	75	2	3,264
2	33	44	10	1,295
3	53	22	12	655
4+	70	12	14	397

[a] Weighted distributions and unweighted *N*. [b] No concurrency by definition.

We concur with the specific methodological comments of Manlove et al. elaborated by Hotz (this volume) and therefore provide only a few general comments on methodological issues. Good reviews of the methodological challenges in relationship research can be found elsewhere (Gable & Reis, 1999; Hinde, 1995; Kashy & Levesque, 2000). First, we underscore the need for and importance of good descriptive work in this area. Then, once patterns are well described and elaborated, a multilevel approach to investigate the impact of adolescents' relationship experiences on reproductive health outcomes may be employed. By multilevel approach, we mean any data analytic and modeling stance that exploits the hierarchical structure of the data and thereby takes into account the clustering of the sample. Failure to account for this clustering can lead to biased parameter estimates and variance estimates that are too small (Mason, 2001).

For example, we can think of relationships as clustered within individual adolescents. Much of the prior reproductive health research has used a *between-person* design. This approach allows the researcher to study how people who differ along certain theoretically defined dimensions behave on variables of interest, or how people in general respond to situational variables (Gable & Reis, 1999). For example, someone with a positive STD history may have a higher propensity to use condoms compared to someone with a negative history. This approach, while useful, cannot exploit an important source of variability and covariability—people have multiple sexual relationships with different partners, they interact with the same partner in different contexts and roles, and relationships evolve and change over time. The *within-person* approach reflects this conceptually important reality. Ignoring variability across relationships of a specific individual ignores a central principle of relationship theorizing, which is that individuals behave differently with different partners. This methodological framework can provide insight into some complex and interesting questions. For example, it is possible to investigate the extent to which there is behavioral consistency (suggesting the relative importance of individual dispositional characteristics) or inconsistency (suggesting the importance of relationship factors) across relationships.

Conclusion and Recommendations for Future Research

In conclusion, because so much of reproductive health research has a problem-based orientation, reproductive health researchers must develop a research agenda that is theoretically grounded and that incorporates appropriate statistical methodologies. The primary rationale for funding and conducting problem-based research is that, ultimately, real-world solutions can be found. It is only through this type of rigorous research that theoretically driven programs can be developed and evaluated. Thus, we propose a research agenda that incorporates a multidimensional, multilevel, and dynamic approach to the study of adolescent sexual relationships and reproductive health. In particular, research that further elaborates on the structural and process dimensions of relationships, identifies the mechanisms by which these dimensions influence behavior within a relationship, and examines the relative contributions of dispositional versus situational factors is warranted. More specifically, better understanding those relationship factors that are potentially modifiable is especially salient for programmatic recommendations and development.

Acknowledgments

This research was supported by the National Institute of Child Health and Human Development grant R01 HD 41886, to Dawn M. Upchurch, Principal Investigator. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by National Institute of Child Health and Human Development grant P01-HD31921, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (*http://www.cpc.unc.edu/projects/addhealth/data/contract*).

References

Adams, G. R., Montemayor, R. M., & Gullotta, T. P. (1996). *Psychosocial development during adolescence*. Thousand Oaks, CA: Sage.

Berman, S., & Hein, K. (1999). Adolescents and STDs. In K. K. Holmes, P. F. Sparling, P. A. Mårdh, S. M. Lemon, W. E. Stamm, P. Piot, et al. (Eds.), *Sexually transmitted diseases* (3rd ed.) (pp. 129–142). New York: McGraw-Hill.

Catania, J. A., Dolcini, M. M., Coates, T. J., Kegeles, S. M., Greenblatt, R. M., Puckett, S., et al. (1989). Predictors of condom use and multiple partnered sex among sexually active adolescents women: Implications for AIDS-related health interventions. *Journal of Sex Research*, *26*, 514–524.

Centers for Disease Control and Prevention. (2000). *Tracking the hidden epidemic: Trends in STDs in the United States, 2000*. Atlanta, GA: Department of Health and Human Services, Division of STD Prevention.

Centers for Disease Control and Prevention. (2004). *Surveillance summaries. MMWR*, *53,* (SS–2).

Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence*, *13*, 1–24.

Connolly, J. A., & Johnson, A. M. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships*, *3*, 185–195.

Eng, T. R., & Butler, W. T. (1997). *The hidden epidemic: Confronting sexually transmitted diseases*. Washington, DC: National Academy Press.

Ford, K., & Lepkowski, J. (2004). Characteristics of sexual partners and STD infection among American adolescents. *International Journal of STD & AIDS, 15*, 260–265.

Ford, K., Sohn, W., & Lepkowski, J. (2001). Characteristics of adolescents' sexual partners and their association with use of condoms and other contraceptive methods. *Family Planning Perspectives*, *33,* 100–105, 132.

Fortenberry, J. D., Tu, W., Harezlak, J., Katz, B. P., & Orr, D. P. (2002). Condom use as a function of time in new and established adolescent sexual relationships. *American Journal of Public Health*, *92*, 211–213.

Furman, W., Brown, B. B., & Feiring, C. (Eds.) (1999). *The development of romantic relationships in adolescence*. New York: Cambridge University Press.

Gable, S. L., & Reis, H. T. (1999). Now and then, them and us, this and that: Studying relationships across time, partner, context, and person. *Personal Relationships*, *6*, 415–432.

Gilmore, S., DeLamater, J., & Wagstaff, D. (1996). Sexual decision making by inner city black adolescent males: A focus group study. *Journal of Sex Research*, *33*, 363–371.

Henshaw, S. K. (1998). Unintended pregnancy in the United States: 1982–1995. *Family Planning Perspectives, 30*, 24–29, 46.

Hinde, R. A. (1995). A suggested structure for a science of relationships. *Personal Relationships*, *2*, 1–15.

Hynie, M., Lydon, J. E., Cote, S., & Wiener, S. (1998). Relational sexual scripts and women's condom use: The importance of internalized norms. *Journal of Sex Research*, *35*, 370–380.

Kashy, D. A., & Levesque, M. J. (2000). Quantitative methods in close relationships research. In C. Hendrick & S. S. Hendrick (Eds.), *Close relationship: A sourcebook* (pp. 3–17). Thousand Oaks, CA: Sage.

Katz, B. P., Fortenberry, D., Zimet, G. D., Blythe, M. J., & Orr, D. P. (2000). Partner-specific relationship characteristics and condom use among young people with sexually transmitted diseases. *Journal of Sex Research*, *37*, 69–75.

Ku, L., Sonenstein, F. L., & Pleck, J. H. (1994). The dynamics of young men's condom use during and across relationships. *Family Planning Perspectives*, *26*, 246–251.

Lansky, A., Thomas, J. C., & Earp, J. A. (1998). Partner-specific sexual behaviors among persons with both main and other partners. *Family Planning Perspectives*, *30*, 93–96.

Macaluso, M., Demand, M. J., Artz, L. M., & Hook, E. W., III. (2000). Partner type and condom use. *AIDS*, *14*, 537–546.

Manlove, J., Ryan, S., & Franzetta, K. (2003). Patterns of contraceptive use within teenagers' first sexual relationships. *Perspectives on Sexual and Reproductive Health*, *35*, 246–255.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives*, *32*, 104–110.

Mason, W. M. (2001). Statistical analysis: Multilevel methods. In N. J. Smelser & P. B. Baltes (Eds.), *International encyclopedia of social and behavioral sciences* (pp. 14988–14994). Oxford: Pergamon.

Santelli, J. S., Kouzis, A. C., Hoover, D. R., Polacsek, M., Burwell, L. G., & Celentano, D. D. (1996). Stage of behavior change for condom use: The influence of partner type, relationship and pregnancy factors. *Family Planning Perspectives*, *28*, 101–107.

Sheeran, P., Abraham, C., & Orbell, S. (1999). Psychosocial correlates of heterosexual condom use: A meta-analysis. *Psychological Bulletin*, *125*, 90–132.

Upchurch, D. M., Lillard, L. A., Aneshensel, C. S., & Li, N. (2002). Inconsistencies in reporting occurrence and timing of sexual initiation among adolescents. *Journal of Sex Research*, *39*, 197–206.

Upchurch, D. M., & Mason, W. M. (2002). *Validity of self-reports of incidents of sexually transmitted diseases.* Paper presented at the Annual Meeting of the Population Association of America, Atlanta, GA, May 9–11.

Upchurch, D. M., Mason, W. M., Kusunoki, Y., & Kriechbaum, M. J. (2004). Social and behavioral determinants of self-reported STD among adolescents. *Perspectives on Sexual and Reproductive Health, 36,* 276–287. Author: update?

Upchurch, D. M., Ray, P., Reichart, C., Celentano, D. D., Quinn, T., & Hook, E. W., III. (1992). Prevalence and patterns of condom use among patients attending an STD clinic. *Sexually Transmitted Diseases*, *19*, 175–180.

Ventura, S. J., Mosher, W. D., Curtin, S. C., Abma, J. C., & Henshaw, S. K. (1999). Highlights of trends in pregnancies and pregnancy rates by outcome: Estimates for the United States, 1976-1996. *National Vital Statistics Reports*, *47*, 1–9.

Wingood, G. M., & DiClemente, R. J. (1998). Partner influences and gender-related factors associated with noncondom use among young adult African American women. *American Journal of Community Psychology*, *26*, 29–51.

This page intentionally left blank

17

SAMPLE SELECTION FOR ADOLESCENT SEXUAL RELATIONSHIPS

Jennifer Manlove
Suzanne Ryan
Kerry Franzetta
Child Trends

In response to questions regarding methodology and sample posed by Hotz (this volume) and Upchurch and Kusunoki (this volume), this rejoinder provides more information on sample creation, sample selection, and the robustness of the results from our earlier chapter (Manlove, Ryan, & Franzetta, this volume). We also address issues related to unobserved heterogeneity. After conducting further analyses with extended samples, we find our results and conclusions to be robust. Our overall findings, regardless of sample, are that: (1) teens are inconsistent contraceptive users; (2) those teens who are consistent contraceptive users in one relationship may not be consistent in a subsequent relationship; and (3) relationship and partner factors are associated with contraceptive consistency.

Sample

The purpose of the analysis in our chapter was to describe changes in teens' sexual histories between their first and most recent sexual relationships. Therefore, we selected a sample of teens with information on both a first and a most recent sexual relationship. We also focused on assessing relationship and partner factors associated with contraceptive consistency in teens' most recent sexual relationships as distinguished from first relationships that have been examined in previous research (Manlove, Ryan, & Franzetta, 2003; Ryan, Manlove, & Franzetta, 2003). We used data from two waves of the National Longitudinal Study of Adolescent Health (Add Health) because it provides a rich source of information on adolescent sexual relationships.

Sample Creation

The sample creation process for the analysis was divided into three stages: (1) identifying first sexual relationships in Wave 1; (2) identifying first sexual relationships that occurred between Waves 1 and 2; and (3) identifying most recent sexual relationships among those teens with at least two sexual relationships. Note that teens were not specifically asked if any of the partners reported in their

partner histories were their first sexual partner *ever*, so our sample creation involved comparing overall dates of first sex and partner-specific dates of first sex reported in the relationship file.

In order to identify first sexual relationships that were reported in Wave 1, we began with 4,637 unmarried teens with valid sample weights who reported either an overall date of first sex or a complete valid partner-specific date of first sex for at least one partner at the Wave 1 interview. (Note that the "overall" date derives from a general question about the date on which teens had sex for the first time, while the "partner-specific" dates derive from separate questions in which teens were asked for the date of first sex with each named partner.) From this sample, we excluded 1,612 teens who reported an overall date of first sex that occurred more than 18 months before the Wave 1 interview (and thus were not asked to provide partner-specific information), 597 teens who reported an overall date of first sex but were missing all partner-specific dates of first sex, and 67 teens for whom all partner-specific dates were incomplete.[1]

After these exclusions, our Wave 1 sample included 2,361 teens whom we identified as experiencing sexual initiation in the 18-month period before the interview date and who had codeable data. For 2,269 of these 2,361 teens, we were able to simply assign the first sexual partner as the partner with the earliest partner-specific date of first sex. Note that 112 of these teens had duplicate partner-specific dates of first sex, that is, the dates of first sex they reported were the same for more than one partner. We consulted with Add Health staff, who provided a file of 238 teens who reported the same partner more than once in Wave 1 of the survey, based on partner ID numbers, and we identified 66 of these duplicate partners as the teen's first sexual partner. For another 46 teens who had duplicate partner-specific dates of first sex, we used SAS to randomly pick which partner to assign as the first partner. For the remaining 92 of the 2,361 teens, we recoded their partner-specific date of first sex to their Wave 1 reported overall date of first sex.[2]

In a similar manner used to identify those who had sex before Wave 1, we identified an additional 1,015 unmarried teens who reported a first sexual partner between Waves 1 and 2 of the survey (after excluding 84 with missing or incomplete information on all sexual partners and 7 teens with missing data on the dependent variable). We identified the first sexual partner based on the earliest partner-specific date of first sex for 968 of these teens. For the remaining 47 teens with missing or

[1] Our analyses, like those of others (Upchurch, Lillard, Aneshensel, & Li, 2002), indicate that teens were not consistent in their reporting of sexual partners. For example, in Wave 1, 597 teens reported an overall date of first sexual intercourse in the past 18 months but reported no sexual relationships in the relationship files. These teens were not included in our sample because we had no partner information available for them. Another 287 reported that they had not engaged in sexual intercourse in the overall question, but did report a complete date of sexual intercourse with at least one of their relationship partners. These teens were included in our analyses.

[2] For these 92 teens, we assigned the overall date of first sex because the teen reported only one partner but the date of first sex with that partner was missing or the teen reported incomplete date information for all partners, but what information they provided for one partner matched their overall reported date of first sex.

incomplete partner-specific dates of first sex, we recoded their partner-specific date of first sex based on the Wave 2 reported overall date of first sex or other information.[3]

Our combined sample included a total of 3,376 teens who reported a first sexual relationship in Wave 1 or Wave 2 of the survey. Note that for 93% of these teens, we identified the first sexual relationship based on partner-specific dates of first sex, as listed above. For the remaining 7%, additional coding was required to estimate a date. Of the teens who reported a first sexual relationship, 1,915 reported two or more sexual partners, with at least one partner reported in Wave 2.[4] We addressed potential double-counting of relationships in two ways. First, Add Health staff provided us with a list, based on the partner ID numbers, of 171 teens (53 teens in our sample) who reported duplicate partners in Wave 2.[5] Second, we identified teens who reported two relationships with the same date of first sex in Waves 1 and 2 and whose first relationship was still ongoing as of the Wave 1 interview date. After close analysis of these potential partner double-counts, we removed 228 of the 1,915 teens from analyses because their first and most recent partners appeared to be the same person. We then removed 19 teens with missing or incomplete partner dates of last sex, for a sample of 1,668 teens with two or more sexual partners. For 1,633 teens with complete dates of last sex for all reported partners, we designated the last sexual partner as the one with the most recent complete date of last sex.[6] For 35 teens with any missing or incomplete dates, we assigned the date of most recent sex as the Wave 2 reported overall date of most recent sex or as the Wave 2 interview date. We removed 9 teens who were missing on the dependent variable, 19 teens from our Wave 1 sample who were married by the time of the Wave 2 interview, and because of our interest in sequentially ordering relationships, we dropped 172 teens who reported that their most recent relationship started in the same month or before the month that their first relationship started. Our final analytic sample included 1,468 teens.

Sample Selection Models

Our analyses in the earlier chapter included a series of selection models to assess whether sample selection may influence the association between relationship and partner factors and contraceptive consistency. Table 17.1 provides a detailed comparison of the analysis sample for the chapter with teens who were excluded

[3] For these teens, we estimated the date of first sex based on the partner-specific date of last sex, the date the romantic relationship began, and/or the overall date of first sex.

[4] A total of 1,312 teens were eliminated because they only reported a date of sex for one partner and another 149 teens were deleted because they reported more than one sexual relationship, but reported no sexual relationships in Wave 2.

[5] Only 7 of these suggested that the teens' first and last partners were the same relationship.

[6] Note that 44 of these teens had duplicate partner-specific dates of last sex, and we chose the last sexual partner by examining the Add Health duplicate ID file and by using SAS to randomly pick which partner to assign as the last partner.

Table 17.1
Characteristics of Teens Excluded From Sample in Comparison with Analysis Sample

		Excluded Sexually Experienced Teens (*n*=3,270)									
	Analysis Sample (*n*=1,468)	Total Excluded	Sig.	First Partner Before Add Health	Sig.	Only 1 Relationship	Sig	Excluded Sexually Inexperienced Teens (*n*=7,844)	Sig.	All Excluded Teens (*n*=11,114)	Sig.
Male	41.8%	54.0%	*	62.0%	*	46.2%		50.1%	*	51.2%	*
Race/Ethnicity											
White	64.6%	59.2%		50.5%	*	67.7%		68.7%		66.1%	
Black	18.3%	22.5%		31.3%	*	14.0%		11.4%	*	14.4%	
Hispanic	11.3%	12.8%		13.3%		12.4%		12.2%		12.4%	
Asian	2.0%	2.4%		2.1%		2.8%		4.9%	*	4.2%	*
Other race	3.8%	3.0%		2.9%		3.1%		2.9%		2.9%	
Age at Wave 1 (range: 11–21)	15.9	15.9		16.2	*	15.6	*	14.9	*	15.2	*
Age at first sex (range: 10–20)	14.9	14.1	*	12.7	*	15.5	*	na		na	
Parent education (range: 1–7)	4.5	4.5		4.3		4.6		4.8	*	4.7	*
Two biological/adoptive parents	41.2%	43.5%		35.2%		51.6%	*	63.2%	*	57.8%	*
Add Health Picture Vocabulary Test score (range: 13–146)	100.8	99.7		97.6	*	101.8		101.6		101.1	

Note: Significance is in comparison to the analysis sample.
* $p < 0.05$

from our analyses. Compared with all other sexually experienced teens excluded from the sample (column 2), our analysis sample (column 1) was more likely to be female and was at a later age at first sex. However, sexually experienced teens could have been excluded for two reasons: (1) because they became sexually experienced before the Add Health Wave 1 interview; or (2) because they had a first sexual experience reported in Wave 1 or Wave 2 but they reported only one sexual relationship. Teens excluded from our sample because they had sexual intercourse before Wave 1 (column 3), were more likely to be male, were more likely to be African American and less likely to be white, were older, on average, and had a younger age at first sex compared with our sample. They also had lower cognitive test scores. In contrast, teens excluded from our sample because they reported only one sexual relationship had a later age at first sex and were more likely to live with two biological partners, and they were slightly younger than our sample (column 4).

For the chapter, we ran multiple selection models excluding each of these samples (from columns 2, 3, and 4), using the teen's age as our exclusion criterion. We also ran selection models using age at first sex as our exclusion criterion (including age at Wave 1 in place of age at first sex in our models). None of these models showed significant selection effects.

Compared with all other teens who had not reported having sexual intercourse at the time of the Wave 2 survey (column 5), our sample was more likely to be female, more likely to be African American and less likely to be Asian, was older, had lower parental education, and was less likely to live with both biological parents. We ran separate selection models excluding teens who were not yet sexually experienced, where the exclusion criterion was the timing of puberty. These models also showed no significant selection effects. The final column (column 6) presents characteristics of all teens excluded from our sample, including other sexually experienced teens and those who were not yet sexually experienced. This sample is similar to the sample of sexually inexperienced teens because the vast majority of excluded teens (7,844 of 11,114) were not yet sexually experienced. An overall selection model compared the analysis sample to the sample of all excluded teens, including age as the exclusion criterion, and also had non-significant selection effects.

Because all selection models were non-significant, we concluded in the chapter that the analysis sample did not bias conclusions regarding the association between relationship and partner factors and contraceptive consistency. In addition, the discussion clearly notes that the sample includes teens with two or more sexual relationships and is not representative of a sample of all sexually experienced teens (including those with only one sexual relationship).

Comparison of Our Findings with a Larger Add Health Sample

The majority of the relationship and partner factors that we found associated with contraceptive consistency concur with other research in this area. However, in order to better address potential selection issues, for this rejoinder chapter we re-ran our models with a larger sample of teens. We compared findings from our original sample with two expanded samples: (1) a sample of *all* teens who ever reported a sexual relationship, and (2) a sample of teens who reported *two or more* sexual relationships during Waves 1 and 2 of the Add Health study. To select these samples, we created a file with *all* sexual relationships in which teens reported partner-specific information regardless of when these relationships occurred. Using the reported dates of first sex with each partner, we sequentially ordered the relationships from earliest to most recent. We then selected for analyses only the records corresponding to the teens' *last* sexual relationship. The first comparison sample provides information on the last sexual relationship for all teens who ever had sex ($n = 4,383$).[7] The second comparison sample includes the last relationship for teens who had at least two sexual partners reported in Add Health ($n = 2,634$).

For both samples, we examined relationship and partner characteristics associated with contraceptive consistency in teens' most recent sexual relationships. Although these samples do not allow us to compare teens' first and most recent relationships (because many teens reported a date of first sex before the 18-month Add Health reporting period), they allow us to test whether similar relationship and partner characteristics are associated with contraceptive consistency in most recent sexual relationships among a larger sample of teens. Overall, compared to the original model, the results for both larger-sample models indicate similar significant relationship and partner measures that went in the same direction as the original analyses, suggesting that the findings are robust.

Relationship characteristics. In the original models, all four relationship characteristics (self-reported relationship type, length of sexual relationship, the number of pre-sexual couple-like activities, and discussing contraception before first sexual intercourse with the most recent partner) were significant for at least some racial/ethnic subpopulations. The same is true for our larger samples. Of particular interest is the fact that the findings for relationship type, which we thought were unusual in our original model and might be a function of sample selection, remain the same in our new models. Specifically, non-Hispanic white and non-Hispanic black teens in a "liked" or non-romantic relationship had greater odds of always using contraception in their most recent sexual relationship, compared to those in a romantic relationship. These findings were significant for both expanded samples, suggesting that these findings are not due to sample selection.

[7] We excluded 152 teens who had missing or incomplete partner-specific dates of first sex for two or more partners and 21 teens who did not provide valid responses to questions on contraceptive consistency for any of their partners.

Partner characteristics. In the original models, two out of three partner characteristics were significant (partner violence and partner race/ethnicity). Overall, in models with larger samples, these two variables remain significant, and partner age difference becomes significant for blacks, with a greater age difference between partners associated with lower odds of contraceptive consistency. One difference to note is that while the positive association between partners having the same race/ethnicity remains significant for non-Hispanic whites, the negative association between same race/ethnicity partner and contraceptive consistency for blacks is non-significant in the expanded sample. This finding suggests that the negative association between having a same race/ethnicity partner for African Americans may be a function of sample size and selection in the original model.

Comparisons between the original and expanded samples suggest that except for the two differences described above, all findings about racial and partner factors associated with contraceptive consistency remain robust.

Unobserved Heterogeneity

Our analyses indicated that teens who did not use contraception or who were inconsistent contraceptive users in their *first* sexual relationship had lower odds of always using contraception in their *most recent* sexual relationship. However, the discussion by Hotz (this volume) suggests that these decisions are endogenous. In other words, he suggests that unobserved respondent-level factors associated with contraceptive consistency in the first sexual relationship may also be associated with consistency in the most recent sexual relationship. We agree that these behaviors may be endogenous; however, preliminary analyses of a full Add Health sexual relationship file suggest a continued influence of contraceptive consistency in previous relationships on contraceptive consistency in the current sexual relationship, even after controlling for unobserved heterogeneity (Manlove, Ryan, & Franzetta, 2005). In addition, we ran models with and without the explanatory variable that measures contraceptive consistency in the first sexual relationship. We found that the size and significance of the association between relationship and partner factors and contraceptive consistency did not differ in models that excluded this explanatory variable. Thus, we feel confident that our relationship and partner findings were not biased because of the inclusion of this measure.

Moreover, regardless of whether contraceptive use decisions in early and later sexual relationships are endogenous, the association between contraceptive consistency in first and later relationships is relevant for program providers and policy makers. Contraceptive inconsistency in an early sexual relationship is a *marker* of subsequent pregnancy risk, even if it is difficult to determine causality. Thus, pregnancy prevention programs could use information on contraceptive consistency to identify high-risk sexually active teens by assessing their contraceptive use in their first relationship, and use this information to identify teens most in need of more intensive intervention.

References

Manlove, J., Ryan, S., & Franzetta, K. (2003). Contraceptive use patterns within teens' first sexual relationships. *Perspectives on Sexual and Reproductive Health, 35*, 246–255.

Manlove, J., Ryan, S., & Franzetta, K. (2005). *Contraceptive use patterns across teens' sexual relationships.* Paper presented at the Annual Meeting of the Population Association of America, Philadelphia, PA.

Ryan, S., Manlove, J., & Franzetta, K. (2003). *The first time: Characteristics of teens' first sexual relationships.* Washington, DC: Child Trends.

Upchurch, D. M., Lillard, L. A., Aneshensel, C. S., & Li, N. F. (2002). Inconsistencies in reporting the occurrence and timing of first intercourse among adolescents. *The Journal of Sex Research, 39,* 197–206.

18

FROM "FRIENDS WITH BENEFITS" TO "GOING STEADY": NEW DIRECTIONS IN UNDERSTANDING ROMANCE AND SEX IN ADOLESCENCE AND EMERGING ADULTHOOD

Marni L. Kan and Alison C. Cares
The Pennsylvania State University

In the past decade, researchers have recognized that romantic and sexual relationships are central to the lives of teenagers and emerging adults (e.g., Brown, Feiring, & Furman, 1999; Collins & van Dulmen, this volume; Furman & Wehner, 1994; Giordano, Manning, & Longmore, this volume). In some respects, the romantic experiences of youth are similar to those in non-romantic relationships and are no different from the experiences of older adults (Brown et al., 1999; Giordano et al., this volume; Manlove, Franzetta, Ryan, & Moore, this volume; Schwartz, this volume). However, the romantic relationships that emerge during adolescence have distinctive characteristics that make them important to study on their own. The development and maintenance of romantic relationships is a key developmental task during adolescence and the transition to adulthood (Masten et al., 1995; Snyder, this volume). Therefore, it is necessary to understand the uniqueness and continuity of early romantic relationships and explore ways to help young people negotiate the twists and turns of romance in healthy ways. The chapters in this volume move toward these goals. Although various topics related to romance and sex are addressed, three themes are prevalent: the need to study romantic relationships within a developmental framework; the importance of the relational context of romance; and the existence of romantic relationships in broader social, cultural and historical contexts. In addition, we discuss methodological issues that arose in the discussions found in these chapters, and offer insights into future research in this area of study.

There is continuity and change in the meaning, characteristics, and function of romantic and sexual relationships across the life course. These relationships are influenced by prior experiences and impact later relationships and experiences. Romantic and sexual experiences may also be linked in different ways with other contexts as young people mature. Clearly, it is difficult to study romance and sex during adolescence and emerging adulthood without attending to the developmental nature of these experiences.

Links between romantic relationships and non-romantic experiences with family and peers are also a key part of understanding romantic relationships as they emerge. The role of parents and peers as monitors of romantic relationships, the bi-directional influence of the quality of romantic and non-romantic relationships, the growth of romance and sex from non-romantic relationships, and the potential competition between romantic and non-romantic relationships are some issues that are addressed in the preceding chapters. The influences of these microsystems suggest that romantic and sexual relationships must be understood in concert with other relationships of adolescents and emerging adults.

Finally, romantic relationships exist in broader social, cultural and historical contexts. These macrosystems provide varying behavioral and attitudinal norms for young people to adhere to in developing romantic relationships. They also influence the ways in which romantic relationships are conceptualized by young people and researchers alike. Uncovering broad contextual effects is essential to understanding variation in romantic experiences and the pathways that lead to more or less adaptive outcomes.

Defining Romance and Sex in Adolescence and Emerging Adulthood

Issues of definition arise throughout this volume and are important for theoretical and methodological reasons. The current reality of romantic experiences among adolescents and emerging adults is that they are highly varied; researchers' definitions of romantic relationships vary as well. Whereas some research focuses on stable romantic relationships (e.g., Collins & van Dulmen, this volume), other studies examine casual sexual behavior outside of committed relationships (e.g., Snyder, this volume), and still other investigations distinguish between romantic relationships and non-romantic sexual relationships in order to compare them (e.g., Manlove et al., this volume). This variety is necessary for a complete understanding of the romantic experiences of young people and reflects variation in the conceptual goals of different studies. Nonetheless, different definitions across studies can yield different results, even if the same constructs are examined. Thus, what looks like conflicting evidence regarding romantic phenomena may actually be divergence in the definitions of relationships. Within studies, methodological challenges also arise when asking about one particular relationship or a series of relationships because terms such as "dating" or "boyfriend/girlfriend" may carry different meanings for different young people. Variability in the ways that respondents define their relationships may limit our ability to detect real patterns.

There is no one good answer to the question of how to define the phenomena that we are studying, but an exploration of definitional complexities brings us to two conclusions. First, researchers must be clear about how they define constructs

of interest and must make sure that their definitions are consistent with the definitions of the individuals under study. Second, reviews of the literature in this area must acknowledge the variation in the types of relationships that are studied and the consequent likelihood that research findings will differ across studies. With this in mind, we turn to a discussion of the preceding chapters.

Biological Foundations of Love and Rejection

Fisher (this volume) provides a biological foundation of the experience of love. Her research shows that the experience of love may be largely related to dopamine and other brain chemicals. Along with the affiliated experiences of lust and attachment, romantic love has evolved to play a particular role in human reproduction. Fisher therefore contends that love is a cultural universal. However, in the words of Schwartz (this volume), "dopamine is not destiny" (p. 45). Biological factors, in this case brain processes, vary across people and interact with social contexts and ecological conditions. Adolescents and emerging adults may also respond to the positive and negative physiological correlates of romance differently from their adult counterparts as a result of differing social experiences. To fully understand the link between brain function and romance, studies must examine individual and contextual variations in experiences and consequences of romantic love.

A number of individual-level factors likely affect the three brain systems corresponding to lust, romantic love, and attachment. Differences in individual physiology, such as having different numbers of serotonin receptors or absolute levels of dopamine, might enhance, limit, or otherwise alter experiences of love (e.g., Halpern, 2003). In addition, there is potential variation in individuals' behavioral responses to physiological indicators of love. For instance, people with different attachment histories may interpret physical and emotional symptoms of love in different ways (Schwartz, this volume). Individual reactions to rejection and relationship dissolution also differ (Barber, this volume; Schwartz, this volume). Most individuals do not become clinically depressed or suicidal when their relationships end, but some do. We need a better understanding of the factors that precipitate more or less successful adjustment to break-ups. Finally, individual differences such as gender and sexual orientation play a role (Barber, this volume; Fisher, this volume). Fisher (this volume), for instance, explains that women may be predisposed to fall in love with a male sexual partner because of the chemical properties associated with seminal fluid.

Contextual factors such as family relations and peer norms may also influence brain physiology and experiences of love (Barber, this volume; Halpern, 2003; Schwartz, this volume). For instance, family and peers may encourage behaviors in relationships or temper reactions to break-ups that are biologically based. Furthermore, the connections among lust, love, and attachment can be affected by

ecological setting. Societies in which the sex ratio favors men tend to shift to a short-term mating strategy, whereas those with a sex ratio favoring women are often characterized by a long-term mating strategy – each in keeping with the reproductive goals of the respective gender (Schmitt, this volume).

One question that resonates with the themes in this volume is whether and how experiences of romantic love differ throughout development. Our answer is limited because the research on biology that was presented did not include samples of both adolescents and adults. Still, past research and current theorizing suggest a number of potential similarities and differences for adolescents and adults in experiences of love.

Fisher (this volume) argues that the actual experience of love, on physiological and emotional levels, is essentially the same regardless of age or developmental stage. Although lust may wane with age and the ability to form romantic attachments may increase, the brain processes for these systems and for romantic love appear similar throughout the life course. The regions of the prefrontal cortex associated with decision making are not mature until the middle teen years, so young teens are less able to exercise impulse control and are more at risk for making poor decisions in love (Fisher, this volume). However, as Schwartz (this volume) points out, adults also make impulsive decisions about their romantic experiences.

The consequences of romantic love seem consistent across developmental stages as well. Being in a relationship enhances self-esteem, confers social status, and brings feelings of happiness, along with other benefits (Fisher, this volume). Fisher argues that in many ways, love is similar to an addiction, including even painful symptoms of withdrawal. Break-ups often carry short- and long-term negative consequences, such as depression, pain, loss of social status, substance use, and social isolation (Barber, this volume; Welsh, Grello, & Harper, 2003).

A difference among adolescents, emerging adults, and adults that may influence their responses to rejection and other difficulties is the relational context of their romantic experiences. Whereas adult romantic relationships tend to result in some separation from friends, for adolescents these relationships often take place in the context of the peer group (Brown, this volume). As such, the relationships of youth are subject not only to the inexperience of the dyad, but to the inexperience of the entire group. At the same time, young people are struggling to establish themselves independently from their parents, so they prefer to seek advice on matters of the heart from peers, even though parents could likely provide more experienced counsel. Thus, romantic experiences may be more risky for adolescents than for adults because of the social context surrounding their relationships.

On the other hand, perhaps youth are better suited to handle the drama of relationships than their adult counterparts because they are more used to it (Schwartz, this volume). Whereas some adults trivialize "puppy love," others worry that teens and young adults are not prepared to handle the serious business of romance. Ironically, it is uncertain whether adults handle relationships with any more skill, given that the divorce rate has hovered around 50% for over two decades

(Schwartz, this volume; Teachman, Tedrow, et al., 2000). Adults do not appear to be much better at picking appropriate partners, planning (or not planning) pregnancies, and handling break-ups. In contrast, Barber (this volume) found in several cases that having an early break-up experience was adaptive over time for adolescent adjustment and relationship satisfaction.

What may differ most as a function of age is how society reacts to romantic relationships. Modern society has delayed full adulthood to well beyond the second decade of life (Coontz, 1992), shifting teenagers' experiences in romantic relationships away from marriage. As a result, romance among young people is often treated as problematic, with a focus on issues like teen pregnancy. However, the biological systems of lust, romantic love, and attachment evolved based on a need for early partnering. It is no wonder that teens remain sexually charged and motivated to seek companionship. Society may not think it is appropriate, but nature is sending the opposite message.

Clearly, developmental research on brain systems is needed to weigh in on the debate about age differences in romantic experiences. This volume also raised a number of other provocative issues. To determine whether heterosexual romantic experiences are biologically distinct from other close relationships, research comparing brain activity of homosexual and heterosexual individuals is important, along with comparisons to other relationships, such as parent-child relationships and passionate friendships (Barber, this volume). Moreover, although we have an understanding of gender differences in mate preferences (Schmitt, this volume), the question of what makes an individual romantically attractive remains. If the adage "there's someone for everyone" has some truth, what is it about individuals that attracts them to certain people? How do choices differ for sexual attraction or lust, romantic love, and long-term mating or attachment? A complete understanding of romantic love, while acknowledging its universal biology, necessarily includes an investigation of individual differences, contextual influences, and developmental continuity and change.

Origins and Pathways in the Development of Romantic Relationships

Collins and van Dulmen (this volume) identify the role of relationship history as an emerging principle in the study of romantic relationships. Experiences with family and peers wax and wane in salience across development and pave the way for romance during adolescence and emerging adulthood. Brown (this volume) refers to such experiences as "foundational experiences" and explains that different relationships are influential at different ages as children and adolescents ride the "developmental wave" toward establishing healthy romantic relationships. The processes involved in riding this wave are complex and vary as a function of individual, relational, and contextual characteristics.

Empirical findings documenting continuity among parent-child relationships, peer relationships, and romantic relationships are presented throughout this volume (Collins & van Dulmen, this volume; Joyner & Campa, this volume; Murry, Hurt, Kogan, & Luo, this volume). Researchers are beginning to examine the processes by which these patterns of association arise. Bryant (this volume) and colleagues (see also Bryant & Conger, 2002; Conger, Cui, Bryant, & Elder, 2000) have studied observational learning, socialization, and behavioral continuity as mechanisms of influence of the family of origin on romantic relationships. Attachment theorists assert that working models and expectations of relationships are carried forward into romantic relationships in adolescence (e.g. Collins, this volume; Collins & Sroufe, 1999). A broader theory of romantic views (e.g., Furman & Wehner, 1994, 1997; Furman & Simon, 1999) similarly posits that cognitive representations of relationships are applied to attachment relationships as well as relationships (such as peer and romantic relationships) that serve needs beyond attachment. Additionally, psychological mechanisms such as rejection sensitivity may result from previous relationships and may in turn affect romantic relationships (e.g., Downey, Bonica, & Rincón, 1999).

Non-romantic others may also influence romantic relationships directly. Peers police, mediate, and support romantic relationships (Brown, this volume; Brown, 1999), parents talk to their children about romance and sex (Murry et al., this volume), and siblings may provide advice and model romantic experiences to one another (Bryant, this volume). Further investigation of the direct influences of family members and peers on romantic relationships will be essential in future work. It will also be important to learn whether individuals of the same age or gender have more or less direct influence on the romantic experiences of young people. For instance, is an adolescent more likely to listen to a much older sibling or to a sibling closer in age?

Although research on the influences of parents and peers on romantic relationships has aimed to establish basic associations, pathways of influence are neither independent nor unidirectional (Brown, this volume; Collins & van Dulmen, this volume). A developmental perspective emphasizes the changing prominence of parent and peer influences across development; nonetheless, family and peer influences can be simultaneously exerted (Brown, this volume). The influences of non-romantic relationships may also have interactive effects. Recent work suggests that interactive models of early attachment and later peer experiences may in fact predict competence in romantic relationships better than non-interactive models (Collins & van Dulmen, this volume).

The bi-directional nature of links between non-romantic and romantic relationships adds to an already complex picture. Experiences in romantic relationships may lead young people to distance themselves from parents and friends and may elicit concern among parents about risks that their children could encounter (Brown, this volume; Furman & Shaffer, 2003; Gray & Steinberg, 1999; Laursen & Williams, 1997). On the other hand, becoming involved in romantic

relationships may enhance the social and maturational status of adolescents among parents and friends (Brown, 1999; Gray & Steinberg, 1999). The influences of romantic relationships on non-romantic relationships may change across developmental stages as romantic relationships become more intimate. Research in this area must move toward uncovering these complex links.

Another issue in the study of romantic relationships is the individual differences in the origins and pathways of romantic experiences. These differences may result from various factors, including characteristics of the individual, the dyad, and the proximal and distal contexts of relationships. In addition to cognitive representations and romantic views, characteristics such as self-esteem and number of sexual partners may mediate the link between parent-adolescent relationship quality and romantic relationship quality (Joyner & Campa, this volume; Murry et al., this volume). Moreover, children who adhere more closely to normative expectations of gender segregation in their peer groups are more successful in romantic relationships as young adults (Collins & van Dulmen, this volume). Future work could also look at personality traits associated with masculinity or femininity and interpersonal skills of children as predictors of romantic competence and relationship quality.

The changing nature of romantic relationships across development (e.g., Giordano et al., this volume; see also Brown, 1999; Furman & Wehner, 1997) suggests that dyadic characteristics contribute to variation in romantic pathways. Different aspects of non-romantic relationships may influence romantic relationships at different stages because romantic experiences move from a focus on developing competencies, to a focus on romantic interactions, and finally to a focus on relationships (Brown, this volume). For instance, parental socialization may be important for early romantic competence, but direct parental involvement in relationships may take precedence when young people are involved in exclusive intimate relationships. Future research should investigate whether and how non-romantic influences and the roles of non-romantic others change from adolescence to emerging adulthood.

Proximal contexts of romantic relationships also affect individual differences in the development of these relationships. As we have seen, the current context of romantic experiences may interact with previous non-romantic experiences. Thus, for example, the influence of attachment history on romantic experiences may be manifested differently in the context of different peer groups with varying norms and expectations. More empirical work on the interactions of prior experiences and current relational contexts can better inform our understanding of these processes.

Finally, broader social and historical contexts of relationships are a key source of variation in the pathways that lead to romance and sex. The influences of non-romantic relationships on romantic relationships have changed throughout history (Coontz, this volume). Moreover, there may be differences in the types and extent of family and peer influence on romantic relationships as a function of race and socioeconomic status (Brown, this volume; Bryant, this volume; Murry et al., this

volume). These differences must be explored more thoroughly—studies should incorporate subgroup comparisons when examining the non-romantic precursors of romantic experiences.

These multiple sources of variation suggest that an integrative model of the origins and pathways of romantic relationships, which takes individual, dyadic, and contextual factors into account, is most informative. Bryant (this volume) and colleagues have developed one such model, and other researchers have suggested similar types of models, at least in their analyses (e.g., Joyner & Campa, this volume). Collins and van Dulmen (this volume) have helped us to acknowledge the complexities inherent in the study of romantic relationship development. Their work encourages researchers to continue to make theoretical and empirical strides toward attending to multiple features of both romantic and non-romantic relationships, understanding the role of contexts, and examining the developmental influences of earlier relationships on romantic relationships.

Diverse Romantic Relationship Experiences and Implications

As we have seen, experiences in romantic relationships are related to earlier non-romantic relationships. On the other hand, new issues and challenges arise in the context of romantic relationships that may be unfamiliar to young people. Characteristics of romantic experiences may also vary as a function of individual and contextual variables including age, race/ethnicity, gender, socioeconomic status, and geographic setting (Giordano et al., this volume; Murry et al., this volume; Snyder, this volume). Adding further to this diversity, young people are involved in a wider array of romantic and sexual relationship types than in the past. Giordano and colleagues (this volume) provide a portrait of romantic relationships that illustrates the diversity in the romantic experiences of youth and the implications of these experiences.

Relative to relationships with parents and peers, romantic relationships are a new ballgame, but many of the skills and rules stay the same (Furman & Hand, this volume; Giordano et al., this volume). Romantic and sexual relationships often arise from friendships themselves (Furman & Hand, this volume; Manlove et al., this volume). Both friendships and romantic relationships carry the advantages of companionship and intimacy and the disadvantage of negative interactions. However, romantic relationships may provide benefits that include physical intimacy, love, romance, and caring beyond friendships, while removing the pressure to constantly be in search of a partner (Furman & Hand, this volume).

Whereas friendships tend to be quite homogenous, there is greater potential in romantic relationships for heterogeneous pairings or asymmetries (Giordano et al., this volume; Manlove et al., this volume). As a result, romantic relationships offer the possibility of an increase in social status, but are also likely to be

characterized by imbalances of power (Giordano et al., this volume). In addition, issues of commitment and exclusivity in romantic relationships lead to novel problems of jealousy, limited time for friends, drama, and humiliation. The risk of heartbreak seems especially high considering the sizable proportion of teens and young adults who violate norms of exclusivity (Giordano et al., this volume; Welsh et al., 2003). Finally, young people seem more motivated to transform themselves to please a partner than to please friends (Giordano et al., this volume). Giordano and colleagues found influences of romantic partners on academic achievement and delinquency net of peer effects and other predictors. The drive to please a partner can therefore be adaptive or problematic, depending on whether one has a high-achieving partner or a delinquent one.

Though largely absent from this volume, many of these same advantages and disadvantages are true of adult romantic relationships. For example, a common path to crime for women is through a male partner (Richie, 1996; Steffensmeier, 1983). One important developmental difference is that romantic relationships among adolescents and emerging adults are marked by considerable social and communication awkwardness (Giordano et al., this volume). This awkwardness appears to decrease with age and relationship experience. One question that could be addressed in future research is the extent to which new technology influences communication awkwardness. Do email, text messaging, and instant messenger help to level the playing field between partners, or do they prolong the period of awkwardness?

Technology certainly cannot affect the experiences of youth who do not have access to it. This illustrates the importance of characteristics such as social class, race/ethnicity, and geographic location for romantic experiences. Giordano and colleagues (this volume), Snyder (this volume), Manlove et al. (this volume), and Murry et al. (this volume) provide evidence of subgroup variations in romantic and sexual experiences and their links to other relationships and outcomes. Studies do not always uncover differences between defined groups, but a lack of differences can still be a vital finding. For instance, Snyder (this volume) did not find significant differences in measures of risky sexual behavior for rural versus urban and suburban youth. However, as she explains, rural youth may be at an increased risk of negative outcomes because their access to services for pregnancy and STDs is usually severely limited.

Fortunately, a number of available data sets allow for subgroup comparisons of romantic experiences, including the National Longitudinal Study of Adolescent Health, the 2003 Youth Risk Behavior Survey, and the Toledo Area Relationship Study (Giordano et al., this volume). These data sets have substantial samples of minority youth and in some cases contain both qualitative and quantitative data. Ideally, data such as these could be used to understand contextual effects on relationship experiences as well as on definitions of romance according to parents, peers, partners, and adolescents and young adults.

Researchers have begun to uncover the broad diversity in types of intimate and romantic relationships among adolescents and emerging adults. We still know relatively little, however, about the prevalence of different types of relationships, let alone their development, content, and quality. Relationships range from traditional, committed dating relationships, which may or may not involve sex, to sexual encounters that take place outside of any relationship (Furman & Hand, this volume). Contrary to the image often projected by the media, the latter seem to be relatively rare. Most sexual contact for teens outside of a committed romantic relationship takes place between parties who have known one another for as long as those having sex within romantic relationships (Giordano et al., this volume). Now that researchers have "discovered" the idea of friends with benefits (which has been around at least fifteen years), we can begin to understand those types of relationships as well.

By relying on currently available data, especially combined qualitative and quantitative datasets, we can begin to conceptualize a continuum of romantic relationship experiences for young people. If we find that romantic experiences do not belong on a continuum, and that instead various combinations of sexual activity and level of commitment and exclusivity have different meanings and implications, then we should attempt to place romantic relationships in a typology that is theoretically informed. In all this, it is helpful to keep in mind how the experiences of adolescents and young adults compare to those in adult romantic relationships, and our work should be informed by research in that arena.

Sexual Relationships: Risks and Prevention Implications

Experiences of rejection and unrequited love undoubtedly contribute to the emotional turmoil associated with romance and sex during adolescence and emerging adulthood (e.g., Barber, this volume; Fisher, this volume). Given the rates of unintended pregnancy and sexually transmitted diseases (STDs) among young people (see Manlove et al., this volume; Upchurch & Kusunoki, this volume), however, health risks associated with sexual contact have been a greater focus of prevention and policy efforts. Manlove and colleagues (this volume) show that sexual experiences are risky for many adolescents because of characteristics of their partners and their sexual relationships. In the Add Health sample, intercourse took place early in relationships and at young ages, relationships were brief in duration, many adolescents reported having a violent partner, and contraceptive use was inconsistent for many teens (see also Carver, Joyner, & Udry, 2003). Asymmetries with respect to age, race, or status, which are common in romantic relationships (Giordano et al., this volume), may influence the balance of power and may be related to contraceptive inconsistency (Manlove et al., this volume).

Additionally, adolescents may feel less comfortable discussing contraception in relationships that are brief and in which sex takes place early on, before the partners know each other well.

Although risks are far-reaching, an examination of contextual effects helps us to better understand the health risks associated with sexual relationships. Four levels of context are important: relational, social (including cultural and socioeconomic), historical, and developmental. Relational contexts must be acknowledged because the range of sexual behavior that is considered normative changes with increasing involvement in sexual relationships (Miller & Benson, 1999) and because different choices about sex and contraception may be made in different relationships (Manlove et al., this volume; Upchurch & Kusunoki, this volume). Partner characteristics, such as previous sexual experience, may also influence choices about sex and contraception. Given the evidence regarding partner influences on academic and behavioral outcomes, future work should investigate the bidirectional influences of partners with respect to sexual behavior.

Cultural and socioeconomic contexts of relationships influence norms that guide sexual experiences. Manlove and colleagues (this volume) describe several differences in the characteristics of sexual relationships and correlates of contraceptive consistency as a function of race (see also Miller & Benson, 1999). These differences can help researchers understand differences in outcomes, such as frequencies of unintended pregnancy and childbirth. Implications of sexual behavior may also vary as a function of socioeconomic status. Risky sexual behavior as defined within a middle-class context may be adaptive for lower-class adolescents, who may be able to maintain social ties by having a child out of wedlock or may not have other avenues to success (Carver et al., 2003; Coontz, this volume; Graber, Britto, & Brooks-Gunn, 1999).

Along a similar vein are the effects of historical change on behavior and definitions of risk (Coontz, this volume; Hotz, this volume). The notion that nonmarital childbearing is risky because it interferes with the capacity for individual achievement is historically recent (Coontz, this volume). Extensions in education and postponement of marriage have led to increases in premarital intercourse (Graber et al., 1999; Miller & Benson, 1999) and require adolescents and emerging adults to exercise caution for longer periods of time than they previously were required to (Schwartz, this volume). Formal dating is also a largely recent phenomenon in America. Although the decline in dating may have freed women from conventional sexual norms (Coontz, this volume), increases in the availability of contraception may have decreased women's bargaining power in securing pre-sexual commitments from men (Hotz, this volume). Furthermore, historical changes in sex ratios and the availability of partners have affected sexual behavior and rates of nonmarital childbearing (Hotz, this volume; Schmitt, this volume).

Finally, the developmental context of sexual experiences is a crucial factor in understanding risk. Premarital sex was once condemned for individuals of all ages, and only recently in history have adolescents been singled out for risky sexual behavior (Coontz, this volume). This seems strange because adults engage in risky behavior as well (Coontz, this volume; Schwartz, this volume). On the other hand, adolescents may have fewer resources to handle the consequences of childbearing out of wedlock. Teen mothers have less education than their peers, are less likely to be employed, and are likely to have lower-wage jobs and lower incomes, making it more difficult for them to move out of poverty (Graber et al., 1999). Moreover, early age at first intercourse is bundled with other risky aspects of sexual relationships (Graber et al., 1999). Thus, although researchers must acknowledge that risks are present in sexual relationships across development, there are good reasons to focus on the sexual risks of young people.

The contexts reviewed above interactively influence sexual relationships. For example, there are differences in the types and meanings of relational contexts in different cultures, over historical time, and across development. Future work should aim to learn more about interactive effects. Research could focus, for instance, on developmental differences in sexual behavior across racial or socioeconomic groups. An understanding of interactive influences can help inform prevention efforts by providing information about with whom to intervene and what kinds of issues prevention programs should address.

Several of the chapters in this volume describe aspects of the sexual experiences of young people that can be (and in some cases, have been) incorporated into prevention programs. Manlove and colleagues (this volume) found that certain characteristics of adolescents' sexual relationships, such as the number of pre-sexual couple-like activities and discussing contraception prior to sex, were related to increased contraceptive consistency. Prevention programs could be developed around these findings to include components in which young people discuss their views about how relationships should progress and how to engage their partners in enjoyable activities. Certain characteristics of relationships may impede communication about contraception; thus, Manlove and colleagues point out that prevention programs should emphasize communication and negotiation skills.

Coontz (this volume) and Hotz (this volume) describe contraceptive choices in terms of costs and benefits. Young people may choose not to use contraception in an effort to avoid the short-term risk of conflict or mistrust in their relationship, but may have to face the long-term cost of pregnancy or STDs. Given that teens may be less able to delay gratification and less oriented toward the future, it is probably particularly difficult for them to take the short-term risk in order to ensure long-term health and safety. Learning more about motivations for contraception and what leads some teens to make healthy choices would be informative because it could be translated into prevention program content.

Several sexual education and HIV/STD prevention programs have shown some efficacy in delaying sexual initiation, reducing sexual activity and number of partners, and increasing contraceptive use (Manlove et al., this volume). Though progress has been made, a great deal of work remains. Researchers should explore different frameworks for delivery of sexual education and risk prevention programs. Although it is easier to secure political and financial support for programs that address sexual education in a problem-focused way, curricula could be developed and delivered within the context of positive youth development and other competence-focused programs. Multiple aspects of romantic and sexual relationships, including sex, intimacy, communication, violence, influences of friends and family, rejection, and risks such as pregnancy and STDs could be integrated into a more comprehensive program. This type of program would be more difficult to evaluate, but it may be more likely to satisfy politicians, parents, and students alike. As researchers continue to learn about the healthy and risky sexual experiences of young people, more effective and far-reaching prevention programs can be developed.

Methodological Considerations

This volume has raised several methodological and measurement issues that deserve further emphasis. In general, researchers must expand the use of in-depth measurement and advanced data analysis to uncover the complex processes involved in the development of romantic and sexual experiences. This includes measuring aspects of individuals, dyads, and proximal and distal contexts of relationships and using longitudinal assessments that begin prior to involvement in romantic relationships. It is also essential to measure multiple features of relationships and experiences, such as involvement, quality, activities, and relationship formation and dissolution. Finally, experiences across relationships may vary greatly (Manlove et al., this volume); therefore, questions must be relationship-specific in order to get at important variability. These goals can best be accomplished by utilizing a combination of quantitative and qualitative instruments and by obtaining data from multiple sources, such as parents, peers, teachers, and independent observations.

One way to improve the quality of data on romance and sex is to collect data from both members of romantic or sexual dyads. This can be very challenging, given that many relationships are brief in duration and that some sexual experiences do not occur within defined relationships at all. However, researchers must make an effort to understand experiences from both partners' perspectives. Doing so will allow us to study the factors that are related to congruence or incongruence in partners' feelings about one another and perspectives on the relationship (or encounter). It will also help us to understand the consequences of this congruence

or incongruence and inform efforts to prevent the confusion or disappointment that may occur when partners' feelings and intentions are not the same. Finally, it may uncover why some past findings on data from only one partner were conflicting.

Another methodological goal is incorporating multilevel analyses that account for the nested nature of individuals within relationships and relationships within individuals. Where possible, researchers should analyze data using multilevel models that acknowledge that members of a dyad may be more similar to one another than to other individuals in the sample on constructs of interest. Moreover, multiple relationship experiences for each individual must be considered in concert rather than separately, as they constitute patterns of growth and change within individuals.

Although the available data are becoming increasingly rich and provide us with more information than ever before about romance and sex in adolescence and emerging adulthood, there are limitations. We have seen that young people are inconsistent reporters of their dating and sexual experiences. It is therefore difficult to know whether the information we gather about initiation and dissolution of romantic and sexual relationships is accurate. To address this issue, researchers must make every attempt during the data collection process to ensure that their questions are clear and the responses they receive are correct. A second issue is that the samples we use to examine romantic and sexual relationships may have limited generalizability. Young people usually must exhibit a certain degree of romantic or sexual experience to be included in analyses, and youth culture changes and evolves at a greater speed than for adults. Therefore, researchers should be careful when identifying the populations to which their findings apply. By enhancing the methodological rigor of research on romance and sex, we can glean a wealth of information from the data that we have and that which we will continue to collect.

Future Directions

Although substantial progress has been made in recent research on romance and sex during adolescence and emerging adulthood, many questions are left to be answered. In this section, we briefly mention some overarching ideas about where researchers should go from here in studying the romantic and sexual experiences of young people.

This volume almost entirely ignores same-sex romantic and sexual relationships. Although research has been conducted on the development and functioning of same-sex relationships (e.g., Diamond, 2003; Diamond, Savin-Williams, & Dube, 1999; Savin-Williams, 2003), we are left at the end of this volume wondering whether and how the research and theory examined here applies to same-sex relationships. For instance, opposite-sex friendships may make unique contributions compared to same-sex friendships in preparing heterosexual youth for romantic relationships. It would be important to understand how same-sex and opposite-sex friendships

may differently affect the romantic relationships of gay, lesbian, bisexual, and questioning young people. A challenge for researchers will be to integrate the study of heterosexual romantic relationships with the study of same-sex relationships. Connecting these lines of research is the best way to understand similarities and differences between experiences of youth with different sexual preferences and to create more inclusive definitions of love and romance.

A second goal for researchers is to learn more about continuity and change in romantic and sexual relationships and experiences. The literature on adolescent romantic relationships tends to be distinct from the literature on the relationships of young and middle-aged adults. The chapters in this volume offer some speculation, but little empirical evidence, regarding continuities and discontinuities in romance and sex between adolescence, emerging adulthood, and later adulthood. For instance, some of the risks and benefits associated with romantic relationships are likely to be present across the life course. On the other hand, the skills and resources that individuals of different ages have at their disposal may make it more or less easy to negotiate relationships and deal with their consequences. Future work must look at romantic experiences longitudinally in order for researchers to know which aspects of romantic and sexual relationships are unique to adolescence or emerging adulthood.

Third, several researchers have called for closer connections between research on romantic relationships and research on sex. That men and women may experience lust, romantic love, and attachment simultaneously and with different partners reinforces the notion that sex does not equal romantic love (Fisher, this volume). Nonetheless, many sexual experiences do take place within romantic contexts. Understanding the links between romance and sex, such as the characteristics of couples that are related to delayed initiation of sexual behavior or relationship stability throughout a pregnancy and birth of a child, may help researchers to prevent risky outcomes during adolescence and emerging adulthood. Manlove and colleagues (this volume) move us in the right direction by examining the relational characteristics that are associated with sexual behavior and contraceptive consistency. Future research should further investigate the links between variations in relationships and variations in sexual experiences.

These recommendations serve to encourage researchers to bridge lines of study on romantic relationships that have generally been independent. These connections must be made using theoretical foundations. Researchers need to use previous theory and research on romance and sex to build conceptual models of the processes they investigate. For instance, models of romantic relationship development acknowledge that continuity and discontinuity from previous relationships may occur through a variety of mechanisms. Theoretical frameworks and prior research can similarly inform work on group differences in the development of romantic relationships. Likewise, theories of relationship processes can be used to generate hypotheses about the associations between romantic and sexual experiences.

For some researchers, the ultimate goal is to use what we know about adolescent and young adult romance and sex in order to create programs that enhance relationships and reduce risks. To inform prevention efforts, more basic research should be conducted on the factors that contribute to relationship conflict, violence, dissatisfaction and dissolution, as well as inconsistent contraception, pregnancy, and disease. In addition, as Manlove and colleagues (this volume) acknowledge, prevention programs must be more rigorously evaluated to determine what works. Finally, we must work to overcome the challenges of implementing high-quality prevention programs in order to best serve the needs of young people.

Conclusion

This volume has moved us conceptually and empirically closer to understanding romance and sex during adolescence and emerging adulthood. Although we still know less about romantic relationships than non-romantic relationships, work in this area has led to some fascinating findings and has helped to clarify our goals for the future. Romantic and sexual experiences are tied to previous, concurrent, and future individual and relational experiences. They are a key part of development and are associated with important positive and negative outcomes. This volume has illustrated that romance and sex can be viewed through biological, evolutionary, historical, developmental, and social psychological lenses. The integration of these perspectives has provided us with a unique appreciation for the complex nature of romantic and sexual experiences as well as new questions for future work. We hope that research will continue to acknowledge the depth and complexity of these phenomena and support efforts to promote healthy romantic and sexual relationships.

References

Brown, B. B. (1999). "You're going with *who?!*": Peer group influences on adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 291–329). Cambridge: Cambridge University Press.

Brown, B. B., Feiring, C., & Furman, W. (1999). Missing the Love Boat: Why researchers have shied away from adolescent romance. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 1–16). Cambridge: Cambridge University Press.

Bryant, C., & Conger, R. (2002). An intergenerational model of romantic relationship development. In A. Vangelisti, H. T. Reiss, & M. A. Fitzpatrick (Eds.), *Stability and change in relationships* (pp. 57–82). Cambridge: Cambridge University Press.

Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 23–56). Mahwah, NJ: Erlbaum.

Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 125–147). Cambridge: Cambridge University Press.

Conger, R., Cui, M., Bryant, C., & Elder, G. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology*, *79*, 224–237.

Coontz, S. (1992). *The way we never were: American families and the nostalgia trap.* New York: Basic Books.

Diamond, L. M. (2003). Love matters: Romantic relationships among sexual-minority adolescents. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 85–107). Mahwah, NJ: Erlbaum.

Diamond, L. M., Savin-Williams, R. C., & Dube, E. M. (1999). Sex, dating, passionate friendships, and romance: Intimate peer relations among lesbian, gay, and bisexual adolescents. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 175–210). London: Cambridge University Press.

Downey, G., Bonica, C., & Rincón, C. (1999). Rejection sensitivity and adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 148–174). Cambridge: Cambridge University Press.

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 3–22). Mahwah, NJ: Erlbaum.

Furman, W., & Simon, V. A. (1999). Cognitive representations of adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 75–98). Cambridge: Cambridge University Press.

Furman, W., & Wehner, E. A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. R. Adams, & T. P. Gullota (Eds.), *Advances in adolescent development: Volume 6, Personal relationships during adolescence* (pp. 168–195). Thousand Oaks, CA: Sage.

Furman, W., & Wehner, E. A. (1997). Adolescent romantic relationships: A developmental perspective. In S. Shulman & W. A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 21–36). San Francisco: Jossey-Bass.

Graber, J. A, Britto, P. R., & Brooks-Gunn, J. (1999). What's love got to do with it? Adolescents' and young adults' beliefs about sexual and romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 364–395). Cambridge: Cambridge University Press.

Gray, M. R., & Steinberg, L. (1999). Adolescent romance and the parent-child relationship: A contextual perspective. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 235–265). Cambridge: Cambridge University Press.

Halpern, C. T. (2003). Biological influences on adolescent romantic and sexual behavior. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 57–84). Mahwah, NJ: Erlbaum.

Laursen, B., & Williams, V. A. (1997). Perceptions of interdependence and closeness in family and peer relationships among adolescents with and without romantic partners. In S. Shulman & W. A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 3–20). San Francisco: Jossey-Bass.

Masten, A. S., Coatsworth, J. D., Neeman, J., Gest, S. D., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development, 66,* 1635–1659.

Miller, B. C, & Benson, B. (1999). Romantic and sexual relationship development during adolescence. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 99–121). Cambridge: Cambridge University Press.

Richie, B. E. (1996). *Compelled to crime: The gender entrapment of battered black women*. New York: Routledge.

Savin-Williams, R. C. (2003). Are adolescent same-sex romantic relationships on our radar screen? In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 325–336). Mahwah, NJ: Erlbaum.

Steffensmeier, D. J. (1983). Organization properties and sex-segregation in the underworld: Building a sociological theory of sex differences in crime. *Social Forces, 61,* 1010–1032.

Teachman, J. D., Tedrow, L. M., et al. (2000). The changing demography of America's families. *Journal of Marriage and the Family, 62,* 1234–1246.

Welsh, D. P., Grello, C. M., & Harper, M. S. (2003). When love hurts: Depression and adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 185–211). Mahwah, NJ: Erlbaum.

Author Index

C

D

E

F

G

H

M

N

O

P

T

U

V

This page intentionally left blank

Subject Index

N

O

P

R

S