To the Graduate Council:

I am submitting herewith a dissertation written by Myra Christensen Kawaguchi entitled "Integrating sexual behavior and intimacy in late adolescence: An investigation of Sullivan's Interpersonal Theory." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Deborah P. Welsh, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of The Graduate School

INTEGRATING SEXUAL BEHAVIOR AND INTIMACY IN LATE ADOLESCENCE: AN INVESTIGATION OF SULLIVAN'S INTERPERSONAL THEORY

A Dissertation
Presented for the
Doctor of Philosophy
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Myra Christensen Kawaguchi
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DEDICATION

This dissertation is dedicated with gratitude and love to my life partner,

Shozo Kawaguchi.

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ABSTRACT

Harry Stack Sullivan, outlined stages of interpersonal development from infancy through late adolescence (1953). In his theory, Sullivan described sexual experimentation during adolescence as normative, and the integration of sexual behavior and intimacy as the key developmental task for late adolescents. He also asserted that failure to integrate sexual behaviors and intimacy could result in lower self-esteem and depression. Although Sullivan's theory is a part of the canon of developmental psychology, debate continues concerning whether his ideas are more applicable to males or females. No published investigations have actually examined Sullivan's ideas about adolescent development for either gender. In fact, the empirical research on adolescent sexual behavior and adolescent intimacy have proceeded along remarkably separate lines. The research on adolescent sexuality has tended to equate sexual behavior with intercourse and view it in pathological or problematic terms. The research on adolescent intimacy has yet to focus on romantic or sexual relationships, but generally has tended to view intimacy as a resiliency factor, buffering adolescents from stress and promoting their well-being.

The purpose of this study was to examine the relationships between sexual behavior, intimacy, and well-being among older male and female adolescents and test two hypotheses based on Sullivan's theory: (1) that late adolescents who were integrating sexual activity and intimacy would report greater well-being than other late adolescents, and (2) that intimacy would moderate the relationship between sexual behaviors and well-being. This study used survey methods with 476 single, male and female late adolescents. Results indicated that those who were integrating sexual activity and intimacy had higher

self-esteem on average than other adolescents. Intimacy moderated the relationship between intercourse behaviors and well-being for females but not for males. Possible explanations for this gender difference are presented and findings are discussed in light of Sullivan's theory and the existing research on adolescent sexuality and intimacy. Suggestions for future research are also given.

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INTRODUCTION AND REVIEW OF THE LITERATURE

Harry Stack Sullivan's theory of interpersonal development (1953) is now part of the canon of developmental psychology. His ideas are often presented in child and adolescent development textbooks (e.g. Bornstein & Lamb, 1992; Muuss, 1996; Santrock, 1993; Shaffer, 1993) and cited by researchers of peer relationships (e.g. Buhrmester & Furman, 1987; Buhrmester, 1990; Furman & Wehner, 1994; Youniss & Smollar, 1985). In addition, Sullivan is considered the father of the American school of interpersonal psychotherapy (Summers, 1994). Sullivan, believed that successful interpersonal relationships are essential to well-being, and he outlined stages of interpersonal development from infancy through late adolescence (1953). In the context of his theory of interpersonal relationships, Sullivan also provided a broad outline for adolescent sexual development. He asserted that early adolescent sexual experimentation, although fraught with emotional ups and downs, is both healthy and essential for adolescent development, and that the most important developmental milestone for late adolescents is to integrate sexual behavior and intimacy in their romantic relationships. He also asserted that failure to achieve this integration could result in lower self-esteem and depression.

Given the considerable influence of Sullivan's ideas in developmental and clinical psychology, surprisingly little empirical research has been designed to directly investigate the basic tenets of his stage theory, and no published studies have focused specifically on

his ideas about sexual development and the importance of integrating sexual behavior and intimacy in late adolescence. In fact, research on adolescent sexual behavior and adolescent intimacy have proceeded along remarkably separate lines. The purpose of this research project is to examine the relationships between sexual behavior, intimacy, and well-being among older adolescents and test Sullivan's assertion about the importance of integrating sexual behavior and intimacy for late adolescent males and females.

In the remaining sections of this chapter, I present an overview of Sullivan's theory of interpersonal development and then more specifically his ideas regarding sexual behavior during adolescence and the integration of sexual behavior and intimacy in late adolescence. Sullivan linked this integration with adolescent well-being. Therefore, I briefly discuss adolescent well-being, both the meaning of the term in the context of this project and what is known about adolescent well-being generally. I then present an overview of the research literature on adolescent sexual behavior, including some gender differences found in this literature, present studies that specifically address the relationship between sexual behavior and adolescent well-being, and discuss these studies in light of Sullivan's theory. Similarly, I describe the research literature on intimacy during adolescence, including some gender differences found in this literature, present studies that shed some light on the relationship between intimacy with romantic partners and adolescent well-being, and discuss these studies in light of Sullivan's theory. Finally, using Sullivan's theory as a framework and drawing on the existing empirical research, I present the hypotheses for this study.

Harry Stack Sullivan's Theory

Overview

Central to Sullivan's theory (1953) is the idea that successful interpersonal relationships are the key to healthy human development, and that successes at one stage of development pave the way for successes as subsequent stages. As individuals mature, a "self-system" develops from interpersonal interaction and the reflected appraisals of others. The self-system acts as a template or "filter," guiding a person's perceptions, interpretations and evaluations of themselves and the social environment. Reduced anxiety and greater adaptive functioning is associated with a more flexible and comprehensive self-system. A flexible and comprehensive self-system results from having both a variety, or breadth of interpersonal experiences, and having close and meaningful relationships, or a depth of experience.

Sullivan's stages of interpersonal development can be characterized along two dimensions, (1) the nature of the individual's social needs, and (2) the individual's orientation toward significant others. For example, during infancy, the primary social need is for tenderness and care, and the infant's orientation is primarily toward the mothering person. This mothering person is the one who has the greatest influence on the infant's growing self-system and sense of well-being. In early childhood, the need for companionship emerges, and the young child looks to family members or their equivalents to fill this need. Family members, in turn, have great influence on the child's well-being and self-esteem. In middle childhood, companionship is still the primary social need, but peers begin to fill the role of companion as the child's social circle widens in educational

environments. In preadolescence, Sullivan asserted that the need for intimacy emerges and is pursued in one-to-one chumships. The chum is usually, though not always, a same-sex and similar aged peer who through reciprocal interactions, becomes a close confidant, mirroring the developing self of the child.

Adolescence

In Sullivan's theory, early adolescence is marked by puberty and a heightened interest in sexuality. He referred to the emergence of a "lust dynamism" that gives rise to the desire for physical contact with a sexual partner, usually, but not always, of the opposite sex. First fantasy and later actual overtures become directed toward potential partners. Same sex peer groups often dictate the nature and meaning of these interactions and greatly influence the self-esteem and well-being of the adolescent. While early adolescence involves experimentation in approaching potential partners and experimenting with sexuality, the need for intimacy is still met primarily with friends. Peers typically encourage each other in their efforts to find partners, but can also be harsh in their pressure to conform to group standards. Sullivan described this move toward boyfriends and girlfriends as one characterized by awkwardness and insecurity. He wrote, "In this change from preadolescence to adolescence, there has to be a great deal of trial-and-error learning . . . ." (1953, p. 266).

Sullivan cataloged the problems that can thwart sexual adjustment during adolescence in detail. This is probably, in part, a reflection of his psychiatric orientation and work as a therapist, however, his discussion of early adolescence in general suggests that maneuvering through the developmental challenges of this period is typically fraught

with emotional distress. Beginning with a section entitled "Fortune and Misfortune in Heterosexual Experimentation" (1953, p. 271), he described how the anxiety of first sexual experiences can be difficult for adolescents. He discussed the guilt that can be associated with first sexual experiences, the preoccupation with sexual experiences, the avoidance of sexual experiences, the unavailability of appropriate partners, and the dissociation of sexual experiences from intimacy, all of which can thwart adolescent development. He suggested that, while this period of experimentation and its associated excitement and anguish can be quite stressful for adolescents, it is necessary in order for adolescents to establish what he called a "preferred pattern of sexual behavior."

What Sullivan meant by "preferred pattern of sexual behavior" merits closer consideration. Sullivan clearly described heterosexual development as normal or optimal development. In fact, the shifting of interest, from same-sex friends to an opposite sex romantic partner is the event that marks the onset of adolescence in Sullivan's theory. He even stated that adult homosexuals have not progressed past the preadolescent stage of development (1953, p. 292). In describing this shift in orientation at the close of preadolescence, he stated:

> As adolescence is ushered in, there is, in people who are not too much warped for such a development, a change in the so-called object of the need for intimacy. And the change is from what I shall presently be discussing as an isophilic choice to what may be called a heterophilic choice--that is, it is a change from the seeking of someone quite like oneself to the seeking of someone who is in a very significant sense very different from oneself . . . . the change from preadolescence to adolescence appears as a growing interest in the possibilities of achieving some measure of intimacy with a member of the other sex . . . (1953, p. 264).

The term "warped," in the preceding quote is provocative, especially given the current

Zeitgeist of greater openness toward homosexual and bisexual orientations. However, the intellectual Zeitgeist of Sullivan's day was quite different and it would be a mistake to underestimate the breadth of Sullivan's perspective on sexuality. Sullivan's own personal struggle with sexuality and with the developmental task of integrating sexuality and intimacy are well-documented in the biographical writings of Chapman (1976) and Perry (1982). Sullivan felt that an intimate heterosexual partnership was an important developmental accomplishment that enabled individuals to pursue other interests and to contribute to the greater welfare of others. Perry (1982) quotes Sullivan from an unpublished lecture in which he stated:

> When I speak of one's finally being free to devote one's abilities to such contributions as one can make to whatever the general welfare or the sum total of good or whatever else you wish to quote as durable justification for life may be, that comes only when one has established a relationship of love in both the biologically and culturally ordained rational sense (p. 334).

While Sullivan's view of heterosexuality as the ideal for adult intimate partnerships is clear, he acknowledged the possibility of a positive developmental outcome for homosexuals. He stated, "And finally, as an outcome of this continuation of the isophilic intimacy need, a satisfying and relatively secure homosexual way of life may be established, sometimes by trial and-and-error learning, quite often from example" (1953, p. 279). In a particularly clear statement of Sullivan's general stance in regard to classifying individuals in terms of a sexual orientation, he stated:

> I would like you to realize, if you realize nothing else, how fatuous it is to toss out the adjectives 'heterosexual', 'homosexual,' . . . to classify a person as to his sexual and friendly integrations with others. Such classifications are not anywhere near refined enough for intelligent thought; they are much too gross to do anything except mislead both the observer and the victim. For example, to talk about

> homosexuality's being a problem really means about as much as to talk about humanity's being a problem.
> (1953, p. 294).

In Sullivan's theory, the goal of sexual experimentation during adolescence was to establish a preferred pattern of sexual behavior. As the previous quote reveals, Sullivan's use of this terminology was intended to describe something more unique to the individual than simply a classification according to an orientation toward members of the same or opposite sex. Sullivan intended "preferred pattern of sexual behavior" to refer to knowing generally what sexual acts one prefers, or is likely to prefer, and the circumstances and partners one is likely to prefer for those acts. He even mentioned "seventy-two theoretical patterns of sexual behavior in situations involving two real partners" (1953, p. 294). Understanding one's preferences in regard to sexual behavior involves perceiving oneself as a sexual being and integrating one's sexuality or sexual self with other aspects of one's personality. According to Sullivan, once the outline of this more individual pattern is established, late adolescence and the task of integrating sexual behavior and intimacy begins.

Intimacy, according to Sullivan (1953), characterizes a relationship between two people in which they regularly validate each others' worth through their attention and acceptance, and in which they collaborate to pursue increasingly congruent goals (p. 246). Sullivan described intimacy as occurring in interpersonal relationships between equals, in the sense that one has no more inherent responsibility for the caretaking of the other than visa versa. For this reason, he believed that intimacy is first observed in chumships, rather

than in parent-child relationships. While experimentation with sexual behavior begins in early adolescence, the need for intimacy continues to be primarily met with peers. Sullivan believed a certain level of sexual self-assurance has to be achieved before the integration of intimacy and sexual behavior is possible.

As adolescents mature and integrate their sexual experiences into their self-system, they may begin to pursue and achieve intimacy with sexual partners. This shift from sexual experimentation to sexual behavior with increasing emotional intimacy marks the beginning of late adolescence, during which the primary developmental challenge is to integrate sexual behavior and intimacy with a romantic partner. Once this integration is achieved, sexual behavior may increasingly become an act of intimacy as well as a means to satisfy lust, and intimacy may increasingly enhance sexual satisfaction. Sullivan asserted that a continued separation of lust and sexual behavior from tenderness and intimacy inhibits development and leads to lower self-esteem. Sullivan wrote:

> . . . . evidence of the collision of these two powerful motivational systems [lust and intimacy] is seen among adolescents in this culture as the segregation of object persons, which is in itself an extremely unfortunate way of growing up. By this I refer to the creating of distinctions between people toward whom lustful motivations can apply, and people who will be sought for the relief of loneliness--that is, for collaborative intimacy, for friendship. The classical instance is the old one of the prostitute and the good girl . . . . Nowadays, the far more prevalent distinction is between sexy girls and good girls . . . the trouble with this is that lust is a part of personality, and no one can get very far at completing his personality development in this way. Thus satisfying one's lust must be at considerable expense to one's self-esteem . . . . but lust combined with the need for intimacy frequently does drive [one] toward correcting certain warps in personality and toward developing certain facilities, certain abilities, in interpersonal relations (1953, p. 269).

According to Sullivan, the integration of lust and intimacy represents the

culmination of the other interpersonal developmental achievements of childhood and adolescence, results in a significant increase in the flexibility and adaptiveness of the self-system, and marks the individual's transition into adulthood. Development continues along various lines throughout adulthood, and a myriad of preoccupations may consume individuals' daily lives. According to Sullivan, "This really highly developed intimacy with another is not the principal business of life, but is, perhaps, the principal source of satisfactions in life . . . ." (1953, p. 34).

Sullivan's descriptions of adolescence, while certainly not identical, are not incongruent with more recent formulations. Whereas Sullivan talked about two periods in adolescence, early and late, and divided these with the achievement of developing a preferred pattern of sexual behavior, Elliot and Feldman (1990) describe three distinct adolescent periods. Like Sullivan, they describe early adolescence as the period that "typically encompasses the profound physical and social changes that occur with puberty, as maturation begins and social interactions become increasingly centered on members of the opposite sex," (p. 2). They describe this period as approximately ages 10 to 14 for most individuals. They describe middle adolescence as simply "a time of increasing independence," and place this period at roughly ages 15 to 17. They describe late adolescence as a variable developmental period, beginning for most during the late high school years and ending for some by age 18, while for others late adolescence may extend far into the 20's. They point out that this is not uncommon in the United States and other developed countries, where many individuals attend college or other post-secondary training. Margolis (1989) captures the transitional quality of late adolescence when he

describes college students as "our late adolescents, our adolescing adults" (p. 71). Muuss (1996) explains that, while the specific temporal markers of adolescence vary across diverse cultural groups, the end of adolescence is widely recognized on the basis of adult social and interpersonal role attainment, such as marriage, childbearing, or providing for family. Under optimal circumstances, late adolescence is a practicing period in which young men and women try out new adult-like projects while still having a safety net of supportive adults. Recent theorists agree with Sullivan that experimentation with more serious sexual and emotionally intimate relationships is important among these projects (Hauser & Bowlds, 1990).

In a discussion of Sullivan's theory, Muuss (1996) questions whether Sullivan's theory is more applicable to the development of males or females. He describes an ongoing, but rather speculative debate about this issue, since there is little empirical evidence on which to base an argument (p. 104). Sullivan himself recognized a greater focus on male development in his theory, at one point writing, "I am confining my remarks to male patients here because the female picture is more complicated and I have less material on it" (1953, pp. 248). During most of his career, he worked with male adolescents and young adults. His hospital clients were primarily European-American males, but he also conducted research in 1937 and 1938 in Washington, D. C. and Nashville, Tennessee with African-Americans (Chapman, 1976). In spite of his greater attention to males, Sullivan's emphasis on interpersonal relationships would seem to make his theory particularly applicable to females. Theories of identity development, for example, suggest that for females, identity development is simultaneous with and

dependent on the development of intimacy, much as Sullivan proposed, whereas for males identity development and intimacy development are thought to be separate but related processes, with identity development in adolescence preceding the development of intimacy in young adulthood (Erikson, 1968; Josselson, 1994). Theories of moral development also stress the greater centrality of interpersonal relationships in females' development compared to males (Gilligan, 1982).

Clearly Sullivan intended his theory to be applicable to both males and females, and furthermore to people generally, almost regardless of variations in individual differences or experience. While in his writing he acknowledged wide variation in individual experience and endowment, he was most interested in identifying patterns of development common across these variations. The following quote captures the scope he envisioned:

> Man--however undistinguished biologically--as long as he is entitled to the term, human personality, will be very much more like every other instance of human personality than he is like anything else in the world. As I have tried to hint before, it is to some extent on this basis that I have become occupied with the science, not of individual differences, but of human identities, or parallels, one might say. In other words, I try to study the degrees and patterns of things which I assume to be ubiquitously human (1953, p. 33).

In summary then, Sullivan searched for common patterns of behavior that characterized human development. He believed that sexual experimentation, however awkward it might sometimes be for adolescents, was a normal, necessary aspect of their development. The outcome of such experimentation was an individual preferred pattern of sexual behavior. Once established, this pattern of sexual behavior became the foundation for the individual's sexuality which might then be integrated with intimacy in a

romantic relationship. Sullivan felt that the ability to establish and maintain this sort of relationship was crucial to further adult development. He felt that the mutual validation and collaboration possible in mature sexual and intimate relationships greatly strengthened the self-system and enhanced individual well-being.

Adolescent Well-being

In accordance with Sullivan's focus on the subjective experience of individuals, I am differentiating well-being from adjustment in this review. Well-being is a subjective sense of personal worth and overall happiness, whereas, psychological or behavioral adjustment is typically assessed by an expert observer (McAdams, 1989). Although Sullivan asserts that poor adjustment observable by others is a potential outcome of the failure to meet developmental challenges, he described a lowered sense of well-being as the more immediate result of the inability to integrate aspects of the self-system such as sexual desire and the need for intimacy. In Sullivan's terms, this lowered sense of well-being typically involves "a restriction in the freedom of living" by which "sections of life are closed off" from experience due to the anxiety they illicit (1953, p. 307). This narrowing of experience, especially during adolescence when individuals should be dramatically expanding and articulating the self-system, is associated with a decrease in subjective personal worth and overall happiness. While in some adolescents this narrowing of experience is obvious, Sullivan points out that someone who appears to be engaging in "something quite different from a restriction," that is someone who socializes compulsively, may in fact be engaging in "pseudosocial rituals" in which "each person is busily engaged with people, but nothing particularly personal transpires" (p. 306).

According to Sullivan, if this person's subjective sense of personal worth and happiness were known, it might not match their outward behavior.

In research, a subjective sense of personal worth and overall happiness are frequently captured by self-report measures, many of which assess adolescents' self-esteem or depressive symptoms. These are particularly appropriate indices of adolescent well-being because of the increased prevalence of low self-esteem and depression in this age group (Powers, Hauser, & Kilner, 1989). Nolen-Hoeksema & Girgus (1994) found that adolescence is a period of increased vulnerability to depression, for both genders, but especially for females. Females are twice as likely to be depressed as males from adolescence through adulthood, although among college populations the difference is less pronounced (Gladstone & Koenig, 1994). Adolescent females, including college females, consistently report lower self-esteem than males (Harter, 1993; Russo, Green, & Knight, 1993). Petersen, Compas, Brooks-Gunn, Stemmler, Ey, and Grant (1993) reviewed the research on depression and found that in 30 studies of nonclinical adolescent samples, 20 - 35 percent of males and 25 - 40 percent of females reported significantly depressed mood. In longitudinal studies, depressed affect peaks around 18 years of age and then declines for males and levels off for females. Low self-esteem has been identified as a precursor to a "depressive syndrome" in adolescence that has been shown to strongly correlate with a number of other problem syndromes including attention deficit, delinquency, and aggressive behavior. Based on their review, Petersen and her colleagues conclude that, "Depression stands out among the psychological problems of adolescence, both for its impact on adjustment during the adolescent years and its long-term effects on

adult psychological functioning." (p. 159).

In addition to the increase in prevalence of low self-esteem and depressive symptoms during adolescence, compared to other age groups, these indices may be uniquely tied to interpersonal functioning during adolescence, much as Sullivan described. Some evidence supports this idea. Depression has been described as "the most ubiquitous symptom" among students seeking help at college counseling centers (Walters, 1989), and conflicts in their intimate relationships, or an inability to establish intimacy, is frequently cited by these late adolescents as the primary cause of their depression (Oswalt & Finkelberg, 1995).

Adolescent Sexual Behavior

Overview

Alarm about unplanned pregnancies, sexually transmitted disease, and AIDS has motivated much of the existing research on adolescent sexual behavior (Welsh, Rostosky, & Kawaguchi, in press). In stark contrast to Sullivan's assertions about the need for adolescents to experiment with sexuality, this research has tended to take an epidemiological perspective (Alan Guttmacher Institute, 1976), viewing adolescent sexual behavior as part of a cluster of deviant behaviors including smoking and drug use (Donovan & Jessor, 1985; Jessor & Jessor, 1975), and seeking to identify the "risk" and "protective" factors associated with these behaviors (Resnick, et al., 1997). Elliot and Morse (1989), however, found that sexual intercourse typically follows other risk behaviors, rather than being the initial problem, and as adolescents mature and sexual behavior becomes less contranormative, the association between sexual intercourse and

other deviant behaviors decreases. A key difference between sexual behaviors and other risk behaviors that seems to have been lost in much of the adolescent sexuality research is that sexual behavior and sexuality are considered integral to healthy adult functioning (Irvine, 1994), while smoking and drug use are not. More in line with Sullivan, developmental theorists have consistently defined sexuality as a fundamental aspect of personal identity (Erikson, 1968; Josselson, 1987; Marcia, Waterman, Matteson, Archer & Orlofsky, 1993).

Healthy sexuality is more than avoidance of disease or unwanted pregnancy. According to Wade & Cirese (1991), authors of a one human sexuality textbook, healthy sexuality includes the ability to communicate effectively about sex, fostering a sense of positive self-regard and regard for one's partner's feelings. They describe sexually healthy adults as having good sexual self-esteem and a positive body image, allowing them to make informed, responsible, and self-affirming choices about birth control, pregnancy, protection from disease, sexual partners, and sexual acts. Sexually healthy adults, they add, accept others as they do themselves, demonstrating flexibility, trust, and empathy toward their partners. Research also shows that healthy sexuality in adulthood is associated with optimal mental health (D'Emilio & Freedman, 1988; Weeks, 1981). Unfortunately research on adolescent sexuality has rarely been grounded in developmental theory, and as a result, our understanding of the developmental pathway to a healthy state of adult sexuality remains obscure (Herold & Marshall, 1996).

In addition to the problem oriented focus of much of the adolescent sexuality research, scholars in this area of inquiry have also tended to equate adolescent sexual

behavior with intercourse. For example, many use the label "sexually active" to refer to adolescents who report ever having had intercourse, i.e. "non-virgins," regardless of their current sexual behavior, or lack thereof. The label "sexually active" is used to distinguish this group from those adolescents who report never having had intercourse, i.e. "virgins," who are presumably "sexually inactive" (Miller, et al., 1997). Even recent empirical work (Eyre, Read, & Millstein, 1997) uses the term "sexually active" in this way. Other studies use the term "sexual debut" to mean having intercourse for the first time (Resnick, et al., 1997). While this term may avoid the potentially negative connotations of either "virgin" or "non-virgin," it still implies that until adolescents have intercourse, they are not sexual or sexually active. Notable exceptions to the focus on intercourse can now be found, primarily as a result of increased concern about sexually transmitted diseases and AIDS (Schuster, Bell, & Kanouse, 1996). While these researchers study sexual behaviors other than intercourse, such as oral sex, their focus is still on the health risks associated with sexual behavior.

Some studies of late adolescents have assessed a wider range of sexual behaviors to measure either the variety of behaviors experienced (Weiss, Slosnerick, Cate, & Sollie, 1986), the level of sexual involvement of a couple (Christopher & Cate, 1988), or the sequencing of behaviors (Katchadourian, 1990; Miller, Christopherson, & King, 1993), but these studies have not examined the association between these behaviors and adolescent well-being. These studies do show that adolescents' sexual behaviors range widely, and most adolescents engage in a fairly predictable sequence of behaviors that usually begins with more affectionate behaviors like holding hands, hugging and kissing,

and then moves on to include fondling, and oral sex or intercourse later (Katchadourian, 1990; Miller, Christopherson, & King, 1993). A caveat is that this progression has not been supported in one study of African American adolescents, who reported engaging in intercourse earlier in the sequence and fondling later (Smith & Udry, 1985). Nevertheless, equating sex with intercourse, and sexually active with non-virginal, greatly limits our understanding of adolescent sexuality and sexual development. Expanding the definitions of sex and sexuality has been cited as a priority for researchers by feminist scholars and developmental and social psychologists (Allen, 1997, Hendrick & Hendrick, 1997; Welsh, Rostosky, and Kawaguchi, in press).

While adolescent pregnancy, sexually transmitted disease, and AIDS certainly justify an epidemiological approach to the study of adolescent intercourse, an undesirable side effect is that research that takes a more normative perspective on adolescent sexual behavior, and considers sexual behaviors other than intercourse are rare (Herold & Marshall, 1996). Ironically, a better understanding of healthy sexual development would be likely to benefit the development of sexual education programs that might be more effective at intervening with adolescents at risk for pregnancy, sexually transmitted diseases and AIDS (Orr, Wilbrandt, Brack, Rauch & Ingersoll, 1989). Fortunately, this gap in knowledge is now becoming more widely recognized, and there are signs of increased interest among developmentally oriented researchers in trying to understand adolescent sexuality. For example, at the most recent meeting of the Society for Research on Adolescence, a symposium entitled "Positive Sexual Development" was one of three included in the conference program designed to "encourage member discussion and

exploration of new and emerging areas of research in adolescent development" (Diamond, Guthrie, & Paikoff, 1998).

Gender Differences

Sullivan did not prescribe what sexual behaviors adolescents should experiment with in order to be "on track" developmentally. Instead, he simply asserted that sexual experimentation was an essential part of development. Behavior that constitutes positive sexual development may vary for males and females. For example, adolescent males report engaging in casual sexual relationships more frequently than females (e.g. Coles & Stokes, 1985) and experiencing less emotional attachment and commitment to sexual partners (Miller & Simon, 1974). Females are more likely to report having intercourse as a consequence of being in love, whereas males are more likely to report having intercourse as a consequence of physical desire (Carroll, Volk, & Hyde, 1985). Hendrick and Hendrick (1994) found gender differences using questionnaire methods when they asked males and females about their individual sexuality, with males emphasizing a recreational orientation and females emphasizing a relational orientation. However, using qualitative methods, the Hendricks found few gender differences in the ways males and females described their actual sexual relationships. Although the research is inconclusive, it raises questions about the possibility that the parameters of positive sexual development may vary for male and female adolescents.

In fact, what behaviors constitute positive sexual development may vary considerably between individual adolescents and depend on other factors such as the meaning of the behaviors to adolescents and the relationship context in which the

behaviors occur. Research using videotaped recordings of conversations and subsequent participant coding has shown that, while adolescent romantic couples do agree more with each other than with outside observers about the meaning of their communicative behaviors, there are also significant differences between the partners in the meanings they assign to behaviors (Welsh, Vickerman, Kawaguchi, & Rostosky, 1997). The meaning of sexual behavior to adolescents is likely to be as contextually and individually determined as other behavior. Although research has shown that adolescent sexual experiences most often occur in the context of romantic relationships (Thornton, 1990), little is known about the nature of these relationships. Although Sullivan's theory is now over 45 years old, how and to what degree intimacy between adolescent sexual partners influences the meaning and impact of sexual behaviors remains an unanswered question (Herold & Marshall, 1996). Thus far, researchers have, for the most part, attempted to examine the simpler, more direct relationship between sexual behavior and well-being.

Review of Studies on Adolescent Sexual Behavior and Well-being

A search of the psychological, medical, and sociological computer databases (Psychinfo, Sociofile, and Medline) for the past two decades of published research produced nine investigations in which a stated purpose of the study was to assess the relationship between sexual behavior and well-being among a group of nonclinical adolescents. Some researchers do not refer to college students as adolescents, so the search included both terms, "adolescents" and "college students." In this context, "nonclinical" refers to adolescents who are not identified and recruited via their health care provider, or some other treatment or intervention source. Most of the adolescents that

participated in these studies were located through their public school systems. The sexual behavior assessed in these nine studies for the most part reflects the focus on genital intercourse widespread in this literature. Five of these studies are large scale panel studies in which the relationship between sexual behavior and well-being was only one relationship among many of interest to the researchers. In those cases, only the findings relevant to this discussion will be presented. In some of these studies, researchers are interested in the correlates or predictors of well-being, while in others, adolescent sexual behavior is the outcome of interest, particularly intercourse and its possible prevention. All studies that present data on either the concurrent association between sexual behavior and well-being, or the influence of sexual behavior on well-being are included in this review. All but one of these studies in some way assesses self-esteem as the index of well-being. In sum, these nine studies represent research over the past two decades which has attempted to examine the association between sexual behavior and well-being in nonclinical adolescent samples. These studies will be presented in greater detail here and are summarized in Table 1[1]. They are grouped according to their general results, and then presented in the order of their date of publication.

In the first set of studies, sexual behavior was found to be negatively associated with well-being for some or all adolescents. The adolescents in these two studies are all junior high or high school students ranging in age from 12 to 19, with means of 13.6 in one study and 15 in the other. In the first study, Orr, Wilrandt, Brack, Rauch, and Ingersoll (1989) conducted a survey designed to assess the association between "sexual

[1] All tables and figures are located in the appendix.

behaviors" and self-esteem among junior high school adolescents ages 12 to 16. Adolescents in a junior high school in "a predominantly blue-collar community in the Midwest" completed the survey during school. Eighty percent of the students participated. The sample of 655 adolescents was over three fourths European-American, with the remainder being African-American. The mean age was 13.6 years and there were approximately even numbers of males and females. Adolescents were asked to report whether or not they had ever had intercourse and how frequently they engaged in intercourse on a four point scale from never to once a week. Adolescents were then grouped into sexual activity categories. Those who had never had intercourse comprised the "virginal" category. Those who reported having intercourse less than once a week, comprised the "sexually experienced" category. Those reporting that they engaged in intercourse once a week or more comprised the "sexually active" category. Students also completed the Rosenberg Self-esteem Scale (Rosenberg, 1965). The investigators found no difference in self-esteem between "virginal" and "sexually experienced" or "sexually active" males, but they did find that the group of "sexually active" females had significantly lower self-esteem than "virginal" females. In other words, females who reported having intercourse once a week or more in this early to middle adolescent sample, had lower self-esteem than females who reported that they had never had intercourse, but neither of these groups varied significantly in terms of self-esteem from the girls who reported having intercourse anywhere from one time only to some amount less than once a week. Only five percent of the females fell into the "sexually active" group. The males in this sample reported more experience with intercourse than the

females. For example, 30% of the males compared to 59% of the females reported never having had intercourse.

In the second of these two studies, Wade, Thompson, Tashakkori, and Valente (1989), conducted a two-wave panel study two years apart to examine a variety of longitudinal predictors of self-esteem among African-American and European-American adolescent males and females. They administered a large questionnaire to 1,153 adolescents who were recruited from public schools in "a southern city" and who ranged in age from 13 to 19, with a mean age of 15. Seventy percent of the sample was European-American and 30% was African-American. At each data collection point, adolescents were asked if, and how often, they had sexual intercourse. Notably, these researchers also asked adolescents about sexual behaviors other than intercourse. They report that they computed a "sexual experience" score derived from Likert-type self-reports of the frequency of hand holding, kissing, necking, and fondling, but not intercourse, which was assessed separately (p.721). They assessed self-esteem via four items on the questionnaire. These investigators found no significant relationship between the sexual experiences variable or intercourse and self-esteem, with one exception. Greater frequency of intercourse was associated with lower self-esteem for African-American males.

The results of these two studies lend limited support to the idea that sexual behavior is negatively associated with self-esteem for some adolescents. In both studies there are important caveats to consider. Orr, Wilbrandt, Brack, Rauch, and Ingersoll's (1989) finding of lower self-esteem for sexually active females compared to virginal

females is tempered by the fact that only 5% of the females fell into the sexually active category which required a frequency of intercourse of once a week or more, leaving 95% of the females in the "virginal" and "sexually experienced" groups whose self-esteem scores did not significantly differ. Results of the longitudinal study by Wade, Thompson, Tashakkori, and Valente (1989) supports a causal relationship between greater frequency of intercourse and lower self-esteem for African-American males. This is an important finding about a "heretofore poorly studied and perhaps poorly understood" group of adolescents (Wade, Thompson, Tashakkori &Valente, 1989, p. 728). This group, however, as in the previous study, represents a small number of the adolescents in the sample (14% of the total). In sum, both of these studies found that intercourse was negatively associated with self-esteem for a subset of their sample, while for most adolescents in each study, no relationship was found.

In the second set of studies, sexual behavior was found to be positively associated with well-being for some or all adolescents. The two studies in Table 1 that comprise this set are the study by Stimson, Stimson, and Dougherty (1980) and the study by Langer, Zimmerman, and Katz (1995). Both studies are cross-sectional in design. Both involve male and female participants in roughly equal numbers. Both assess self-esteem, not by scale, but by a few items included in a larger survey. Beyond these similarities the two studies methodologically diverge.

Stimson, Stimson, and Daugherty selected their college age participants to represent all the students "living in dorms" at a "mid-Atlantic state college." Fifty males and 49 females participated. Although the age range and mean age are not given, it is

probably safe to assume, particularly since living in dorms is a requirement, that the sample is college aged in the traditional sense and is therefore in the 18 to 24 year-old range. No information about the diversity of the sample is provided. The authors do not present the actual items from their survey, but state that items were included that asked about sexual activity and self-esteem. They found that greater sexual activity was associated with greater social confidence and greater self-esteem for males. They found no relationship, either positive or negative, between sexual activity and well-being variables for females.

In the only other study that found a positive relationship between sexual behavior and well-being for some or all adolescents, Langer, Zimmerman and Katz (1995) recruited 1,305 10th grade students from eight public schools in Miami, Florida to complete their survey. Their sample was split evenly on gender and had a mean age of 15.5 years. Thirty-eight percent were Hispanic, 28% were African-American, and 28% were European-American. These researchers asked adolescents directly how they anticipated feeling about themselves after first intercourse, or if they had already had intercourse, how it had made them feel about themselves. They also included an item in their survey asking each adolescent how many partners they had for any sexual activity in the past three months and an item about how they felt about the value of postponing intercourse. These researchers report that "virgins" in their sample tended to anticipate feeling worse about themselves after first intercourse, while "nonvirgins" tended to report having felt better about themselves. Males were more likely than females to report both anticipating feeling better and having felt better about themselves after first intercourse. Having more sexual

partners for any sexual behavior in the past three months was related to feeling better after first intercourse. Placing higher value on postponing intercourse was related to feeling worse after first intercourse.

These two studies provide some evidence that during middle and late adolescence, sexual behavior is associated with greater self-esteem, at least for males. The picture for females is less clear. Stimson, Stimson, and Daugherty (1980) found no significant relationship between "sexual activity" and social confidence or self-esteem for late adolescent females. In their mid-adolescent sample, Langer, Zimmerman and Katz (1995) found that "virgin" females were more likely than "virgin" males to anticipate feeling worse after first intercourse, and "nonvirgin" females were less likely than "nonvirgin" males to feel better about themselves after intercourse. However, they also found that among "nonvirgin" females, more felt better about themselves after first intercourse than worse. So it would appear, based on these two studies alone, that sexual behavior tends to be positively associated with well-being for mid-adolescent males and females, and positively associated with well-being for late adolescent males, but unrelated for late adolescent females. The finding by Langer, Zimmerman, and Katz (1995) that the degree to which adolescents value the postponement of intercourse was associated with their feeling worse about themselves after intercourse suggests that the meaning of intercourse to adolescents is relevant for understanding how intercourse effects their self-esteem.

The third and largest set of studies includes five investigations in which no significant direct relationship was found between sexual behavior and well-being for adolescent males or females of any ethnic group (Newcombe, Huba & Bentler, 1986;

Billy, Landale, Grady & Zimmerle, 1988; Robinson & Frank, 1994; Crockett, Bingham, Chopak & Vicary, 1996; Tubman, Windle, Windle, 1996). While the first set of studies involved early and middle adolescents, and the second set involved middle and late adolescents, these five studies involve adolescents ranging in age from 13 to 19, with means of 16 in the two studies that provide this information. Two of the studies are cross-sectional and three are panel studies. In all but one study, adolescents were recruited through their schools and three of the five studies report some racial diversity in their samples. All five studies include both male and female adolescents in roughly equal numbers. In four of these studies, a standardized measure of well-being was used.

Newcombe, Huba and Bentler (1986) conducted a stratified random sampling procedure using New Jersey birth records to recruit a sample of 183 male and 193 female adolescents between the ages of 12 and 18 which they describe as representative of the residents of New Jersey. The sample was 87% European-American and 10% African American, and 3% Other. In their survey, they asked adolescents to report on events in their life during the past year which the authors report included "had a gay experience" and also whether or not they had "lost their virginity" (p. 430). They assessed self-acceptance using 12 items on their survey. These investigators found no direct relationship between these sexual experiences and self-acceptance.

Billy, Landale, Grady, and Zimmerle (1988) assessed a large number of individual psychosocial health variables, including self-esteem, among 1,405 adolescents 11 - 17 years old, in a longitudinal panel study to see if intercourse would be detrimental to adolescents if it did not result in pregnancy. Based on the work of Jessor and Jessor

(1975) who had linked adolescent intercourse with other deviant or contranormative behaviors, these investigators hypothesized that having intercourse would be associated with lower self-esteem. They also tested the hypotheses that intercourse would be related to lower academic aspirations and performance, a shift toward the externalizing of responsibility, more permissive attitudes toward sex, lower church attendance and religiosity, closer peer relationships but more distant parental relationships, greater valuing of future sexual activity, and "deviance proneness" in terms of other problem behaviors. Data were collected in two waves, one in 1980 and again in 1982, in "an urban area of Florida." Participants in the first wave of data collection were drawn from seventh, eighth, and ninth grade students in four public schools. The mean age at time one was 14.5 and the mean age at time two was 15.9. Interviewers went to students' homes where they obtained parental consent, interviewed the adolescents, and administered questionnaires. The follow-up survey included 82% of the original sample. Two thirds of the final sample was European-American and the remaining third was African American. In addition to the psychosocial variables already mentioned, the adolescents were asked to report whether or not they had ever had intercourse, referred to in this study as "virginity status," at both data points, allowing the researchers to assess the relationship between virginity status and psychosocial outcomes at time one, and the relationship between the "transition to intercourse" and psychosocial outcomes at time two.

Results revealed few significant relationships between virginity status or the transition to intercourse and psychosocial outcomes. Adolescents who reported having had intercourse at time one, or having intercourse between time one and time two, had

more permissive attitudes towards sex and placed greater value on sexual activity than adolescents who had never had intercourse. Virginity status at time one and the transition to intercourse were not significantly related to self-esteem for either males or females. They did find that the transition to intercourse was associated with poorer academic performance, but only for European-American males, and lower academic aspirations, but only for European-American females. These researchers concluded that intercourse "does not precipitate overwhelming changes in an adolescent's social psychological framework over a subsequent two-year interval" (p. 208). In an interesting footnote, the authors stated:

> A potentially important variable that was not included in the data set is the 'relationship context' in which the sexual activity of the adolescent occurred. It is possible, for example, that a sexual experience within a very caring or loving relationship may precipitate fewer negative consequences than one in a relationship in which there is little or no emotional bond. Yet regardless of the level of caring that characterizes the relationship in which the sexual involvement occurs, such involvement remains contranormative in that it occurs 'too early.' Early sexual involvement, then is expected to precipitate negative consequences regardless of the relationship context within which it takes place. (p. 196).

Robinson and Frank (1994) conducted a cross-sectional study in which they recruited a racially diverse sample of 141 male and 172 female adolescents from two high schools. The sample was 53% European-American, 40% African-American, 2% Hispanic, and 5% Other. The sample ranged in age from 13 to 19, but 83% were between 15 and 18, making this a mostly middle adolescent sample. In the methods section, these authors do not present the item or items they included in their survey to measure sexual activity, but refer to an item requiring a yes or no response to "intercourse within the past six months" in the title of a table in their results section (p. 31). They used the Coopersmith

Self-esteem Inventory (Robinson & Shaver, 1973) to assess self-esteem. They found no relationship between sexual intercourse in the past six months and self-esteem for males or females of any ethnic group.

Crockett, Bingham, Chopak, and Vicary (1996) conducted a five-wave panel study with annual data collection from a sample of 166 females and 123 males in junior high schools in "a single rural school district in the eastern United States." They described their sample as "middle to low-income and primarily White." Although it appears from a footnote (p. 95) that the annual survey asked about sexual behaviors like "kissing and petting," data on these variables are not presented. The focus of this report is on timing of first intercourse. They asked the adolescents each year about the number of times they "had sex" in the past year, and, as a cross-reference, they also asked them to give their age at first intercourse. These data were used to group adolescents into early, middle, or late "initiators." They report that the majority of their sample had experienced intercourse at least once by age 17. They derived the three groups by first putting all adolescents who had not had intercourse by 17 into the "late" group, and then dividing the remaining adolescents in half according to their age at first intercourse, and designating them as "early" and "middle." The median age at which to split the groups was determined separately for males and females, apparently due to males' tendency to initiate intercourse at an earlier age. Early initiating females were those that reported first intercourse by age 15.5, and early initiating males were those that reported first intercourse by age 14.75. Middle initiating females were those who reported first intercourse after 15.5 but before 17, and middle initiating males were those who reported first intercourse after 14.75 and

before 17. Late initiators, male or female, were those reporting first intercourse after age 17, or not at all during the study. The investigators used the Rosenberg Self-esteem Scale to assess self-esteem and a peer-relations scale called the Self-Image Questionnaire for Young Adolescents (Petersen, Schulenberg, Abramowitz, Jarcho & Offer, 1984) that measures how well accepted by peers the adolescent feels he or she is. Their results showed that females in the middle group, that is those that reported first intercourse between 15.5 and 17, reported greater perceived peer acceptance than females in the early or late group. For males, there was no relationship between timing of first intercourse and perceived peer acceptance. Timing of first intercourse was not related to self-esteem for either males or females.

Tubman, Windle, and Windle (1996) conducted a four wave panel study of intercourse patterns among 1,167 10th and 11th grade students recruited from three suburban high schools in western New York. The sample was half male and half female, and the mean age was 16. Most students were Caucasian (98%) and Catholic (74%). Although the primary purpose of this study was to examine the relationship between retrospectively reported childhood problem behaviors and adolescent intercourse patterns and concurrent health risk behaviors, the researchers also examined the link between intercourse patterns and concurrent depressive symptoms. Intercourse patterns consisted of being classified into one of four groups: abstinent, serially monogamous, episodic multiple partners; and regular multiple partners. Depressive symptoms were assessed using the Center for Epidemiological Studies Depression Scale (Radloff, 1977). They employed a cut-off score to designate serious depressive symptoms. Results showed that

males were significantly more likely than females to have multiple partners, but the researchers found no significant relationship between intercourse patterns and serious depressive symptoms for either males or females.

The results of these five investigations lend considerable support to a conclusion that there is no significant direct relationship between sexual behavior, namely intercourse, and well-being for either male or female adolescents. The age range for these five studies is broad, and included many middle adolescents but also some early and late adolescents. In particular, the absence of findings in the three multi-wave panel studies from two to five years in length, two of which used standardized measures of well-being, support the conclusion that there is no direct relationship. Sexual behavior does not appear to be as detrimental to adolescents' well-being as we might have supposed based on the epidemiological literature.

Can we say then that the sexual behavior of adolescents in no way influences their well-being? No relationship at all between sexual behavior and well-being in adolescence would be an astounding finding, given that adolescence is characterized by developmental theorists, including Sullivan, as a period of greater focus on sexuality and sexual behavior subsequent to puberty. In addition, anyone who knows an adolescent well, or recalls their own adolescent experience, would probably attest to the considerable amount of energy, excitement, and anguish, associated with romantic relationships and experimenting with sexual behavior. We, in fact, cannot conclude from the results of these studies, that there is no relationship between sexual behavior and well-being, only that there is no clear and significant ***direct*** relationship for most adolescents. One or other variables might

moderate this relationship, variables as yet unexamined.

A moderator variable is one that affects the relationship between two other variables (Baron & Kenny, 1986), in this case sexual behavior and well-being. If other variables moderate the relationship between sexual behavior and well-being, then a direct association between sexual behavior and well-being might be obscured. For example, if as Sullivan suggested, early to middle adolescent sexual experimentation is crucial but often awkward, proceeding by "trial-and-error," then in order to understand how this experimentation effects the self-esteem of these adolescents, researchers must find out how they think that their experiments (not necessarily intercourse), faired. Perhaps when early to middle adolescents feel that their experimentation with sexual behavior was successful, their well-being is boosted, but if they feel it was unsuccessful, or even embarrassing, their well-being suffers, at least for a period of time. Testing whether this is the case will require investigating the meanings that adolescents give to their sexual behaviors, the goals of those behaviors, and how adolescents themselves go about evaluating the success or failure of their sexual experimentation. The adolescent's subjective understanding of his or her sexual behaviors would be the potential moderator in this type of research.

The most obvious moderator of the relationship between sexual behavior and well-being suggested by Sullivan's theory, however, is intimacy, particularly among middle to late adolescents. If older adolescents engage in sexual behavior with a partner with whom they have an intimate relationship, their self-esteem may increase, whereas if they engage in sexual behavior with someone with whom they are not emotionally intimate, their self-

esteem may decrease. Intimacy, and possibly other qualities of the sexual relationship context, may moderate the relationship between sexual behavior and well-being for older adolescents. Unfortunately, none of the studies reviewed here assessed intimacy or other qualities of the relationships in which these adolescents had intercourse, although Billy, Landale, Grady, and Zimmerle (1988) seem to acknowledge the potential significance of intimacy in a footnote.

In the search for moderators that can help explain the indirect relationships between adolescent sexual behavior and well-being, if these in fact exist, some attention will need to be paid to diversity among adolescents. The different pattern of results sometimes found for males and females of different ethnic groups and ages in the adolescent sexuality literature, including some of the studies reviewed here (Orr, Wilbrandt, Brack, Rauch, & Ingersoll, 1989; Wade, Thompson, Tashakkori, & Valente, 1989; Stimson, Stimson, & Dougherty, 1980; Langer, Zimmerman, & Katz, 1995; Tubman, Windle, & Windle, 1996), raise questions about the meaning of sexual behavior for different adolescents. Particularly because Sullivan intended his theory to be widely applicable, while, at the same time, he felt that he had better captured males' developmental experience, further testing of gender differences would be a step forward, both in terms of evaluating his theory and developing a positive theory of adolescent sexual development.

In addition, age is a crucial demographic variable for further study. The majority of the participants in the nine studies reviewed here were middle adolescents, those in the 15 to 17 year-old range. Early adolescents, those in the 10 to 14 year-old range, need

much greater attention in this area of research. Surprisingly, late adolescents are also an understudied group. The fact that only one of these studies was with college students is remarkable given their greater accessability to researchers. This may reflect researchers' reluctance to view college students as adolescents, and their tendency to think of them as appropriate subjects for research on adult behavior. Sullivan and other recent adolescent theorists, however, agree that the college years, for most individuals, constitute late adolescence.

Adolescent Intimacy

Overview

In contrast to the problem-orientation that dominates much of the research on adolescent sexuality, most of the research on intimacy during adolescence has shown that it is a resiliency factor, buffering individuals from stress, and promoting individual well-being. Greater intimacy with parents is associated with higher self-esteem, while low adolescent-parent intimacy is associated with depression and suicidality (Field, Lang, Yando, & Bendell, 1995). Supportive friendships enhance self-esteem and facilitate adjustment (Hartup, 1993). A lack of intimacy is associated with greater reports of distress, lower resiliency, and greater likelihood of emotional disturbance (Miller & Lefcourt, 1983). As adolescents mature, intimacy with a few close friends is a better predictor of well-being than popularity (Townsend, McCracken & Wilton, 1988). In fact, the number of reported "intimate" friends decreases steadily from age 12 to age 18, while the reported level of intimacy increases (Claes, 1992).

While intimacy with parents and friends seems to promote adolescent well-being,

little is known about intimacy in adolescent dating or romantic relationships (Prager, 1995). Research with adults shows that a lack of marital intimacy is a critical factor in the etiology of depression (Cutrona, 1996). Men who are married report being significantly happier than men who are single (Vanfossen, 1986). A close confiding relationship with a husband or boyfriend has been shown to reduce the incidence of depression following major life transitions for adult women (Paykel, Emms, Fletcher, & Rassaby, 1980), and the overall quality of the marital relationship is significantly associated with well-being for women (Gove, Hughes, & Style, 1983). Based on these findings from adults and from adolescents' other relationships, one would expect intimacy in adolescent romantic relationships to also positively influence well-being, however there is little existing empirical evidence one way or the other. In a comprehensive book-length review and integration of research on intimacy across the life-span, Prager states , ". . . we need more information about intimacy of all types in teenagers' dating relationships " (1995, p. 117). In regard to the developmental challenges of adolescence, including sexual development, she writes, "The ultimate goal of research on intimacy during these life stages is to illuminate the processes by which intimacy and these life-stage-related concerns and stresses transform one another. (p. 143).

Gender Differences

In the research on adolescent intimacy that has been conducted, significant gender differences are consistently found, both in the amount of intimacy reported and which relationships males and females consider most intimate (Fischer, Munsch, & Greene, 1996). Adolescent females as a group, report more intimacy in their relationships than

males (Hartup, 1993) and place more importance on emotional closeness and self-disclosure (Bakken & Romig, 1992). Sherman and Thelen (1996) found that high school aged males reported feeling closer to dating partners than friends, while closeness with dating partners and friends was equal for females. In another study (Furman & Buhrmester, 1992), adolescent males identified their girlfriends as their primary source of intimacy; whereas, for adolescent females, their friends or mothers were just as likely as romantic partners to be their primary source of intimacy. Although these researchers did not assess well-being, they suggest that males may be more dependent on their girlfriends to meet their intimacy needs because they lack a broader network of relationships that provide intimacy. Thus far, so little research exists on intimacy in adolescent romantic relationships that no firm conclusions can be drawn about how intimacy in these relationships functions and how it relates to adolescents' well-being and development (Fischer, Munsch, & Greene, 1996). Relationships with romantic partners during adolescence may be qualitatively different from other types of relationships. Due to their often transient nature and their unique developmental challenges, some researchers have suggested that these relationships could be as much a source of stress as they are a buffer against it (Larson & Asmussen, 1991).

Review of Studies on Adolescent Intimacy with Romantic Partners and Well-being

In an attempt to glean what hints that do exist in the research literature concerning the relationship between intimacy in adolescent romantic relationships and well-being, a search of the psychological, medical, and sociological computer databases for the past two decades of published research was conducted. In this search, as in the previous search,

studies of either "adolescents" or "college students" were selected. An expressed purpose of the study had to be to examine the relationship between "intimacy," or a proxy variable like "closeness, involvement, or love," with a romantic partner and any index of individual well-being. The thesaurus for each database was accessed to determine these proxy terms. This search produced six investigations. These six studies will be presented in greater detail here. They are summarized in Table 2. Only one of these studies found results that suggest a negative association between intimacy in adolescent romantic relationships and well-being (McDonald & McKinney, 1994), and this study is presented first. The remaining five studies are then presented in order of publication date.

In the study conducted by McDonald and McKinney (1994), high school sophomores answered questions about their dating patterns and their self-esteem. Seventy-five males and 46 females attending high school in a primarily European-American, middle class, Midwestern community participated. The report does not give the age range or mean, but describes the sample as sophomores and age 16. Adolescents were grouped by their response to an item about dating patterns on the questionnaire. They were asked to check the category that best described them from among the following six categories: not dating, going out in male-female groups, dating different people, dating one person without any definite commitment, dating one person exclusively or "going steady," and engaged. The Rosenberg Self-esteem Scale (Rosenberg, 1965) was also administered. The researchers found that those adolescents who were currently dating someone exclusively, or "going steady," had significantly lower self-esteem than other adolescents. The authors discuss their findings in terms of identity development,

drawing on the work of James Marcia (1993), who suggested that too early foreclosure of options in any aspect of identity development might be associated with lower self-esteem. The authors suggest that going steady at this age may reflect, at least temporarily, a foreclosure of dating options, and this "limitation of choices"may have resulted in the lower self-esteem observed.

In the five remaining studies, a positive association between intimacy in adolescent romantic relationships and well-being is generally suggested by the findings. The adolescents in these studies range in age from around 13 to 24, but most are middle to late adolescents, and three of the studies involve college students. The first study among these five is methodologically unique and was conducted by Samet and Kelly (1987) in Hasharon, Israel. A sample of 480 students in grades 8, 10, and 12 was selected, balancing for gender in each grade (80 males and 80 females). Participants were presented with one of four versions of a narrative describing a hypothetical new student that would be joining their class. Versions of this narrative were systematically varied to obtain equal numbers of males and females rating the four versions across the grade classifications. The hypothetical student in the narrative was described in generally positive terms, including "a relatively good student," "known to have a sense of humor," and "honest and trustworthy." The four versions varied only on gender of the student and whether or not the student was described as having a "steady" boyfriend or girlfriend. Participants were asked to read the narrative and estimate the self-esteem of the hypothetical new student. Results showed that all six of the participant groups, i.e. 8th grade males, 8th grade females, 10th grade males, etc., tended to estimate higher self-esteem for hypothetical new

students of either gender who had a steady boyfriend or girlfriend. The finding was stronger for male participants than female participants, regardless of grade, and stronger for more advanced students than the 8th grade students.

The next study, conducted by Long (1989), involved 79 female students contacted annually over their four years at a "small liberal arts college for women." Slightly more than 200 Freshman women completed the initial survey, but only 79 participated all four years. The mean age of the 79 females was 17.7 at the first assessment. At each assessment, participants were asked how often they dated, how many different men they dated, whether or not they had a steady boyfriend, how serious they were about their boyfriend, and whether they were engaged. In addition to examining these items separately, Long converted responses to z-scores and then summed them to arrive at a "heterosexual involvement score" for each participant. Based on this score, participants were then grouped into low involvement, medium-low, medium-high, and high involvement categories. Long assessed well-being via the Rosenberg Self-esteem Scale (Rosenberg, 1965). Results showed that greater heterosexual involvement was associated with higher self-esteem. Dating more frequently over the years, having a steady boyfriend, and being more serious about the boyfriend were individually associated with higher self-esteem.

Aron, Paris and Aron (1995) conducted a study of the relationship between falling in love and self-concept change among 529 college undergraduates at the University of California at Santa Cruz, three-fifths of which were female. The sample ranged in age from 16 to 24, but 92% were 18 to 22 years of age. The majority of the sample was

European American and middle class. Participants were recruited in two introductory psychology courses and then a questionnaire was administered every two weeks at the beginning of class for a ten-week period. The questionnaire incorporated a life events check list for the previous two weeks that included an item that read, "fell in love," and a separate item that asked if the participant was currently "in love." The questionnaire also incorporated the Rosenberg Self-esteem Scale (Rosenberg, 1965) and Sherer's Self-efficacy Scale (Sherer, et al., 1982). Slightly more than one-fourth (n=138) of the undergraduates reported being or falling in love during the ten weeks. Those who fell in love experienced a significant increase in self-efficacy and self-esteem.

Palosaari and Aro (1995) conducted a five year longitudinal study to assess whether having an intimate romantic relationship at age 22 was a protective factor for depression among adolescents with and without predisposing factors, specifically parental divorce and low self-esteem at age 16. They recruited 2,269 9th grade public school students (age 16) in Tampere, Finland to complete questionnaires about their family background, including their parents' marital status, and their self-esteem using a Finnish version of the Rosenberg Self-esteem Scale (Rosenberg, 1965). They were able to contact 1,656 of these adolescents again at age 22, and assess depression using a Finnish version of the short form of Beck's Depression Inventory (Beck, Ryal, and Rickels, 1974). At the five year follow-up, they also asked whether or not the participants were married, cohabitating with a romantic partner, or dating someone exclusively. If they were involved with someone, they were asked to respond to six Likert-type items about the quality of that relationship, which the authors refer to as intimacy. The six items were:

"Our relationship is warm; We are close to each other; Our relationship includes mutual trust; We have many problems; Our relationship is cooling off; and We often quarrel" (p. 93). Responses to these items were summed and then the total was dichotomized at the mean into high and low intimacy. Results showed that low-self esteem at 16 and parental divorce were significant predictors of depression at 22, except for those late adolescents involved in an intimate romantic relationship. While those late adolescents who were involved in a less intimate romantic relationship had higher depression scores than those involved in a very intimate romantic relationship, particularly if they had divorced parents or had low self-esteem at age 16, their depression scores were not as high as the scores of late adolescents with no romantic relationship. In other words, being in a romantic relationship during late adolescence, even if it was low in intimacy, was better, in terms of their well-being, than not being in a relationship, but being in a relationship that was high in intimacy was best of all and eliminated the predictive significance of parental divorce and low self-esteem at age 16.

In the last of the five studies suggesting a positive relationship between intimacy in romantic relationships and well-being, Paul, Poole, and Jakubowyc (1998) investigated how late adolescents made the transition from high school to college in terms of their well-being. They administered a questionnaire to 127 males and 198 females in a mandatory freshman orientation seminar 11 weeks into the Fall semester at an urban state college in the northeast United States. Eighty-four percent were age 18, which was also the mean age. The range is not given. Seventy-seven percent were European American, and the remainder were 6% African American, 5% Hispanic, 3% Asian, 2% Native American, and

7% Other. The sample was 94% heterosexual, 4% homosexual, and 2% unspecified. The investigators were interested in whether those who attempted to maintain a pre-college romantic relationship would experience greater psychological distress in the transition to college than other freshmen, who either were not in a romantic relationship or who started one at college. They hypothesized that those attempting to maintain pre-college relationships would experience conflict related to their need to invest themselves in their new college environment while still maintaining a substantial investment in their old environment. They were also interested in whether adolescents' level of intimacy development would influence their adjustment, thinking that those more skilled at achieving and maintaining intimacy might handle this conflict better.

Intimacy development, in this context, was a global assessment of the individual's intimacy with others, rather than intimacy in the romantic relationship, although the level of intimacy in that relationship, if the adolescent had one, would probably be highly influential on this score. They used the intimacy-isolation subscale of the Measure of Psychosocial Development (Hawley, 1988) to assess intimacy development. They assessed romantic relationship status by asking participants to select which description best characterized them and then grouped them into one of four categories: uninvolved in a romantic relationship; newly involved at college; maintaining a pre-college relationship; and recently dissolved a relationship. Well-being was assessed with the Profile of Mood States (McNair, Lorr, & Droppleman, 1981) which has an overall score for subjective well-being. Results showed that low intimacy development was strongly associated with lower well-being scores. They also found an interaction between intimacy development

and romantic relationship status such that those late adolescents who were low on intimacy development and were either attempting to maintain a pre-college relationship or were uninvolved had lower well-being scores. Those in new relationships had higher well-being scores, even if their intimacy development was low. The authors conclude that low intimacy development, especially when combined with maintaining a pre-college romantic relationship or having no relationship, is a risk factor for poorer adjustment to college. In contrast, those high in intimacy development and those who initiate new romantic relationships, even if their intimacy skills are low, are likely to experience greater well-being through the adjustment to college.

The six studies just presented and summarized in Table 2 investigate the relationship between intimacy in adolescent romantic relationships, or some variable approximating intimacy, and well-being. With the exception of the study by McDonald and McKinney (1994), results of these investigations support a conclusion that intimacy in adolescent romantic relationships is likely to be positively associated with their well-being. Given the preponderance of this finding, the results of this group of studies is easier to interpret than are the results of the studies of adolescent sexual behavior and well-being. In this case, there does appear to be a direct relationship between the two variables, but only if we can assume that the proxy variables captured some aspect of intimacy. Although more work is clearly needed in this area, these studies hint that intimacy in adolescent romantic relationships is likely to be positively related to well-being.

Sullivan (1953) described intimacy as closeness, attention, acceptance, and collaboration permitting mutual validation of personal worth (p. 246). More recent

theories of intimacy echo this definition. McAdams (1989) describes intimacy as a process of sharing between two people in which each person's individuality is respected and valued while they "seek to connect, to share, to become closer" (p. 47). Prager (1995) describes intimate relationships as those characterized by "affection, trust, and cohesiveness," and intimacy itself as "a psychological relation" between people "in which partners share that which is private and personal with one another" in a context of increasingly "shared meaning" (pp. 65-66). Certainly the study by Palosaari and Aro (1995) includes a rough assessment of intimacy defined in this way. The study by Long (1989) probably also contains a kernel of this idea in her assessment of how serious the participants felt about their romantic relationship.

The study by Aron, Paris and Aron (1995) assessed falling in love, which may approximate some aspects of intimacy if we assume that individuals become involved, get to know each other, and fall in love once a certain level of closeness or intimacy is achieved. This sequence, however, might not capture the notions of falling in love held by some of the participants in their study, who may have been reporting on other experiences of love, such as "love at first sight," which would certainly not approximate intimacy as defined by Sullivan and others. The other two studies assess some aspect of dating status which hopefully approximates intimacy, albeit in a very crude way, in that the probability of the adolescent's experiencing intimacy with a romantic partner is increased in dating verses not dating and in "steady" or committed dating relationships as compared to dating several people.

Sullivan suggested that the need for intimacy exists prior to adolescence and is

met primarily with friends even in early adolescence, during the time when youth are experimenting with sexual behavior and sexuality. Late adolescence, according to Sullivan, is typically the period in which efforts to integrate intimacy and sexual behavior are made. In the study by McDonald and McKinney (1994) a negative relationship between steady dating and self-esteem was found. The participants in this study were high school sophomores, or middle adolescents. A possibility exists, that intimacy with romantic partners can occur "too early" in that intimacy with others and greater experimentation is foreclosed. In four of the other five studies (Long, 1989; Aron, Paris, & Aron, 1995; Palosaari, & Aro, 1995; Paul, Poole, & Jakubowyc, 1998), participants were clearly late adolescents, many in their early 20's. These studies found positive associations between intimacy variables and well-being. In the remaining study (Samet & Kelly, 1987), participants were in the 8th, 10th, and 12th grades, and so ranged from around age 13 or 14 to age 18. Results of this study, while also demonstrating a positive association between having a steady romantic partner and self-esteem for all three grades, were significantly stronger for older adolescents than younger adolescents. This suggests an increasing importance of steady dating over the course of adolescence. This finding is in line with Sullivan's theory of the increasing importance of achieving intimacy with romantic partners in later adolescence.

An additional line of research that came up in both the literature searches above, but which does not completely fit in either group of studies, is the work of Susan and Clyde Hendrick and their colleagues at Texas Tech University. Unlike the other studies reviewed, which are either about sexual behavior and well-being or about an intimacy

variable and well-being, these researchers do investigate both sexuality and intimacy related variables in their work. More specifically the Hendrick's research has been concerned with romantic love (1992) and they have investigated what they refer to as "love attitudes" and "sexual attitudes" in relation to a variety of interpersonal and intrapersonal variables.

One study from the Hendrick's research program emerged in these literature searches because it assessed the relationship between love attitudes and sexual attitudes and self-esteem among late adolescents (Baily, Hendrick, & Hendrick, 1987). In this study, 140 male and 146 female undergraduate students at Texas Tech University who were age 20-21, primarily European American, middle class and Protestant, completed the Love Attitudes Scale, the Sexual Attitudes Scale, and the Rosenberg Self-esteem Scale (Rosenberg, 1965). The Love Attitudes Scale (Hendrick & Hendrick, 1986) is a 42 Likert-type item measure that assesses six love "styles." The styles are: Eros (passionate love); Ludus (game-playing love); Storge (love based on friendship); Pragma (logical, rational love); Mania (obsessive, dependent love); and Agape (altruistic love). The Sexual Attitudes Scale (Hendrick & Hendrick, 1987a) is a 43 Likert-type item measure assessing four types of attitudes toward sexual behavior: Permissiveness (casual, guiltless sex); Sexual Practices (sexual responsibility like using contraception); Communion (idealistic, sexuality as spiritual union); and Instrumentality (utilitarian, self-absorbed sexuality emphasizing pleasure without commitment). Although this study does not evaluate the interaction between love attitudes and sexual attitudes in relation to self-esteem, they do present correlations between the love styles and the sexual attitudes and self-esteem.

Results showed that Eros (passionate love) was the only love style that was positively associated with self-esteem for late adolescents. Among the sexual attitudes, only Instrumentality was significantly related to self-esteem and this association was negative. In other words, higher scores for Instrumentality (utilitarian, self-absorbed sexuality emphasizing pleasure without commitment) were associated with lower self-esteem for males and females as a group. In related research, the Hendricks have found that the Eros love style is more strongly associated with intimate self-disclosure than the other love styles, and that people who report being "in love" tend to endorse an Eros love style. They also found that the Instrumental sexual attitude is negatively associated with intimate self-disclosure (Hendrick & Hendrick, 1987b). Thus the Eros style may be most congruent with intimacy as previously defined in this review, and the Instrumental sexual attitude may reflect sexual activity with little intimacy. If these assumptions hold, then greater intimacy in romantic and sexual relationships may be associated with greater self-esteem for late adolescents, much as Sullivan suggested.

Summary and Research Hypotheses

In summary, the studies reviewed suggest that there is actually little or no direct relationship between intercourse and well-being for most adolescents, and that intimacy in adolescent romantic relationships is likely to have a positive influence on well-being, at least for older adolescents. The way in which other sexual behaviors may relate to well-being and the way in which sexuality and intimacy might interact to influence adolescent well-being is unknown. In sum, more research is needed to understand how these variables interact in relation to well-being.

Sullivan's interpersonal theory provides a theoretical framework for assessing these relationships. According to Sullivan, experimentation with sexual behavior is an essential component of healthy adolescent development. This experimentation leads to the establishment of a preferred pattern of sexual behavior which becomes the basis of one's sexuality. Once this pattern is established and adolescents become more comfortable with their sexuality, they begin the task of integrating sexual behavior and intimacy in their romantic relationships. According to Sullivan, the ability to successfully integrate sexuality and intimacy is the key developmental achievement of later adolescence, and failure to achieve this integration may result in lower well-being.

In spite of the fact that his theory has been widely influential, Sullivan's ideas, particularly in regard to adolescent sexuality and the integration of sexual behavior and intimacy, have not been tested empirically. Instead, as was shown in this review, research on adolescent sexuality, which has essentially been research on intercourse, and research on adolescent intimacy, which has yet to focus on adolescent romantic relationships, have proceeded along remarkably separate lines. Adolescent sexuality has often been considered a problem behavior placing adolescents' well-being at risk, while intimacy has been considered a resiliency factor, promoting adolescents' well-being. If Sullivan was correct, then late adolescents who are integrating sexual behavior and intimacy should experience greater well-being than other late adolescents, and intimacy should function as a moderator of the relationship between sexual behavior and well-being. Essential in Sullivan's theory about adolescent development is the idea that sexual experimentation in early to middle adolescence paves the way for the important developmental task of

integrating sexual behavior with intimacy in late adolescence. Again, if this is correct, then sexual behavior and intimacy should become increasingly correlated across adolescence, and be significantly correlated in late adolescence.

In this study, which is cross-sectional in design, I tested two hypotheses. First, I hypothesized that late adolescents who were integrating sexual activity and intimacy would report greater well-being than other late adolescents. Second, I hypothesized that intimacy would moderate the relationship between sexual behaviors and well-being among late adolescents. In addition, I assessed the bivariate relationships between sexual behaviors, intimacy, and well-being. By grounding this study in Sullivan's theory, adopting a normative perspective on adolescent sexual behavior, assessing a variety of sexual behaviors rather than intercourse only, focusing on adolescent intimacy with sexual partners, and bridging the research on adolescent sexuality and intimacy, this project represents a significant advance beyond previous research.

CHAPTER 2

METHODS

This cross-sectional, correlational study used survey methods to explore the relationships between late adolescent sexual behavior, intimacy with sexual partners, and well-being and test Sullivan's theory about adolescent sexual development. The sections in this chapter describe the participants and the procedure and measures that were used.

Participants

The sample for this study was drawn from an initial pool of 514 college students who were enrolled in psychology courses at The University of Tennessee during the Fall semester of 1997, and who chose to participate for extra credit. Two criteria for being included in the analyses for this study were subsequently applied to achieve the target sample: age and marital status. These criteria were applied because a single, late adolescent sample was desired in order to examine Sullivan's theory. Thirty-seven original participants did not meet the age criteria. Data from one 18-22 year-old student was excluded because she was married. The resulting sample consisted of 476 single, 18-22 year-old college students.

Procedure and Measures

Survey

Students completed a "Relationships Survey" consisting of a variety of questions grouped in four parts: (1) General Information; (2) Well-being; (3) Dating Relationships

and Sexuality; and (4) Friendships (See Appendix). The data from the last section on friendships is not used in this study, but was included in the survey for the purposes of another project. This study utilized data from the first three sections. The survey took approximately thirty minutes to complete. At two points in the semester, once before midterm and once after midterm, a notice was posted on a designated extra credit bulletin board describing the survey and offering students a variety of times and locations to take the survey outside class. The notice made it clear that being in a dating or romantic relationship was not a requirement for participation. A total of ten survey sessions were conducted. Large classrooms reserved for the sessions were selected to allow students to be seated several seats away from each other while completing the survey. Students were asked not to write any identifying information on the survey itself, and extra credit record keeping was managed through separate documentation routine in the department. A brief introduction was made prior to the survey, and then any individual questions about the survey were handled on a one-to-one basis by the primary investigator, who was present at all sessions. The study was approved by the Institutional Review Board at The University of Tennessee.

Demographics

Demographic data included gender, age, marital status, ethnic background, grade classification, employment status, parents' marital status, religious affiliation, and residential status. These data were collected via survey items 1 - 9 of the first part of the survey entitled, "General Information."

Well-being

Well-being was assessed using the Rosenberg Self-esteem Scale (Rosenberg, 1965) and the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). These scales have been widely used and have demonstrated adequate psychometric properties.

Self-esteem

The Rosenberg Self-esteem Scale is a ten-item four-point Likert-type scale. The respondent is asked to indicate his or her level of agreement, from strongly agree to strongly disagree, with each statement describing feelings about the self. Examples of items from the Rosenberg Self-esteem Scale include: "I feel I do not have much to be proud of."; "I certainly feel useless at times."; and "I feel that I have a number of good qualities." Cronbach's alpha for the Rosenberg Self-esteem Scale was .85 in this sample. This scale was incorporated as items 5 - 14 of the well-being part of the survey.

Depression.

The CES-D is a 20-item four-point Likert-type scale that assesses current depressive symptomatology in non-psychiatric populations. Respondents indicate how well each statement describes how they have felt during the past week. Examples of items from the CES-D include: "I felt depressed."; "I had crying spells."; and "I could not get going." Cronbach's alpha for the CES-D was .89 in this sample. The CES-D was incorporated into the survey as items 15 - 34 of the well-being part of the survey.

Sexual Behavior

The assessment of sexual behavior was based on eight six-point behavior

frequency items, which are items 10 - 17 of the part of the survey entitled, "Dating Relationships and Sexuality." Students were asked to report how many times during the past month they had engaged in each sexual behavior using a Likert-type scale, ranging from not at all to 51 or more times. Marking a "1" for "held hands" for example, indicated that they had not held hands in the past month. Marking a "2" indicated that they had held hands one to three times in the past month. Marking "3" indicated four to six times, marking "4" indicated seven to 15 times, marking "5" indicated 16 to 50 times, and marking "6" indicated that they had held hands 51 or more times during the past month. The eight behaviors were holding hands, hugging, kissing, massage, fondling with clothes on, fondling with clothes off, oral sex, and intercourse.

Sexual Behavior Categories

Some combining of the eight sexual behaviors was necessary for statistical analyses. One goal in combining the behaviors was to produce theoretically meaningful indices of both the frequency of recent sexual behavior and the nature of that behavior. To achieve this goal, three scores were derived. The frequencies for holding hands, hugging, and kissing were summed to produce an "affectionate behavior" score (Cronbach's alpha = .93). Massage, fondling with clothes on, and fondling with clothes off were summed to produce an "erotic behavior" score (Cronbach's alpha = .89). Intercourse and oral sex were summed to produce an "intercourse behavior" score (Cronbach's alpha = .84). These labels are, of course, imperfect. For example, in some instances, kissing might be very erotic and massage might be more affectionate than erotic. However, these groupings are useful in as much as they generally reflect qualitatively

different categories of behavior that approximate a progression of sexual involvement that most adolescents follow. In order to test the first hypothesis, it was necessary to compute an overall sexual activity score as well. I summed the behavior frequency items to produce this score for each student (Cronbach's alpha = .94). In addition to asking about the frequency of sexual behaviors, the survey also included several items clarifying the nature of students' sexual relationships, such as whether their partner was an exclusive partner or not, and if not, how many sexual partners they had been involved with in the past month.

Intimacy

The Miller Social Intimacy Scale (MSIS) was used to assess students' intimacy with their sexual partners. This scale was incorporated as items 20 - 36 of the "Dating Relationships and Sexuality" part of the survey. The MSIS is a 17-item ten-point Likert-type scale that results in one score measuring intimacy in a specified relationship. The MSIS has good psychometric properties and positively correlates with other measures of intimacy, negatively correlates with measures of loneliness, and differentiates distressed married couples from non-distressed married couples (Miller & Lefcourt, 1982). The scale is designed to measure intimacy emphasizing mutual self-disclosure, acceptance, and affection. Examples of items from the MSIS are: "How often do you confide very personal information to your partner?"; "How important is it to you that your partner understands your feelings?"; and "How important is it to you to listen to his/her very personal disclosures?" The MSIS has demonstrated convergent, discriminant, and construct validity (Perlman & Fehr, 1987). Cronbach's alpha for the MSIS in this sample

was .96. After answering the sexual behavior frequency items, students were asked to answer the MSIS questions thinking about their relationship with the one partner they were "most involved with sexually" during the past month. If they had not engaged in any of the eight sexual behaviors during the past month and were not involved with someone romantically, they were asked to skip the MSIS. I chose to retain this "no partner" group in some analyses, because I wanted to represent, as completely as possible, the broader college student population.

CHAPTER 3

RESULTS

Preliminary Analyses

Demographics

Demographic data for the 476 students show that the sample was two-thirds female (females = 315, males = 162) and half freshman (n = 234). Although the sample ranged in age from 18 -22, the majority were 18 or 19 years old (n = 350, 74%) and in their freshman or sophomore year of study (n = 391, 82%). The sample was 87% European-American (n = 416). The remaining 13% were Asian (n = 22, 5%), African-American (n = 18, 4%), Native American (n = 6, 1%), Hispanic (n = 3, .6%), and Other (n = 11, 2%). The ethnic distribution of the sample closely approximated that of undergraduate students at The University of Tennessee. Students identified their sexual orientation as either homosexual (n = 5, 1%), bisexual (n = 4, 1%), or heterosexual (n = 464, 97%). Three students chose not to respond to the sexual orientation item.

Thirty-five percent (n = 168) of the students reported that they worked either full or part-time in addition to attending college, and 38% (n = 181) reported that they lived off campus. Seventy-three percent (n = 346) identified themselves as members of a Protestant Christian religious denomination, and 14% (n = 69) identified as Catholic, resulting in a sample that is 87% Christian. The other 13% either did not identify as members of any religion (n = 36, 7%), or identified as Hindu (n = 8, 2%), Muslim (n = 3,

.6%), Jewish (n = 1, .2%), or Other (n = 13, 3%). Three fourths (n = 359, 75%) reported that their biological parents were still living together and married to each other. In summary, the late adolescent sample obtained for this study is representative of a young college population at a large public university in the southern United States, the majority of whom identified themselves as heterosexual, European-American, Christian, and from intact families. One third of the sample reported working in addition to attending college and one third lived off campus.

Sexual Behavior

A goal of this study was to obtain a sample representing the widest possible spectrum of experience with sexual behavior and intimacy, or lack thereof, that occurs in a late adolescent college population. The resulting sample, therefore, included students who reported no sexual behavior in the past month and no sexual partners as well as students who reported very frequent sexual behavior and multiple sexual partners. The number of different sexual partners during the last month for any of the eight sexual behaviors, from hugging to intercourse, ranged from 0 to 10. The majority of students (n = 312, 66%) reported having only one sexual partner in the past month. Fifty-five students (12%) reported that they had no partner in the past month. Ninety-nine students (21%) reported having more than one partner. Ten students left the item about number of partners blank. When those who reported having one or more partners for any of the behaviors (n = 411, 86%) were asked to describe the nature of their "most involved" sexual relationship, 284 students (69%) indicated that their sexual relationship was an exclusive or monogamous one, and 127 (31%) reported that the relationship was not exclusive. Within the not-

exclusive group, 58 (46%) said that their partner was a dating partner, but not their only partner; 48 (38%) said their partner was a friend rather than dating partner; and 21 (16%) reported that their partner was someone they didn't know well.

The frequency of reported sexual behaviors tended to decrease along the same lines as the groupings of affectionate, erotic, and intercourse behavior. If 4-6 times can be considered a cutoff point approximating a rate of once per week or more during the past month, then 409 (86%) students reported hugging once a week or more during the past month; 346 (73%) reported kissing once a week or more; 341 (72%) students reported holding hands once a week or more; 287 (60%) reported fondling with their clothes on once a week or more; 263 (55%) reported giving or receiving a massage once a week or more; 255 (54%) reported fondling with their clothes off once a week or more; 175 (37%) reported having sexual intercourse once a week or more; and 142 (30%) reported having oral sex once a week or more during the past month.

Gender Differences

Based on gender differences noted in the literature on depression, self-esteem, sexual behavior, and intimacy, gender differences on key variables in this study were anticipated. When asked to describe their relationship with the partner with whom they were "most involved" sexually in the past month, females were significantly more likely to describe the relationship as an exclusive or monogamous relationship (75%) than were males (58%, $\chi^2 = 12.57$, $p < .000$). Although most students had engaged in sexual behavior during the past month with only one partner, males (28%) were more likely than females (18%) to report having had multiple partners ($\chi^2 = 9.13$, $p = .01$). Table 3 shows

the results of t-tests comparing males and females on sexual behaviors, self-esteem, depression, and intimacy. For all three categories of sexual behavior, females reported slightly higher rates than males, and for affectionate sexual behavior (hugging, kissing, holding hands) the difference approached significance after correcting for multiple comparisons using the Dunn-Sidak formula (Kirk, 1982). Females scored significantly lower on self-esteem than did the males, on average. Although females reported more depression on average than males, the difference was only marginally significant. Females in this sample reported experiencing much higher levels of intimacy with sexual partners than males. In fact, the mean score on the MSIS for females is almost 20 points higher than the mean for males.

Bivariate Relationships Between Well-being, Sexual Behavior and Intimacy

In order to explore the bivariate relationships between the key variables in the study, I conducted correlational analyses between sexual behaviors, intimacy, depression and self-esteem for males and females (see Table 4). All three categories of sexual behavior were positively and significantly related to intimacy with sexual partners for both males and females. The strongest correlations were between affectionate behavior and intimacy. The greater the frequency of affectionate behavior, the more intimate the relationship was rated. Over 60% of the variance in intimacy was accounted for by affectionate sexual behavior, for both males and females. The next strongest associations were between erotic behavior and intimacy, followed by intercourse behavior. Correlations between sexual behaviors and self-esteem and depression for males revealed no significant associations. For females, none of the behaviors were significantly

associated with depression scores, however affectionate and erotic behavior were positively associated with females' self-esteem. Surprisingly, the correlations between intimacy and well-being were not significant for males or females. A comparison of these correlations for males and females using Fisher's z statistic (Guilford & Fruchter, 1973) revealed that none of the coefficients in Table 4 were significantly different between males and females.

Comparing Integrating Late Adolescents to Others on Well-being Measures

In order to test the first hypothesis, that adolescents who were integrating sexual behavior and intimacy would report greater well-being than other adolescents, I took a categorical approach and attempted to determine a group of "integrating" late adolescents and compare them to all other adolescents in the sample. Individuals deemed most likely to be achieving this developmental milestone were those engaging in moderate to high levels of sexual activity who also reported experiencing moderate to high levels of intimacy with their partners. I selected a subset of male and female students who fell in the upper half of the distribution for overall sexual activity and also in the upper half of the distribution for intimacy with their partners. Due to the significant gender difference in intimacy, median scores were determined separately for males and females.

Self-esteem scores and depression scores were subjected to a 2 (gender) by 2 (group: integrating vs. others) multiple analysis of variance (MANOVA). Means and standard deviations are displayed in the first row and first two columns of Table 5. Results indicated a significant multivariate effect of group status ($F(2,441) = 5.57$, $p = .004$, $Eta^2 = .03$). Univariate tests showed that integrating late adolescents reported

significantly higher self-esteem ($F(1,442) = 11.11$, $p = .001$, $Eta^2 = .03$). Although the integrating group reported fewer depressive symptoms than other adolescents, the difference was not statistically significant. The multivariate effects of gender, and the gender by group interaction were also not statistically significant.

In an effort to look at the "other" late adolescents who were not in the integrating group more differentially, I subjected self-esteem scores and depression scores to an additional 2 (gender) by 5 (group) MANOVA. In this analysis, the five groups were: (1) those in the integrating group, (2) those in the lower half of the distribution on both sexual activity and intimacy, (3) those with high sexual activity and low intimacy scores, (4) those with high intimacy and low sexual activity scores, and (5) those without a partner (see Table 5 for means and standard deviations). The multivariate effect for group was again significant ($F(4,443) = 2.25$, $p = .020$, $Eta^2 = .02$). Univariate tests revealed a significant effect of group for self-esteem ($F(4,443) = 3.17$, $p = .014$, $Eta^2 = .03$) and a trend for depression ($F(4,443) = 2.03$, $p = .089$, $Eta^2 = .02$). Bonferroni corrected post hoc pairwise comparisons for self-esteem revealed significant differences between integrating adolescents and those who reported low levels of both sexual activity and intimacy (M difference = 1.60, SE = .517, $p = .02$) and those who reported high sexual activity and low intimacy (M difference = 2.32, SE = .634, $p = .003$). The difference between the no partner group and the integrating group on self-esteem was marginally significant (M difference = 1.69, SE = .631, $p = .078$). Similar post hoc analyses for the trend observed for depression revealed that only the high sexual activity, low intimacy group differed significantly from the integrating group (M difference = 4.06, SE = 1.32, $p = .023$). The

multivariate effect for gender ($F(2,442) = 3.05$, $p = .048$, $Eta^2 = .01$) was also significant in this analysis. Univariate tests revealed a significant effect for gender on self-esteem ($F(1,443) = 5.38$, $p = .021$, $Eta^2 = .01$), and a trend for depression ($F(1,443) = 3.29$, $p = .071$, $Eta^2 = .01$). The multivariate effect for the gender by group interaction, however, was not statistically significant ($F(4,443) = 1.08$, $p = .376$, $Eta^2 = .01$), so the MANOVA procedure did not produce post hoc comparisons for each group by gender.

In order to understand the differences between groups for each gender, I conducted analyses of variance (ANOVA) in which I compared the means for the groups for males separately from females. The results of these analyses, which are considered exploratory, are also presented in Table 5. For males by themselves, the differences between the integrating group and the other groups on self-esteem or depression did not reach statistical significance. For females by themselves, group status was significant in both the two-way and five-way ANOVA. In the two-way ANOVA comparing integrating females with all other females, group status accounted for four percent of the variance in self-esteem ($F(1,301) = 12.45$, $p = .000$, $Eta^2 = .04$) and three percent of the variance in depression ($F(1,298) = 7.52$, $p = .006$, $Eta^2 = .03$). In the five-way ANOVA, comparing all the groups, group status accounted for six percent of the variance in self-esteem ($F(4, 302) = 4.486$, $p = .002$, $Eta^2 = .06$) and five percent of the variance in depression ($F(4,298) = 3.609$, $p = .007$, $Eta^2 = .05$). Bonferroni corrected post hoc pairwise comparisons for self-esteem revealed significant differences between integrating females and those who reported high sexual activity and low intimacy (M difference = 3.01, SE = .811, $p = .002$) and those who had no partner (M difference = 2.35, SE = .805, $p = .038$).

Similar post hoc analyses for depression revealed that only the high sexual activity, low intimacy females differed significantly from the integrating females (M difference = 5.61, SE = 1.65, p = .008).

In summary, the analyses of group differences showed that late adolescents who were integrating sexual activity and intimacy had higher self-esteem than other adolescents, in particular those low on both sexual activity and intimacy and those whose scores were high for sexual activity and low for intimacy. The results for depression were not significant in the first MANOVA in which all adolescents not in the integrating group were combined. In the second MANOVA, however, results showed that integrating late adolescents reported fewer depressive symptoms than adolescents in the high sexual activity, low intimacy group. Gender was significant in the second MANOVA, but the gender by group interactions did not reach statistical significance. Separate exploratory ANOVA's for males and females comparing groups showed that the differences for males did not reach statistical significance, whereas the differences for females did, accounting for from three to six percent of the variance in well-being. Integrating females had significantly higher self-esteem and lower depression than all other females as a group. The group of females reporting high sexual activity in combination with a low level of intimacy had the lowest self-esteem and highest depression scores.

Testing Intimacy as a Moderator of the Relationship Between Sexual Behavior and Well-being

The second hypothesis was that intimacy would moderate the relationship between sexual behaviors and well-being. I conducted multiple hierarchical regression analyses to

predict self-esteem and depression from gender, sexual behavior scores, intimacy scores, and the interactions between these variables. In order not to lose all the depth of information about different sexual behaviors, I chose to use the three category scores in these equations. A total of six equations were computed, three for self-esteem and three for depression (see Tables 6 and 7). In each Table, the three equations correspond to each category of sexual behavior (affectionate, erotic, intercourse), and each equation followed the same format: Step 1 = Enter gender, the sexual behavior score, and the intimacy score; Step 2 = Enter the three two-way interaction terms; Step 3 = Enter the three-way interaction term. Variables, other than gender, which was dummy coded, were centered in the interaction terms to reduce multicolinearity (Jaccard, Turrisi, & Wan, 1990). The number of cases in these six regression equations varies according to the number of participants who reported at least one incidence of one of the behaviors included in the sexual behavior category. For example, to be included in the equation predicting self-esteem from affectionate behavior, intimacy, and gender, a participant had to have complete data on the variables and also had to have reported at least one incidence of either holding hands, hugging, or kissing in the past month. The number of cases in each equation are given in the note for each table. By testing the significance of the addition of the interaction terms to each model, I could assess the extent to which intimacy moderated the relationship between sexual behavior and well-being, and whether or not this relationship was different for males and females (West, Aiken, & Krull, 1996).

In Table 6, the first equation used gender, affectionate sexual behavior, intimacy, and the interactions between these variables to predict self-esteem. The overall model for

this equation was significant and accounted for about four percent of the variance in self-esteem. Gender and affectionate behaviors, as a first order predictors, were significant, but intimacy and the interactions between the variables were not significant, although the interaction between affectionate behaviors and intimacy approached significance. The second equation in Table 6 used gender, erotic sexual behavior, intimacy, and their interactions to predict self-esteem. In this equation, the overall model is not significant and none of the independent variables was statistically significant, although erotic behaviors was marginally significant as a first order predictor. The last equation presented in Table 6 used gender, intercourse behavior, intimacy, and the interactions between these variables to predict self-esteem. This overall model was significant, accounting for about nine percent of the variance in self-esteem. A significant first order effect was found for gender, and intimacy approached significance as a first order predictor. None of the two-way interactions were significant, although the interaction between gender and intercourse behavior approached significance. The three-way interaction between gender, intercourse behavior, and intimacy was significant and added significantly to the R^2 value for the equation.

Results of similar regression analyses for depression are presented in Table 7. The first equation, using gender, affectionate behavior, and intimacy as predictors, was not significant and none of the variables were significant predictors. The second equation, which used erotic behavior as a predictor, also was not significant, although in this equation, the interaction between erotic behaviors and intimacy was significant in the second step. The third equation in Table 7 used gender, intercourse behavior, and

intimacy to predict depression. In this equation, intimacy was significant and gender was marginally significant in step one. The interaction between intercourse and intimacy was significant and the interaction between gender and intimacy was marginally significant in step two, although the contribution of these interactions fell short of a statistically significant increase in the R^2. The three way interaction between gender, intercourse behavior and intimacy was not significant in step three, although the overall model was significant, predicting six percent of the variance in depression.

In order to better understand the nature of the interactions between gender, intercourse behavior and intimacy in these models, I conducted post hoc analyses of interaction effects in multiple hierarchical regression as described by West, Aiken, and Krull (1996). Figures 1 and 2 are graphical displays of the interactions. The graphs in Figure 1 show the relationship between intercourse behavior and self-esteem at three levels of intimacy for males and females. The graphs in Figure 2 show the relationship between intercourse behavior and depression at three levels of intimacy for males and females. These post hoc analyses are not, strictly speaking, considered appropriate for the results for depression because the interaction in step three did not contribute significantly to an increase in the R^2 for that equation. However, in the interest of conducting parallel analyses for the two outcomes, and exploring the relationships between these variables, post hoc analyses were conducted for the findings for depression too. The three lines in each of these graphs reflect low, moderate, and high levels of intimacy. Regression equations for intimacy at one standard deviation above the mean, at the mean, and one standard deviation below the mean were computed to reflect these levels of low, moderate

and high intimacy. The values of 3, 6, and 9 on the horizontal axis reflect a range of intercourse behavior scores. The mean for the intercourse behavior score among those who had at least once incidence of either intercourse or oral sex in the past month was 5.89.

Figure 1 shows that there is a very slight nonsignificant positive slope for the association between intercourse behavior and self-esteem for males at all three levels of intimacy with sexual partners. For females, however, the slopes for the relationship between intercourse behavior and self-esteem become increasingly negative as intimacy decreases. In fact, at high levels of intimacy, there is a very slight nonsignificant positive slope representing the association between intercourse behavior and self-esteem for females, whereas at moderate and low levels of intimacy, the slope for the relationship between intercourse behavior and self-esteem is significant and clearly negative. Post hoc tests of the slopes of self-esteem on intercourse behavior for males and females are presented in Table 8. Based on these analyses, it appears that intimacy moderates the relationship between intercourse behavior and self-esteem for females but not males. For females reporting moderate to low levels of intimacy, greater frequency of intercourse behavior is associated with lower self-esteem.

Figure 2 is the graphical display of the similar equations for depression. The graphs in this figure show a very slight nonsignificant positive slope for the association between intercourse behavior and depression for males reporting low levels of intimacy with their partners. A positive association in these analyses would indicate that greater frequency of intercourse behavior is associated with greater depression. For males

reporting moderate levels of intimacy, there appears to be no association between intercourse behavior and depression. For males reporting high levels of intimacy the direction of the slope changes somewhat, so that there is a nonsignificant slightly negative slope for the association between intercourse behavior and depression. For females, the differences are much greater. Among females reporting low levels of intimacy with their sexual partners, the slope for the association between intercourse behavior and depression is clearly positive. In other words, more frequent intercourse behavior is associated with greater depression. For females reporting moderate levels of intimacy with sexual partners, there is also a significant positive slope for the association between intercourse behavior and depression. Among females who report a high level of intimacy, however, there is a slightly negative nonsignificant slope for the association between intercourse behavior and depression. As intimacy decreases, the association between intercourse behavior and depression becomes increasingly and significantly positive for females. Post hoc tests of the slopes of depression on intercourse behavior for males and females are presented in Table 9. Although the findings are weaker, and should be viewed with caution due to the statistical insignificance of the interaction term in the regression equation, it appears that intimacy moderates the relationship between intercourse behavior and depression more for females but not males. From these post hoc analyses, it appears that as intercourse behavior increases in frequency, females who report moderate to lower levels of intimacy with their sexual partners report experiencing poorer well-being in the form of lower self-esteem and perhaps greater depression, but this is not the case for males, nor is it the case for females reporting high levels of intimacy.

CHAPTER 4

DISCUSSION

Summary of Findings

In this study, I surveyed late adolescents to test two hypotheses: (1) late adolescents who were integrating sexual activity and intimacy would report greater well-being than other adolescents; and (2) intimacy would moderate the relationship between sexual behavior and well-being. These hypotheses were grounded in Sullivan's theory of interpersonal development in which he emphasized the importance of integrating sexual behavior and intimacy for well-being during late adolescence. I found support for the first hypothesis for both males and females as a group in regard to their self-esteem. Late adolescents who were integrating sexual activity and intimacy reported higher self-esteem on average compared to all other adolescents in the sample. When I attempted to look at the other adolescents more differentially, the integrating group had significantly higher self-esteem than adolescents who reported a low level of both sexual activity and intimacy, and those who reported a high level of sexual activity and a low level of intimacy. The results for depression were only marginally significant, but post hoc analyses for this trend revealed that integrating adolescents reported significantly fewer depressive symptoms than adolescents in the group reporting a high level of sexual activity and a low level of intimacy.

In regard to my second hypothesis, I found that intimacy moderated the

relationship between intercourse behaviors and self-esteem, and to a lesser degree depression, for females. Specifically, for females reporting low or moderate levels of intimacy with sexual partners, the relationship between intercourse behaviors and self-esteem was significantly negative, whereas for females reporting high levels of intimacy, the relationship was slightly positive in direction though nonsignificant. In parallel exploratory post hoc analyses for depression, the relationship between intercourse behavior and depression was significantly positive for females reporting lower levels of intimacy. This moderating effect of intimacy was not found in relation to affectionate or erotic behaviors for females, nor was it found in relation to any of the sexual behaviors for males.

In addition to the differences in findings for males and females regarding the moderating effect of intimacy, other gender differences were found in this study. Females tended to report lower self-esteem than males, and more depressive symptoms. Females also tended to report much higher levels of intimacy than males. Most of these late adolescents reported being involved with only one sexual partner during the past month. Females, however, were more likely than males to consider their sexual relationship to be exclusive or monogamous, and males were significantly more likely than females to report having had multiple partners.

The frequencies of reported sexual behaviors in this sample of late adolescents tended to decrease along the same lines as the progression from affectionate, to erotic, and then intercourse behavior. In bivariate analyses, the sexual behavior categories of affectionate, erotic, and intercourse behavior, were all highly correlated with intimacy,

however, the degree of association was greatest for affectionate behaviors, followed by erotic behaviors, and then intercourse behaviors. Among the three categories of sexual behavior, affectionate and erotic behaviors were positively associated with self-esteem for females. Intercourse behaviors were not directly related to females' well-being, and none of the categories of sexual behavior were directly related to males' well-being in bivariate analyses. The correlations between intimacy and well-being were also not significant for males or females.

Applicability of Sullivan's Theory

Sullivan's theory regarding the importance of integrating sexual behaviors and intimacy in late adolescence received qualified support from the results of this study. Based on the categorical approach and MANOVA procedures used to test the first hypothesis, male and female adolescents as a group, who were integrating sexual behavior and intimacy appeared to be experiencing greater well-being than other adolescents, in particular those who reported low levels of both sexual activity and intimacy, and those who reported a high level of sexual activity in combination with a low level of intimacy. Attempting to define a group of integrating adolescents based on survey data about sexual behavior and intimacy was an admittedly somewhat crude approach. For example, students who might be currently without a partner, but who actually had achieved an integration of sexual behavior and intimacy with a previous partner, would have been in the no partner group rather than the integrating group. Other adolescents inadvertently placed in the wrong group might include those that are starting new relationships and though quite capable, simply have not reached a combined high level of intimacy and

sexual activity yet. Nevertheless, this approach served the purpose of providing a broad general test of Sullivan's theory that included all the adolescents in this sample, even those who reported no sexual behavior in the past month. Additionally, this approach probably erred on the side of conservatism, since the main risk was of not including adolescents that should be in the integrating group, and thereby possibly increasing the well-being of the other groups and reducing the chance of finding differences in the hypothesized direction. The fact that group differences were found in spite of these possible misclassifications, suggests that the integration of sexual behavior and intimacy is significantly and positively associated with late adolescents' well-being, at least their self-esteem.

Although not part of hypothesis testing in this study, the finding that sexual behaviors were highly correlated with intimacy for both male and female late adolescents lends some limited additional support to Sullivan's theory. Based on his assertion about the increasing importance of the integration of sexual behavior and intimacy across adolescence, these variables should be increasingly correlated across adolescence, and comparatively highly correlated in late adolescence. Studies including younger adolescents will be needed to address the question of increasing association, but the finding of high correlations between sexual behaviors and intimacy in late adolescence is congruent with Sullivan's theory.

In spite of these findings in favor of Sullivan's theory for both genders, regression analyses showed that intimacy only functioned as a moderator for females. This suggests that there are, in fact, gender differences in the way these variables are related. One possible way of interpreting these findings is that the integration of sexual behavior and

intimacy promotes well-being, especially self-esteem, for both male and female late adolescents, just as Sullivan suggested, however, failure to integrate these two, in particular engaging in intercourse behaviors without intimacy, is detrimental only to females' well-being. The second MANOVA that divided the large group of other adolescents into subgroups and compared them to integrating adolescents showed that adolescents in the high sexual activity, low intimacy group were doing particularly poorly in terms of well-being, and this seemed to be much more the case for females than males. In exploratory ANOVA's the female high sexual activity, low intimacy group had the lowest self-esteem scores and highest depression scores of all groups examined. Since Sullivan asserted that failure to integrate sexual behavior and intimacy is detrimental to late adolescents' well-being, this aspect of his theory may be more in line with females' development than males' development.

Gender Differences in Adolescent Sexuality and Intimacy

Explanatory models of gender differences in social behavior have received greater attention since Sullivan's time. Two of these models will be discussed here, one that relies on theoretical developments in evolutionary biology and one that relies on social learning theory. While neither of these explanatory models is proved or disproved by the results of this study, they may help explain gender differences which are not sufficiently accounted for by Sullivan's theory. Current formulations of these models will be briefly discussed.

First, Buss and Schmidt (1993) employ an evolutionary theory of human mating strategies to explain gender differences in sexual behavior. Their central thesis is that males and females have evolved different psychological mechanisms that guide adaptive

behavior in the form of sexual strategies due to the different mating problems they have encountered over human evolutionary history. According to this theory, males and females pursue reproductive success, or the passing on of their genetic material. Males have historically gained reproductive success through having a greater number of sexual partners, while females have historically gained reproductive success through securing a committed partner who will help provide resources during the female's period of greater parental investment in childbearing and the care of offspring.

This line of thought would suggest then, that the females in this study tended to be involved in monogamous relationships more than the males, who were more likely to report multiple partners, because it has been in females' best interest reproductively to secure partners who are more likely to assist them with the bearing and raising of children. Intimacy may be a measure of emotional investment. If so, engaging in frequent intercourse behavior without intimacy may run counter to females' evolutionary imperative to acquire committed partners who will help supply crucial resources for survival. The psychological mechanism through which this conflict is experienced by females might be a lowered sense of well-being. This would explain why intimacy moderated the relationship between intercourse behavior and well-being for females. Males' evolutionary imperative, in contrast, is to acquire many partners and avoid limiting themselves to one partner too early. Intimacy may be a mixed blessing for males, offering some psychological benefits but also reducing their ability to pursue reproductive success.

A second line of thought explaining gender differences in social behavior comes from social role theory (e.g. Eagly, 1987). According to social role theory, gender

differences in social behavior have arisen from the societal roles traditionally held by men and women, in particular the division of men into the role of wage earners and women into the role of homemakers. These traditional roles still evoke expectancies that influence behavior. Men are expected to provide for the family economically and must compete for resources in the world outside the family. Women are expected to provide a secure home base for men and be the primary caretakers of children. As a result of these expectancies, rather than evolutionary predisposition, females have adopted behavior that is more communal, nurturing, and relationship oriented, and males have adopted behavior that is more agentic and competitive.

Social role theory might suggest that intimacy plays a more influential role for the females in this study than the males because of the expectancies around appropriate social roles for women. Females, with their greater focus on relationships, are socialized to have a greater capacity for intimacy than males, and to place greater importance on intimacy in all kinds of relationships, including sexual relationships. Conversely, males report less intimacy than females, and intimacy fails to moderate the relationship between sexual behavior and well-being for males, because males are socialized to resist self-disclosure, acceptance, and mutual validation, i.e. intimacy, because it is contrary to the demand that they be agentic and competitive.

In related theory, Gagnon (1977) stated that males are ultimately as concerned as females with sexual expression in the context of loving relationships, but they also engage in sexual experimentation as a part of gender role development. Gagnon and Simon (1973) described a sexual script that adolescent males and females follow to relieve

anxiety by reinforcing expected behavior based on gender roles. In this script, males are proactive and pursue greater sexual activity and females are reactive or "gatekeep." Males are concerned with sexual conquest and females are concerned with securing love. In this script, the act of intercourse itself reinforces the male's masculine gender role, regardless of the level of intimacy between the partners. For females, it is the physical union and associated intimacy between the partners that reinforces her feminine gender role.

Archer (1996) has suggested that evolutionary explanations and social learning based explanations are actually compatible, in that socialization practices contribute to the maintenance of gender differences, the origin of which can be found in biologically driven evolved dispositions. Are males and females different in social behavior because of evolutionary imperatives, social role expectancies and gender role scripts, or some combination of the two? The results of this study certainly do not answer this question. The results do suggest that, for whatever reason or combination of reasons, male and female late adolescents still differ in significant ways in terms of sexual behavior and intimacy, and these differences are not sufficiently explained by Sullivan's theory.

According to Erikson (1968), whose theory of development is often contrasted with Sullivan's, late adolescence is a period in which both males and females are likely to be concerned with issues of identity development. He differentiates the course of development for males and females, however, describing adolescent males' identity development as distinct from and prerequisite to their development of intimacy in early adulthood, whereas he describes females' identity development and intimacy development as more intertwined and simultaneous in late adolescence and early adulthood. If Erikson

was correct, then the process of identity development may intersect with sexual development in different ways for late adolescent males and females and partially explain the gender differences I found.

In a more recent formulation, Garrido and Acitelli (1998), go beyond differentiation based on gender to describe "relational identity" as the degree to which one defines oneself in terms of one's relationships. In their study of household tasks, they found that relational identity was a better predictor of how much men and women engaged in household tasks than gender. Perhaps for those late adolescents who are high in relational identity, the disparity between the level of sexual involvement and the level of emotional intimacy in an important relationship may result in greater cognitive dissonance and emotional distress than for those who define themselves less in relational terms. For those low in relational identity, sexual behavior may be more an act of self expression than it is a relational act. Future research examining the relationship between sexual behavior, intimacy, and well-being and also assessing relational identity might be helpful in untangling evolutionary and social role based explanations of gender differences. This would also expand Sullivan's theory and advance research on adolescent sexual development.

Given the ongoing debate about the greater applicability of Sullivan's theory to males or females, examining gender differences was an important first step in studying Sullivan's theory. When gender differences are emphasized in quantitative research such as this, however, the variation within genders is lost (Duck & Wright, 1993). As research on adolescent sexual development, intimacy, and the nature of adolescent romantic

relationships progresses, it will also be important to conduct qualitative research that attends to the individual, for whom gender is but one potential source of variation in development (Feiring, in press). Future research designed to advance a theory about adolescent sexual development should include the assessment of adolescents' subjective experience of their sexuality, both how they feel about the sexual experiences they have or think about having, and how they understand the relationship between "what they do" sexually and "who they are" as sexual beings. This approach would help us to understand how sexual behavior, and sexuality may become part of personal identity and would also allow for the expression of diversity among adolescents of different genders, sexual orientations, ages and ethnic groups.

In addition to this more qualitative approach, future quantitative research could address some of the questions raised by Sullivan's theory and this project. For example, what are the longer term effects of failure to integrate sexual behavior and intimacy? Do males reach a point later in development, perhaps after their gender role or identity is securely achieved, at which intimacy moderates the relationship between their sexual behavior and well-being, or does intimacy remain a moderator for females only? What are the reciprocal influences of well-being, sexual behavior and intimacy? These questions will require longitudinal research that can address the issue of causation.

Research on Adolescent Sexual Behavior

Given the pervasiveness of the problem-oriented approach to understanding adolescent sexual behavior and the tendency in the literature to equate sex with intercourse, this study's findings regarding the relationships between affectionate, erotic,

and intercourse sexual behaviors and well-being are noteworthy. In this study, the direct associations between sexual behaviors and well-being variables were not significant for males. Affectionate and erotic behaviors, however, were associated with higher self-esteem in females. None of the behavior categories was significantly negatively associated with well-being in a direct way for males or females. In other words, the results of this study do not support a conclusion that sexual activity, in and of itself, is harmful to the well-being of older adolescents. Instead, these results suggest that some sexual behaviors may actually promote adolescent well-being, at least for females. These results, like the results of the studies reviewed in Chapter 1, also suggest that there is little direct relationship between intercourse and well-being. Instead, this study showed that, for females, whether or not intercourse behaviors are beneficial, detrimental, or neutral may depend on moderator variables, such as intimacy with sexual partners. Future research should continue to examine sexual behaviors other than intercourse and the role of moderator variables.

Research on Adolescent Intimacy

The literature on intimacy during adolescence demonstrates that intimacy with parents and friends has a positive association with well-being. The literature on adult marital relationships also shows that intimacy is an important buffer against stress. Although less is known about the influence of intimacy with romantic or sexual partners on adolescent well-being, I certainly expected that intimacy would be associated with greater well-being in this sample. Contrary to this expectation, intimacy with sexual partners was not significantly correlated with well-being in bivariate analyses. Perhaps

relationships with romantic or sexual partners during late adolescence are qualitatively different from other types of relationships. Larson and Asmussen (1991) may have been correct in their assertion that, due to their often transient nature and their unique developmental challenges, adolescent romantic relationships are as much a source of stress as they are a buffer against it. The results of this study raise doubt about the usefulness of viewing adolescent romantic intimacy as one more kind of intimacy, similar in function to intimacy in other relationships. More research is needed that explores the function of intimacy in adolescent romantic relationships and compares it to intimacy in other relationships, especially in regard to well-being.

Limitations of this Study

Limitations of this study include the fact that it is correlational in design and I, therefore, cannot draw conclusions about causality from my results. For example, I cannot conclude that integrating sexual behavior and intimacy caused these male and female adolescents to have greater self-esteem. I can conclude, however, that the integration of sexual behavior and intimacy was concomitant with greater self-esteem among these late adolescents. Although I have speculated in terms of causation in this discussion, longitudinal research will need to be conducted in order for the causal relationships between these variables to be known. Well-being, intimacy, and sexual behavior may reciprocally influence each other in complex ways that this study does not explain. In addition, participants in this study were college students and predominantly from a European-American Southern culture. Due to the potentially significant impact of university life and ethnic and regional cultural values on the relationship between sexual

behaviors, intimacy and well-being, these findings may not generalize to all late adolescents.

Another potential limitation of my study is the fact that effect sizes were small, accounting for at most nine percent of the variance in self-esteem. Small effects may, however, have enormous practical implications which make them more impressive (Prentice & Miller, 1992). For example, counselors who work directly with adolescents would benefit greatly from knowledge about what constitutes positive sexual development, and how romantic and sexual relationships, so often a part of adolescents' presenting complaints, may be related to the well-being of their male and female clients. As previously mentioned, a better understanding of sexual development from a normative perspective would also be likely to benefit the development of more effective sexual health education programs (Orr, Wilbrandt, Brack, Rauch & Ingersoll, 1989).

Conclusion

Sullivan seems to have been correct in his assertion that integrating sexual behavior and intimacy is important for the well-being of late adolescents. In this sample, those adolescents who were achieving this integration had higher self-esteem than other adolescents. However, intimacy moderated the relationship between intercourse behavior and well-being for females. Specifically, for females who reported low levels of intimacy with sexual partners, the relationship between intercourse behavior and well-being was negative. The more intercourse behavior they reported, the lower their self-esteem and the greater their depressive symptoms. While both males and females appear to benefit from the integration of sexual behavior and intimacy, females, more than males, appear to

suffer in terms of well-being, from engaging in intercourse behaviors outside the context of emotional intimacy. In this regard, Sullivan's theory appears to be more applicable to late adolescent females than it is to late adolescent males.

Although much of the research on adolescent sexuality has tended to associate adolescent sexual behavior with pathology, none of the sexual behaviors assessed in this study were directly negatively associated with well-being for males or females, while affectionate and erotic behavior were positively associated with females' self-esteem. As in the studies on adolescent sexual intercourse and well-being reviewed in Chapter 1, the results of this study support a conclusion that there is little direct relationship between adolescent intercourse and well-being. Instead, the investigation of a moderator variable suggested by Sullivan's theory, intimacy, proved fruitful. Future research, both qualitative and quantitative should pursue this line of investigation. Using Sullivan's theory as a guide, I recommend examining adolescents' subjective experience in regard to their sexual experimentation and relationship context variables, like intimacy, as moderators.

Surprisingly, intimacy was not significantly directly related to these late adolescents' well-being, suggesting that intimacy with sexual or romantic partners in late adolescence may not serve the same function as intimacy in other types of adolescent relationships. Since so few studies have examined intimacy with romantic or sexual partners in adolescence, concluding from this study alone, that adolescent romantic intimacy is unrelated to their well-being seems premature. More research that explores the function of intimacy with romantic partners compared to friends and parents is needed.

I suspect that Sullivan might take issue with my interpretation that his theory is

"more right" for females. Given that he did not delineate his developmental stages by age, he might suggest that males simply take longer to move from late adolescence into young adulthood, and so it takes longer for intimacy to become a moderator of the relationship between sexual behavior and well-being for males. He did state that females tended to be ahead of males at other developmental stages (1953, p. 266). Still, within the age restrictions of this sample, his theory appears to capture the experience of females more than males, in spite of his sense that he had done the opposite.

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APPENDIX

Table 1

Studies Assessing Adolescent Sexual Behavior and Well-being (1978 - 1998)

Authors and Year Published	Design and Participants	Sexual Variables	Well-being Variables	Results
Orr, Wilbrandt, Brack, Rauch & Ingersoll, 1989.	Cross-sectional. 330 males and 325 females aged 12-16, mean = 13.6, 77% White, 19% Black, attending school in a blue-collar community.	Adolescents grouped into virginal (never had intercourse), sexually experienced (ever had intercourse) or, sexually active (having intercourse once a week or more).	Rosenberg Self-esteem Scale	Sexually active females had lower self-esteem than virginal females. No difference for males.
Wade, Thompson, Tashakkori & Valente, 1989.	Two-wave panel study. 172 black and 426 white females, 164 black and 391 white males, aged 13-19, mean = 15, attending schools in a southern city.	Sexual experiences - sum for hand-holding, kissing, necking, and fondling, but not intercourse, and frequency of intercourse assessed separately.	Questionnaire items to measure self-esteem.	No relationship between the sexual experiences variable and self-esteem. Greater frequency of intercourse was associated with lower self-esteem for black males only.
Stimson, Stimson & Dougherty, 1980.	Cross-sectional. 50 male and 49 female college students representing all students living in dorms at a mid-Atlantic state college.	Items not reported.	Items not reported.	Sexual activity associated with greater social confidence and self-esteem for males only.

Table 1 (Continued)

Authors and Year Published	Design and Participants	Sexual Variables	Well-being Variables	Results
Langer, Zimmerman & Katz, 1995.	Cross-sectional. 1305 10th grade students from eight public schools in Miami, Fla., 50-50 on gender, mean = 15.5, 38% Hispanic, 28% African-American, and 28% White non-Hispanic.	Virginity status, # partners in past three months for any sexual activity, and 3-point item for value of postponing intercourse.	For virgins, 5-point item asking how they expect to feel about themselves after first intercourse, from much better to much worse, for nonvirgins, asking how they felt about themselves after first intercourse, same options.	Virgins anticipated feeling worse, nonvirgins reported feeling better. Males more likely to anticipate and report feeling better than females. More partners was associated with feeling better, and valuing of postponing intercourse with feeling worse.
Newcombe, Huba & Bentler, 1986.	Cross-sectional. 183 males and 193 females aged 12 - 18, from New Jersey birth records. 87% White, 10% Black.	Sexual activity in past year including gay sexual experience and lost virginity.	Score for 12 items measuring self-acceptance	No direct relationship between the sexual activity variables and self-acceptance.
Billy, Landale, Grady & Zimmerle, 1988.	Two-wave panel study. 154 black and 413 white females, 163 black and 390 white males aged 13-19, mean =16, attending Florida Schools.	Transition to intercourse between time one and two.	Questionnaire items to assess self-esteem.	No relationship between transition to intercourse and self-esteem.
Robinson & Frank, 1994.	Cross-sectional. 141 males and 172 females aged 13-19, but 83% 15-18, 53% White, 40% Black, 2% Hispanic, 5% Other, attending high schools, region not given.	Reports that questions about sexual activity were asked. Presents the item: yes/no to sexual intercourse in the past six months as index of sexual activity.	Coopersmith Self-esteem Inventory	Self-esteem scores did not differ for sexually active and nonsexually active adolescents, male of female.

Table 1 (Continued)

Authors and Year Published	Design and Participants	Sexual Variables	Well-being Variables	Results
Crocket, Bingham, Chopak & Vicary, 1996.	Five-wave panel study. 166 females and 123 males, middle to low SES, primarily White, from two rural schools' 7th thru 9th grade classes in the eastern U.S.	Age at first intercourse grouped into: early (by age 14.75 for males, by 15.5 for females), middle (14.75-17 for males, 15.5-17 for females), and late (at 17 or later).	Rosenberg Self-esteem Scale and Self-Image Questionnaire for Young Adolescents	Females in the middle group reported greater peer acceptance than other females. Neither female nor male timing groups differed on self-esteem.
Tubman, Windle & Windle, 1996.	Four-wave panel study. 1167 10th and 11th graders, mean = 16, 98% White, middle to upper SES, 74% Catholic, 16% Protestant, attending schools in western New York, 51% female.	Frequency of intercourse, and # of partners. Adolescents grouped into sexual risk categories: abstinent, serially monogamous, episodic with multiple partners, or regular with multiple partners.	Center for Epidemiological Studies - Depression Scale	Males more likely than females to be in higher risk groups (multiple partner groups). Sexual risk group status and depression were not related.

Note. Terms in this table reflect the language of the authors. Variations in demographic information also reflect variation in the information provided.

Table 2

Studies Assessing Intimacy (or some proxy) in Adolescent Romantic Relationships and Well-being (1978 - 1998)

Authors and Year Published	Design and Participants	Intimacy (or Proxy) Variables	Well-being Variables	Results
McDonald & McKinney, 1994.	Cross-sectional. 75 males and 46 females sophomores in high school, age 16, White, from a middle class Midwestern community.	Dating status: not dating, going out in groups, dating different people, dating one person without commitment, dating one person exclusively, and engaged.	Rosenberg Self-esteem Scale (Rosenberg, 1965).	Both males and females who were going steady, i.e. dating one person exclusively had the lowest levels of self-esteem.
Samet & Kelly, 1987.	Cross-sectional. 480 8th, 10th, and 12th grade students, split evenly on gender, randomly selected from school students in Hasharon, Israel.	4 narratives describing a hypothetical new student, varying on gender and whether or not she/he has a steady boy or girlfriend, but otherwise positive.	Participants asked to estimate the self-esteem of the hypothetical new student in the narrative.	Having a steady boy or girlfriend was related to participants estimating higher self-esteem. Significant for all participant groups, but strongest for male and upperclass participants.
Long, 1989.	Longitudinal. 79 single females assessed annually over four years at a small liberal arts college for women, Mean age =17.7 at the first assessment.	Frequency of dating, # men dated, having steady boyfriend, how serious they were, and whether engaged. Participants grouped by heterosexual involvement into low, medium-low, medium-high, or high involvement.	Rosenberg Self-esteem Scale (Rosenberg, 1965).	Those in the higher involvement categories had higher self-esteem. Dating more frequently, having a steady boyfriend, and being more serious about him were each associated with higher self-esteem.
Aron, Paris & Aron, 1995.	Longitudinal. 529 college undergraduates at University of California Santa Cruz, 3/5 female, age 16-24, 92% 18-22, White, middle class.	Bi-weekly responses over a ten week period to items asking whether or not they were in love and had fallen in love in the past two weeks.	Rosenberg Self-esteem Scale (Rosenberg, 1965), and Sherer's Self-efficacy Scale (Sherer, et al., 1982).	138 undergraduates reported being or falling in love during the ten weeks. Those who fell in love experienced a significant increase in self-efficacy and self-esteem.

Table 2 (continued)

Authors and Year Published	Design and Participants	Intimacy (or Proxy)Variables	Well-being Variables	Results
Palosaari & Aro, 1995.	Longitudinal. 1656 9th grade students (age 16) in Tampere, Finland followed until age 22.	At 22, asked if they were married, cohabitating, or steadily dating, and then six items about intimacy in the relationship. Intimacy dichotomized into high and low.	Finnish versions of the Rosenberg Self-esteem Scale (Rosenberg, 1965), given at age 16, and a short form of the Beck Depression Inventory, (Beck, Ryal, and Rickels, 1974) given at 22.	Those with a high intimate romantic relationship at 22, regardless of their self-esteem at 16 or parental divorce, had lower rates of depression than those without an intimate romantic relationship.
Paul, Poole & Jakubowyc, 1998.	Cross-sectional. 127 males and 198 females recruited from a freshman seminar at an urban state college in the northeast U.S., 84% age 18, 77% White, 6% Black, 5% Hispanic, 3% Asian, 2% Native American, 7% Other, 94% heterosexual, 4% homosexual, 2% unspecified.	Intimacy development assessed with a subscale of the Measure of Psychosocial Development (Hawley, 1988) dichotomized into high and low, and romantic status defined as uninvolved, newly involved, maintaining a precollege relationship, or recently dissolved.	Profile of Mood States (McNair, Lorr, & Droppleman, 1981).	Low intimacy development was associated with lower well-being scores, regardless of romantic status, however there was also an interaction with those low on intimacy development and either maintaining an old relationship or uninvolved having the lowest well-being.

Note. Terms in this table reflect the language of the authors. Variations in demographic information also reflect variation in the information provided.

Table 3

Means and SD's for Males and Females on Sexual Behaviors, Depression, Self-esteem and Intimacy

Variable	Males (n = 161) Mean (SD)	Females (n = 315) Mean (SD)	(df) t
Affectionate behaviors	11.66 (4.83)	12.68 (4.88)	(472) 2.16^
Erotic behaviors	8.52 (4.27)	9.15 (4.27)	(469) 1.53
Intercourse behaviors	4.04 (2.38)	4.30 (2.61)	(471) 1.06
Self-esteem	33.46 (3.82)	32.48 (4.62)	(469) 2.30*
Depression	13.17 (8.59)	14.84 (9.25)	(461) 1.88^
Intimacy	120.40 (36.73)	139.29 (31.25)	(402) 5.40**

Note. ^ $p < .10$, * $p < .05$, ** $p < .01$, corrected for multiple comparisons using the Dunn-Sidak procedure.

Table 4

Bivariate correlations among Sexual Behaviors, Intimacy, and Well-being for Males and Females

Males (n = 161)	1	2	3	4	5	6
1. Affectionate behaviors	--					
2. Erotic behaviors	.83***	--				
3. Intercourse behaviors	.63***	.77***	--			
4. Intimacy	.64***	.47***	.43***	--		
5. Self-esteem	.10	.11	.12	.12	--	
6. Depression	.07	.08	.06	-.05	-.37***	--

Females (n = 315)	1	2	3	4	5	6
1. Affectionate behaviors	--					
2. Erotic behaviors	.84***	--				
3. Intercourse behaviors	.61***	.76***	--			
4. Intimacy	.63***	.55***	.49***	--		
5. Self-esteem	.14*	.13*	.01	.11	--	
6. Depression	-.08	-.08	-.01	-.12	-.51***	--

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

Means and SD's for Self-esteem and Depression for All Late Adolescents, Males, and Females Who Are Integrating Sexual Behavior and Intimacy, All Others, and Four Subsets of the Other Group

	Integrating M (SD)	All Others M (SD)	Low on Both M (SD)	High Sex Low Intimacy M (SD)	High Intimacy Low Sex M (SD)	No Partner M (SD)
Total (n = 453)	(n = 149)	(n = 304)	(n = 131)	(n = 67)	(n = 38)	(n = 68)
Self-esteem	33.89 (4.13)	32.19 (4.46)***	32.29 (4.37)*	31.57 (4.43)**	33.18 (4.28)	32.20 (4.65)^
Depression	13.12 (8.77)	14.94 (9.12)	15.04 (9.37)	17.18 (9.26)*	13.13 (9.41)	13.44 (8.48)
Males (n = 153)	(n = 50)	(n =103)	(n = 43)	(n = 23)	(n = 14)	(n = 23)
Self-esteem	34.10 (4.23)	33.04 (3.59)	32.65 (3.52)	33.26 (3.54)	33.07 (3.95)	33.74 (3.58)
Depression	13.38 (9.87)	12.94 (7.33)	13.25 (6.06)	14.74 (7.26)	14.14 (11.57)	10.34 (8.68)
Females (n = 300)	(n = 99)	(n = 201)	(n = 88)	(n = 44)	(n = 24)	(n = 45)
Self-esteem	33.79 (4.09)	31.77 (4.79)***	32.11 (4.74)	30.68 (4.62)**	33.25 (4.54)	31.42 (4.97)*
Depression	12.99 (8.20)	15.93 (9.76)**	15.92 (10.53)	18.45 (9.99)**	12.54 (8.11)	15.02 (8.02)

Note. * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ significantly different from the Integrating Group.

Table 6

Multiple Hierarchical Regression Analyses Predicting Self-esteem Scores from Gender, Sexual Behaviors, Intimacy, and their Interaction

		B	SE B	R^2 change	R^2
Step 1	Gender	-.990*	.474		
	Affectionate Behaviors	.154*	.075		
	Intimacy	.001	.009	.029**	.029**
Step 2	Gender x Affectionate Behaviors	-.088	.156		
	Gender x Intimacy	-.013	.018		
	Affectionate Behaviors x Intimacy	.003^	.002	.009	.038*
Step 3	3 Way Interaction	.001	.004	.000	.038*
Step 1	Gender	- .780	.485		
	Erotic Behaviors	.115^	.070		
	Intimacy	.004	.008	.019^	.019^
Step 2	Gender x Erotic Behaviors	-.126	.148		
	Gender x Intimacy	-.001	.016		
	Erotic Behaviors x Intimacy	.004	.002	.008	.027
Step 3	3 Way Interaction	.003	.005	.001	.028
Step 1	Gender	-1.593**	.607		
	Intercourse Behaviors	.141	.133		
	Intimacy	.021^	.011	.042*	.042*
Step 2	Gender x Intercourse Behaviors	-.599^	.316		
	Gender x Intimacy	.031	.022		
	Intercourse Behaviors x Intimacy	.010	.006	.019	.061*
Step 3	3 Way Interaction	.036**	.012	.030**	.091**

Note. n's = 394, 372, and 258. ^ $p \leq .10$, * $p \leq .05$, ** $p \leq .01$.

Table 7

Multiple Hierarchical Regression Analyses Predicting Depression Scores Self-esteem from Gender, Sexual Behaviors, Intimacy, and their Interaction

		B	SE B	R^2 change	R^2
Step 1	Gender	1.575	1.010		
	Affectionate Behaviors	-.039	.147		
	Intimacy	-.021	.018	.011	.011
Step 2	Gender x Affectionate Behaviors	-.076	.311		
	Gender x Intimacy	-.005	.037		
	Affectionate Behaviors x Intimacy	-.007^	.004	.009	.020
Step 3	3 Way Interaction	-.001	.008	.000	.020
Step 1	Gender	1.564	1.02		
	Erotic Behaviors	-.025	.136		
	Intimacy	-.022	.016	.011	.011
Step 2	Gender x Erotic Behaviors	.008	.287		
	Gender x Intimacy	-.017	.033		
	Erotic Behaviors x Intimacy	-.011*	.004	.016^	.027
Step 3	3 Way Interaction	-.005	.009	.001	.028
Step 1	Gender	2.422^	1.333		
	Intercourse Behaviors	.025	.295		
	Intimacy	-.064**	.025	.033*	.033*
Step 2	Gender x Intercourse Behaviors	.702	.699		
	Gender x Intimacy	-.087^	.050		
	Intercourse Behaviors x Intimacy	-.026*	.014	.022	.055*
Step 3	3 Way Interaction	-.037	.028	.007	.062*

Note. n's = 390, 368, and 256. ^ $p \leq .10$, * $p \leq .05$, ** $p \leq .01$.

Table 8

Post Hoc Tests of the Slopes of Self-esteem on Intercourse Behaviors at Low, Moderate, and High Levels of Intimacy

		Intimacy		
		Low	Moderate	High
Males	B	.736	.495	.254
	t	1.689	1.929	.751
	p	ns	ns	ns
Females	B	-1.689	-.700	.289
	t	-3.057	-2.581	1.648
	p	.002	.010	ns

Note. High, moderate and low refer to values 1 SD above the mean, at the mean, and 1 SD below the mean.

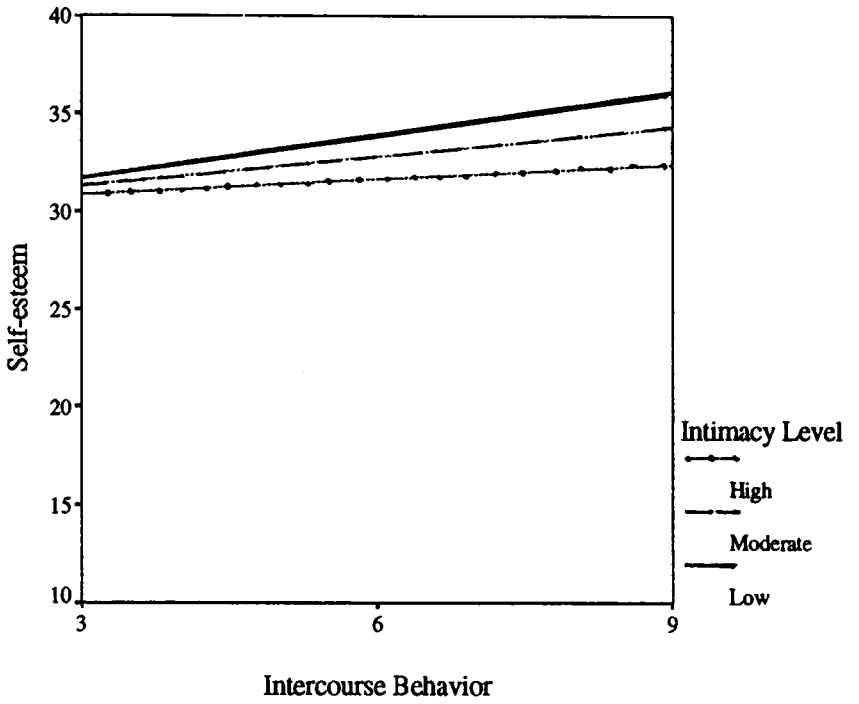
Table 9

Post Hoc Tests of the Slopes of Depression on Intercourse Behaviors at Low, Moderate, and High Levels of Intimacy

		Intimacy		
		Low	Moderate	High
Males	B	.230	-.056	-.342
	t	.238	-.099	-.452
	p	ns	ns	ns
Females	B	2.809	1.256	-.297
	t	2.280	2.062	-.758
	p	.023	.040	ns

Note. High, moderate and low refer to values 1 SD above the mean, at the mean, and 1 SD below the mean.

Males



Females

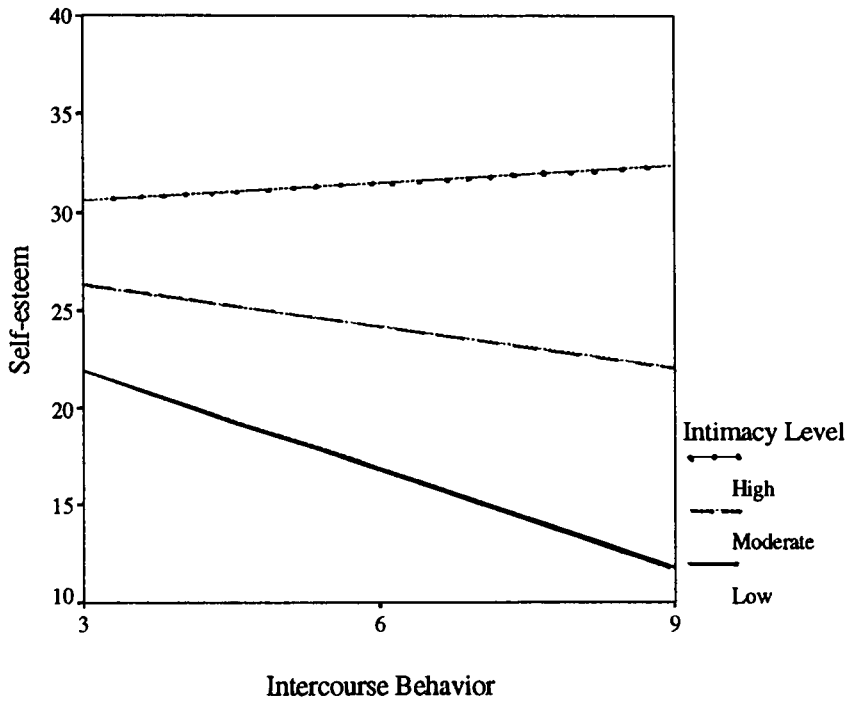
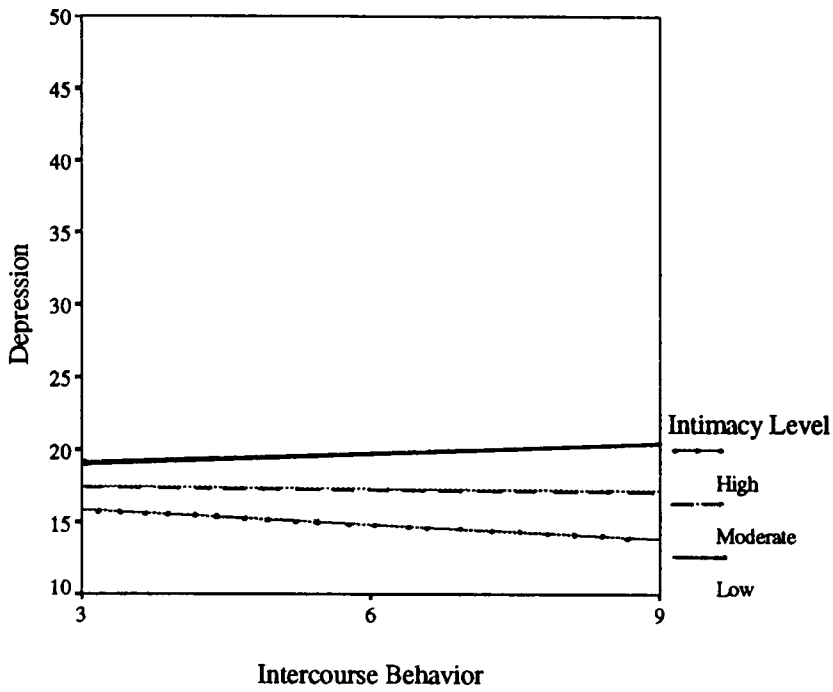


Figure 1. Relationship Between Intercourse Behavior and Self-esteem at Low, Moderate and High Intimacy for Males and Females

Males



Females

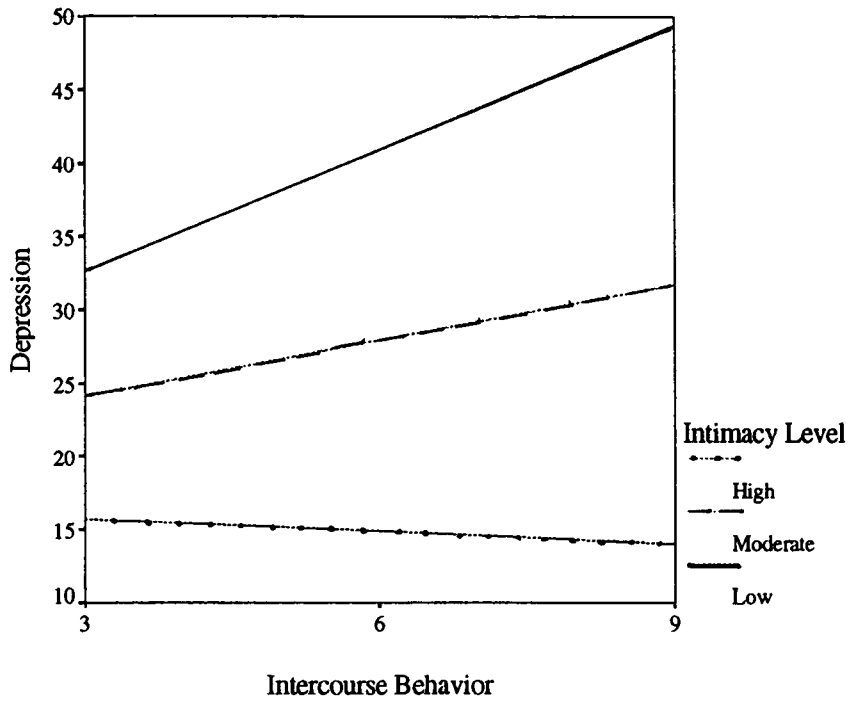


Figure 2. Relationship Between Intercourse Behavior and Depression at Low, Moderate and High Intimacy for Males and Females

RELATIONSHIPS SURVEY

Please read and sign the separate consent form before completing this survey. You cannot get extra credit without a signed consent form.

Thank you for choosing to complete our survey as an extra credit project. This survey is about dating relationships, friendships, sexuality, and your well-being. We hope you will feel comfortable enough to complete all the items candidly because this information is important to our research work.

We take your privacy very seriously and will not be associating your name with your responses in our work. Your data will be kept anonymous. We are looking for trends and patterns among students, rather than information specific to any one individual. In order to help us protect your privacy and get the most accurate information possible, **DO NOT** write your name on your survey and **DO NOT** look at anyone else's survey or confer with anyone while completing it. Thank you again for your participation.

Part 1: General Information

1. Gender (Circle one): Male Female

2. Age:_____

3. Your marital status (check one):

_____Single _____Separated _____Living together
_____Married _____Divorced

4. Ethnic background (check one):

_____African American _____Caucasian _____Hispanic
_____Native American _____Asian _____Other

5. Current grade classification:

_____Freshman _____Junior _____Other
_____Sophomore _____Senior

6. Are you currently employed?

_____Yes, full-time _____Yes, part-time _____No

7. What is your parent's marital status?

_____Married to each other _____Never married
_____Separated from each other _____Deceased
_____Divorced

8. Your religious affiliation:

_____Protestant Christian _____Muslim
_____Catholic Christian _____Other (specify)_____
_____Jewish _____None

9. How would you describe where you live now?

_____Urban (city) _____Suburbs _____Rural (country)
_____Dorms

Part 2: Your Well-being

1. How often do you smoke cigarettes?

Never	Rarely	Once a month	2-4 times a month	5-8 times a month	9-15 times a month	Daily
1	2	3	4	5	6	7

2. How often do you drink alcohol (beer, wine, whisky, mixed drinks, etc.)?

Never	Rarely	Once a month	2-4 times a month	5-8 times a month	9-15 times a month	Daily
1	2	3	4	5	6	7

3. How often do you smoke pot (marijuana)?

Never	Rarely	Once a month	2-4 times a month	5-8 times a month	9-15 times a month	Daily
1	2	3	4	5	6	7

4. How often do you use cocaine or crack?

Never	Rarely	Once a month	2-4 times a month	5-8 times a month	9-15 times a month	Daily
1	2	3	4	5	6	7

Directions: Please circle the number to the right of each item that best describes your feeling.

	Strongly Agree			Strongly Disagree
5. I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4

	Strongly Agree			Strongly Disagree
6. I feel that I have a number of good qualities.	1	2	3	4
7. All in all, I am inclined to feel that I am a failure.	1	2	3	4
8. I am able to do things as well as most other people.	1	2	3	4
9. I feel I do not have much to be proud of.	1	2	3	4
10. I take a positive attitude toward myself.	1	2	3	4
11. On the whole, I am satisfied with myself.	1	2	3	4
12. I wish I could have more respect for myself.	1	2	3	4
13. I certainly feel useless at times.	1	2	3	4
14. At times I think I am no good at all.	1	2	3	4

Directions: Below is a list of ways you might have felt or behaved. Please indicate how often you have felt this way in the past week.

During the past week,	Less than one day	1-2 days	3-4 days	5-7 days
15 . I was bothered by things that usually don't bother me.	1	2	3	4
16. I did not feel like eating; my appetite was poor.	1	2	3	4
17. I felt that I could not shake off the blues even with the help of my family or friends.	1	2	3	4
18. I felt that I was just as good as other people.	1	2	3	4

During the past week,	Less than one day	1-2 days	3-4 days	5-7 days
19. I had trouble keeping my mind on what I was doing.	1	2	3	4
20. I felt depressed.	1	2	3	4
21. I felt that everything I did was an effort.	1	2	3	4
22. I felt hopeful about the future.	1	2	3	4
23. I thought my life had been a failure.	1	2	3	4
24. I felt fearful.	1	2	3	4
25. My sleep was restless.	1	2	3	4
26. I was happy.	1	2	3	4
27. I talked less than usual.	1	2	3	4
28. I felt lonely.	1	2	3	4
29. People were unfriendly.	1	2	3	4
30. I enjoyed life.	1	2	3	4
31. I had crying spells.	1	2	3	4
32. I felt sad.	1	2	3	4
33. I felt that people disliked me.	1	2	3	4
34. I could not get "going."	1	2	3	4

Part 3: Dating Relationships and Sexuality

1. As far as dating is concerned:

   _____I am not seeing anyone right now.
   _____I am seeing several people right now (2 or more).
   _____I am in a relationship with one person.
   _____I am engaged.
   _____I am married.

2. If you answered that you are in a relationship with one person, are engaged, or are married, in the last question, how long have you been with your relationship partner?

   _____years _____months _____days _____not in a relationship

3. Have you broken up with a dating partner in the past month?

   _____yes _____no

4. Your sexual orientation:

   _____heterosexual _____bisexual _____homosexual

5. Have you ever had sexual intercourse?
   _____yes _____no

6. How often do you use any birth control (pill, condom, diaphragm, etc...)
   _____This questions doesn't apply to me because I haven't ever had sexual intercourse.
   _____I never use it.
   _____Occasionally.
   _____About half of the time.
   _____Most of the time.
   _____Always

7. How often do you use condoms (rubbers)?
   _____This questions doesn't apply to me because I haven't ever had sexual intercourse.
   _____I never use it.
   _____Occasionally.
   _____About half of the time.
   _____Most of the time.
   _____Always

8. Have you ever been pregnant or gotten someone pregnant?
_____yes _____no

9. If you answered yes to #8, how many times?_____

During the past month, how many times have you done any of the following sexual behaviors with anyone?

	Never	1-3 Times	4-6 Times	7-15 Times	16-50 Times	51 or more Times
10. Held hands.	1	2	3	4	5	6
11. Hugged	1	2	3	4	5	6
12. Kissed	1	2	3	4	5	6
13. Massage or backrub	1	2	3	4	5	6
14. Touched each other intimately with clothes on	1	2	3	4	5	6
15. Touched each other intimately with clothes off	1	2	3	4	5	6
16. Had oral sex	1	2	3	4	5	6
17. Had sexual intercourse	1	2	3	4	5	6

18. For all of the sexual behaviors you just answered about (10-17) combined, how many different partners were you involved with during the past month? _____partner(s)

19. For item #17 only, how many different partners have you had sexual intercourse with during the past month? _____partner(s)

Choose from the partner(s) you answered about in #10-17 above (holding hands, kissing, etc...) and select the one partner that, in your opinion, you were the most involved with sexually and answer the next set of questions (20-36) about your relationship with that person only. If you have not engaged in any of the behaviors in #10-17, (holding hands etc...) and you are not involved with anyone romantically at this time, please skip to Section 4 Friendships on Page 8.

	Very rarely				Some of the time					Almost always
20. When you have leisure time, how often do you choose to spend it with this person?	1	2	3	4	5	6	7	8	9	10
21. How often do you keep very personal information to yourself and not share it with this person?	1	2	3	4	5	6	7	8	9	10
22. How often do you show this person affection?	1	2	3	4	5	6	7	8	9	10
23. How often do you confide very personal information to this person?	1	2	3	4	5	6	7	8	9	10
24. How often are you able to understand this person's feelings?	1	2	3	4	5	6	7	8	9	10
25. How often do you feel close to this person?	1	2	3	4	5	6	7	8	9	10
	Not much				A little					A great deal
26. How much do you like to spend time alone with this person?	1	2	3	4	5	6	7	8	9	10
27. How much do you feel like being encouraging and supportive to this person when he/she is unhappy?	1	2	3	4	5	6	7	8	9	10
28. How close do you feel to this person most of the time?	1	2	3	4	5	6	7	8	9	10
29. How important is it to you to listen to this person's very personal disclosures?	1	2	3	4	5	6	7	8	9	10
30. How satisfying is your relationship with this person?	1	2	3	4	5	6	7	8	9	10
31. How affectionate do you feel towards this person?	1	2	3	4	5	6	7	8	9	10

	Not much				A little					A great deal
32. How important is it to you that this person understands your feelings?	1	2	3	4	5	6	7	8	9	10
33. How much damage is caused by a typical disagreement in your relationship with this person?	1	2	3	4	5	6	7	8	9	10
34. How important is it to you that this person be encouraging and supportive to you when you are unhappy?	1	2	3	4	5	6	7	8	9	10
35. How important is it to you that this person show you affection?	1	2	3	4	5	6	7	8	9	10
36. How important is this relationship in your life?	1	2	3	4	5	6	7	8	9	10

37. How would you describe the person you have just answered about in #20-36 above:

_____ The person is my spouse. We are married.
_____ The person is my fiancé or future spouse. We plan to marry.
_____ The person is a dating partner and we date only each other (exclusive relationship), but no wedding plans at this time.
_____ The person was my only dating partner but we have broken up now.
_____ The person is one dating partner, but I go out with other people too (not exclusive).
_____ The person is a friend of mine, but not a dating or romantic partner.
_____ The person is someone I do not know very well.
_____ Other

Part 4: Friendships

1. As far as *really close* friends go, I currently have:
   _____ None right now.
   _____ 1 - 2
   _____ 3 - 4
   _____ 5 - 6
   _____ More than six really close friends.

2. It is good for females to have very emotionally intimate female friends:

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. It is good for males to have very emotionally intimate male friends:

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. I currently have a *best* friend (other than a romantic partner):

   _____ Yes _____ No

5. My best friend (or your closest friend other than a romantic partner) is:

   _____ Male _____ Female

Please answer questions 6 - 22 about your relationship with your closest current friend other than a romantic partner:

	Very rarely				Some of the time					Almost always
6. When you have leisure time, how often do you choose to spend it with this person?	1	2	3	4	5	6	7	8	9	10
7. How often do you keep very personal information to yourself and not share it with this person?	1	2	3	4	5	6	7	8	9	10

	Very rarely				Some of the time					Almost always
8. How often do you show this person affection?	1	2	3	4	5	6	7	8	9	10
9. How often do you confide very personal information to this person?	1	2	3	4	5	6	7	8	9	10
10. How often are you able to understand this person's feelings?	1	2	3	4	5	6	7	8	9	10
11. How often do you feel close to this person?	1	2	3	4	5	6	7	8	9	10

	Not much				A little					A great deal
12. How much do you like to spend time alone with this person?	1	2	3	4	5	6	7	8	9	10
13. How much do you feel like being encouraging and supportive to this person when he/she is unhappy?	1	2	3	4	5	6	7	8	9	10
14. How close do you feel to this person most of the time?	1	2	3	4	5	6	7	8	9	10
15. How important is it to you to listen to this person's very personal disclosures?	1	2	3	4	5	6	7	8	9	10
16. How satisfying is your relationship with this person?	1	2	3	4	5	6	7	8	9	10
17. How affectionate do you feel towards this person?	1	2	3	4	5	6	7	8	9	10
18. How important is it to you that this person understands your feelings?	1	2	3	4	5	6	7	8	9	10
19. How much damage is caused by a typical disagreement in your relationship with this person?	1	2	3	4	5	6	7	8	9	10

	Not much				A little					A great deal
20. How important is it to you that this person be encouraging and supportive to you when you are unhappy?	1	2	3	4	5	6	7	8	9	10
21. How important is it to you that this person show you affection?	1	2	3	4	5	6	7	8	9	10
22. How important is this relationship in your life?	1	2	3	4	5	6	7	8	9	10

23. If I had a very personal or private matter than I needed to talk to someone about, I would be most likely to go to:

_____ My romantic partner.
_____ My closest friend.
_____ My mother.
_____ My father.
_____ My sibling (brother/sister).
_____ My grandparent.
_____ Other (describe the type of relationship)_____.

Please circle the relationship that *most fits* each statement about *the way you usually feel.* Choose *only one* relationship for each statement.

24. When I have free time, I usually want to spend it with:	a romantic partner	a close friend
25. The one who knows me best is probably:	a romantic partner	a close friend
26. I am more likely to hide my true feelings from:	a romantic partner	a close friend
27. When I'm blue, I usually call:	a romantic partner	a close friend
28. The person I would tell more secrets to is:	a romantic partner	a close friend
29. When it comes to deep conversations, I prefer:	a romantic partner	a close friend
30. I would feel more comfortable crying with:	a romantic partner	a close friend
31. I usually share more activities/hobbies with:	a romantic partner	a close friend
32. I am usually happiest when spending time with:	a romantic partner	a close friend

33. I feel the best about myself when with: a romantic partner a close friend

34. I can be my *real* self the most with: a romantic partner a close friend

35. My most emotionally intimate relationship is usually with: a romantic partner a close friend

36. The key to building and keeping a *close friendship* is to: (Check only one.)

_____ Spend time doing things together. _____ Spend time talking to each other.

37. The key to building and keeping a close *romantic relationship* is to: (Check only one.)

_____ Spend time doing things together. _____ Spend time talking to each other.

38. My friendships are often:

_____ More emotionally intimate than my romantic relationships.
_____ Equally emotionally intimate as my romantic relationships.
_____ Less emotionally intimate than my romantic relationships.

39. Doing favors for each other is more common in the friendships of:

_____ Females
_____ Males
_____ Females and males are equally likely to do favors for each other in friendships.

40. Sharing very personal information is more common in the friendships of:

_____ Females
_____ Males
_____ Females and males are equally likely to share personal information in their friendships.

41. Doing activities together is more common in the friendships of:

_____ Females
_____ Males
_____ Females and males are equally likely to do activities together in their friendships.

42. Telling each other how they feel is more common in the friendships of:

_____ Females
_____ Males
_____ Females and males are equally likely to tell each other how they feel in friendships.

43. Emotional intimacy is more common in the friendships of:

_____ Females
_____ Males
_____ Females and males are equally likely to have emotionally intimate friendships.

Thank you very much for filling out our survey. You are finished. Please give your survey and consent form to our staff.

VITA

Myra Christensen Kawaguchi was born May 23, 1961 in Ardmore, Oklahoma. She attended Northwestern Oklahoma State University where she earned her Bachelor of Art degree in May of 1982. In 1982 she moved to Nashville, Tennessee and worked for the children's inpatient psychiatric facility of Vanderbilt University. In 1983 she transferred to the Department of Pediatrics of Vanderbilt University where she worked full-time until 1990 as a research coordinator for the "Early Support Project," a National Institute of Mental Health funded longitudinal child abuse prevention grant to William Altemeir, M.D. During this same period, she attended Tennessee State University and earned her Master of Science degree in Psychology in May of 1990. From 1990 until 1993, Myra worked as a Child Development Specialist for the Maternal and Infant Care Program of Metropolitan Nashville General Hospital, where she worked extensively with adolescent mothers conducting parenting support groups and counseling them about reproductive health and interpersonal relationships. During her tenure at MIC, the clinic was honored as a Model Teen Pregnancy Program in Tennessee. In August of 1993, she entered the Ph.D. program in Clinical Psychology at the University of Tennessee in Knoxville. While in the Ph.D. program she has continued to pursue her interest in interpersonal relationships and adolescent health and development under the mentorship of Deborah Welsh, Ph.D. She has been the recipient of the Hilton A. Smith Fellowship awarded by the graduate school, and the Department of Psychology Graduate Student Research Award. The doctoral degree will be received in August of 1999, after completion of her clinical internship at The Guidance Center in Murfreesboro, Tennessee.