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I am submitting herewith a dissertation written by Catherine Marie Grello entitled "Adolescent Sexual Behaviors: Analyses of Context." I have examined the final paper 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.

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Acceptance for the Council:

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ADOLESCENT SEXUAL BEHAVIORS: ANALYSES OF CONTEXT

A Dissertation

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Degree

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Catherine Marie Grello

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DEDICATION

This dissertation is dedicated to my husband Fred for his never-ending encouragement and sacrifice during my pursuit of higher education. To my children, William, Monica, Christina, Alexandra, and Matthew for their support and understanding when I was unavailable. To my many friends, lab mates, classmates, and instructors for their assistance, consultation, and collaboration. To Deborah Welsh, my mentor and my friend, for always inspiring me and guiding me during this long and arduous journey. Additionally, I dedicate this work to the memory of my parents, Elizabeth and Charles Maltman who taught tenacity.

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Abstract

The three studies presented in this paper together examined personal, psychological, and relational variables and their association to adolescent sexual behaviors. By examining adolescent sexual behaviors in the context in which they are embedded and adding to our questions, non-coital sexual behaviors, the two studies presented here provide evidence that the relationship context is an important consideration. For some adolescents engaging in sexual behaviors is likely symptomatic; however, for others engaging in sexual behaviors is less problematic.

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PART I

INTRODUCTION AND OVERVIEW

Chapter I

Introduction

Adolescence is a time of developmental triumphs and tribulations. The adolescent body goes through numerous biological changes and the adolescent mind matures and attains new abilities that foster relational skills not previously available (DeLameter & Friedrich, 2002). Simultaneously, adolescents' social relationships become more central; they experience significantly less dependency on family for emotional support as they progress towards independence (Buhrmester & Furman, 1987; Furman & Buhrmester, 1992).

During adolescence, the ability to engage in and maintain a romantic relationship is considered a salient milestone in the development of intimacy (Erikson, 1968). Adolescents strive to form their sense of self as they integrate cognitive, personal, and behavioral components and expressions. Interpersonal contexts provide an arena in which adolescents can implement and practice new skills. They also offer a context where adolescents explore emerging sexual feelings and expressions (Savin-Williams & Diamond, 2004). Most adolescents experiment with sexual behaviors in the context of a romantic relationship; however, a significant number engage in sexual behaviors in a casual relationship or with a close friend (Feldman, Turner, & Araujo, 1999). Although the majority of youth experiment or engage in some form of sexual behavior, adolescent sexuality is most often conceptualized by parents and policymakers as a "problem behavior" or a "risk behavior," rather than as a milestone important for the development of intimacy and identity (Savin-Williams & Diamond, 2004).

The two studies described here examine how personal, psychological, and relational variables are linked to adolescent sexual behavior and individual functioning. In framing the purpose of these investigations and the importance of the normative perspective of adolescent sexuality in context, I will present the current state of the research in adolescent sexuality as well as arguments and developmental considerations of the limits of the pathological focused paradigm of adolescent sexual research.

Pathology Focused Paradigm and its Limitations.

Historically, the study of adolescent sexuality has in part, provided broad statistics alerting parents, politicians, and policy makers to the "problem behaviors" of our nation's youth. In 1976, the Alan Guttmacher Institute published a report referring to the "epidemic" rate of pregnancy among American adolescent females (Alan Guttmacher Institute, 1976). The Guttmacher report served as a catalyst, triggering a plethora of problem-oriented research to understand the "epidemic" and design intervention programs to stop or at least curtail its spread (Savin-Williams & Diamond, 2004; Welsh, Rostosky, Kawaguchi, 2000).

Using a pathology focus, during the past thirty-years, researchers have identified numerous problem behavior correlates linked with adolescent sexual behavior (Paikoff, McCormick, & Sagrestano, 2000). For example, sexual behaviors have been strongly linked with depression and delinquent behaviors as part of a problem-behavior constellation in adolescents. This constellation is comprised of a number of behaviors, including sexual intercourse, alcohol, cigarette smoking, low self-esteem, depression, violence, and suicidality (Jessor, Costa, Jessor, & Donovan, 1983; Whitbeck, Yoder,

Hoyt, & Conger, 2000). For example, Tubman and colleagues (1996) examined the precursors and correlates of sexual intercourse using a longitudinal sample collected from 1,167 high school sophomore and juniors. They found internalizing and externalizing behaviors to be associated with early onset of coitus. Specifically, females who transitioned to intercourse reported having more depressive symptoms than females who delayed transition to intercourse. In contrast, adolescent males who transitioned to intercourse reported fewer depressive symptoms; however, they reported participating in more behaviors that were described as delinquent, they were more likely to drink alcohol, and they had poorer academic performance than their male cohorts who delayed transition (Tubman, Windle, & Windle, 1996). Likewise, Crockett and her colleagues found that adolescents who transitioned to sexual intercourse during early adolescence showed significantly more problem behaviors than those who transitioned in middle adolescence (Crockett, Bingham, Chopak, & Vicary, 1996).

Many investigators have interpreted these findings as powerful evidence in support of the conclusion that sexual behavior is not associated with healthy development in adolescents. However, the vast majority of research on adolescent sexual behavior to date is limited and has not been adequately addressed the context of sexual development. In general, research has essentially ignored theories regarding normative sexual development by treating puberty as the foundation of human sexual development rather then a milestone of sexuality (Gullotta, Adams, & Montemayor, 1993; Ponton, 2000). Furthermore, most investigative data has been gathered primarily from minority or economically disadvantaged populations; therefore missing both diversity and the adolescent majority (Tolman, 1994).

In addition to ignoring the context of the sexual relationship, research has primarily focused on intercourse. Yet, sexual behavior does not begin and end with intercourse. There is likely a variety, as well as, a progression of affectionate and intimate sexual behaviors that may have increasing significance to the nature of the sexual partnership (Welsh, Rostosky, & Kawaguchi, 2000). However, problem focused research on adolescent sexual behavior has typically examined adolescent sexuality as a dichotomous variable, those who have and those who have not, rather then examining the full scope of adolescent sexual behaviors including kissing, hugging, fondling, or oral sex (Paikoff, McCormick, Sagrestano, 2000; Savin-Williams & Diamond, 2004; Paikoff, McCormick, Sagrestano, 2000; Welsh, Rostosky, & Kawaguchi, 2000; Whitaker, Miller, & Clark, 2000).

Definitions of sex have been inconsistent and the research questions used in adolescent sexuality investigations are often not explicit enough, leaving interpretation up to the respondent, further increasing the likelihood of misrepresentative or biased data (Savin-Williams & Diamond, 2004; Sanders & Reinisch, 1999). Adolescents themselves hold widely divergent definitions about which behaviors constitute "having sex". Using a convenience sample of 500 college undergraduates, Sanders and Reinisch (1999) found 59% of participants stated that oral sex *is not* "having sex" with another person. Additionally, 19% of the sample stated anal sex *is not* "having sex." Almost all students in the study (99.5%) agreed sexual intercourse *is* having sex. In the sample, 79% of males and 80% of females reported having engaged in intercourse. Eighty-two percent of the females and 84% of the males reported having engaged in oral sex. Those who reported a history of oral sex but not intercourse, were more likely to conclude that oral

sex was *not* "having sex" then those who had experienced only intercourse, oral sex and intercourse, or neither intercourse or oral sex. Those who had only engaged in oral sex behaviors with their partners did not define the behavior as sexual, thus they conceptualized themselves as virgins, at least technically (Sanders & Reinisch, 1999).

To summarize, the current pathology focused paradigm ignores the context of the relationship in which the sexual behavior is embedded. It is possible that for some adolescents sexual behavior may be an activity of a close relationship with few if any detrimental effects and for others it may be symptomatic of more pervasive difficulties (di Mauro, 1995; Welsh, Rostosky, & Kawaguchi, 2000). For example, when examining commitment in late adolescent couples, Rostosky and her colleagues (1999) found high levels of commitment between romantic partners were associated with affectionate sexual behaviors (kissing, holding hands, hugging), whereas intercourse was not related to couple members' commitment (Rostosky, Welsh, Kawaguchi, & Vickerman, 1999). Similarly, affectionate sexual behaviors have also been associated with more connecting conversational interactions and greater relationship satisfaction in adolescents couples (Welsh & Dickson, 2004).

Normative/Developmental Perspective of Adolescent Sexuality.

In her executive summary to the Social Science Research Council, Diane di Mauro (1995) called for specific changes in adolescent sexual research including examining diverse sexual behaviors in the context in of the sexual relationship when formulating hypotheses regarding healthy sexual development. She argues that investigating sexuality on a continuum rather than the traditional dichotomy is imperative

to differentiate sexual experiences for those for whom sexual behavior is healthy and developmentally appropriate and for those for whom sexuality is symptomatic of other problems. di Mauro expressed the notion that examining the social contexts and the full range of sexual behaviors of adolescents would be paramount for practitioners, policymakers, parents, and adolescents themselves in differentiating normative sexual behavior from unheathy sexual behavior (di Mauro, 1995).

Others have argued that by understanding adolescent sexual behavior within the context in which it takes place will help to differentiate those behaviors that are "risky" from those behaviors that are a part of a healthy love relationship. Consequently, providing the necessary developmental information needed to design and develop more effective intervention programs (Savin-Williams & Diamond, 2004). Since the majority of adolescents engage in coitus before they graduate high school (Abma & Sonenstein, 2001) it is doubtful that they are all pathological or maladaptive, perhaps there are psychological and behavioral differences associated with sexual behaviors in different contexts. For example, sexual behavior in the context of a romantic relationship may be an expression related to feelings of love, intimacy, and emotional closeness. Conversely, sexual behavior with a stranger may be a symptom of problematic functioning.

The normative or developmental perspective of adolescent sexuality includes understanding sexual behaviors within the context of relationships and considers culture, ethnicity, parental and peer milieus, individual values and morality, media influences, as well as personal characteristics that influence the meanings that adolescents ascribe to their sexual behaviors, feelings, and their developing sense of self as sexual beings. Personal meanings and feelings associated with sexuality and sexual partners may be

more important in understanding adolescent sexuality than are the sexual behaviors themselves (Welsh, Rostosky, & Kawaguchi, 2000). Some adolescents may participate in sexual behavior primarily for erotic or physical pleasure whereas others may be motivated to engage in sexual behavior for emotional reasons such as an expression of love, affiliation, and/or commitment (Faulkenberry, Vincent, James, & Johnson, 1987). Thus, understanding the relational context and motivations better, appreciation of the nature of adolescent sexuality may be realized. Comprehensive knowledge can foster the design and implementation of more effective educational programs.

Chapter II

Sexuality

Sexuality is a multifaceted construct influenced by society, biology, as well as psychology. It has cognitive, interpersonal, intrapersonal, and behavioral components and expressions. Biology and social interactions shape sexual identities, attitudes and beliefs toward sex, as well as sexual behavior. Sexuality manifests differently at various stages of the life cycle, with each stage heralding the next. Each developmental juncture has new milestones to achieve and manage (DeLamater & Friedrich, 2002).

Social Influences.

Although developmental researchers are beginning to acknowledge that adolescent sexual behavior is an important aspect of development (DeLamater & Friedrich, 2002; Savin-Williams & Diamond, 2004; Welsh, Rostosky, & Kawaguchi, 2000) the current culture in the United States does not approve of adolescent sexual behavior, especially intercourse (Oliver & Hyde, 1993). American public schools must teach only sexual abstinence if they expect to receive federal funding (Kirby, 1997). Sexual abstinence programs are very specific, telling adolescents to refrain from engaging in sexual intercourse until marriage and providing no information about contraception, relationships, or communication (Kirby, 1997). Parents and policymakers express fear and concern that programs that are more comprehensive will increase sexual behaviors, despite empirical evidence to the contrary (Kirby, 1997). While being taught the importance of sexual abstinence, the media bombards adolescents with messages that

glorify sexuality, promote sexual behaviors and encourage gender stereotypes (Ponton, 2000).

Sexual morality is a socially constructed phenomenon that reflects the current culture, political, and religious beliefs of the society. Often it is the prevalent opinion that establishes which sexual behaviors are acceptable and which are pathological (Maddock, 1997; Wilcox & Wyatt, 1997). For example, in the early 1900's well-intentioned medical experts warned the public that masturbation would led to blindness, impotence, acne, and/or insanity. Nocturnal emissions were more troublesome as it was believed that they would cause brain damage and eventual death (Brecher, 1969; Robinson, 1976).

Havelock Ellis, a physician during the early 1900s, became concerned about his own nocturnal emissions. He read the current literature of the time convincing him that he would die a terrible death. Ellis decided to document his demise by keeping a detailed journal that he would dedicate to science and research. After months of careful self-observation, Ellis concluded that he was not dying or even sick. He was angry at the misinformation by the experts and dedicated his life to research and providing accurate sex information, becoming a pioneer in the field of sex research (Johnson, 1979; Robinson, 1976).

Ellis studied the sexual experiences of hundreds of individual adults and concluded that nocturnal emissions and masturbation were not only normal; they were harmless and commonly experienced by adults. Ellis also concluded that homosexuality was not necessarily pathological and that women were capable of sexual pleasure as well as orgasm. The culture of the time was open to Ellis' suggestions regarding masturbation

and nocturnal emissions in adults; however, his assertions regarding homosexuals and women were vehemently rejected as immoral (Brecher, 1969; Johnson, 1979; Robinson, 1976). Thus, a sexual behavior that once conceptualized as immoral and pathological by American cultural standards transformed into a culturally normative and acceptable component of adult behavior (DeLamater & Friedrich, 2002; Gadpaille, 1975).

Since Ellis' early studies, our understanding of adult heterosexuality has increased dramatically. Seminal research by Kinsey (1948, 1953) and Masters & Johnson (1976) have lead to the normalization of adult sexual behavior. Research has lead to the acknowledgement that women are capable of achieving orgasm as well as enjoying sexual intercourse (Masters & Johnson, 1966). Their research help to make notions that were once taboo, acceptable.

More than 40 years ago, Ira Reiss identified the phenomenon known as the sexual double standard that rewards males for sex with increased social status and punishes females with tarnished reputations (Reiss, 1960). Research suggests that socialization and the double standard continue to influence both males and females and may contribute to gender differences in research on sexuality (Milhausen & Herold, 1999). Their peers refer to sexually experienced adolescent males as studs and females as sluts. American adolescent males are under pressure to pursue sexual intercourse and adolescent females are socialized to be the "sexual gatekeeper" policing not only their own genuine sexual feelings and desires, but their partners' as well (Ponton, 2000; Zimmerman, Sprecher, Langer, & Holloway, 1995).

Biological Influences.

Sexual feelings, desires, and expressions do not suddenly turn-on; they develop throughout the span of life (Bancroft, 2002). Each life stage has an effect on subsequent stages, and includes attaining and managing sexual developmental milestones (DeLamater & Friedrich, 2002).

Sexual arousal is apparent at birth. Infant males experience erections and infant females have been found to produce vaginal lubrication. Infants as young as 4-5 months old are capable of achieving orgasm and pre-school children will spontaneously touch and exhibit their genitals (Kinsey, Pomeroy, & Martin, 1948; 1953). Approximately 25% of females and 50% of males engage in preadolescent sexual play that can include touching the genitals or breasts of a same-aged friend (Johnson & Friend, 1995). During puberty, adolescents develop secondary sex characteristics and increased hormone levels (Tanner, 1967; Udry, 1988). The rise in hormones at puberty augments sexual desire, attraction, and fantasy. Social and interpersonal factors interact increasing or decreasing sexual expressions (Udry, 1988).

Psychological Influences.

The foundation for the capacity for intimacy begins at birth with experiences with the parents and progresses with affiliations with same gendered peers. Intimacy transforms and evolves, building upon the experiences with each previous close relationship (Collins & Sroufe, 1999). During adolescence, relationships with parents and family go through drastic transformations as dependency on parental support and family interactions begin to decline (Csikszentmihalyi & Larson, 1984). Adolescents

typically spend more time with peers and begin to turn to their peers rather then their parents for support (Buhrmester & Furman, 1987; Furman & Buhrmester, 1992). Adolescents begin to value and seek closeness with peers; they learn to tolerate and accept intense and wavering emotions of others and to share those experiences with their friends through the development of mutual disclosure (Furman & Wehner, 1994; 1997). At the same time, their new cognitive facilities allow them to be sensitive and supportive to the needs and feelings of others (Piaget & Inhelder, 1958). Males and females begin to develop closeness within their peer groups and romances often begin to emerge (Furman & Wehner, 1994; 1997).

Chapter III

Adolescent Romantic Relationships

Although they are often ephemeral, romantic relationships serve a salient function in the development of intimacy, identity, and sexuality during adolescence. Romance is frequently a central focus of adolescents and a common cause of both positive and negative emotions (Wilson-Shockley, 1995). Early romantic relationships significantly influence the formation of the capacity for intimacy (Collins & Sroufe, 1999). They are important for health and adjustment, as well as fostering the course of development (Furman & Shaffer, 2003). Romantic self-concepts reflect a history of good verses bad experiences and are comprised of self-views of attractiveness, confidence, loyalty, passion, and attachment. Simultaneously, adolescents develop a sense of identity that incorporates these self-views with moral and religious values, attitudes, and beliefs. Beliefs and attitudes, behavioral patterns, and emotional orientation in romances are influenced by a history of interpersonal experiences with parents, partners, and peers (Furman & Wehner, 1994; 1997). Unlike parent-child relationships, romantic relationships are voluntary and symmetrical. The hallmark of a romantic relationship is sexual attraction (Collins & Sroufe, 1999).

Furman postulates romantic relationships undergo many changes over the course of development. His theoretical framework of Behavioral Systems integrates insights of attachment theory with Sullivan's theory of social needs (Furman & Wehner, 1994, 1997). Furman posits that in a committed relationship the romantic partner serves as a salient attachment figure. The couple members provide mutual support, care giving, comfort, and reciprocal altruism. Partners provide social needs of affiliation and

eventually sexuality. Adolescents organize important attachment figures (parents, friends, and romantic partners) in a hierarchy. This hierarchy is quite malleable and figures can move up and down in importance as the relationships grow and the adolescent ages. The flexibility of the hierarchy allows adolescents to learn and gain important social skills and carry these competencies into subsequent relationships (Furman & Wehner, 1997). Thus, the succession of short-lived romantic relationships young adolescents frequently experience, may serve an important developmental foundation for long-term adult relationships (Feiring, 1996).

Roscoe, Diana, & Brooks (1987) compared early, middle, and late adolescents' views on dating. They found evidence that the function of dating appears to reflect development and changes over the course of adolescence. In early adolescence, the primary function of dating seems to be one of immediate gratification. Young adolescents are often self-focused, status seeking, and greatly dependent on peer approval in their partner selection. They typically do not base their initial romantic relationships on attachment needs or sexual fulfillment. When asked to rank in order of importance their reasons for dating, early adolescents stated recreation, intimacy, and status. Late adolescents tended to be more independent and oriented towards the future. Their relationships are considered more mature and reciprocal in nature. In order of importance, they perceived dating to serve as a source of intimacy, companionship, socialization, and recreation. Examination of gender differences revealed that late adolescent males repeatedly stated that sexual activity was a primary reason to date, whereas late adolescent females believed that intimacy was more significant (Roscoe, Diana, & Brooks, 1987).

Romantic Relationships and Sexual Transition.

American adolescent females tend to transition to dating relationships slightly earlier than adolescent males. However, by age 18 most American adolescents (80%) have had at least one dating experience (Carver, Joyner, & Udry, 2003), with approximately half of 10-12 graders dating once a week or more (Sroufe, Cooper, DeHart, 1996; Cummings, 1995). Approximately three fourths of American adolescents between the ages of 18 and 19 report having at least one coital experience. Fifty-two percent of all adolescents in the United States between the ages of 15-19 report having at least one coital experience. These rates represent a departure from the upward trend of the previous two decades. Rates of sexually experienced adolescents in the United States have recently begun to stabilize, at least among adolescent females (Abma & Sonenstein, 2001).

In a recent national study, adolescents reported engaging in coital behavior most frequently within the context of a romantic relationship, however more than one-third reported engaging in coital behaviors in casual sex relationships. Interestingly, they reported participating in more behaviors that are affectionate with romantic partners than they did with their casual sex partners, suggesting perhaps that adolescents consider these behaviors more intimate than genital sexual behaviors (Kaiser Family Foundation, 2002).

Romantic Relationships, Sexual Behaviors, and Depressive Symptoms.

Adolescent females are often more likely than adolescent males to feel regret, guilt, and shame about engaging in sexual activity (Benda & DiBlaso, 1994; Crockett, Bingham, Chopak, & Vicary, 1996). Nevertheless, sex experiences can be positive for

females when they occur in romantic relationships characterized by good communication (Donald, Lucke, Dunne, & Raphael, 1995) and high in intimacy, care giving, and altruism (Collins & Sroufe, 1999).

Romantic relationships and/or the lack of dating can contribute to the increase in depressive symptoms that emerge during adolescence (see Welsh, Grello, & Harper, 1999). Those who do not date can feel awkward or left out of the peer group (Jackson, 1997). Dating on the other hand, has been associated with increased depressive symptoms, especially adolescent females who may be more vulnerable to the detrimental impact of romantic relationships (Joyner & Udry, 2000). The role of romantic involvement and depressive symptoms is unclear. However, those who do experience romantic involvements will likely experience a romantic break-up at some point. Romantic dissolution at anytime but especially during adolescence can be devastating and is a possible a source of depression (Kaczmarek & Backlund, 1991). The pain can be further intensified by the lack of perceived support from parents and other adults who often see the chronological duration of the relationship as ephemeral, but fail to recognize the intense emotions adolescent experience in their romances, as well as disregarding the end of fantasies regarding the future of the relationship (Kaczmarek & Backlund, 1991).

Chapter IV

Obstacles to Adolescent Sexual Research

Sexual research has a long history of cultural controversy. While there is no doubt that adolescent sexual behavior can increase the risk of contracting sexually transmitted disease and unwanted pregnancy, adolescent sexual behavior may not always be indicative of pathology. Consideration of context and developmental timing may help to disentangle healthy expressions of love and care from symptomatic behavior. Yet, the normative perspective is rejected by policy makers, politicians, and parents who accept adolescent sexual behavior as problematic and immoral, albeit clearly a part of adolescent behavior (Graber, Brooks-Gunn, & Galen, 1998). Historically, politicians have conceptualized sexual research in general as frivolous. In 1975, Senator William Proxmire (D-Wisconsin) awarded the first Golden Fleece Award to Elaine Hatfield, claiming that her empirical investigations of love and sexuality were a waste of taxpayer money (Clay, 2003).

Most recently, the National Institutes of Health (NIH) have come under the scrutiny of the House of Representatives who would like to limit public funding for sexual research. Policy makers claim that investigations examining the sexual health of men and women, sexual risk, and homosexuality are not relevant topics of government-funded investigations (McCain, 2003). Currently, the only research that can be funded are those that promote sexual abstinence as the only means of AIDS/HIV prevention and those that examine male sexual impotence (Clay, 2003).

Peer review journals also fuel the controversy. Following the publication of a study on understanding adolescents' interpretations of the definition of sex (Sanders &

Reinisch, 1999), the editor of the Journal of the American Medical Association (JAMA) was relieved of his position. The dismissal of the editor coincided with the impeachment trial of President William Clinton. JAMA stated that the dismissal of the editor was because the article was making a political statement and threatened the integrity of the journal, even though the data was collected several years before the impeachment proceedings (Tanne, 1999). Examining sexual behaviors is difficult enough, requiring parental permission, resistance from schools, and the lack of consistent theories (Savin-Williams & Diamond, 2004). However, funding challenges and possibly publication resistance may exacerbate the situation (Tanne, 1999).

Chapter V

Overview of Empirical Studies

Previous research has largely operated from a pathology perspective that has neglected the relational context of adolescents' sexual behaviors and has been limited to only examining sexual intercourse as synonymous with sexuality. The two presented studies attempt to broaden our understanding of adolescent sexuality by operating from a normative perspective, examining relational context in which the sexual behaviors occur, as well as examining a variety of affectionate and genital sexual behaviors. Data for the two studies have been drawn from different sources. Study one uses a large nationally representative sample to broadly examine romantic and sexual trajectories and study two uses a sample of late adolescent college students to examine the nature of casual sex relationships.

Study 1: Dating and Sexual Relationship Trajectories and Adolescent Functioning.

The aim of the first study is to disentangle the separate contributions of adolescent dating, romantic sex, and casual sex to depressive symptoms, delinquent behaviors, and experiences of violent victimization among adolescents. To explore the associations we use longitudinal data from a nationally representative sample of adolescents who had never dated or had intercourse (N=2344). We examine the different trajectories of these youth over the following year, distinguishing between those who begin dating, transition to romantic sex, or transition to casual sex. We compare the different trajectory groups in depressive symptoms, delinquent behaviors, or experiences of violent victimization. We hypothesize that by disentangling the context of adolescent sexual behavior for some,

transition is symptomatic of a problem constellation; however, for others, problem behaviors and functioning is not influential. We examine the temporal relationships between sexual transition trajectories and functioning to understand which comes first, problems behaviors and/or depressive symptoms or sexual behavior.

Study 2: No Strings Attached: The Nature of Casual Sex in Late Adolescence.

Casual sex relationships are quite common among adolescents, but they are not well understood, having received only limited empirical investigation. The second study examines individual characteristics, including religiosity and love styles, associated with casual sex encounters of 387 college students. We explore the links between early sexual transition, current depressive symptoms, alcohol/drug use, and infidelity. We hypothesize the nature and context of the casual sex union is an important factor and associated with well-being. Evolutionary theory suggests casual sex relationships serve different functions for males and females; therefore, we examine gender differences to explore these associations. We examine frequencies of genital sexual behaviors (intercourse and oral sex) and affectionate sexual behaviors (kissing, holding hands, hugging, and massage), in casual sex liaisons as well as romantic relationships to explore saliency of sexual expressions and emotional intimacy.

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PART II

DATING AND SEXUAL RELATIONSHIP TRAJECTORIES AND ADOLESCENT FUNCTIONING

This part is a paper recently accepted for publication by the Journal of Adolescent and Family Health. The paper is loosely based on a poster, Developmental trajectories of adolescent romantic relationships, sexual behaviors, and feelings of depression. The poster was presented at the 2001 biennial of the Society for Research in Child Development, in Minneapolis, MN.

Grello, C.M., Dickson, J.W., Welsh, D.P., Wintersteen, M.B., & Harper, M.S. (2001, April). *Developmental trajectories of adolescent romantic relationships, sexual behaviors, and feelings of depression.* Poster presented at the biennial of the Society for Research in Child Development, Minneapolis, MN.

Grello, C. M., Welsh, D. P., Harper, M. S., & Dickson, J.W. (in press). Dating and relationship trajectories and adolescent functioning. *Journal of Adolescent and Family Health.*

My use of "we" in this chapter refers to my co-authors and myself. My primary contributions include (1) concept and identification of the research questions, (2) statistical analyses, (3) gathering and interpretation of relevant literature, and (4) the majority of the writing.

Chapter I

Acknowledgment

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Chapter II

Abstract

This study aimed to disentangle the separate contributions of adolescent dating, romantic sex, and casual sex to depressive symptoms, delinquent behaviors, and experiences of violent victimization among adolescents. To explore these associations we began with a nationally representative sample of adolescent virgins who had never dated (N=2344). We examined the different trajectories these youth took the following year. By distinguishing between dating, romantic sex, and casual sex, we found that the transition to dating or romantic sexual intercourse was not associated with significant increases in depressive symptoms, delinquent behaviors, or experiences of violent victimization; however, casual sex was associated with significantly greater psychological distress and problem behaviors before and after transition. We also discovered that casual sex is quite pervasive among adolescents. Almost 15% of twelve to sixteen year olds and more than 40% of seventeen to twenty-one year olds in our nationally representative sample who were virgins at Wave 1 had engaged in casual sex during the following year. The implications of these findings for adolescents' health are discussed.

Chapter III

Introduction

Preoccupation with romantic and sexual feelings becomes ubiquitous during adolescence (Medora, Goldstein, & Von der Hellen). By the time they graduate high school most adolescents will have transitioned to intercourse (Alan Guttmacher Institute [AGI], 1999). In Western cultures, it is usually believed that the typical sequence of transition to intercourse begins with a romantic or dating relationship (Reiss, 1986). A romantic relationship implies physical and emotional attraction as well as desire between two individuals (Miller & Benson, 1999). Romantic relationships generally increase in commitment and with this increase in commitment; adolescents will often experiment with sexual behaviors from affection to intercourse (Thornton, 1990). However, some adolescents will transition out of this sequence and begin their relationship with intercourse (Grello, Dickson, Welsh, & Wintersteen, 2000). The timing of the initiation of dating and/or intercourse may have substantial implications for adolescents' well being. For example, those who transition prematurely or out of sequence may experience more emotional, social, and behavioral problems than those who delay. Premature transition to intercourse has been found associated with several problem behaviors that include delinquency, drug and alcohol use, smoking, and violence (Jessor, Costa, Jessor, & Donovan, 1983). Premature transition has also been found associated with increases in depressive symptoms (Joyner & Udry, 2000). However, which comes first, intercourse and increased emotional and social difficulties? Or do the emotional and social struggles precede transition?

In a recent investigation of more than 12,000 nationally representative adolescents, Joyner and Udry (2000) examined the association between change in depressive symptoms over a one-year period and involvement in a romantic relationship. They found that adolescents who became romantically involved between data collection points grew more depressed than adolescents who were not romantically involved during the preceding year. Although both males and females were found to experience increases in depressive symptoms, dating was more strongly associated with depressive symptoms in females than in males. Joyner & Udry suggested that females may be more vulnerable to increases in depression when they become romantically involved.

Davies & Windle (2000) prospectively examined delinquent behaviors and depressive symptomatology among 701 middle adolescents and found that mild delinquent behaviors and depressive symptoms were linked with transition to different dating patterns. Specifically, they found that adolescents who dated multiple casual partners showed an increase in their participation in delinquent behaviors while steady daters showed decreased problem behaviors and decreased depressive symptoms one-year later. Furthermore, the differences in depressive symptoms and problem behaviors were evident prior to transition to casual or steady dating. Neither of these two studies on dating considered adolescents' sexual behavior (Joyner & Udry, 2000, Davies & Windle, 2000).

Sexual intercourse remains a statistically normative behavior among adolescents (Graber, Britto, & Brooks-Gunn, 2000). Although recent reports have demonstrated an increase in sexual abstinence among adolescents, almost a quarter of 15-year-olds, 39-45% of 16-year-olds, nearly 60% of 17-year-olds, 65-68% of 18 year-olds, and 77-85%

of 19 year-olds report having engaged in sexual intercourse before marriage (AGI, 1999). The majority of adolescents transition to coitus within the context of a romantic relationship, often within the first two-months of beginning a new relationship (Grello, Dickson, Welsh, & Wintersteen, 2000). While 65% of adolescents transition to intercourse with a romantic partner, more than 70% of adolescents engage in sexual activity with partners with whom they are not romantically involved (Feldman, Turner, & Araujo, 1999; Grello, Dickson, Welsh, & Wintersteen, 2000). Much of the research on adolescent sexual behavior has not considered the nature of the sexual relationship or the dating status between partners (Grello, Dickson, Welsh, & Wintersteen, 2000). Adolescents apparently engage in sexual behaviors with a variety of partners; some are romantic and some are not. It is possible that sexuality within the context of a serious romantic relationship is quite a different experience than coitus with an acquaintance or friend. Thus the research paradigm that has focused on comparing adolescents who have had sexual intercourse with those who have not, may prohibit an understanding of the diversity of adolescent romantic and sexual relationships. Adolescents, who date, but delay sexual debut, are likely to differ from adolescents who date and engage in intercourse. Likewise, adolescents who transition to sexual intercourse with a romantic partner may differ psychologically from those adolescents who transition to coitus in a casual relationship. Both these adolescents may differ from adolescents who engage in intercourse with both romantic and non-romantic partners.

Sexual behaviors have been strongly linked with depression and delinquent behaviors as part of a problem-behavior syndrome in adolescents. This syndrome is comprised of a number of behaviors, including sexual intercourse, alcohol, smoking, low

self-esteem, depression, violence, and suicide attempts (Jessor, Costa, Jessor, & Donovan, 1983). This link is strongest in younger adolescents, suggesting that sexual intercourse may be a clearer marker of psychological distress when it occurs prematurely rather than when it occurs at a more normative time. In support of this notion, Crockett and her colleagues (1996) found that adolescents who transitioned to sexual intercourse in early adolescence showed significantly more problem behaviors than those who transitioned in middle adolescence (Crockett, Bingham, Chopak, & Vicary, 1996). Additionally, there is some evidence that suggests that adolescents who transition prematurely are psychologically different before sexual debut (Costa, Jessor, Donovan, & Fortenberry, 1995; Crockett, Bingham, Chopak, & Vicary, 1996). Many investigators have interpreted these findings as indicating that sex is not associated with healthy development in adolescents. Welsh and her colleagues (2000) have suggested, alternatively, that sexual behavior may be associated with psychopathology and problem behaviors in some adolescents and associated with normative development in others.

This paper investigates the trajectories of adolescent romantic relationships, sexual behaviors, and feelings of depression of adolescents from five groups characterized by their dating patterns and sexual status (non-transitioning adolescents, dating virgins, adolescents who have sexual intercourse only with their romantic partners, those who date and engage in sexual intercourse with both romantic and non-romantic partners, and adolescents who do not date but engage in sexual intercourse exclusively with non-romantic partners). By prospectively examining these divergent relationship paths we disentangle the effects of transition to dating and/or sex and adolescent psychological well-being.

Chapter IV

Research Questions/Hypotheses

1. Are the increased depressive symptoms and problem behaviors that emerge for some adolescents associated primarily with the transition to dating, the transition to sex in a dating relationship, or the transition to casual sex? Is this association stronger if the transition to dating or sex is premature? We expect that adolescents who engage in non-romantic sexual relationships will show the greatest depressive symptomatology, problem behaviors, and will have experienced greater violent victimization both before and after they transition when compared to adolescents in all other groups. Furthermore, we expect this association will be strongest in the adolescents who transition to dating or sex earlier than their peers.

2. What is the temporal relationship between transitioning to dating and/or sexual activity and depressive symptomatology, delinquent behaviors, and violent victimization in adolescents? Does the transition precede or follow the development of psychological distress and problem behaviors? We expect that depressive symptoms, delinquent behavior, and violent victimization at Wave 1 will predict adolescents' relationship trajectories over the following year.

Chapter V

Methods

Participants

The data for this project came from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative study of 6,504 adolescents in grades 7 to 12 (Udry, 1998). The Add Health sample began with more than 90,000 in-school questionnaires administered in 1994 through 1995 to students attending 134 randomly selected schools. The sample was stratified by region, urbanicity, classification of school, and ethnic composition to create a nationally representative sample of the American adolescent population (Udry, 1998).

Wave 1 data was collected between April and December 1995 from 20,745 students from the original in-school sample. Respondents who participated in Wave 1 were again interviewed during the Wave 2 collection between April and September 1996 (N=14,787). Adolescents who were seniors in high school during Wave 1 were excluded during Wave 2 unless they had a sibling who also participated in the Add Health study (Udry, 1998). The public use Add Health data used in this study comprises a random sample of 4,769 students who participated during Wave 1 and Wave 2 data collection.

In an effort to examine change in depressive symptoms and their possible association with dating and intercourse, individuals who reported that they had already transitioned to dating or had reported having engaged in intercourse at Wave 1 were excluded from this study. Inclusion was based on how participants answered "Have you ever had sexual intercourse? In the last 18 months have you had a special romantic relationship with anyone?" Participants were excluded if they answered "yes" to either

of these questions during Wave 1 data collection. In addition, adolescents who reported being married or having forced sex at either Wave 1 or Wave 2 were also excluded. This reduced the sample to 2,344 adolescents who reported that they had never dated or had sexual intercourse in the Wave 1 data collection.

Measures

Depressive symptoms were measured during both Waves 1 and 2 with a 19-item version of the CES-D scale (Radloff, 1977). The CES-D was developed as a self-report instrument to measure depressive symptomology in the general population. Higher values signify more symptoms of depression; a score of 0-14 has been found to be equivalent to the levels of depressive symptoms in the general population; a score of 15-36 has been found to indicate the individual is "at risk" for depression; and a score of 37 or higher has been found equivalent to scores found in clinically depressed individuals. Respondents were presented with a list of feelings or behaviors and were asked to indicate how frequently they might have experienced the particular feeling or behavior during the past seven days. Items include: "I was bothered by things that usually don't bother me;" "I thought my life had been a failure;" "People were unfriendly;" and "My sleep was restless." Responses ranged from 0 (never) to 3 (5-7days). Scores were created for both Wave 1 and Wave 2. Factor analysis performed on this scale revealed a Cronbach's alpha of .86 for Wave 1 and .87 for Wave 2.

Violence Victimization was measured at both Wave 1 and Wave 2 using the sum of 4 items that assessed having been the victim of violent behavior. In each wave respondents were asked "In the past twelve months, how often did each of the following

things happen?"; "You saw someone shoot or stab another person?"; "Someone pulled a knife or a gun on you?"; "Someone cut or stabbed you?"; "You were jumped?" Participants responded to items with zero (never) to two (more than once). Scores were summed separately for each wave with a higher score signifying high levels of violent victimization. Cronbach's alpha for violence victimization for Wave 1 was .67 and .68 for Wave 2.

Delinquent behaviors were measured with 12 items in both data collections. Respondents were asked how often they engaged in a variety of delinquent activities during the previous year. Activities included vandalism, lying to parents, running away from home, stealing a car, stealing something worth more than $50, burglary, using or threatening to use a weapon, selling drugs, and taking part in a group fight. Participants indicated zero (never) to three (five or more times). Items were summed for each wave separately creating a single variable for delinquency for each wave. A higher score on this scale specifies more delinquent behaviors. Factor analysis on the twelve items revealed a Cronbach's alpha of .81 for Wave 1 and .80 for Wave 2.

Evaluation of normality and homogeneity of the variables were found unsatisfactory, possibly due to the uneven group sizes, violating the assumption of homoscedasticity. Heteroscedasticity is not considered fatal to analysis of variance when the distributions are examined for skew and kurtosis and the data are corrected by transformation of the variables (Tabachnick & Fidell, 1996). Conover and Iman (1981) recommend rank transformations when confronted with the violation of homoscedasticity. Therefore, following examination of skew and kurtosis, rank transformation was performed on the dependent variables before analysis using the

Kruskal-Wallis test. The Kruskal-Wallis test is a nonparametric procedure that makes no assumptions about normality and homogeneity of the variance when the samples being compared differ in size (Cohen, 1988).

Chapter VI

Results

Individuals were categorized into one of five groups based on their Wave 2 responses to the following: "Since (date of Wave 1) have you had a special romantic relationship with anyone?" Participants were asked to indicate if they had engaged in sexual intercourse with their romantic partner. Participants were also asked "Not counting the people you describe as romantic relationships, since (date of Wave 1), have you had a sexual relationship with anyone?" Participants were allowed to endorse up to three romantic partners and three non-romantic partners. The No Dating/No Sex group (N=1155) includes adolescents who reported having never dated or engaged in sexual intercourse at Wave 1 or Wave 2. The Dating Only group (N=524) included adolescents who reported that they transitioned to dating but not intercourse between Wave 1 and Wave 2. The Romantic Sex Only group (N=124) included adolescents who transitioned to both dating and sexual intercourse with one or more romantic partners between Wave 1 and Wave 2. The Casual + Dating Sex group (N=385) included adolescents who reported having sexual intercourse with at least one romantic partner and at least one non-romantic partner between Wave 1 and Wave 2. The Casual Sex Only group (N=151) included those adolescents who reported sexual intercourse with one or more non-romantic partners, but did not report any sexual or non-sexual romantic relationships between data collections.

Empirical evidence suggests that dating and sexual transition may impact adolescents differently depending on age and that premature transition is associated with more negative consequences (Davies & Windle, 2000; Crockett, Bingham, Chopak, &

Vicary, 1996; Jessor, Costa, Jessor, & Donovan, 1983; Thornton, 1990) therefore, these data were truncated into two groups: middle adolescents between 12 and 16 years of age ($\underline{X}$= 14.73, $\underline{SD}$=.99; $\underline{N}$=1,594) and late adolescents between 17 and 21 years of age ($\underline{X}$= 17.52, $\underline{SD}$=.80; $\underline{N}$=750). Sixteen was chosen as the cutoff age for the younger group based on the mean age of transition to dating of all adolescents in Wave 1 ($\underline{X}$=15.3, $\underline{SD}$=1.5). For middle adolescents, the mean age of transition to dating was 14.80 ($\underline{SD}$=1.11) for males and 14.65 ($\underline{SD}$=1.1) for females and for the older adolescents, the mean age of transition to dating was 17.11 ($\underline{SD}$=1.14) for males and 16.89 ($\underline{SD}$=1.1) for females (see table II.1).

For middle adolescents, race was distributed with 69.5% Caucasian, 22.2% African American, and 14.3% other. For late adolescents, race was distributed with 63.7% Caucasian, 24.4% African American, and 16.4% other (note: participants were permitted to mark more than one racial group therefore percentages do not add to 100). Median annual household income for middle adolescents was $40,000 (range = less than $10,000-$870,000) and for late adolescents the median annual household income was $38,000 (range = less than $10,000-600,000).

A conservative level of significance of .01 was used for all analyses to control for spurious results due to the large sample size. In addition, the Bonferroni method (.01/number of comparisons) was applied to decrease the risk of Type I errors that can occur when doing multiple comparisons. Effect size (Eta squared; η^2) has been reported to assess practical significance. Cohen (1988) suggests that an $\eta^2 < .05$ is low, $\eta^2 > .10 < .20$ is medium, and $\eta^2 > .25$ is high.

To test the first hypothesis, that engaging in casual sex was a part of a constellation of problem behaviors associated with depressive symptomatology, delinquent behavior and victimization, a 2 (gender) x 5 (relationship trajectory group) multiple analysis of variance (MANOVA) was performed with the Wave 2 depressive symptoms, delinquent behaviors, and violent victimization as dependent variables. Using the rank transformed data, main effects were found for middle adolescents between the relationship trajectory groups for depressive symptoms (F (4, 1581) =19.606, p =.000, η^2 = .047, observed power 1.000), delinquent behaviors (F (4, 1581) =30.802, p = .000, η^2 = .072, observed power 1.000) and violent victimization (F (4, 1581) =29.714, p = .000, η^2 = .070, observed power 1.000). Main effects were also found between males and females for depressive symptoms (F (1, 1581) =34.071, p = .000, η^2 = .021, observed power 1.000) and violent victimization (F (1, 1581) =28.810, p = .000, η^2 = .018, observed power 1.000). In addition, for middle adolescents, a significant interaction was revealed for gender and trajectory group with violent victimization (F (4, 1581) = 6.132, p =.000, η^2 = .015, observed power .988).

Pairwise comparisons revealed that middle adolescents who had transitioned to casual sex (Casual + Dating Sex or Casual Sex Only) had higher levels of depressive symptoms, delinquent behaviors, and violent victimization experiences than adolescents who had not transitioned to intercourse (No Dating/No Sex and Dating Only groups) (p<.001). Middle adolescent females reported higher levels of depressive symptoms than males (p<.001) and middle adolescent males experienced more violent victimization than females (p<.001). A significant interaction was also revealed for gender and violent

victimization, with middle adolescent males who engaged in casual sexual relationships reporting the highest experiences of violent victimization.

For late adolescents, main effects were found for the relationship trajectory groups for depressive symptoms (F (4, 738) = 5.223, p = .002, η^2 = .028, observed power 1.000), delinquent behaviors (F (4,738) = 19.172, p = .000, η^2 = .094, observed power 1.000), and violent victimization (F (4, 738) =12.916, p = .000, η^2 = .065, observed power 1.000). Main effects were also found for gender for depressive symptoms (F (1, 738) =15.755, p = .000, η^2 = .021, observed power 1.000) and violent victimization (F (1, 738) =23.813, p = .000, η^2 = .031, observed power 1.000). Specifically, late adolescent females reported higher levels of depressive symptoms than males (p = .000) and males had more experiences of violent victimization than females (p = .000).

Pairwise comparisons revealed that late adolescents who were classified as Casual + Dating Sex had significantly higher levels of depressive symptoms than adolescents in the No Dating/No Sex group (p<.001). Adolescents in the two casual sex groups reported significantly more delinquent behaviors and more experiences with violent victimization than adolescents in the No Dating/No Sex group (p<.001).

Regardless of age, those in the Romantic Sex Only group had higher mean scores for depressive symptoms and problem behaviors when they were compared with both virgin groups; however these differences failed to reach statistical significance. In addition, the Romantic Sex Only group did not significantly differ from the two casual sex groups on these variables. It is important to note that the effect size for this analysis was small, suggesting that although statistical significant differences were found among

some of the groups, practical significance is questionable.

To examine the temporal association of depressive symptoms and problem behaviors with the transition to dating, romantic sex, and casual sex, a 2 (gender) x 5 (relationship trajectory group) multiple analysis of variance (MANOVA) was performed with the Wave 1 depressive symptoms, delinquent behaviors, and violent victimization as dependent variables. For middle adolescents the three dependent variables were found significantly related to trajectory group (F (12, 4159) =19.701, p=.000, η^2 = .034, observed power = 1.000), gender (F (3, 1572) =14.621, p=.000, η^2 = .027, observed power = 1.000), and the interaction between group and gender (F (12, 4159) =3.142, p=.000, η^2 = .008, observed power = .951). For late adolescents, the three dependent variables were found significantly related to trajectory group (F (12, 1942) =14.187, p=.000, η^2 = .071, observed power = 1.000), gender (F (3,734) =14.823, p=.000, η^2 = .057, observed power = 1.000), and the interaction between group and gender was not significant (p=.312)

Specifically for middle adolescents, depressive symptoms at Wave 1 were significantly associated with relationship trajectory group (F (4, 1582) =13.911, p =.000, η^2 = .034, observed power = 1.000) and gender (F (1, 1582) =10.104, p =.002, η^2 = .006, observed power =.690). Middle adolescents who transitioned to casual sexual relationships (Casual + Dating Sex and Casual Sex Only) had significantly more symptoms of depression the year prior to transition than adolescents in the No Dating/No Sex and the Dating Only groups (see table 2).

For late adolescents, main effects for depressive symptoms were found for

trajectory group (F (1,737) =4.307, p = .002, η^2 = .023) gender (F (1, 737) =17.044, p<.001, η^2 = .023). Late adolescent females were found to have significantly greater symptoms of depression than late adolescent boys prior to transition, regardless of dating and sexual trajectory. Late adolescents who engaged in casual sexual intercourse reported more depressive symptomatology when they were compared to late adolescent virgins. Those in the Romantic Sex Only group, for both middle and late adolescents, were found to have higher levels of depressive symptoms when compared to adolescent virgins, but these levels also failed to reach statistical significance (see table 2). No interaction was found for group and gender for either middle or late adolescents.

Main effects for delinquent behaviors were found for the relationship trajectory groups for middle adolescents (F (4, 1575) =47.804, p = .000, η^2 = .108, observed power = 1.000) and for late adolescents (F (4, 737) =36.701, p = .000, η^2 = .166, observed power = 1.000). No main effects were found for gender. Middle adolescents in the No Dating/No Sex group reported having engaged in significantly fewer delinquent behaviors than adolescents in the Romantic Sex Only (p=.000), Casual + Dating Sex (p=.000), and the Casual Sex Only (p=.000) groups the year before transition. The Dating Only group reported fewer delinquent behaviors prior to transition when they were compared with the Casual + Dating Sex (p =.000) and the Casual Sex Only (p =.000) groups. The Romantic Sex Only group also reported having engaged in fewer delinquent behaviors at Wave 1 than adolescents in the Casual + Dating Sex group (p = .006). No other group differences were found for delinquent behaviors and relationship trajectory groups. For late adolescents, the No Dating/No Sex group reported

participating in significantly fewer delinquent behaviors in the year prior to transition when compared to the Casual + Dating Sex (p =.000) and the Casual Sex Only (p =.000) groups. The Dating Only group had significantly fewer Wave 1 delinquent behaviors when compared to the Casual + Dating Sex group (p =.000). The Romantic Sex Only group also were found to have engaged in fewer delinquent behaviors when compared to the Casual Sex + Dating group (p = .000) (see table 3).

Main effects for victimization were revealed for trajectory groups for middle adolescents (F (4, 1575) =21.293, p = .000, η^2 = .051, observed power = 1.000) and for late adolescents (F (4, 737) =17.517, p = .000, η^2 = .087, observed power = 1.000). Main effects were found for gender for middle adolescents (F (1, 1575) =28.133, p = .000, η^2 = .018, observed power = .996) and for late adolescents (F (1, 1575) =18.579, p = .000, η^2 = .025, observed power = .955). No interaction was found (see table 4).

For both middle and late adolescents, pairwise comparisons revealed that adolescents in the No Dating/No Sex group and the Dating Only group reported less experiences of violent victimization in Wave 1 than adolescents in the Casual + Dating Sex (p = .000) and the Casual Sex Only (p = .000) groups. Males were more likely than females (p = .000) to report having been the victim of violence. Middle and late adolescents who transitioned to casual sex relationships were more likely to report experiences of violent victimization the year prior to transitioning than were those adolescents who did not transition to intercourse (see table 4).

To investigate if engaging in dating and or casual sex was associated with an exacerbation or improvement of reported depressive symptomatology, delinquent

behavior, and victimization following transition, a series of 2 (gender) x 5 (relationship trajectory group) repeated measures with a one-way within subjects design was performed using the dependent Wave 1 and Wave 2 variables. No significant main effects were found for middle adolescents between the relationship trajectory groups for depressive symptoms (F (4, 1581) =2.878, p =...022, η^2 = .007, NS) and violent victimization (F (4, 1581) =1.373, p = .241, η^2 = .003, NS). However, a significant main effect was found for group and delinquency (F (4, 1575) =3.680, p=.005, η^2 =.009). No significant results were found for gender. Similarly, for late adolescents no main effects were found between the relationship trajectory groups for depressive symptoms (F (4, 737) =1.634, p =.164, η^2 = .009, NS) and violent victimization (F (4, 736) =1.253, p = .287, η^2 = .007, NS). Again, a significant main effect was found for group and delinquency (F (4, 737) =5.111, p=.000, η^2 =.027). No significant results were found for gender.

Chapter VII

Discussion

Virtually no previous research has recognized the unique contributions of the transition to adolescent dating, sex in romantic relationships, and casual sex to the understanding of adolescent development. We began with a nationally representative sample of adolescent virgins who had never dated. We examined the disparate relationship trajectories that these youth took the following year. By distinguishing between dating, romantic sex, and casual sex, we found that the transition to dating or romantic sexual intercourse was not associated with exacerbated depressive symptoms, delinquent behaviors, or violent victimization; however, casual sex was found associated with psychological distress and problem behaviors. It is important to note that although these findings were statistically significant, the effect size for depressive symptoms was small. The effect sizes for violent victimization and delinquent behaviors were in the moderate range, suggesting these relationships may be more meaningful and supporting our hypothesis that casual sexual behavior is likely *symptomatic* of a constellation of problem behaviors rather than a cause of problem behaviors in adolescents. Furthermore, we found that transition was also associated to exacerbation of delinquent behaviors and violent victimization during the year of transition. Perhaps these problem behaviors coupled with symptoms of depression function as a catalyst toward risky sexual behavior.

We also discovered that casual sex is ubiquitous among adolescents and most sexually active adolescents engage in coitus with both romantic and non-romantic partners. Almost 15% of twelve to sixteen year olds and more than 40% of seventeen to twenty-one year olds in our nationally representative sample who were virgins at Wave 1

had engaged in casual sex during the following year. The pervasiveness of casual sex was surprising. We found that 19% of middle adolescent and 48% of late adolescent virgins transitioned to first intercourse over the year of the study. Of those adolescents who transitioned to intercourse, 77% of middle adolescents and 85% of late adolescents transitioned to casual sex. By disentangling casual sex from romantic sex and dating, we found that casual sex or sexual intercourse with a non-romantic partner was a part of a constellation of problem behaviors. Adolescents who showed the most depressive symptoms, participated in the most delinquent behaviors, and experienced the most violent victimization were most likely to follow a path that included engaging in casual sex over the following year.

By investigating temporal relationships between the relationship trajectories, we found that adolescents' depressive symptoms, delinquent behaviors, and experiences of violent victimization preceded adolescents' transition to casual sex. These findings suggest that casual sex is more likely to be a marker or indicator of psychological and behavioral problems than a cause of those problems. Within group changes in depressive symptoms and experiences of violence were not found significant for any trajectory group for middle or late adolescents. For middle and late adolescents, only delinquent behaviors were exacerbated during the year of transition for those who engaged in intercourse with both casual and dating partners.

The vast majority of sexually active adolescents, or 72% of adolescents, who engaged in casual sex were in the Casual + Dating Sex group, indicating that they had both romantic and non-romantic sexual partners over the course of the year. While the data does not permit us to examine infidelity directly, we speculate that many of these

adolescents were simultaneously engaging in sexual relationships with romantic and non-romantic partners. Understanding the role of infidelity in adolescent romantic relationships may help to identify the association of casual sex, depressive symptoms, delinquency, and violent victimization. Further research examining the nature of casual sexual relationships in adolescents is critical to elucidate the antecedents, as well as the meaning and impact of casual sex.

Casual sex not only increases the risks of physical health (sexual transmitted diseases and pregnancy) but our findings suggest that it may also be a marker for emotional problems (Jessor, Costa, Jessor, & Donovan, 1983). Casual sex appears to be associated with a constellation of emotional and behavioral problems in adolescents that were found to exist before transition to sexual intercourse. Comprehensive intervention programs should include discussions regarding casual sex encounters and target adolescents who may be at risk; for example those adolescents who are experiencing emotional or social difficulties. Additionally, educators, parents, and professionals need to do a better job screening for psychological and behavioral problems in adolescence and preadolescence as an intervention to delay premature transition to intercourse and to avoid related problems associated with adolescent sexuality. Public schools and health professionals can administer simple self-report measures or standardized interviews should be constructed to identify emerging pathology and problem behaviors that may be associated with risky health behaviors. Psychological and behavioral screening can be integrated in school wellness or health programs. School counselors should be aware of these antecedents and adequately address them as they are identified.

In summary, by disentangling the separate contributions of dating, romantic sex,

and casual sex we found evidence that dating and sex within the context of a romantic relationship did not have the detrimental results suggested by others (Davies & Windle, 2000; Medora, Goldstein, & Von der Hellen, 1994). While those who transitioned to sexual intercourse only in the context of a romantic relationship consistently showed higher mean levels of emotional and social impairments when compared to those adolescents who continued to delay sexual debut, these levels rarely reached statistical significance. These same adolescents also did not statistically differ from those who engaged in casual sex. This group appears to be unusual rather than the norm. If these adolescents were on a continuum, with virgins at one end and those who engage in casual sex at that other, the Romantic Sex Group falls in the middle. However, in light of the pervasiveness of casual sexual, romantic sexual activity does appear to be a gateway to casual sexual liaisons; therefore premature sexual intercourse, regardless of context, remains a concern. It is important to note that those adolescent virgins who had the highest levels of depressive symptoms, delinquent behaviors, and violent victimization were most likely to transition to casual sex during the following year. It is clear that screening for psychological and behavioral problems in early adolescence as an intervention to delay early onset of sexual behavior is essential.

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Appendix

Table II.1

Dating pattern and sexual status groups.

			Gender	
Dating Status Group	N	%	% Male	% Female
Middle Adolescents				
Non-Transition	880	55.3	44.9	55.1
Dating Virgin	411	25.8	36.7	63.3
Dating Non-Virgin	69	4.3	30.4	69.6
Dating & Casual Sex	151	9.5	47	53
Exclusively Casual Sex	81	5.1	66.4	33.6
Late Adolescents				
Non-Transition	275	36.8	44.6	55.4
Dating Virgin	113	15.1	49.6	50.4
Dating Non-Virgin	55	7.4	50.9	49.1
Dating & Casual Sex	234	31.3	56.4	43.6
Exclusively Casual Sex	70	9.4	70.4	29.6

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October 25, 2004

Catherine M. Grello, MS
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Dear Ms. Grello,

This letter is to grant you permission to use material from the article to be published in *Adolescent & Family Health* titled "Dating and Sexual Relationship Trajectories and Adolescent Functioning" in your thesis.

Sincerely,

Anita M. Smith

Anita Smith
Managing Editor

PART III

NO STRINGS ATTACHED: THE NATURE OF CASUAL SEX IN LATE ADOLESCENCE

This paper is loosely based on a poster, *Casual sex: The nature of adolescents' non-romantic sexual relationships and their link with well-being* presented at the 2002 Biennial Meeting of the Society for Research on Adolescence in New Orleans, LA.

Grello, C. M. & Welsh, D. P. (2002, April). *Casual sex: The nature of adolescents' non-romantic sexual relationships and their link with well-being.* Poster presented at the biennial meeting of the Society for Research on Adolescence, New Orleans, LA.

My use of "we" in this chapter refers to my co-authors and myself. My primary contributions include (1) concept and identification of the research questions, (2) design and implementation of the study, including submission of IRB approval, (3) data collection, (4) statistical analyses, (5) gathering and interpretation of relevant literature, and (6) the majority of the writing.

Chapter I

Acknowledgments

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Chapter II

Abstract

The purpose of this paper was to identify the circumstances associated with casual sex encounters, as well as to identify the link between casual sex and depressive symptoms and infidelity in late adolescents. We found that casual sex was a fairly common occurrence that was related to early sexual transition, engaging in first sex with a non-romantic sex partner and drugs use and alcohol consumption. More than one third of casual sex encounters occur with partners who are strangers or acquaintances. Frequencies of affectionate and genital behaviors were associated with expectations of the relationship, the relationship to the partner, infidelity, and the individual's relationship style. This study also provides evidence to support evolutionary theories as males with the fewest depressive symptoms and females with the most depressive symptoms were most likely to report engaging in casual sex. In addition the data reveal support for socio-cultural influences with decreased casual sex behavior was associated with higher religiosity.

Chapter III

Introduction

Adolescence is a time of exploration and experimentation as young people hone the life skills, relationship styles, and behavior patterns that will impact their emotional functioning and health as adults (di Mauro, 1995). The journey to adulthood often includes experimentation with sexual behaviors as the majority of adolescents transition to intercourse before they graduate high school (Kaiser Family Foundation, 2003). Using a nationally representative sample of adolescent females, Manning, Longmore, & Giordano (2000), found that first intercourse experiences occurred in the context of a romance for the majority of young people. However, an impressive number transitioned to sex with a partner who was "a friend" or with "someone they had just met". In general, engaging in non-committed sexual intercourse appears to be a function of the amount of time an adolescent is sexually active (Træn & Lewin, 1992). It is a relatively common occurrence rather then a subgroup trend. Nationally representative studies reveal that 70-85% of *sexually experienced* adolescents age 12-21 reported having engaged in intercourse with a non-romantic partner during the previous year (Grello, Welsh, Harper, & Dickson, in press). Similarly, college student samples indicate that 70% of their college student sample also reported having engaged in coitus with partners who they did not consider romantic (Feldman, Turner, & Ajaujo, 1999).

Non-committed sexual relationships or encounters are referred to by a variety of lexis in research literature and in popular discourse. For example, in research these relations have been referred to as "chance encounters" (Fisher & Byrne, 1978), "one night stands" (Cubbins & Tanfer, 2000; Simpson & Gangestad, 1991), "hookups" (Paul,

McManus, & Hayes, 2000), "sociosexuality" (Simpson & Gangestad, 1991), anonymous sex (McGuire, Shega, Nicholls, Deese, 1992), and "casual sex" (Regan & Dreyer, 1999). In the popular press it has been referred to as "meaningless sex" (Solomon & Taylor, 2000) and "booty call" (Marklein, 2002). Non-committed sexual relationships can be sexual interludes with strangers (Manning, Longmore, & Giordano, 2000) or they can be sex with an opposite gender friend (Shaffer, 2000). Regardless, all reference sexual relationships in which the partners themselves do not acknowledge romantic feelings or emotional commitment. These meetings are often superficial, based on sexual desire or physical attraction, spontaneous, impulsive, (Regan & Dreyer, 1999; Simpson & Gangestad, 1992) and often involve drugs and/or alcohol (Desiderato & Crawford, 1995).

The majority of research on casual sex has focused exclusively on sexual intercourse (Sanders & Reinisch, 1999), although adolescent sexuality is not limited to intercourse alone and includes a variety of activities from non-coital behaviors such as kissing and mutual masturbation to penetrative sexual behaviors including oral sex, intercourse, and anal sex (Paul, McManus, & Hayes, 2000). Broadening research to examine the context and the full spectrum of sex behaviors of adolescents is theoretically important to the development of effective education programs and clinical interventions (Whitaker, Miller, & Clark, 2000), as some may use oral sex as a substitution for intercourse by defining oral sex as "not sex" (Grello, Haugen, & Welsh, manuscript in progress). This paper will investigate sexual behaviors in context to identify the nature of adolescent non-committed sexual relationships and their link with well-being and interpersonal behaviors.

The Role of Gender and Evolution Theory.

Evolutionary psychologists such as David Buss (1988) suggest that non-committed sexual behavior may have its roots in natural selection. The basic tenets of Buss' theory suggest that ancestral males were faced with the problem of species survival; therefore, it was adaptive for males to copulate frequently and with different partners to increase the likelihood of progeny. As a result of this adaptation, males base their mate decision on a female's potential to reproduce. Because a male cannot look at a female and determine her reproductive potential, preferences for young attractive healthy looking females evolved (Buss, 1988). Ancestral females were faced with a very different problem; they needed to be more selective with sexual mates to assure themselves and their children of protection and resources. Consequently, female preferences emerged whereby competitiveness, status, athletic ability, and economic prospects are preferred. Through his extensive research program, Buss (1989) has found evidence to support his hypotheses and his research suggests that his sex-linked predictions may be universal, as they appear in more then 36 cultures world-wide.

Buss & Schmitt (1993) found that males are more willing to engage in sex earlier in their relationships than females. When the relationship is non-committed, males are also more likely to lower their selection standards. Females are more likely to desire a relationship to be established or at the least have the perception of a potential commitment before they engage in sex with their partners (Greer & Buss, 1994). Females may participate in sexual behaviors earlier in the relationship when males employ tactics that increase her perception of romance, by acting thoughtful, playful, or giving gifts, because females expect that a committed relationship is imminent.

However, such male deception can require enormous energy, so in the interest of economy, males often seduce females who may be less desirable as long-term mates but are instead vulnerable to their attraction tactics (Greer & Buss, 1994).

Gender Differences and Casual Sex.

There is abundant evidence that gender is an important factor in casual sex participation as males have consistently been found to have significantly more non-committed partners than females (Buss, 1988; Hill, 2002). In their sexual relationships, late adolescent males and females both state that emotional investment is a priority (Hill, 2002). For females, however, emotional investment is far more important and sexual intercourse is often rewarding in contexts that command intimacy and emotional commitment (Cohen & Shotland, 1996; Hill, 2002). Females tend to engage in sex behaviors with partners when they believe that by doing so they are meeting their partner's needs and are providing nurturance and comfort (Hill, 2002).

Females may comply and engage in coitus with a non-romantic partner if they believe or want the relationship to evolve into a new romance (Impett & Peplau, 2003). Traditional gender roles may foster such sexual compliance as many females believe that it is their responsibility to be responsive to the male's sexual desire (Impett & Peplau, 2003). Although they tend to have more restrictive attitudes towards casual sex (Simpson & Gangestad, 1991), females are often more partner or relationship conscious, thus, they may impulsively romanticize their partners even when they do not know them well (Cohen & Shotland, 1996; Gilligan, 1982). It is this misattribution or relational misperception that may lead them to engage in sexual behavior with a partner before a

relationship is established. Impett & Peplau (2003) found when males comply with sex in a non-committed relationship their motivation is often to increase their sexual experience, peer status, or popularity. On the other hand, females were more likely to comply with sex in a non-committed relationship to satisfy their partner or increase intimacy in a potential relationship. Interestingly, gender differences in sexual compliance diminished when the relationship was committed (Impett & Peplau, 2003).

Love Styles and Non-Committed Sex.

John Alan Lee (1988) developed a series of ethnographic studies to assess love relationships. Following analyses of his complicated qualitative data, Lee identified several love styles or approaches to interpersonal relationships: Eros (passionate love), Ludus (game-playing love), Storge (friendship love), Pragma (practical love), Mania (neurotic love), and Agape (altruistic love). These styles or approaches may influence the likelihood or risk of engaging in non-committed sexual relationships. Of particular interest are the Ludic and the Eros lovers.

Ludic lovers are in it for the game, the conquest. They generally enter their romances with no intention of commitment. They will frequently have several partners simultaneously and rarely approach their relationships seriously (Hendrick & Hendrick, 1992; Lee, 1988). They are attracted to a variety of partners, enjoy sex, and fun absent of deep involvement. Individuals with a Ludic style thrive on attention and are often willing to take risks (Paul, McManus, & Hayes, 2000). Thus, it is expected that an individual who primarily approaches relationships with a Ludic style would engage in numerous casual sex unions.

Eros is described as passionate love often struck by cupid's arrow, immediately falling deeply in love at first sight. The Eros lover possesses a definite idealized preference of the physical qualities of the romantic partner (Lee, 1988). They will typically experience powerful physical and sexual attraction for their desired partner early in the relationship. Although sex and passion are primary, the Eros lover is sensuous rather than promiscuous. Those who endorse an Eros style would also likely engage in casual sex relationships; however the meaning of the relationship is likely different than that of the Ludic lover. Where the Ludic lover engages in sex for physical pleasure, the Eros love does so with the expectation of emotional intimacy. When conceptualized with Buss' suppositions, males are more likely to be Ludic and females Eros.

Psychological Functioning and Non-Committed Sex.

Buss (1989) suggests that vulnerability may increase the likelihood of females engaging in casual sex, yet surprisingly few investigations have examined the association between functioning and non-committed sex. While there is some research that focuses on sexual behavior in adolescent romantic relationships (Abma & Sonenstein, 2001; Furman & Shaffer, 2003), research is especially limited on examining adolescent sexual behaviors in non-romantic relationships (see Paul, McManus, & Hayes, 2000; Feldman, Turner, & Arajuo, 1999 for exceptions). Only a few studies have investigated psychological differences in functioning among non-virgin adolescents (see Grello, Welsh, Harper, & Dickson, in press; Paul, McManus, & Hayes, 2000 for exceptions).

Using longitudinal data of virgins who had never dated, Grello and her colleagues (in press), found that adolescents who transitioned one year later to romantic sex, but not casual sex, did not appear significantly different in terms of depressive symptoms, delinquent behaviors, and victimization from those adolescents who had maintained their virgin status. However, adolescents who transitioned to casual sexual relationships during the year reported more symptoms of depression, participated in more delinquent behaviors, and were exposed to more physical violence. This finding was especially pronounced among younger adolescents. Interestingly, the constellation of problem behaviors, although exacerbated following transition to sexual intercourse, existed *prior* to transition while the adolescents were still virgins. In other words, sexual intercourse in the context of an emotionally committed relationship was not found to be associated with problematic behavior or functioning, but casual sex was associated with problematic functioning and the problems existed before the adolescents ever engaged sexual intercourse. Depressive symptoms may be a salient factor especially for females who engage in non-committed sex, because of its significant impairment in social relationships (Welsh, Grello, & Harper, 2003).

Paul, McManus, & Hayes (2000) examined the relationship between self-esteem and history of casual sex relationships. They found late adolescents who had a history of casual sex had lower levels of self-esteem than late adolescents who had been involved in romantic sexual relationships or who had had no sexual experiences. They also found that individuals who had experienced casual sex relationships experienced significant guilt associated with their non-committed sexual encounters and suggested that feelings of guilt may further exacerbate feelings of low self-esteem (Paul, McManus, & Hayes

2000). It is possible that sexual experiences in a romantic context may serve as a forum to the development of healthy sexual attitudes and relational behaviors, whereas the meaning and effects of sex in a relationship without commitment may be quite different.

Alcohol Use and Non-Committed Sex.

Alcohol consumption appears to have a direct link with casual sex. The relationship seems to be linear in that the more alcohol is consumed; the probability of a casual sex encounter increases precipitously (Leigh & Schafer, 1993). Moreover, when it comes to the risky combination of sex and alcohol, gender makes little difference (Cooper & Orcutt, 1997; Testa & Collins, 1997). In addition to lowering sexual inhibitions, consuming alcohol also increases perceptions of attraction to members of the opposite sex further increasing the likelihood of non-committed sexual encounters (Buss & Schmitt, 1993; Jones, Jones, Thomas, & Piper, 2003; Paul, McManus, & Hayes, 2000).

Vulnerability such as low self-esteem, intoxication, relational style (Paul, McManus, & Hayes, 2000), and symptoms of depression (Grello, Welsh, Harper, & Dickson, in press) may be factors that increase the probability for some individuals to engage in casual sex encounters.

Religiosity and Values.

Buss (1989) posits that while evolutionary predisposition influences sexual behavior, social and moral values may play an important function in the decision to engage in sex with a non-romantic partner. The role of religiosity and sexual behavior among adolescents has been mixed (Christopher & Roosa, 1990; Denney, Young &

Spear, 1999; Roosa & Christopher, 1990; Thomas, 2000; Kirby, Kopri, Barth & Cagampang, 1997). Several empirical studies have found that highly religious females were less likely to report having engaged in sexual intercourse than less religious females (i.e., Miller & Gur, 2002). Research has also found evidence suggesting that males who are less religious are more likely to transition to intercourse prematurely, have more sexual partners, and engage in more frequent sexual behaviors than males who have more conservative religious values (Ku, Sonenstein, & Pleck, 1993). Thornton & Camburn (1989) reported that religious participation and religious values influenced adolescent sexual attitudes and behavior. Specifically, they found that an adolescent's non-acceptance of premarital intercourse was correlated with religiosity and with involvement in a mainstream religion, one that specifically favors coitus only within the confines of marriage for the purpose of procreation. It was the consistency of the messages and the degree of commitment to the doctrines of the religion that appeared to be influential factors predicting commitment to virginity (Thornton & Camburn, 1989). Although the relationship between religiosity and casual sex has not been empirically investigated, it is likely that religiosity may have a salient link with casual sex behaviors when considered with Buss' (1989) suppositions.

Heterosexual adolescents' romantic relationships are typically characterized by mutual expectations for emotional and sexual fidelity (Feldman & Cauffman, 1999a). Adolescents' appear to value fidelity, regardless of their own sexual experiences and define infidelity with a range of behaviors that include talking, kissing, and intercourse with another person outside of the partnership (Grello, Woody, & Welsh, 2002). A sexual relationship outside a committed romance is necessarily casual. Sexual betrayal

can be devastating to individuals who value exclusivity as they may experience the violation of loss of trust and loyalty in addition to the loss of the partner (Feldman & Cauffman, 1999a; Welsh, Grello, & Harper, 2003). The betrayed partner often experiences feelings of anger, sadness, and depression. They may feel inadequate, unattractive, and blame themselves for their partner's betrayal. The unfaithful partner may also experience an array of negative affect including feelings of guilt and confusion over violating personal and societal values that may contribute to some depressive symptoms (Feldman & Cauffman, 1999b).

Chapter IV

Research Questions and Hypotheses

The purpose of this paper is to identify the factors and circumstances associated with engaging in casual sex and to explore the link between casual sex and depressive symptoms and infidelity. As there has been little empirical work in this area, many of our questions are exploratory. Analyses focus on the following three questions:

1. What individual characteristics and contextual factors are associated with engaging in casual sex? Based on previous research and the tenets of evolution theory, we expect males will report more casual sex experiences than females. We also predict factors associated with transition to sexual intercourse, including age at first intercourse, relationship with partner, the satisfaction of the first sex experience, as well as alcohol and drug use will be linked with engaging in casual sex. We will investigate a diverse array of sexual behaviors (affectionate and genital behaviors) within non-romantic relationships. We will explore the context of how participants knew their partner and what they expected from the casual encounter. We expect adolescents who report higher religiosity will be less likely to engage in non-committed sex. We will explore the role of love styles and casual sex experiences. Specifically, we expect the game-playing love style Ludus to be associated with engaging in casual sex and the passionate Eros to primarily engage in sex in romantic relationships. As evolutionary theory suggests, we expect males to be higher in Ludus aspects than females and we expect females will endorse more Eros aspects than males. Additionally, we predict that love styles will be related to individuals' expectations of their most

recent casual sex encounter. Those who are Ludus are likely to conceptualize the casual encounter as a non-committed sexual encounter, where as the other love styles, particularly Eros, will likely conceptualize the encounter as the beginning of a new romance. We also expect those with a higher Ludus orientation will be more willing to engage in future casual sex relationships than those with other relational styles.

2. Is casual sex associated with increased depressive symptoms? We expect depressive symptoms to be associated with engaging in casual sex among late adolescent females. We also predict that the nature of the relationship to the casual sex partner may also be linked to depressive symptoms. In our previous research we found evidence that supports a link between symptoms of depression, age, and transitioning to sex with a non-romantic partner. Specifically, we expect those individuals who engage in sex with non-committed partners will have more symptoms of depression than those who only engage in sex in a romantic context or who have never engaged in sex. We also expect those females who have high levels of depression will regret that they engaged in casual sex more than those with less pathology.
3. What is the relationship between infidelity, casual sex, and depressive symptoms? Infidelity in adolescent romantic relationships has not been well researched. We will investigate the association and prevalence of infidelity and casual sex encounters. Based on prior research, we expect adolescents who cheat on their romantic partners may experience feeling more regret than those who engage in casual sex behaviors when they are not in a committed relationship. We will also

explore the relationship of infidelity and depressive symptoms. Gender differences will be explored.

Chapter V

Methods

Participants.

Participants were a sample of 404 undergraduate students enrolled in an introductory psychology course at a large public university in the southeastern United States. Data for this study was collected over two semesters, the fall of 2001 and the fall of 2003. All respondents were given course credit for participation. Those students who chose to participate were instructed to go to one of several centralized locations for administration of the questionnaire. Included in each questionnaire packet was an information sheet describing the purpose and nature of the study. To protect student identification and comply with IRB recommendations, participants were informed that participation in the study would imply their consent. They were also informed they could discontinue the questionnaire at any time without penalty should they find any question offensive.

Excluded from analyses were 16 non-traditional students (6 married, 10 over the age of 21) and 5 students who reported engaging in sexual behaviors exclusively with same-gendered partners, because we did not have a large enough sample to examine this sample. The remaining sample (N=382) was comprised of 33.7% males and 67.3% females. The majority of the sample was freshman (71.2%) or sophomores (18.6%), juniors represented 7.9% and seniors 2.4% of the sample. Eighty-two percent of the participants were between the ages of 18-19 and 18% were between the ages of 20-21. Participants were 88.2% White/non-Hispanic, 6.6% African American, 1.1% Hispanic, 2.4% Asian, and 1.9% other. Participants were predominantly Christian; 29.4%

identified themselves as Baptist, 31% Protestant, 14.2% Catholic, 4.2% Church of Christ, 13.1% other, 7.3 reported no religious affiliation and less then 1% were Jewish.

Measures.

General information was collected regarding participants' age, racial background, religious affiliation, religiosity, educational status, dating status, history of sexual activity (age of transition, relationship with partner, sexual behaviors, and contraception history). Participants were also queried about their romantic and non-committed sexual experiences.

Religiosity. Participants' religiosity was measured with a 4-item scale. Items include "How important is religion to you?" (5-point scale ranging from very unimportant to very important). "In the past 12 months, how often did you attend religious services?" (5-point scale ranging from never to more than once a week). "My faith involves all my life." and "My faith restricts my actions." (5-point scale ranging from never to always). All scores were summed with a larger score representing higher levels of religiosity. Internal reliability for the four-item scale was good ($\alpha = .79$)

Love Styles. Adolescent love styles have been assessed with a 36-item revised and abbreviated version (Levesque, 1993) of the Love Attitudes Scale (Hendrick & Hendrick, 1986). The scale was designed to measure attitudes towards love based on Lee's (1988) typology. Some sample items include, Eros ("We have the right chemistry between us"), Ludus ("I try to keep her/him uncertain about my commitment to her"), Storge ("I expect to always be friends with the people I date"), Pragma (I consider what a person is going to become in life before I commit myself to her/him"), Agape ("I would

rather suffer myself then let my girlfriend/boyfriend suffer"), and Mania ("When she/he doesn't pay attention to me, I feel sick all over"). Each of the six subscales consists of 6 items rated on a 6-point Likert response format (1 = strongly disagree to 6 = strongly agree). Aggregate means were calculated to produce a score on each of the subscales. Reliability was acceptable with coefficient alphas ranging from .73 to .90.

Sexual Behaviors. The Sexual Behaviors Questionnaire (SBQ) was designed by our research lab to investigate sexual behaviors in romantic relationships and was modified for this study to include sexual behaviors with non-committed partners. The SBQ is comprised of several frequency ranges, checklists, and open-ended questions that ask about sexual behaviors in general and contraception use.

Lifetime sexual behaviors were assessed by asking participants "Have you ever engaged in sexual intercourse (that is penis in the vagina)?" "Have you ever engaged in oral sex (that is mouth on vagina or penis)?" "Have you ever drank alcohol before or during sexual activity?" Have you ever used marijuana or other drugs (other then alcohol) before or during sexual activities?"

Other items assessing infidelity behaviors ("Have you ever cheated on your current girlfriend/boyfriend?), casual sex behaviors ("How many different people have you had sexual intercourse with, who you did not consider a girlfriend/boyfriend at the time?"), and history of sexual behaviors, including age and context of casual and first sexual intercourse experiences ("Who was this person?'), contraception usage (""How often do you and your current girlfriend/boyfriend use some form of contraception?"), description of first intercourse (9 point scale from disaster to awesome) and expectations

for the relationship ("thought it was the beginning of a romance" to "thought it would be a one time thing") were administered.

Items also included questions about sexual behaviors specifically in the context of the current romantic relationship and the most recent casual sex relationship including the frequency with which the individual engaged in the behaviors rated on a 6-point behavioral frequency scale ranging from never (scored 0) to 51 or more times (scored 6). For example, items that assessed sexual behaviors in the romantic relationship of the participant included: "In the last month (30 days), how many times have you engaged in light petting (that is, intimate touching with clothes on) with your partner?" "In the last month (30 days), how many times have you engaged in intercourse (that is, penis in the vagina) with your partner?" For non-committed sexual relations, participants were asked "In your most recent casual relationship, how many times have you engaged in light petting with your partner?" "In your most recent casual relationship, how many times have you engaged in intercourse with your partner?" Analyses of the frequency of romantic sexual behaviors with principal-components factor analysis, using Varimax rotation produced 2 factors for romantic and casual sexual behaviors. Factor one, affectionate behaviors includes holding hands, hugging, kissing, and massage (α = 86 and .92, respectively). Factor two, genital behaviors includes fondling without clothes, oral sex, and genital intercourse (α = .87 and .87, respectively).

Depressive Symptoms. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (CES-D)(Radloff, 1977). The CES-D was developed as a self-report instrument to measure depressive symptoms in the general population. Higher values signify more symptoms of depression; a score of 0-14 has

been found to be equivalent to the levels of depressive symptoms in the general population; a score of 15-36 has been found to indicate the individual is "at risk" for depression; and a score of 37 or higher has been found equivalent to scores found in clinically depressed individuals. Respondents were presented with a list of feelings or behaviors and were asked to indicate how frequently they might have experienced the particular feeling or behavior during the past seven days. Items included: "I was bothered by things that usually don't bother me;" "I thought my life had been a failure;" "People were unfriendly;" and "My sleep was restless." Responses ranged from 0 (never) to 3 (5-7days). Factor analysis performed on this scale revealed a Cronbach's alpha of .93.

Chapter VI

Results

Individual Factors Associated with Non-Committed Sex.

Seventy-six percent (N=291) of the sample reported having engaged in intercourse, oral sex, or anal sex and more then half (53%) of those who were sexually experienced reported having engaged in sex with a partner with whom they were not involved in a romantic relationship. Consistent with our expectations, significantly more were males than females reported having engaged in casual sex relationships ($\chi^2(1) = 8.863$, $p=.003$). Participants reported that approximately 37% of casual sex experiences were with strangers or partners who they did not know well and 25% of those who reported engaging in casual sex reported that their partner was a friend (see table III.1).

Respondents were classified into three sexual behavior groups: virgins (those who had never had oral sex and/or sexual intercourse) romantic sex (those who had had oral sex and/or intercourse with a romantic partner only) and casual sex (those who had had oral sex and/or intercourse with at least one non-committed partner). Twenty-four percent of the sample fell into the virgin group, 36% in the romantic sex group, and 40% were classified as engaging in casual sex. Chi square analyses revealed significant gender differences ($\chi^2(2)=8.735$, $p=.013$). A greater percentage of females than males were classified in the romantic sex group and more males than females were classified in the casual sex group. Percentages for males and females in the virgin group did not differ (see table III.2).

Males and females significantly differed on their expectations of the outcome of the non-committed encounter ($\chi^2(3) = 13.332$, $p = .004$). Specifically, 18% of females

and only 3% of males believed that their most recent casual sex encounter was "the beginning of a romance." One third of males and 16% of females thought that the experience was "the beginning of a casual sex relationship." Almost half of all males (57%) and females (52%) thought that their most recent non-committed sex was "just a one time thing." Seven percent of males and 14% of females said that they thought that their most recent casual sex experience was "experimentation."

A series of analyses of variance (ANOVA) were used to identify other factors associated with casual sex. To examine the role of age of transition to first sexual intercourse a 2 (gender) X 2 (ever have casual sex) ANOVA was performed with the age of first sex variable as the dependent variable. Those who reported engaging in casual sex reported having transitioned to sexual intercourse approximately one year younger than those who did not report having casual sex ($F(1,247) = 19.260$, $p = .000$). Males reported transitioning to sexual behavior approximately 6 months earlier than females ($F(1,247) = 6.552$, $p = .011$).

To examine the relationship between first sexual intercourse experience and casual sex, a 2 (casual sex) X 2 (gender) ANOVA was performed. There was a non-significant trend indicating that those who had engaged in casual sex described their first sexual intercourse experience more negatively than those who only engaged in romantic sex ($F(2,237) = 3.608$, $p=.059$). Females were more likely to describe their first experience more negatively than males ($F(1,237) = 5.334$, $p = .022$). The interaction of gender and casual sex was significant ($F(1,237) = 5.778$, $p = .017$). Females who reported having engaged in casual sex described their first sexual relationship more

negatively than females who engaged in romantic sex only or males who had reported casual sex or romantic sex.

To examine the role of number of sex partners, a 2 (gender) X 2 (ever have casual sex) ANOVA was performed with the number of sexual partners in the past year as the dependent variable. As expected, having two or more sexual partners during the past year was significantly associated with having engaged in sexual behavior in a non-romantic context ($F(5, 247) = 13.940$, $p = .000$). There were no gender differences in the number of sexual partners in the last year.

Alcohol, Drug Use, and Casual Sex.

Alcohol and drug use was also a common factor with 65% of those who engaged in casual sex reporting using alcohol or drugs before or during the encounter. More than a third of respondents reported meeting their most recent partner at a party or in a bar, almost 18% met at a school event, 2% met on the internet, and more than 41% met though other means.

The Nature of the Casual Sex Relationship.

To examine the association between sexual behaviors and the relationship to the causal sex partner, a 4 (casual sex partner) X 2 (gender) multiple analyses of variance (MANOVA) was performed on the dependent variables affectionate and genital sexual behaviors. With the use of the Wilks' criterion, the combined sexual behavior dependent variables were significantly associated with relationship expectations ($F(6,278) = 2.522$, $p = .022$). Gender and the interaction of relationship expectations and gender were not

significant. Tests of between subjects effects revealed significant differences between relationship expectation and affectionate sexual behaviors ($F(3,147) = 4.846$, $p = .003$) and genital sexual behaviors ($F(3,147) = 2.793$, $p = .043$). Pairwise comparisons showed that those who reported their casual sex partner was a friend reported engaging in more affectionate sexual behaviors than those participants whose partner was a friend of a friend ($p = .001$) or someone they had just met ($p = .024$). Those who reported that their casual sex partner was a friend also reported engaging in more genital sexual behaviors than those participants whose partner was a friend of a friend ($p = .009$). No gender differences were found.

To examine the association between sexual behaviors and relationship expectations a 4 (expectations) X 2 (gender) MANOVA was performed on the dependent variables affectionate and genital sexual behaviors. With the use of the Wilks' criterion, the combined sexual behavior dependent variables were significantly associated with relationship expectations ($F(6,278) = 2.469$, $p = .024$). Gender and the interaction of relationship expectations and gender were not significant. Tests of between subjects effects revealed significant differences between relationship expectation and affectionate sexual behaviors ($F(3,147) = 3.861$, $p = .011$) and genital sexual behaviors ($F(3,147) = 2.900$, $p = .037$). Pairwise comparisons showed that those who believed the encounter was the beginning of a new romance engaged in significantly more affectionate sexual behaviors than those who thought the encounter was "just a one time thing" ($p = .036$). Those who believed the encounter was the beginning of a causal sex relationship reported having engaged in more affectionate sexual behaviors ($p = .006$) and genital sexual

behaviors (p = .004) with their partner than those who believed the encounter was "just a one time thing."

Religiosity and Casual Sex.

To examine the relationship between religiosity and casual sex, a 2 (ever casual sex) X 2 (gender) ANOVA was performed on the dependent variable religiosity. Females had significantly higher levels of religiosity than males ($F(1,374)=6.232$, $p=.013$). Those who reported having had casual sex reported significantly lower levels of religiosity ($F(1,374)=9.458$, $p=.002$) than those respondents who had not engaged in casual sex.

Casual Sex and Love Styles.

To examine the association of love styles and non-committed sexual behaviors, a 3 (sex behaviors group) X 2 (gender) MANOVA was performed on the dependent variables Eros, Ludus, Mania, Storge, Pragma, and Agape. With the use of the Wilks' criterion, the combined love style dependent variables were significantly associated with casual sex ($F(12, 410)=2.543$, $p = .003$) and gender ($F(6, 205) = 3.706$, $p =.002$). The interaction of casual sex and gender was not significant. Tests of between subjects effects revealed significant differences between sex behavior groups and Eros ($F(2, 210) = 3.404$, $p = .035$) and Ludus ($F(2, 210) = 5.903$, $p = .003$). Pairwise comparisons showed that those in the romantic sex group when compared to virgins endorsed higher levels of Eros ($p = .010$) and slightly higher levels of Eros than those in the casual sex group ($p =.082$). Those in the casual sex group endorsed higher levels of Ludus when

they were compared to those in the virgin group ($p = .008$) and the romantic sex group ($p = .004$). Tests of between subjects effects showed significant differences between gender and Ludus ($F(2,210) = 8.015$, $p = .005$). Males endorsed higher levels of Ludus than females ($p = .005$). No other gender differences were found.

To examine the role of love styles and the expectations of the casual sex encounter, a 4 (expectation) X 2 (gender) MANOVA was performed on the dependent variables Eros, Ludus, Mania, Storge, Pragma, and Agape. With the use of the Wilks' criterion, the combined love style dependent variables were significantly associated with expectations ($F(18, 198)=2.066$, $p = .008$). Gender was not significant and the interaction of love style and gender was also not significant. Tests of between subjects effects revealed significant differences between expectations and Eros ($F(3,75) = 2.916$, $p = .040$), Storge ($F(3, 75) = 4.867$, $p = .004$), Mania ($F(3,75) = 3.788$, $p = .014$), and Agape ($F(3,75) = 3.786$, $p =.014$). Pairwise comparisons showed that those who believed that casual sex encounter was the beginning of a new romance rather than just a one time thing, experimentation or the beginning of a new casual sex liaison, endorsed higher levels of Eros (passion), Storge (friendship love), Agape (altruistic love), and Mania (obsessive love) orientations.

To examine the willingness to engage in future casual sex unions, a 2 (would you do it again if you had the opportunity) X 2 (gender) MANOVA was performed on the dependent variables Eros, Ludus, Mania, Storge, Pragma, and Agape. With the use of the Wilks' criterion, the combined love style dependent variables were significantly associated with future casual sex ($F(6, 72)=2.274$, $p = .046$) and gender ($F(8, 72) = 3.254$, $p = .007$). The interaction of future casual sex and gender was not significant.

Specifically, tests of between subjects effects show that those who stated that they would engage in casual sex in the future if given the opportunity were more likely to endorse a higher Ludus orientation ($F(1,81) = 4.710$, $p = .033$). Males who reported that they would likely engage in casual sex in the future if given the opportunity were more likely to endorse a higher Ludus orientation ($F(1,81) = 8.495$, $p = .005$).

The Association of Depressive Symptoms and Casual Sex.

To examine the association of symptoms of depression and casual sex we employed a series of ANOVAs. Since there is ample evidence that depressive symptoms are associated with gender, T-tests were performed on depressive symptom scores from the CES-D and gender. Interestingly, although males tended to report fewer depressive symptoms on the CES-D than female participants, the differences were not statistically significant ($p = .152$) for this sample.

To examine the relationship of depressive symptoms and casual sex, a 3 (sex behavior group) X 2 (gender) ANOVA was performed with depressive symptoms as the dependent variable. No main effects were identified for sex behavior group or gender; however, analyses revealed a significant interaction for group and gender. Males who reported the lowest levels of depressive symptoms and females who reported the highest of depressive symptomatology were the most likely to be classified in the casual sex group ($F(2,376) = 4.856$, $p = .008$) (see table III.3).

To examine the association of depressive symptoms and the relationship status of the first sexual intercourse partner, a 5 (relationship to 1st partner) X 2 (gender) ANOVA was employed with depressive symptoms as the dependent variable. No main effects

were found for depressive symptoms and relationship status of first sex partner. The association between gender and relationship to first partner was significant ($F(1, 241) = 5.457$, $p=.020$). Pairwise comparisons revealed that sexually experienced females had significantly more symptoms of depression than sexually experienced males. The interaction between gender and the relationship of the first sexual intercourse partner was also significant ($F(4,241) = 2.910$, $p = .022$). Pairwise comparisons revealed that females who had more symptoms of depression were more likely to have transitioned to sexual intercourse with a stranger or acquaintance than with a romantic partner or a friend. Males who transitioned to sexual intercourse with an acquaintance showed fewer depressive symptoms then when their first partner was a romantic partner (see table III.4).

To examine the association of depressive symptoms and the number of sex partners during the past year a 6 (# of sex partners) X 2 (gender) ANOVA was performed with depressive symptoms as the dependent variable. Only participants who were non-virgins reported the number of sex partners during the past year, thus virgins were excluded. No main effects were found for depressive symptoms and number of partners in the past year. However, depressive symptoms and gender were found significant ($F(1,249) = 12.313$, $p = .001$). Pairwise comparisons showed that females who engaged in a sexual relationship (romantic/casual) showed more symptoms of depression than males ($F(1,249) = 8.697$, $p = .003$). The interaction of gender and number of sexual partners during the past year was also significant ($F(4, 249) = 2.541$, $p =.040$). Pairwise comparisons suggest that for females as the number of sexual partners during the past year increases, symptoms of depression also increase. Female participants who had the

greatest number of partners had the highest symptoms of depressive pathology (see table III.4).

To examine the association with feelings following the casual sex encounter and depressive symptoms a 2 (regret) X 2 (gender) ANOVA was performed with depressive symptoms as the dependent variable. Main effects were found for depressive symptoms and feelings of regret ($F(1,136) = 11.002$, $p = .001$). No main effects for gender were revealed and the interaction of gender and regret was not significant. Pairwise comparisons showed that those who engaged in casual sex and regretted having the encounter had more symptoms of depression than those who did not regret the encounter.

Infidelity.

Twenty-one percent of those who reported having engaged in casual sex, reported having a romantic partner at the time of the casual sex encounter. No gender differences were found for infidelity ($\chi^2(1) = .045$, $p = .832$ NS).

To examine the association of sexual behaviors and infidelity, a 2 (cheating) X 2 (gender) a MANOVA was performed on the dependent variables affectionate and genital sexual behaviors. With the use of the Wilks' criterion, the combined sexual behavior dependent variables were significantly associated with infidelity ($F(6,278) = 2.469$, $p = .024$). Gender and the interaction of relationship expectations and gender were not significant. Tests of between subjects effects revealed significant differences infidelity and affectionate sexual behaviors ($F(3,147) = 4.446$, $p = .037$); there were no differences for genital sexual behaviors. Pairwise comparisons showed that those who were in a romantic relationship at the time of the casual encounter reported having engaged in

fewer affectionate sexual behaviors with their casual sex partner than those who were not otherwise romantically involved.

To examine regret for engaging in casual sex while in a committed romance, a 2 (romantic relationship) X 2 (gender) ANOVA was performed on the dependent variable "did you regret having sex with this person?" Being in a romantic relationship was significantly associated with regret ($F(1,135) = 5.477$, $p = .021$). Those who were involved in a romantic relationship at the time of the casual sex liaison were more likely to report that they regretted the casual sex experience when they were compared to those who did not have a romance at the time of the encounter. No gender differences were found. We investigated the relationship of infidelity and depressive symptoms; however, no differences were found.

Chapter VII

Discussion

The purpose of this paper was to identify factors and circumstances associated with engaging in sexual behavior with a non-romantic partner, as well as to examine the link between casual sex and depressive symptoms and infidelity. Guided by theory, we identified individual factors associated with casual sex, we examined the role of depressive symptoms and non-romantic sex, and we investigated the role of infidelity and non-committed sexual behavior. Understanding the relationship context and the full spectrum of sexual behaviors in which late adolescents engage, is important to help educators to develop more effective programs. Our data suggest that non-committed sexual encounters are common and they are associated with risk behaviors such as alcohol and drug use. Furthermore, by disentangling romantic sex and casual sex we provide evidence that casual sex, rather than romantic sex, is associated with symptoms of depression for females. Moreover, we identified a pattern linking early transition to intercourse with depressive symptoms and casual sex behaviors.

Casual sex was a fairly common occurrence among the participants in this sample, as more than half of the sexually experienced participants reported engaging in sex with partners with whom they were not involved in a romantic relationship. Consistent with previous research (Buss, 1988, 1989; Hill, 2002), our data supports the contention that males (52% of those who reported engaging in casual sex) report significantly more casual sex experiences than females (36%). Thus, gender plays a salient role in predicting casual sex encounters. Males appear to enter a non-committed union with different outcome expectations than females. They do not expect a love

relationship when they have sex in a casual context; they often expect either the interlude to be a "one night stand" or the beginning of a casual sex relationship, in essence, a relationship void of emotional commitment. Conversely, females (18%) were more likely than males (3%) to expect that the encounter would evolve into a romantic relationship. Nevertheless, less than one-fifth of the females who had had casual sex experiences reported that they thought a romance might be imminent. The majority of males and females who engaged in sex with a non-committed partner knew that the encounter was casual.

Casual sex appears to be a function of several factors associated with transition to first intercourse. Premature transition may leave one more vulnerable to engage in non-committed sex. We found that those who reported casual sex began engaging in sex earlier than those who did not report a casual sex experience. We found that males who engaged in casual sex transitioned to intercourse on average one year earlier than males who did not report casual sex. The findings were similar for females, although the average age of transition was only about 6 months earlier for those who engaged in casual sex. The nature of the relationship with one's first sexual intercourse partner was also associated with engaging in casual sex. When their first sexual partner was not a romantic partner, the participants in this sample were more likely to engage in more recent casual sex unions. Furthermore, there was a trend suggesting that those individuals who reported engaging in non-committed sexual relations also reported more negative first sexual experiences. This was especially true for females. Females who had had a casual sex encounter were less likely to have rated their first sexual intercourse experience as pleasurable. The mechanism of this link warrants further exploration.

In this sample, non-committed sex was associated with other risk behaviors. Those who had had a casual sex experience reported more sexual partners than those who engaged in sex with their romantic partners. We also found that non-committed sex in this sample was associated with other high risk behaviors as casual sex often occurred while using drugs and alcohol. Given this evidence, it was not surprising that most late adolescents in this sample reported that they met their casual sex partners in contexts that promote alcohol and drug use such as parties and in bars. This finding is consistent with the direct linear link between non-committed sex and alcohol identified by other researchers (i.e., Leigh & Schafer, 1993). Additionally, there was no evidence of any gender differences in the association between casual sex and alcohol consumption (Cooper & Orcutt, 1997; Testa & Collins, 1997). Similarly, Træen & Lewin (1992) found a relationship between non-committed sex and life style factors such as alcohol consumption when they examined casual sex among college students during spring break. The researchers found a relationship between casual sex and a context that promoted large quantities of alcohol consumption and the expectation of non-committed sex. Thus, the combination of context and alcohol appears to be directly associated with engaging in casual sex. Future research should focus on identifying the specific contexts that may promote this high risk combination, such as membership in certain peer groups such as certain athletics programs, fraternities, and sororities.

When examined in context, we found over a third of the non-committed unions occurred with partners who were strangers or who they did not know well, rather than partners who were emotionally close such as opposite sex friends. However, when the partner was a friend, respondents reported engaging in more genital sexual behaviors

(intimate touching, oral sex, and intercourse) than they did with partners who were acquaintances. They also engaged in significantly more affectionate sexual behaviors (kissing, hugging, holding hands, and massage) than they did with partners who were strangers or acquaintances. Casual sex relationships with opposite sex friends may have a different meaning than when the partner is a stranger. It appears that these "friends with benefits" liaisons may be more similar in some respects to romances. One of the differences we found between a causal sex relationship with a friend verses a stranger was the frequency of affectionate sexual behaviors. Behaviors such as kissing, holding hands, and hugging, may be related to intimacy. Perhaps it is not a fear of intimacy that prevents the relationship from being conceptualized as a romance, but rather a problem with the commitment that is implied by a romance.

We found the amount of affectionate and genital sexual behaviors was associated with individuals' expectations for the relationships. When looking for more than just a "one night stand' participants seemed to engage in more affectionate and genital sexual behaviors. We found this significant for both the expectation of a romance and the expectation that the encounter was the beginning of a casual sex relationship. In the movie "Pretty Woman" (Milchan, Reuther, & Marshall, 1990) the prostitute portrayed by Julia Roberts explained to her client that any sexual behaviors he desired was acceptable except kissing. Kissing implied an emotional rather than physical link. Similarly, the more substance there is to a relationship, albeit casual or committed, the more affection is displayed between the partners. Thus, limiting research to "one night stands" only captures a small portion of casual sex relations and fails to acknowledge casual sex

relationships and "friends with benefits" relationships where intimacy may be present and commitment is noticeably absent.

Buss' theory posits that although evolutionary predispositions influence casual sex behavior, moral and social mores also play an important role in sexual decisions. To examine possible moral or social influences, we investigated the relationship between religiosity and casual sex. Higher levels of religiosity significantly reduced the likelihood of non-committed sex in our sample. The relationship between religiosity and sexual behavior has been inconsistent. Many studies have found religiosity delays sexual activity and the number of life time sexual partners (see Whitehead, Wilcox, Rostosky, Randall, & Wright 2001, for review). Perhaps by disentangling casual sex and romantic sex, the relationship between premarital sexual behavior and religiosity will become lucid.

The relationship between casual sex and poor psychological functioning may be linked with the lenses an individual uses when approaching non-committed relationships. As we predicted, we found participants who reported Ludic (game-playing) approaches to interpersonal relationships were more likely to engage in sex with non-romantic partners. Those who endorsed an Eros (passionate) style were more likely to be virgins or to engage in sexual activity with their romantic partners. They were less likely to engage in sex with non-committed partners. As expected, the males in this sample were more likely have a Ludus style, but we found no gender differences for the other five styles of love. Those with Eros, Agape, Mania, or Storge style all believed that their most recent casual sex encounter was the beginning of a romance. In other words, they did not think that the union was casual, a "one night stand," or sexual experimentation. Only those who

endorsed a Ludus style reported that they would engage in sex with a non-romantic partner in the future if given the opportunity.

We found that casual sex was associated with higher levels of current symptoms of depression. Females with the highest depressive symptomatology and males with the lowest symptoms were the most likely to engage in casual sex. Those who reported engaging in sex with non-romantic partners also reported having more partners in the previous year and 20% were involved in a different romantic relationship at the time of their most recent casual sex liaison. The association of casual sex and depressive symptoms in females might be because depressed females maybe seeking external validation that are unable to gain from within. Perhaps they are desperately looking for satisfaction from others that they cannot find within themselves. They may be inadvertently maintaining a vicious depressive cycle by unconsciously engaging in sex in a doomed relationship (Welsh, Grello, Harper, 2003). Conceivably, these females' negative feelings of self-worth or isolation increased their desire to be wanted by or intimate with another. Thus, if they sensed a potential romance would result from the encounter they may have engaged in sexual behavior with a non-romantic partner in a misguided attempt to feel better. Furthermore, the more depressive symptoms females reported, the more partners they had, suggesting either little sexual satisfaction or perhaps increased efforts to fill an internal void. Whatever the specific motivation to engage in non-committed sex, females who were depressed expressed more regret. It is not clear if feeling bad about the encounter increased depressive symptoms or if the depressive symptoms were reinforced by the regret. Future research should examine cognitive dissonance and symptoms of depression by looking specifically at incongruencies

between attitudes toward casual sex and actual casual sex behavior. If an individual is engaging in an activity he or she disapproves of, could the cognitive dissonance be associated with increased depression?

For males, the relationship between casual sex and depressive symptoms was very different. We found that males who engaged in casual sex had the fewest symptoms of any of our participants. When considered with the tenets of evolutionary theory, it appears that men with emotional resources are likely to engage in sexual behaviors with a variety of partners. From these data we are unable to determine if having several partners increases emotional functioning or if the availability of several partners results from feeling good internally. Future research should explore this and other factors such as physical attraction, athletic ability, status, and financial resources or potential. It would be expected that these factors would increase a male's ability to engage in sexual behaviors with a variety of partners.

The relationship between depressive symptoms and non-committed sexual behaviors provides support for the tenets of evolutionary theory. Buss (1988, 1989) suggested that vulnerable women and attractive males would be especially susceptible to casual sex encounters. Evolutionary theory suggests that males look for females who personify reproductive qualities; however, at times they may "settle" and engage in sexual behavior with females with whom they would not be emotionally committed. This may be particularly true for attractive or self-confident males who females perceive as having more available resources because of athletic abilities, financial resources, popularity, or academic success (Buss & Schmitt, 1993). We found empirical support for this supposition when we found that the psychologically healthier (or least depressed)

males and the psychologically most distressed females were the most likely participants to be engaging in casual sex experiences.

Socio-cultural theories complement evolutionary theory and offer further elucidation above and beyond biological explanations for factors linked with casual sex. Females are socialized to value relationships (Wong & Csikszentmihalyi, 1991). Although the majority of adolescents agree that premarital sex is acceptable within a romantic context (Regan, 2003), social norms and expectations continue to define casual sex encounters as acceptable for males and objectionable for females (Walsh, 1991) and females are less tolerant of other females who participate in such relationships (Hynie, Lyndon, Cote, & Weiner, 1998). Both males and females justify male casual sex because they perceive males as having stronger sexual desire than females (Impett & Peplau, 2003). Males tend to "sexualize" potential partners and do not consider emotional commitment as a prerequisite for sexual activity (Impett & Peplau, 2003). Males have been found to experience more pleasure and less guilt than females when they engage in sexual behavior with partners who are casual (Sprecher, Barbee, & Schwartz, 1995). Conceivably guilt, regret, and the violation of societal expectations may contribute to female psychological distress.

There are several limitations to this study. First and foremost is the limitation of a convenience sample of college students. College may be a context in which casual sex is promoted. It is unclear whether the rates of casual sex would be as high in a similarly aged non-college population. Likewise, it is unclear whether the rates of casual sex will decline after college. Moreover, our sample was obtained from a university located within the Southern Bible Belt and the student population is fairly conservative. It is

uncertain whether universities in less conservative regions would have more or less casual sexual behavior. We consider our findings a starting point for future researchers. Much more research is necessary before generalizing our findings. In addition, future research should be longitudinal. In our previous study, using a longitudinal nationally representative sample of adolescents (age 12-21), we found that casual sex was associated with higher levels of delinquency, violent victimization, and symptoms of depression, but these difficulties existed prior to transition, rather than resulting from it. In this sample we are not able to examine cause and effect as our data is cross-sectional.

Similar to our previous research, an important finding in this study is that sexual behavior in a romantic context was not associated with symptoms of depression. Engaging in sex with a casual partner was positively linked with depressive symptoms for females. For males, the casual sexual behavior was associated with very low symptoms of depression. In fact, we found that the males who engaged in casual sex had the fewest symptoms of all the participants. This study demonstrates that there are layers to sexual behaviors based on context. Late adolescents may have different reasons for engaging in sexual behavior with partners whom they do not consider romantic. Casual sex may be a symptom of pathology for some or it may promote peer status for others. Some casual sex behaviors likely occur in intimate relationships that are similar to romance but are void of commitment. Further research should further investigate these differences.

Infidelity was fairly common as we found 21% of respondents reported having been involved in a romantic relationship at the time of their casual sex encounter. Those who were involved in a romance reported participating in fewer affectionate behaviors

with their casual sex partner than those who were not in a romance. There is further evidence that affectionate sexual behaviors such as kissing maybe more salient to commitment than genital behaviors, possibly implying that affectionate behaviors represent an emotional level of involvement and genital sexual behaviors may represent a physical or recreational activity. Intercourse may be referred to as making love, but kissing may be more what love is about. Furthermore, when our participants did cheat on their partners, they felt bad about it. Research on the impact of infidelity in non-marital relationships is limited; however, there is evidence that infidelity may be associated with depressive symptoms (Welsh, Grello, Harper, 2003). Although a large number of adolescents in this sample were unfaithful to their romantic partners, the sample was not large enough to examine the relationship. Understanding infidelity in romantic relationships is important since dating relationships serve as training ground for marital relationships (Furman & Wehner, 1994). Given the adverse effects of infidelity identified in the marital literature (Treas & Gieson, 2000), it may be relevant to examine this behavior in late adolescent premarital relationships.

In summary, one of the purposes of this study was to investigate adolescent sexual behaviors in context to identify the individual factors associated with non-committed sexual behaviors. We found individual factors such as gender, age and context of transition to intercourse, drugs and alcohol use, were all factors that increased the likelihood of casual sex. Conversely, religiosity reduced the probability of non-committed sex. How an individual approaches interpersonal relationships was found to be linked with casual sex behaviors. The majority of adolescents in this study knew that their casual sex encounter was not going to lead to a romance. Those who believed the

encounter would be casual engaged in significantly fewer affectionate behaviors with their non-committed partners than those who believed the encounter was going to evolve into a romance. Depressive symptoms were also associated with engaging in casual sex. We found that males who reported engaging in non-committed sex had the fewest symptoms of depression and females who had a history of casual sex experienced the most depressive symptoms. These findings offer support to evolutionary theory (Buss,1989) as well as socio-cultural theories. There are likely several layers to casual sex. Some encounters are among males and females who consider their relationship a friendship rather than a romance. The differences may be in commitment as friends are likely to be intimate and affectionate, but not committed. Other casual sex relationships result from infidelity, a very different and potentially more harmful manifestation of casual sex (Welsh, Grello, & Harper, 2003). Future research should focus on further disentangling the context of these relationships.

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Appendix

Table III.1

Characteristics of casual sex encounters (N=152)

Characteristic	n	%
How did you know your most recent casual sex partner?		
Just met	17	17.1
A friend of a friend	22	14.5
Seen him/her around before	8	5.3
A friend	96	25.1
Where did you meet your most recent casual sex partner?		
At a party	49	32.2
In a bar	10	6.6
School event	27	17.8
Internet	3	2.0
Other	63	41.4

Table III.2
Sex behavior group x gender

Group	% Male	% Female
Virgin	24.4	24.5
Romantic partner sex	27.2	40.1
Casual sex	50.4	35.4

$\chi^2(2)=8.735$, $p=.013$

Table III.3
Means and standard error for sex behavior group and depressive symptoms x gender.

Sex behavior group	Gender	Mean Dep. Symp.	SE
Virgin			
	Male	14.107	1.916
	Female	12.952	1.277
Romantic partner sex			
	Male	17.471	1.739
	Female	15.825	.999
Casual sex			
	Male	13.079	1.277
	Female	18.637	1.063

Table III.4
Means and standard error for depressive symptoms and number of sex partners during the past year.

Number of Partners	Gender	Mean Dep. Symp.	SE
1			
	Male	10.750	2.633
	Female	15.111	2.027
2-3			
	Male	16.250	1.755
	Female	16.422	1.156
4-7			
	Male	11.636	2.245
	Female	18.382	1.420
8-15			
	Male	15.167	4.300
	Female	20.636	3.176
16-28			
	Male	10.000	7.447
	Female	45.000	10.532
29+			
	Male	17.000	10.532
	Female	-	

Table III.5

Means and standard error for depressive symptoms and relationship with first sex partner.

Relationship with 1st sex partner	Gender	Mean Dep. Symp.	SE
Romantic			
	Male	14.537	1.426
	Female	16.639	.874
Friend			
	Male	12.300	3.315
	Female	18.600	2.707
Casual Acquaintance			
	Male	7.750	3.706
	Female	23.500	4.279
Just met			
	Male	14.000	3.706
	Female	33.250	5.241
Other	Male	29.000	10.483
	Female	27.000	10.483

PART IV

CONCLUSIONS

Chapter I

Conclusions

The two studies presented in this paper together examined personal, psychological, and relational variables and their association to adolescent sexual behaviors. The results of the two studies demonstrate the significance of the relational context to examinations of adolescent sexual behaviors.

Historically a significant body of research regarding adolescent sexuality has utilized models and methodologies pioneered by epidemiologists for the purpose of preventing teen pregnancy and the transmission of disease (Savin-Williams & Diamond, 2004; Welsh, Rostosky, & Kawaguchi, 2000). Such a perspective often overlooks contextual factors that are theoretically important to researchers outside the field of epidemiology. Most significantly, the relational context of the adolescent sexual dyad has been largely ignored. Moreover, because disease and pregnancy are most likely to result from coitus only a few investigations have examined other sexual behaviors (Welsh, Rostosky, & Kawaguchi, 2000). Merely examining just the presence or absence of intercourse neglects the full scope of adolescent sexual behaviors (Paikoff, McCormick, Sagrestano, 2000; Savin-Williams & Diamond, 2004; Welsh, Rostosky, & Kawaguchi, 2000; Whitaker, Miller, & Clark, 2000). By examining adolescent sexual behaviors in the context in which they are embedded and adding to our questions, non-coital sexual behaviors, the three studies presented here provide evidence that the relationship context matters. For some adolescents engaging in sexual behaviors is likely symptomatic; however, for others engaging in sexual behaviors is not associated with dysfunction.

In study 1, *Dating and sexual relationship trajectories and adolescent functioning*, we examined the disparate relationship trajectories over the course of one year, of a nationally representative sample of adolescent virgins who had never dated. By disentangling dating, romantic sex, and casual sex relationships, we found that the transition to dating and romantic sexual intercourse were not associated with increases in depressive symptoms, delinquency, or violent victimization. In short, romantic sexual relationships did not appear to have the detrimental effects others have found (e.g. Davies & Windle, 2000; Medora, Goldstien, & Von der Hellen, 1994). In fact, we found very few significant differences in depressive symptoms and problem behaviors between those who continued to delay transition to dating and those who transitioned to dating or romantic sexual intercourse. However, engaging on sexual intercourse with a casual sex partner was associated with increases in problem behaviors and psychological functioning. Moreover, adolescents who engaged in casual sex, reported elevated symptoms *prior* to transition to dating or sexual intercourse. Nevertheless, it is important to be aware that while romantic sex was not associated with problematic functioning, the majority of sexual experienced adolescents in this study engaged in casual sex. Future research should examine if romantic sexual intercourse serves as a gateway to casual sex. Further investigations should consider the meaning of intercourse in the specific contexts in which the behavior occurs to further clarify and understand gender, developmental, and contextual differences among adolescents.

In study 2, *No Strings Attached: The Nature of Casual Sex in Late Adolescence*, we examined the nature and circumstances associated with casual sex in a sample of late adolescent college students. More than 50% of sexually experienced adolescents in this

investigation reported having engaged in at least one casual sex encounter. Although both males and females reported casual sex, casual sex was more common among males. In this study, we found that casual sex, but not romantic sexual behaviors were associated with other behaviors, traditionally characterized as "risk" behaviors, such as early transition to sexual intercourse, more lifetime sexual partners, alcohol consumption, and drug use. Moreover, participants were most likely to meet their casual sex partners in a bar or party, contexts where alcohol and drug use are likely encouraged. Together with evidence from out first study, these findings lend support our hypothesis that casual sex behavior rather then romantic sex behaviors, is likely a symptom or a marker of a constellation of problem behaviors rather then their cause.

Our investigation of the link between depressive symptoms and sexual behavior we found evidence suggesting that casual sex, but not romantic sex, was significantly associated with increased depressive symptoms for females and lower depressive symptoms for males. Theoretically, the marked gender difference in depressive symptoms among adolescents who engage in casual sex offers support to evolutionary theories of sexual behaviors (Buss, 1988; 1989). According to evolutionary theory, non-committed sex is rooted in natural selection. Ancestral males copulated with multiple partners to increase the likelihood of progeny. Ancestral females were faced with a very different problem; they needed to be more selective with sexual mates to assure themselves and their children of protection and resources. Consequently, female preferences emerged whereby competitiveness, status, athletic ability, and economic prospects are preferred (Buss, 1988; 1989). Thus, a non-depressed male, might appear to

be a reliable and resourceful mate. The role of depressive symptoms and casual sex is interesting and further research is warranted.

Socio-cultural theories complement evolutionary theory and offer further elucidation above and beyond biological explanations for factors linked with casual sex (e.g. Regan, 2003; Simpson & Gangstad, 1992). Although the majority of adolescents agree that premarital sex is acceptable within a romantic context (Regan, 2003), social norms and expectations continue to define casual sex encounters as acceptable for males and objectionable for females (Walsh, 1991). Males have been found to experience more pleasure and less guilt than females when they engage in sexual behavior with partners who are casual (Sprecher, Barbee, & Schwartz, 1995). Conceivably guilt, regret, and the violation of societal expectations may contribute to female psychological distress.

Gender played a significant and prominent role when examining participants' expectations for the outcome of their most recent casual sex encounter. For the most part, when males and females entered into a casual sex relationship, they did not expect the relationship to develop any further. However, significantly more females (18%) than males (3%) reported that they expected a romantic relationship would result from their casual sex liaison. When adolescents believed their causal sex encounter would develop into a romance, they reported engaging in more affectionate sexual behaviors with their partners than when they expected the encounter to remain casual. Such an association may suggest affectionate sexual behaviors are more about love and commitment and genital sex behaviors are just about sex.

In this sample, 60% of casual sex participants' reported their most recent casual sex encounter was just a "one night stand" or experimentation. In other words, most

participants entered the encounter void of expectations of future contact with their sexual partners. However, the other 40% are different. Some of the participants expected the encounter would develop further. For other individuals perhaps the relationship is casual rather than the sex. In our previous research, we found that the length of casual sex relationships could vary from very brief to several months or years (Grello & Welsh, 2002). Often enduring casual sex relationships occur with a close opposite sex peer. These relationships resemble romantic relationships; however, the relationships are not considered by the partners as romantic (Schaffer, 2000). Enduring causal sex (sometimes referred to as "friends with benefits") may in effect be non-committed romantic relationships.

The two studies demonstrate the importance of examining the sexual relationship context. Future research should further disentangle casual relationships from non-committed relationships and "one night stands" to understand the meanings and associations of sexual behavior in diverse relational contexts and situations. For example, in this study we examined participants love styles and casual sex. We found that those who had endorsed high levels of Ludus (game playing) in approaching their interpersonal relationships were more likely to report engaging in casual sex. Sex to these individuals does not require emotional intimacy or commitment (Lee, 1988). Conversely, those who endorsed higher levels of Eros (passionate love) were less likely to report having casual sex experiences.

The two studies show that many adolescents engage in sexual behaviors. When examining the context of the sexual relationship, we found that casual sex, but not romantic sex linked with problem behavior and poor emotional functioning.

Chapter II

Future Directions

The two studies presented here examined adolescent sexual behaviors in relational contexts. We have provided evidence indicating that in some circumstances, adolescent sexual behaviors were associated with pathology and problem behaviors; however, for other adolescents, sexual behaviors were not problematic or indicative of dysfunction. In other words, adolescent sexuality can have different associations depending on the relational context in which it occurs.

Future investigations should further delineate the specific contexts of sexual relationships as well as the diverse sexual behaviors adolescents engage in. For example, in study two, we found evidence that affectionate sexual behaviors, such as kissing, hugging, and holding hands may be more about expressing feelings of love than genital sexual behaviors. In study two, we found that when adolescents had expected their casual sex encounters to develop in romances or when the casual sex partner was a friend, they engaged in more affectionate sexual behaviors then adolescents who entered the casual sex encounter expecting nothing more.

Future research should longitudinally examine culturally diverse samples to expand our understanding of the development of love and sexuality as well as the maintenance of healthy romantic relationships. For example, many have argued (Bercheid & Walster, 1974; Brown, Feiring, & Furman, 1999) that adolescent romantic relationships influence more permanent adult romantic relationships; however, the mechanisms of influence are not known. Furman and Wehner (1994;1997) hypothesize that romantic attachment develops over the course of adolescence. With maturation and

experience, the romantic partner gradually becomes a central attachment figure, providing affiliative qualities such as care, support, and comfort to the romantic partner (Furman & Wehner, 1997). Studying the attachment process of adolescent romantic relationships will help researchers to formulate relevant hypotheses and identify healthy as well clarify why some adolescent may participate in less healthy relationships. Understanding the relationship context and the full spectrum of adolescent sexual behaviors can facilitate the development of more effective sexual educational programs, as well as support clinicians in appreciating the effects and symptoms that may be associated with sexual behaviors. Adolescents themselves need information to help them to make healthy and informed choices regarding their own sexual behaviors. Sexual behaviors go beyond intercourse and adolescent sexual decisions are likely more complicated than just saying "no."

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Vita

Catherine Grello was born in Bay Shore, New York on February 13, 1959. She attended the Bay Shore public schools and graduated from Bay Shore High School in June, 1977. Catherine attended Syracuse University, Syracuse NY from September 1977 until May 1981 when she received a Bachelor of Fine Arts degree in Advertising Design. She worked in the advertising field until 1989. Catherine entered the Master's program in Community Mental Health Counseling at the University of Tennessee, Knoxville in September 1997 and completed her Master of Science degree in August 2000. After graduating in August 2000, Catherine was accepted into the Ph.D. program for clinical psychology at the University of Tennessee. During her career there, she helped design and conduct two research projects: "Study of Tennessee Adolescent Romantic Relationships" (STARR) with Dr. Deborah Welsh, and the "Survey of College Students' Romantic and Nonromantic Relationships" with Melinda Harper.

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