

8-2005

The Effects of Social Anxiety on the Development of Romantic Relationships in Adolescence

Karen R. Zeff

Follow this and additional works at: <http://digitalcommons.library.umaine.edu/etd>



Part of the [Child Psychology Commons](#), and the [Developmental Psychology Commons](#)

Recommended Citation

Zeff, Karen R., "The Effects of Social Anxiety on the Development of Romantic Relationships in Adolescence" (2005). *Electronic Theses and Dissertations*. 42.
<http://digitalcommons.library.umaine.edu/etd/42>

This Open-Access Dissertation is brought to you for free and open access by DigitalCommons@UMaine. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DigitalCommons@UMaine.

THE EFFECTS OF SOCIAL ANXIETY ON THE DEVELOPMENT OF ROMANTIC RELATIONSHIPS IN ADOLESCENCE

By Karen R. Zeff

Thesis Advisor: Dr. Douglas W. Nangle

An Abstract of the Thesis Presented
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy
(in Psychology)
August, 2005

The present study sought to investigate the ways in which social anxiety impedes the development of romantic relationships across adolescence. Previous research has demonstrated a natural progression for romantic associations during adolescence in which teens transition from same- to mixed-sex peer groups, and finally to dyadic relationships with romantic partners (Connolly, Furman, Konarski, 2000; Dunphy, 1963). This model of development was the basis for the present investigation. Social anxiety was examined in terms of how it impacted affiliations at the same- and mixed sex peer group levels, and ultimately the formation of romantic relationships.

This project involved administering a series of questionnaires and rating scales to students enrolled in the 9th through 12th grades. Participants included 457 adolescents (196 males, 261 females) recruited from public high schools in the state of Maine. The questionnaires assessed social anxiety, peer acceptance, heterosocial competence, gender composition of adolescent peer networks, dating history, and relationship quality with significant others in the adolescent's life. Higher levels of social anxiety were expected

to be associated with impairment at each of these three levels. Given the proposed developmental progression, the effects of anxiety were theorized to be most pronounced within the older cohort of adolescents. Moreover, gender was expected to affect the pattern of results. Social anxiety is most prevalent among females (LaGreca, 1998; LaGreca & Lopez, 1998), who are also thought to progress along the proposed developmental trajectory more quickly than their male counterparts. Therefore, social anxiety was expected to impact the females to a greater degree at each of the three levels.

Correlation coefficients, multivariate analyses of variance, and regression analyses were used to evaluate the data. Overall, despite some discrepant findings, the results supported the hypotheses. Social anxiety was affiliated with problems in the same-sex peer group, the mixed-sex clique, and, for older adolescents, romantic relationships. As expected, social anxiety affected females the most at each level. There seems to be a maladaptive pathway that socially anxious teens are following that is markedly different than their non-anxious counterparts.

ACKNOWLEDGMENTS

I would like to extend my sincerest appreciation to several individuals who helped to make this project possible. My deepest gratitude goes to my mentor, advisor, and friend, Doug Nangle. His steadfast encouragement and guidance, through not only this project, but throughout graduate school, has been invaluable. He has challenged me to learn and grow, and for that I am a better person. I would also like to extend a special thank you to Cindy Erdley, whose insights and collaboration helped to improve this project in many ways. Furthermore, thank you to my dissertation committee for taking the time and energy to read and offer insights on the study. Much appreciation goes to Jeff Goodman who selflessly, but characteristically, offered his time and statistical advice. I am fortunate to have dedicated, hard-working, and caring labmates, particularly Asia Serwik, and undergraduate research assistants who helped to ensure that that this project ran smoothly through each phase. Truly, this study would not have been possible without the students, teachers, guidance counselors, and principals of Orono, Brewer, Augusta, and Lewiston High Schools, who took an interest in my project and generously donated their time. I am thankful for the constant support of my friends and family through the many years of graduate school. I am particularly grateful to my wonderful friend, Jessica Matthews, who has taken each step of this journey right beside me, providing tireless encouragement along the way. Michele Alexander, although no longer with us, remains an integral part of this project and of my committee. Her spirit will always stay with me, as will her wisdom. Finally, I would like to dedicate this dissertation to my parents, Marion and Steven Zeff. They have struggled through every challenge of life with me, and have given me immeasurable love and support along the way. I could not have done this without them.

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	iii
LIST OF TABLES.....	viii
LIST OF FIGURES.....	x

Chapter

1. INTRODUCTION.....	1
Overview.....	1
Developmental Psychopathology: An Organizing Framework.....	4
Social Anxiety in Childhood and Adolescence.....	8
Risk Factors.....	10
Temperament.....	12
Parental Processes.....	14
Peer Relationships.....	16
Summary.....	18
Social Anxiety as a Risk Factor.....	19
Normative Adolescent Development.....	21
Biological Transitions.....	21
Cognitive Transitions.....	22
Social Transitions.....	23
Peer Relationships.....	24
Key Dimensions.....	24
Peer Acceptance.....	24
Friendship.....	26

Peer Networks.....	30
Normative Trajectory.....	31
Infancy and Early Childhood.....	32
Middle Childhood.....	33
Adolescence.....	35
The Same-Sex Peer Group.....	36
The Mixed-Sex Peer Group.....	38
The Development of Romantic Relationships.....	42
The Impact of Social Anxiety on Social Development.....	50
Mechanisms Underlying Risk.....	51
Early Childhood.....	54
Middle Childhood.....	54
Adolescence.....	55
The Present Study.....	58
2. METHOD.....	68
Participants.....	68
Measures.....	69
Social Anxiety.....	69
Peer Acceptance.....	71
Heterosocial Competence.....	72
Peer Network.....	73
Dating History.....	74
Relationship Quality.....	75
Procedure.....	76

3. RESULTS.....	78
Correlation Analyses.....	78
Multivariate Analyses of Variance.....	85
MANOVA #1: Peer Relationship/Social Competence Variables.....	88
MANOVA #2: Relationship Quality Variables.....	90
MANOVA #3: Dating Variables.....	92
Regression Analyses.....	94
Simple Regressions with Social Anxiety as a Predictor.....	94
Simple Regressions with Interaction Terms as Predictors.....	98
4. DISCUSSION.....	104
The Same-Sex Peer Group.....	105
The Mixed-Sex Peer Group.....	108
Romantic Relationships.....	113
Contributing Factors.....	116
Social Competence.....	117
Grade.....	123
Gender.....	127
Interaction Effects.....	129
Limitations.....	131
Cross Sectional vs. Longitudinal Study Design.....	131
Sample Characteristics.....	132
Self-Report Methodology.....	133
Use of Sociometrics.....	134
Conclusions.....	136

Future Directions.....	139
REFERENCES.....	142
APPENDICES.....	167
Appendix A. Measures.....	168
Appendix B. Additional Forms.....	206
Appendix C. Additional Tables and Figures.....	211
BIOGRAPHY OF THE AUTHOR.....	222

LIST OF TABLES

Table 3.1.	Correlations computed across gender and age.....	80
Table 3.2.	Correlations computed separately by gender.....	82
Table 3.3.	Correlations computed separately by grade level.....	84
Table 3.4.	MANOVA #1: Peer relationship/social competence variables.....	89
Table 3.5.	MANOVA #2: Relationship quality variables.....	91
Table 3.6.	MANOVA #3: Dating variables.....	93
Table 3.7.	Results of simple regressions with social anxiety as the predictor.....	95
Table 3.8.	Results of simple regressions with social anxiety as the predictor analyzed separately by gender.....	97
Table 3.9.	Results of simple regressions with social anxiety as the predictor analyzed separately by grade.....	99
Table 3.10.	Results of simple regressions with social anxiety x grade as the predictor.....	101
Table 3.11.	Results of simple regressions with social anxiety x gender as the predictor.....	102
Table 3.12.	Results of simple regressions with social anxiety x grade x gender as the predictor.....	103
Table C.1.	Descriptive and reliability statistics on measures used in the present study.....	212

Table C.2.	MANOVA #1: Peer relationship/social competence variables with social anxiety as a three level variable divided by norms.....	213
Table C.3.	MANOVA #2: Relationship quality variables with social anxiety as a three level variable divided by norms.....	214
Table C.4.	MANOVA #3: Dating variables with social anxiety as a three level variable divided by norms.....	215
Table C.5.	MANOVA #1: Peer relationship/social competence variables with social anxiety as a three level variable divided by standard deviations.....	216
Table C.6.	MANOVA #2: Relationship quality variables with social anxiety as a three level variable divided by standard deviations.....	217
Table C.7.	MANOVA #3: Dating variables with social anxiety as a three level variable divided by standard deviations.....	218

LIST OF FIGURES

Figure 1.1	Morris's Pathways to Social Anxiety Disorder.....	11
Figure 1.2	Proposed Model.....	60
Figure C.1.	Mean Comparisons Across Anxiety Groups:	
	Total Peers in Network.....	219
Figure C.2.	Mean Comparisons Across Anxiety Groups:	
	Total Opposite-Sex Friends.....	219
Figure C.3.	Mean Comparisons Across Anxiety Groups:	
	Total Close Friendships.....	220
Figure C.4.	Mean Comparisons Across Anxiety Groups:	
	Proportion Opposite-Sex Peers	220
Figure C.5.	Mean Comparisons Across Anxiety Groups:	
	Heterosocial Competence.....	221

CHAPTER 1: INTRODUCTION

Overview

Adolescents face dramatic changes in their associations with both same- and other-sex peers. During adolescence, peer networks become larger and more complex. Concomitantly, individuals gain increased exposure to other-sex relationships. For example, one study demonstrated that in contrast to high-school freshmen who spend 44% of their time in same-sex groups, seniors spend 21% of their time in same-sex groups and 24% in other-sex dyads (Csikszentmihalyi & Larson, 1984). Furthermore, in a study examining friendship networks, researchers discovered that whereas seventh-graders were involved in mixed-sex friendship groups, fourth-graders were not (Cairns et al., 1995). It is within the context of other-sex relationships that heterosexual romantic relationships first begin to emerge. The results of longitudinal research suggest that peer networks are a context in which romantic relationships can develop and that affiliation with peers contributes to the likelihood that these relationships will grow (Connolly, Furman, & Konarski, 2001). Moreover, empirical work indicates a natural progression for the development of adolescent romantic relationships in which adolescents move from intimate groups of same sex friends, to mixed-sex cliques, and finally to dyadic relationships with a romantic partner (Collins, Henninghausen, Taylor, Schmit, & Sroufe, 1997; Connolly et al., 2001; Connolly & Goldberg, 1999; Dunphy, 1963).

Although theorists recognize the increased importance of other-sex interactions in adolescence, relatively little is known about the role of these interactions in social

development and adjustment. Theorists suggest that social withdrawal in youth tends to cause problems with the normal development of peer relationships across adolescence (Connolly & Goldberg, 1999). More specifically, some hypothesize that socially anxious and withdrawn children are likely to follow a maladaptive pathway in that they encounter difficulties in finding acceptance in a same-sex group, and then later have problems with interactions in a mixed-sex peer group. Anxiety has specifically been associated with fewer date initiation behaviors and interactions with the opposite-sex (Hansen, Christopher, & Nangle, 1992). This anxiety may lower the frequency of heterosocial interaction and thus inhibit the development of heterosocial competency. As such, romantic relationships may be delayed or non-existent during adolescence (Connolly & Goldberg, 1999; Dunphy, 1963). Researchers have identified negative correlates of minimal dating relationships in adolescence including decreased social skills, loneliness, social withdrawal, or even romantic dysfunction later in adulthood (Ernst & Cacioppo, 1999; Neemann, Hubbard, & Masten, 1995; Williams, Connolly, & Segal, 2001). Given the important functions of romantic relationships in adolescence, it appears integral for research to investigate anxiety and other factors that may be interfering with normative social development.

The present study sought to investigate the ways in which social anxiety impedes the development of romantic relationships in adolescence. It is evident from the existing literature that social anxiety can have detrimental effects on the peer network and socialization during adolescence (Davila & Beck, 2002). Despite its apparent importance in the teen years, the link between social anxiety and the development of

romantic ties has not yet been examined. The current study attempted to bridge this gap in the literature by investigating the role of social anxiety in the development of romantic relationships from a developmental psychopathology perspective. Social anxiety was examined in terms of how it affects normal social development at the level of the same-sex peer group, the level of the mixed-sex clique, and ultimately the formation of a dyadic relationship with a romantic partner. This project involved administering a series of questionnaires to students in two age groups: ninth and tenth graders and eleventh and twelfth graders. By examining youth at two time points during adolescence, the continuity and progression of social anxiety could be evaluated at different phases during development and in terms of its effects on the developing teen. The questionnaires and rating scales assessed social anxiety, peer acceptance, heterosocial competence, the gender composition of adolescent peer networks, dating history, and relationship quality with significant others in the adolescent's life. It was predicted that higher levels of social anxiety would be associated with lower levels of heterosocial competence, decreased peer acceptance, less heterogeneity in the peer network in terms of gender, fewer dating experiences, and decreased quality in (or the absence of) same-sex friendships, other-sex friendships, and romantic relationships. Given the hypothesized developmental progression of the emergence of romantic relationships, it was expected that the effects of anxiety would be most pronounced over time. Specifically, older adolescents with anxiety were expected to have a greater degree of impairment in the mixed-sex peer group and romantic affiliations (in comparison to normally developing same-aged peers) than younger adolescents with anxiety would have in comparison to

their own group of normally developing same-aged peers. This is reasonable in light of the increased role that other-sex peers and romantic partners play in the lives of older adolescents.

In summary, the purpose of the present study was to understand the cumulative effects of social anxiety on the development of romantic relationships in adolescence. Before discussing the project, however, it is relevant to survey literature pertaining to social anxiety and the development of romantic relationships in adolescence. First, the developmental psychopathology paradigm is discussed to provide a conceptual framework by which to understand the potential impact of social anxiety on children's developmental pathways. Next, a review of social anxiety in childhood and adolescence is followed by a more general discussion of the various ways in which social anxiety can affect social development beginning in infancy and continuing through adolescence. Further, the same- and opposite- sex peer networks are examined with particular focus on their roles as "stepping stones" toward dyadic romantic relationships. Finally, a theoretical framework for understanding the development of romantic relationships is introduced followed by an explicit discussion of social anxiety as a risk factor for impairment in romantic dyads.

Developmental Psychopathology: An Organizing Framework

The developmental psychopathology model has emerged as a major organizing framework for examining the development and persistence of pathology through the lifespan (Cicchetti & Cohen, 1995). Although past theorists have attempted to explain variations in child pathology in terms of single causal factors, the developmental

psychopathology paradigm recognizes the complex and diverse nature of psychopathology and the insufficiency of using single variable explanations for its presence. This perspective offers an alternative to the traditional medical model used to understand the nature and prevalence of psychopathology in that etiology becomes integral in understanding the nature of disorder. Specifically, pathology is viewed as deviation from normative development over time (Rutter & Sroufe, 2000; Sroufe, 1997). Those that deviate from a given normative trajectory are said to follow an alternate developmental pathway. Tracing pathways from a point prior to the emergence of pathology, it is easy to see the heterogeneous nature of many psychological disorders (Rutter & Sroufe, 2000; Sroufe, 1997). The notion of equifinality suggests that many different developmental histories can produce the same disorder. This heterogeneity often becomes lost when understanding and classifying mental disorders within the simplistic traditional medical approach to understanding and classifying mental disorders. Though change is considered to be possible at many points, the longer a maladaptive pathway has been followed, the more difficult change and adaptation becomes (Rutter & Sroufe, 2000; Sroufe, 1997).

One of the premises underlying the developmental psychopathology paradigm is the notion of multideterminism. Multideterminism suggests that psychopathology is likely too complex to be caused by a single influence. Instead, multiple factors are thought to contribute to the onset and subsequent progression of psychopathology. These are termed “risk factors.” Most (if not all) of these variables are neither sufficient nor necessary to bring about disorder. In addition to risk factors, which are thought to

contribute to the onset and perpetuation of psychopathology, there are several variables that are thought to play a role in the amelioration of psychopathology. These factors are termed “protective factors” and serve to buffer some of the detrimental effects of risk factors. It should be noted, however, that the effects of risk and protective factors are not simply conceptualized as additive. Rather, it is suggested that risk and protective factors mutually influence each other in a complex and integrative way to determine whether psychopathology will emerge (Rutter & Sroufe, 2000; Sroufe, 1997). Vasey and Dadds (2001) note that the interactions between risk and protective factors are “dynamic” and “transformational,” in that each factor is changing and is changed by other factors ultimately increasing or decreasing “cumulative risk” for the development of disorder.

From this perspective, behavior is not conceptualized simply as a result of an interaction between genes and the environment. Instead, behavior is seen as resulting from a more complex interaction among genes, the environment, and one’s history of adaptation up to that point. This third factor has largely been neglected in the literature and is deserving of some empirical attention (Sroufe, 1997). The notion that factors function differently based on the other variables operating within the system is known as multifinality. In other words, any variable can produce a wide range of consequences given the organization of the system. Although some individuals faced with significant stressors will fall victim to a maladaptive pathway, others who are confronted with adversity will do well nonetheless. The ability to do well despite the presence of a considerable number of risk factors has been termed resilience. Some children are resilient to the stressors in their life and therefore are able to remain on a normative

developmental pathway. In addition to the notion that the same risk factors can lead to different outcomes, there can also be several different pathways leading to the same outcome. As noted previously, the idea that a great number of different variables can be associated with the same result is known as equifinality. In other words, one can expect a variety of pathways to the same disorder (Rutter & Sroufe, 2000; Sroufe, 1997; Vasey & Dadds, 2001).

Regardless of which pathway is followed, a guiding premise of the developmental psychopathology paradigm is that there is a general coherence to each individual's development. Maladaptive behavior generally does not emerge without adaptational failures at previous points of development (Sroufe & Rutter, 1984). In this sense, the behaviors associated with development are considered to have continuity. Sroufe and Rutter (1984) outline several different ways in which maladaptive development can be continuous. Among these, and of central importance to the current discussion, is that early experience may influence behavior through its effect on the selection of particular environments that may determine which kinds of opportunities are available (and, in turn, not available) to the individual. The absence of critical opportunities may lead an individual down a continuous path of adaptational failure, with each subsequent failure contributing to continued lack of developmental success.

The notion of continuity is integral in the conceptualization of the present study. Specifically, early experiences in the form of same- and opposite-sex friendships and peer groups will have effects on the subsequent development of romantic relationships. Collins et al. (1997) note, "...interpersonal relating in successive life periods builds on

prior relationship experiences” (p. 69). Continuity exists in the sense that early successes in same- and other-sex peer networks will facilitate the complex social negotiation of developing romantic dyadic relationships. In turn, adaptational failure within the same- or opposite-sex peer group is likely to lead the adolescent down a pathway of social difficulty that may result in the impairment of romantic functioning. Several factors are speculated to set an individual on this maladaptive pathway. Most relevant to the present discussion is the presence of social anxiety from an early age. In terms of the developmental psychopathology framework, social anxiety can be considered a risk factor in that it exposes an individual to the possibility of impaired social development. As such, the review will next turn to consider the literature on social anxiety in childhood and adolescence.

Social Anxiety in Childhood and Adolescence

Anxiety disorders are among the most prevalent forms of psychopathology affecting children and adolescents (Beidel, Turner, & Morris, 2000; Vasey & Dadds, 2001). Although transient fears are considered a normative part of development, anxiety becomes a stable negative force for a significant number of children and adolescents. This kind of anxiety can result in serious impairment, many times resulting from the avoidance of school activities, peer involvement, and other kinds of autonomous activities (Albano, Chorpita, & Barlow, 1996). Furthermore, the literature suggests that most adult anxiety disorders have their onset sometime during childhood (Vasey & Dadds, 2001). There are several different theories, however, on how anxiety manifests itself. From a developmental psychopathology perspective, anxiety disorders can be

viewed as developing from several different deviant pathways that are a reflection of complex interactions over time between the personal characteristics of children and the environment in which they develop.

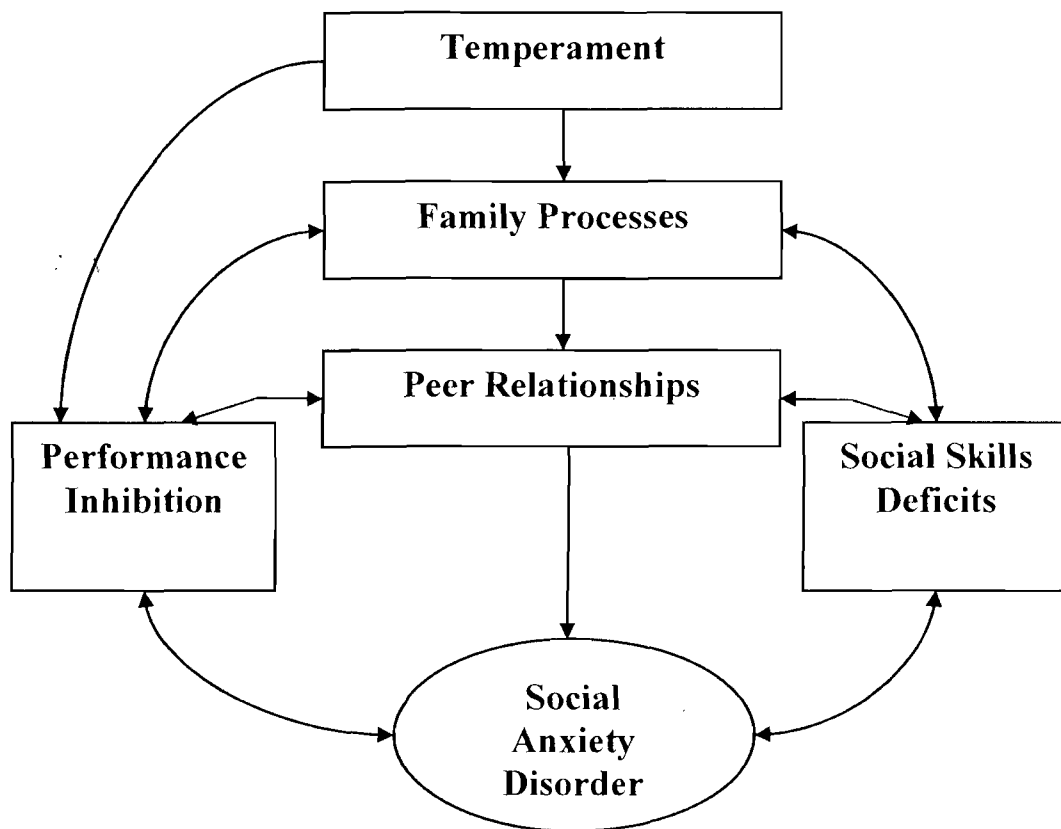
Social anxiety is of particular concern for many children and adolescents and is speculated to affect up to 13.3% of United States population over the lifespan (Turk, Heimberg, & Hope, 2001). Social anxiety can present itself in a number of different ways including fear of public speaking, using public restrooms, eating or drinking in public, dressing in the presence of others, as well as writing in front of others (American Psychiatric Association, 1994). Social anxiety may also present as anxiety regarding saying or doing something foolish whenever in social situations, coupled with avoidance of such situations. Children with this kind of anxiety are likely to evidence anxiety-related problems in school. For children and adolescents, the symptoms must persist for at least six months and cause considerable interference in functioning or marked distress in order to receive a diagnosis (Albano et al., 1996; American Psychiatric Association, 1994; Beidel, 1998). The mean age of onset for the clinical disorder of social phobia has been reported to range from early to mid adolescence (Beidel, 1998; Morris, 2001). Increased social demands, in conjunction with increased meta-cognitive skills and self-focused attention, likely interact in such a way that many children become socially anxious during early adolescence. It is quite common, however, for adults who meet criteria for social phobia to report that they have been shy and socially anxious throughout their entire life. Social phobia has recently been cited as the most common anxiety disorder within adult populations (Morris, 2001).

Children and adolescents with excessive social anxiety are likely to have impairments in several areas of functioning (Beidel, 1998; Beidel & Turner, 1997). Most notably, these individuals will often have limited peer relationships and will be reluctant to join in group activities (Albano, Marten, Holt, Heimberg, & Barlow, 1995). Often, they are considered shy and quiet by both parents and peers. In the school setting, socially anxious children may be fearful of situations ranging from reading aloud, speaking in class, asking the teacher for help, unstructured interactions with peers, gym, working on group projects, or even eating in the cafeteria. Some children will forgo their lunch period and instead spend this time in a study hall or in the library because they may fear being the focus of attention. Moreover, children with social anxiety need extra encouragement to attend extracurricular activities, such as club meetings, school dances, and parties (Albano et al., 1995; Beidel, 1998). Avoidance may extend to family gatherings, answering the phone or doorbell, or ordering for oneself in a restaurant. When in the feared situation, the socially anxious child or adolescent will experience excessive concern regarding embarrassment, negative evaluation, and rejection (Albano et al., 1994; Beidel, 1998).

Risk Factors

The literature supports the notion that risk factors leading to social anxiety may be present in very early childhood and even infancy. Morris (2001) has developed a model specifically designed to describe the different pathways to the development of social anxiety disorder (See Figure 1). Morris highlights the roles of infant temperament, family processes, and peer relationships in the development of social anxiety. Morris's

Figure 1.1: Morris's Pathways to Social Anxiety Disorder¹



¹ Permission to re-create figure obtained from author.

model is also useful in understanding the role of social anxiety in the manifestation of social skills deficits and will be touched upon briefly in this context. Each of the processes will be discussed in terms of their contributions to the development of social anxiety in childhood with most attention devoted to peer relationships given their central role in the present study.

Temperament

Although there is little known about the biological bases and the role of genes in the transmission of social anxiety, there is growing evidence to support a connection between temperamental inhibition and social anxiety (Lonigan & Phillips, 2001). Temperament refers to an individual's general response style to stimuli in the environment (e.g., emotionality, activity, sociability). People are thought to differ from one another in the ways in which they respond to stimuli in the world and in the quality of their dominant mood. A wide variety of characteristics are thought to be evidence of an infant's temperamental qualities including newborn activity level, ease of arousability, intensity of reaction, reaction to unusual stimuli, and level of sociability (Cole & Cole, 1993). Theorists have developed varying conceptualizations of temperament, but it seems that temperament consists of consistent and inherent dispositions in the person that control the expression of activity, reactivity, emotionality, and sociability (Lonigan & Phillips, 2001). Thomas and Chess (1985) have established nine categories of temperamental behaviors including activity level, approach or withdrawal from novel stimuli, adaptability, sensory threshold, dominant quality of mood, intensity of mood expression, persistence, attention span, distractibility, and rhythmicity. Moreover, they

have identified three different patterns of temperament: easy, difficult, and slow-to-warm-up (Lonigan & Phillips, 2001). Many theorists suggest that these characteristics are present at birth and remain continuous throughout the lifespan (Buss & Plomin, 1984). For example, strong links have been found between temperament and several factors of the Big-Five model of personality development.

The effects of anxiety on development can be seen as early as in children's temperamental qualities. Kagan and Snidman (1991) indicate that more than one third of American children can be classified into one of two temperamental groups: inhibited or uninhibited. Inhibited children are those who are emotionally reserved, consistently shy and cautious, and unlikely to approach a stranger or a same-sex peer. In other words, these children evidence more overall social anxiety. In contrast, uninhibited children are sociable, affectively spontaneous, and minimally fearful in strange situations (Davidson, 1993; Kagan & Snidman, 1991). Behavioral inhibition is defined as a state of uncertainty that results from exposure to novel objects, people, and stressful situations (Kagan, 1994; 1997). Children who are identified as behaviorally inhibited are noted to retain aspects of their inhibition into adulthood. Furthermore, results of longitudinal research demonstrate stability in ratings in temperament across several years. For example, Caspi, Henry, McGee, Moffitt and Silva (1995) conducted a 12-year longitudinal study of a group of over 800 children. Temperament related behavioral ratings were made when the children were 3 and 5 years of age. Through factor analysis, temperamental ratings were divided into three categories: lack of control, approach, and sluggishness. Parent and teacher reports on problem behaviors were gathered when the children were 9, 11, 13, and 15-

years-old. Results demonstrated moderate stability in temperamental- related behaviors over time. Specifically, lack of control was associated with externalizing behaviors, approach was related to fewer internalizing behaviors among boys, and sluggishness was associated with anxiety, particularly among females. Several researchers have suggested that behavioral inhibition is a marker of anxiety and one's proneness for anxiety. For instance, researchers have found a positive correlation between cortisol production (demonstrated to be associated with anxiety) found in the saliva of children and demonstrated inhibited behavior (Rubin & Burgess, 2001). Taken together, these results indicate that anxious children are also those who are likely to have demonstrated an inhibited temperament. Consistent with this conclusion, Biederman and colleagues (2001) found that children between the ages of 2- and 6-years with inhibited temperament were more likely to meet criteria for social anxiety disorder than those children with an uninhibited temperament. Furthermore, there seems to be long-term predictive validity of inhibited temperament in that children categorized at age 2 as inhibited were more likely than those classified as uninhibited to be diagnosed with social anxiety at age 13. Given this relationship, it seems that behavioral inhibition can have a continuous effect on children's social development well into adolescence and potentially into adulthood.

Parental Processes

More prevalent in the literature are links suggesting that familial processes play a role in the development of social anxiety in childhood. For example, an anxious-resistant attachment style in infancy has been associated with increased risk for anxiety disorders in childhood and adolescence, particularly social anxiety disorder (Warren, Huston,

Egeland, & Sroufe, 1997). Verschueren and Marcoen (1999) found that attachment to both mother and father played a role in children's socioemotional competence in kindergarten. Attachment with the father, however, was stronger predictor of children's social behavior whereas attachment to mother was a better predictor of children's self-esteem. Moreover, a secure attachment to both mother and father was the best predictor of healthy adjustment when compared to children with one secure attachment relationship and one insecure attachment relationship, or two insecure attachment relationships. More striking, however, is evidence to suggest that psychosocial development and behavior problems in adolescence have been associated with attachment experience (Allen, Moore, Kupermine, & Bell, 1998). Collins and Sroufe (1999) note that interviews with a sample of adolescents at age 16 showed that those with anxious-resistant attachment were significantly less likely to have dated. Again, the results of this work suggest that anxiety can be continuous and pervasive across an individual's lifespan potentially affecting an individual's interaction patterns in future relationships.

Indeed, some theorists assert the attachment relationship with one's primary caregiver has direct and significant influence on the ways in which that person interacts in future relationships. Specifically, they suggest that every individual has an internal "working model" that functions to mediate the influence of early relationship experiences (Furman & Wehner, 1994; 1997). Individuals develop ideas about themselves, others, and varying sets of rules for organizing feelings, experiences, and ideas. In doing so, individuals manifest a certain style of interacting and then apply this style to new "social partners." Each individual's working model has enduring consequences for both

personality traits and close relationships with others. Research has demonstrated that the working model is the mechanism by which the child's relationship with his or her primary caregiver transcends the boundaries of that dyad and applies to situations when the child is interacting with other people (Verschueren & Marcoen, 1999). In this paradigm, social anxiety is capable of exerting long-lasting adverse effects through the development of a general maladaptive interaction style with others.

Over and above the attachment relationship, parenting styles distinguished by low levels of warmth and high levels of control have been linked to anxiety and depression (Duggan, Sham, Minne, Lee, & Murray, 1998). Retrospective studies indicate that adults with social anxiety rated their parents as less warm and caring and more controlling and rejecting than normally developing adults (Morris, 2001). Moreover, parents who are themselves anxious in social settings may be less likely to facilitate their children's development of social networks and more likely to model strategies of avoidance. It is quite possible that exposure to a parent's symptoms of anxiety will induce a child to become and remain cautious, fearful, and inhibited in social situations (Beidel, 1998). The consistent display of uncertainty in the context of social situations is predictive of anxiety and phobic disorders later in childhood and adolescence (Rubin & Stewart, 1996).

Peer Relationships

Throughout childhood, peer relationships provide a unique forum for children to gain social skills, cognitive understanding, and emotional capabilities generally not accrued elsewhere (Buhrmester & Furman, 1986; Bukowski & Hoza, 1989; Newcomb &

Bagwell, 1996). The benefits of peers include learning how to present oneself and maintain positive impressions, effectively adapt to the demands of several different social situations, and to maintain “social poise” even when experiencing stress (Asher & Parker, 1989). Parker and Gottman (1989) suggest that within the context of peer relationships, children learn the skills required to both manage and interpret their own emotional experiences, including arousal, excitement, or frustration. Experiences within the peer group are distinct from those accrued within the family in that peers are social equals and, as such, represent a new way of interacting with social others.

As suggested by Morris’s model, in addition to associations with the family, social anxiety has been speculated to be rooted in children’s peer relationships. For example, Strauss and colleagues (1988) conducted a study on children ages 6 to 13 years in which they examined the association between peer acceptance and anxiety disorders in general. They found that children with clinical levels of anxiety were significantly less liked by their peers than children without high levels of anxiety. Furthermore, the results from a survey of third- through sixth-grade children demonstrated that girls who were not accepted by their peers reported significantly higher levels of social anxiety and loneliness than did popular girls. Loneliness was found to be significantly related to social anxiety for these girls (Franke & Hymel, 1984). Other research has hypothesized that a history of childhood shyness and traumatic conditioning experiences could also be related to the manifestation of anxiety later in childhood and adolescence (Keller et al., 1992). Indeed, it appears that children with social anxiety have had a history of shyness in the presence of peers and at least one negative experience with peers that affected their

willingness to engage in social interactions with peers in the future (Sternberger, Turner, Beidel, & Calhoun, 1995). These findings highlight not only the social difficulties of children who grapple with anxiety, but also the important role that peer interactions have in predicting adjustment.

Summary

In terms of the present study, these kinds of empirical findings further emphasize the continuous nature of social experiences throughout childhood. Related to the previous discussion, inhibited temperament in conjunction with family processes fostering the development of anxiety are certain to play a role in the child's development of peer relationships. In turn, negative experiences with peers associated with high levels of social anxiety may also be related to a reluctance to socially engage, thus negatively impacting future social development. Morris, in her model, clearly outlines several reciprocal relationships contributing to the acquisition of social anxiety disorder. Temperament, family processes, and peer experiences in early childhood certainly appear to be associated with the development of social anxiety. More important to the present discussion, however, are the ways in which social development is affected by high levels of social anxiety. Although accounted for in Morris's model, social skills deficits and impairment in peer relationships as a result of high levels of anxiety are largely ignored in Morris's discussion in favor of a more explicit focus on the etiology of the disorder. As noted, evidence of social anxiety can be traced as far back as infancy. Consistent with the notion of continuity, the presence of social anxiety can place children at risk for various other forms of maladjustment. Most relevant to the current study is the risk that

social anxiety poses for the adolescent's developing peer network and romantic affiliations. The following section, however, will serve to discuss social anxiety as a risk factor for general maladjustment before it is applied directly to the social development literature.

Social Anxiety as a Risk Factor

Empirical work demonstrates that anxiety disorders are likely to interfere significantly with children's adaptive functioning in various domains (Strauss, Lahey, Frick, Frame, & Hynd, 1988; Turnbull, George, Landerman, Swartz, & Blazer, 1990; Vasey & Dadds, 2001). Retrospective studies indicate that many diagnosed with social phobia follow patterns reflective of early developmental onset and subsequent generalization of social anxiety to many different kinds of social situations (Stemberger, Turner, Beidel, & Calhoun, 1995). In the absence of intervention, these findings suggest that social anxiety is a stable phenomenon capable of diverting an individual onto a maladaptive pathway (Morris, 2001). No large scale longitudinal investigations exist, however, to address the issue of developmental progression or stability of social anxiety across the lifespan.

There is some evidence to suggest that social anxiety may increase an individual's risk for certain forms of maladjustment (Bruch, Fallon, & Hemberg, 2003; Davila & Beck, 2002; LaGreca & Lopez, 1998). For example, empirical work suggests that the onset of depression is more likely if an individual already has increased levels of social anxiety (Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001; Stein, Tancer, Gelernter, Vittone, & Uhde, 1990). Other comorbid diagnoses include simple phobia and

agoraphobia and there is an increased likelihood for substance abuse (particularly alcohol abuse) with social anxiety (Turk et al., 2001). Furthermore, the restrictions that an individual puts on his or her life may adversely impact social, academic, and occupational functioning. Directly relevant to the present study is that individuals with social anxiety tend to restrict social activities in efforts to avoid or reduce feelings of distress. This avoidance impedes the development of interpersonal relationships (Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992). Some researchers go as far as to suggest that the course of social anxiety is unremitting and the period of time in between the onset of the disorder and receiving treatment is plagued by both poor interpersonal and occupational functioning (Davila & Beck, 2002).

Of particular significance to the present discussion is the risk that social anxiety poses for the individual's developing social network and the formation of romantic relationships. As suggested by a developmental psychopathology framework, the effects of social anxiety are evident prior to the emergence of romantic relationships. Moreover, the effects of social anxiety early in adolescence may set a child on a particular developmental trajectory affecting how he or she initially navigates his or her interactions with peers and romantic partners. As such, it is important to explore the effects of social anxiety on more general processes involved with social development that occur prior to or concurrently with the development of a peer network in order to understand more fully the developmental pathways associated with the disorder. Integral to a developmental psychopathology perspective is initially gaining an understanding of normative developmental processes in order to fully understand deviations from a normative

pathway. The following section of the review, therefore, will serve to discuss normative development in adolescence.

Normative Adolescent Development

By gaining an understanding of normative patterns of development, it may become possible to identify maladaptive pathways prior to the emergence of a diagnosable disorder that could predict the later onset of disorder (Rutter & Sroufe, 2000; Sroufe, 1997; Vasey & Dadds, 2001). Without an understanding of what constitutes normative development, it becomes impossible to identify deviations from a normal pathway. Accordingly, factors contributing to adolescent development in several realms will be examined in order to later understand the potential effects of anxiety on the normative developmental trajectory. The transition from preadolescence to adolescence can be difficult for many children. Dramatic changes involving the biological developments that accompany puberty, the way children think, and socially relate to others occur over a relatively few number of years.

Biological Transitions

The chief characteristics of biological development include changes in physical appearance (breast development for girls, facial hair for boys, dramatic increases in height, etc.) as well as the attainment of reproductive capabilities. Steinberg (1999) outlines five major biological changes that occur with the onset of puberty including substantial increases in height and weight, the development of primary sex characteristics (e.g., the development of sex glands and gonads), the development of secondary sex characteristics (e.g., the growth of genitals and breasts), changes in body compositions

including the distribution of fat and muscle, and alterations in the circulatory and respiratory systems allowing increased strength. These changes can be troubling or outright disturbing to an adolescent and require a certain degree of psychological adjustment. For example, an adolescent may have to come to terms with a new self-image and relationships within the family may change based on the adolescent's increased need for privacy. Also, girls may suddenly feel uncomfortable demonstrating physical affection toward their fathers, whereas boys may feel uncomfortable demonstrating such affection toward their mothers due to emerging sexual impulses and concerns (Steinberg, 1999).

Cognitive Transitions

In addition to the biological changes that accompany puberty, the adolescent begins to develop more sophisticated thinking abilities. Adolescents are capable of thinking about both hypothetical situations and abstract concepts (e.g., friendship or morality). Also, adolescents gain increased meta-cognitive capabilities and are able to consider the process of thinking itself. Moreover, teens' thinking becomes multidimensional as they are able to reflect on many issues simultaneously. As such, they are more likely than they were as children to view the world in relative, rather than absolute, terms (Steinberg, 1999). Piaget (1972) suggested that moral reasoning begins during this stage of life and that the adolescent is capable of recognizing relative morality. Furthermore, as first discussed by Elkind (1967), the adolescent may believe in the imaginary audience and the personal fable. The imaginary audience alludes to the

misconception that everyone is watching or is aware of the adolescent. The personal fable is an adolescent's belief that his/her life is incredibly unique (Lapsley, 1990).

The implications of these cognitive changes are far reaching. The ability to think abstractly and hypothetically will affect the way an adolescent conceptualizes himself, his relationships with others, and the world around himself. Even the ways in which day to day decisions are made are affected by this new way of thinking. The adolescent is able to think logically for the first time on what his life will be like in the future in terms of friends, family, religion, politics, and even philosophy (Steinberg, 1999).

Social Transitions

Finally, the social environment of the adolescent evolves as the adolescent gains increasingly greater levels of independence (Berndt, 1982; Richards, Crowe, Larson, & Swarr, 1998). For example, in our society, adolescence denotes a level of maturity at which point the individual is permitted to work, to drive, to vote, and to marry. Social changes also take place for the adolescent on an intra-personal and an interpersonal level (Csikszentmihalyi & Larson, 1984; Sippola, 1999). As adolescents develop more sophisticated cognitive skills, their understanding of their relationships with both their friends and parents change to reflect a more advanced perception of the nature of human relationships and, as a result, several changes are made in the ways in which adolescents conceptualize and interact with the significant people in their lives. Friendships, in particular, take on a new and important role in the lives of adolescents. For many, friends serve as an important emotional resource helping teens to cope with the great developmental tasks that go along with the transition to adolescence.

Peer Relationships

Key Dimensions

As the literature on peer relationships has evolved, researchers have developed conceptual distinctions between the different kinds of experiences that children have with their peers. Specifically, Bukowski and Hoza (1989) suggest that peer relations can be divided into two separate but related constructs: popularity and friendship. These experiences are qualitatively different for children in that popularity denotes the child's general level of acceptance within the peer group, and friendship specifies close, mutual dyadic relationships with peers. As the friendship literature has developed, researchers have broadened their conceptualization to include the dimension of friendship quality, suggesting that lower quality friendships may not serve the same function as those of high quality (Bukowski & Hoza, 1989; Hartup, 1996). Research clearly demonstrates that although acceptance and friendship experiences with peers overlap to some degree, they also each uniquely contribute to children's adjustment across childhood and beyond (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Oldenburg & Kerns, 1997; Parker & Asher, 1993; Vernberg, 1990).

Peer Acceptance

Learning theory suggests that normally developing peers will punish non-normative social behaviors, while reinforcing competent social interactions. The result is that children who are socially competent are accepted by the mainstream peer group, whereas their less competent counterparts are not accepted (Bandura & Walters, 1963; Rubin, Bukowski, & Parker, 1998). Over the years, sociometric classification systems

have increased in specificity and are now used to denote children who are accepted (liked by members of the peer group), aggressive-rejected (disliked by members of the peer group and are generally aggressive in their behavior), withdrawn-rejected (disliked by member of the peer group and are generally withdrawn in their behavior), neglected (neither liked nor disliked), and controversial (liked and disliked simultaneously) (Newcomb et al., 1993).

Empirical work has highlighted a host of negative effects associated with varying levels of acceptance within the peer group (Newcomb, Bukowski, & Pattee, 1993; Ollendick, Weist, Borden, & Greene, 1992). Children who are actively rejected are more likely to experience concurrent loneliness, social dissatisfaction, academic difficulties, and depression than accepted children (cf., Erdley, Nangle, Newman, & Carpenter, 2001; Kupersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987). Controversial children were found to display even higher rates of aggression, but demonstrate greater sociability than rejected children. Neglected children, in contrast, were found to display less aggression and have very limited sociability. Specifically, they had fewer social interactions, less positive social actions, and fewer positive social traits than average children (Newcomb et al., 1993; Ollendick et al., 1992). In addition to concurrent difficulties, less accepted children are also at risk for negative long-term outcomes. In an 18-year follow-up study of preadolescent peer relations, Bagwell, Schmidt, Newcomb, and Bukowski (2001) found that rejected status in adolescence predicted increased rates of antisocial behavior and hostility in early adulthood. Significant to the present discussion, children who are rejected by the peer group have lower expectations for social experiences, perceive

themselves as less socially competent (Asher, Parkhurst, Hymel, & Williams, 1990), and report higher levels of social anxiety and subsequent avoidance of peers (Hymel & Franke, 1985). Furthermore, theorists indicate that limited sociability and withdrawn social behavior may be related to long-term impairment in social relationships (Connolly & Goldberg, 1999), suggesting that neglected children may be at risk for maladaptive outcomes as well.

Friendship

As noted, peer acceptance is only part of what comprises peer relationships. Friendships are another dimension of social experience that contribute to children's long-term adjustment. Newcomb and Bagwell (1995) offer two distinct theories that describe the relative developmental significance of children's friendship relationships. The first is a necessity model in which friendships are considered to be a crucial element in gaining interpersonal competency and in satisfying an individual's needs for intimacy and closeness. This perspective views friendships to be as requisite to development as are familial relationships. The absence of a collaborative, mutual friendship during childhood implies that the opportunity for acquiring a range of appropriate social behaviors has been lost. The alternative hypothesis is an advantage perspective to friendships. The advantage model asserts that friendships, although valuable for developing appropriate social skills, are not essential to positive and adaptive developmental outcomes. This viewpoint does not ignore the beneficial provisions of friendships, but it does not afford them the same critical importance as the necessity model.

As the peer relationships literature has advanced, it has become increasingly evident how essential friendships are to development. Parker and Asher (1989) discuss seven principal functions of children's friendships, including fostering the growth of social competence, serving as sources of ego support and self-validation, providing emotional support in novel or potentially threatening situations, serving as sources of intimacy and affection, providing guidance and assistance, providing a sense of reliable alliance, and providing companionship and stimulation. Hartup (1992) elaborated on the proposed functions of Parker and Asher by suggesting that friendships also provide the child with information about oneself, others, and the world, in addition to serving as models for intimate relationships that become more important later in life. Without the benefits of a friendship, researchers have determined that children are much more likely to have serious difficulties in the future including school dropout, criminality, and internalizing disorders such as depression (Asher & Parker, 1989; Bagwell, Newcomb, & Bukowski, 1998; Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Oldenburg & Kerns, 1997; Parker & Asher, 1987).

The influence of friendship on adjustment is not just a function of having a friend or not. Quality of the friendship also plays an important role. Hartup (1996) suggests there are several qualitative distinctions that can be made to distinguish friendships. Some of the distinctions include the way in which conflicts are resolved, the closeness between the two friends, and the symmetry of the relationship (i.e., whether each member of the dyad plays an equal role in the relationship). Parker and Asher (1993) conducted a study in which they examined the degree to which peer acceptance, friendship, and

friendship quality predicted loneliness and social dissatisfaction. They determined that although low accepted children had friendships with which they were satisfied, these relationships were of relatively lower quality than other children. Furthermore, acceptance, friendship, and friendship quality each uniquely contributed to the prediction of loneliness. Similarly, researchers have also found that children with low quality friendships may not gain the benefits that higher quality friendships provide. For example, empirical work has demonstrated that children who reported higher quality friendships also reported lower rates of depressive symptoms (Oldenburg & Kerns, 1997).

One of the most important qualitative features of friendships is the provision of intimacy (Sullivan, 1953). Intimacy shared in a close friendship could potentially provide a framework for finding intimacy in more mature relationships later in life. Furthermore, failure to find intimacy in close relationships has been associated with a host of negative effects. For example, Buhrmester (1990) evaluated the relationship between intimacy and social competence in children's friendships. He found that higher levels of intimacy in friendships were consistently correlated with higher levels of social competence, lower ratings of internalizing disorders (e.g., anxiety and depression), and higher self-esteem. The present study suggests that children's same-sex peers and then opposite-sex peers help prepare the adolescent for romantic relationships later in adolescence. Given Buhrmester's findings, it seems that it is important to consider the quality of those relationships if we are to determine their potential impact on future relationships and adjustment.

Indeed, children's friendships emerge as the building blocks for developing and sustaining intimate relationships in later adolescence and adulthood (Bagwell et al., 2001; Bagwell et al., 1998). Children use friendships as both cognitive and social resources on a daily basis (Hartup, 1996). Social competencies, such as cooperation, compromise, competition, mutual self-disclosure, perspective taking, empathy and altruism, are learned within the context of a friendship (Buhrmester & Furman, 1986). Once acquired, these competencies are carried over into new relationships, including romantic affiliations. In turn, the skills acquired while in the context of romantic relationships may influence peer relationships.

Although it is clear that acceptance and friendship uniquely contribute to children's adjustment, there is some degree of overlap between the two constructs. Bukowski and Hoza (1989) suggest that there are eight primary social provisions of peer relationships. Of these benefits, three are primarily provided through close friendships (i.e., affection, intimacy, reliable alliance), one is obtained exclusively from peer group acceptance (i.e., sense of inclusion), and four key provisions (i.e., instrumental aid, nurturance, companionship, and enhancement of worth) can be obtained from either participation in friendships or acceptance within the peer group. The shared provisions across different kinds of peer relationships suggest there is something functionally similar between acceptance and friendship.

Consistent with Bukowski and Hoza's assertions, Parker and Asher (1993) found that although acceptance and friendship were conceptually distinct, there was a connection between the two types of peer relationships. Specifically, more accepted

children were about twice as likely as less accepted children to have a “very best friend.” Furthermore, low accepted children’s very best friendships were more problematic in terms of several qualitative aspects of the relationship including validation and caring, help and guidance, conflict resolution, intimate exchange, and betrayal. Again, these findings, along with similar findings of other researchers, indicate that there is some degree of overlap between these two constructs (Nangle et al., 2003). Some theorists suggest that social competence may be playing a role in both acceptance and the quality of a child’s friendships (Hartup, 1996; Vaughn et al., 2000).

Peer Networks

In addition to acceptance and friendship, the peer network represents an important dimension of peer relationships (Furman, 1989). Although a great deal of literature has focused on specific aspects of the peer network, such as acceptance and friendships within the group, the general notion of the peer group itself is a key aspect of normative social development (Urberg, Degirmencioglu, Tolson, & Halliday-Scher, 1995). Specifically, researchers suggest that social networks are essential in helping to determine the nature and quality of interpersonal relationships (Connolly, Furman, & Konarski, 2000; Prinstein & LaGreca, 2002). Peer networks foster interpersonal interaction that aid in the development of interpersonal competency (Kuttler & LaGreca, 2004). The present study highlights the developmental significance of the peer network, suggesting that the interpersonal competencies accrued within a same-sex peer group are critical to the emergence of a mixed-sex peer group. This mixed-sex network, in turn, is central to the development of romantic dyads. Indeed, peers take on different roles and serve different

functions as an individual's peer network develops. Given the central role of peer group in the present study, the review will now move to discuss the changing roles of peers and the peer network more explicitly.

Normative Trajectory

Although peer relations are important throughout childhood, many researchers assert that they serve specific functions as the child develops. A seminal researcher in this area is Harry Stack Sullivan (1953) who proposed a model for the ways in which children's needs, and subsequently their peer relationships, change over time. He notes that as children develop, so do the nature of the way they relate to peers. Furthermore, the social skills and interpersonal competencies needed for success in these social interactions develop in the context of each relationship. Sullivan suggests that friends begin to meet children's needs starting at approximately age 6. Between the ages of 6 and 9 years, children are in the "juvenile stage." During this time, children have a need for acceptance, and accordingly the peer group functions to provide acceptance. As children enter preadolescence (age 9 to 12 years), their needs shift from acceptance to intimacy. These needs are most often met through the establishment of friendships with same-sex peers. In early adolescence, Sullivan states that children develop sexuality and their interactions with peers are aimed at meeting sexual needs with other-sex peers. Many researchers have since elaborated on this preliminary theory of peer relationships proposed by Sullivan, but the underlying theme remains the same. As children develop, so does the nature and function of their peer relations. The following will explore the

child's evolving social network and the functions that peers serve within each developmental stage.

Infancy and Early Childhood

Determining the age when peer groups and friendships first emerge has been troubling for peer researchers. It is noted that infants as young as two-months are aroused by peers and engage in mutual gazing with peers, and by six- to nine-months of age, look directly at one another, vocalize, and smile at each other (Rubin et al., 1998). By the end of the first year, children have a marked presence of social interest and often will respond to the play behavior of peers. Children's mothers will frequently identify a "best friend" as early as toddlerhood, although it is speculated that this may not be semantically appropriate given that toddlers do not mutually choose one another as playmates. Nevertheless, the interactions that occur with children on a regular basis from infancy are known to increase in both the complexity and degree of social engagement as the child develops and enters early childhood (Becker, 1977). Indeed, as early as preschool, researchers are able to identify through sociometric rating procedures children's acceptance within their classroom, suggesting that peer groups are present early in children's social development (Black & Hazen, 1990; Mize & Ladd, 1990). In terms of the gender composition of these groups, children during the preschool years are rarely seen playing only with children of the opposite-sex. Approximately one quarter of their interactions, however, are while in the company of both sexes (Fabes, Martin, & Hanish, 2003), suggesting that although these children prefer the company of same-sex peers, other-sex peers play a role in their peer networks. In fact, children during early

childhood report more mixing with opposite-sex peers than older children (Gray & Feldman, 1997).

Peers during this stage of life serve primarily as playmates, and, accordingly, most of children's interactions with peers during early childhood involve play (Cole & Cole, 1993). Play has special importance in terms of the child's social and emotional development (Parker & Gottman, 1989). In order to coordinate play, children must learn to inhibit certain desires, accept the wishes of others at times, and maintain organized behavior and focused attention even when confronted with intense emotions such as anger and fear (Parker et al., 1989). As such, Buhrmester and Furman's (1986) notion that social competencies are learned within the context of peer interactions seems to be accurate. Without the benefit of peer interactions, the development of social skills suffers as does the growth of future relationships. Accordingly, social withdrawal behaviors at this young age are worrisome.

Middle Childhood

As compared to preschoolers, children in middle childhood spend more than twice the amount of time with age-mates (Cole & Cole, 1993). The size of children's peer groups increases as age-mates take on roles of growing importance (Rubin et al., 1998). In addition to the increased frequency of peer interactions and larger peer group, the qualitative features of the peer relations change as well. Smoller and Youniss (1982) conducted a study in which they examined how children define the qualities of their friendships. These researchers found that children between the ages of 9 and 10 years most often cited that sharing and helping were integral parts of their relationships with

peers. Furthermore, children noted that friends were people that you spent time with and know well, have common interests and similar personalities. Indeed, with their peers children must learn to master new cognitive and social skills including maintaining social order and settling disputes and adapting to new social identities as well. They no longer can cling to the social identities they had formed within their family systems. Again, children are challenged to master a new set of social skills that will be used in navigating future social relationships, in particular peer relationships in adolescence (Rubin et al., 1998).

Children during this stage of development appear to have a clear preference for same-sex companions. Gray and Feldman (1997) observed the frequency of associating with the opposite-sex in a school of children ranging in ages from 4- to 19-years-old. The results indicated that gender-mixing occurred with the lowest frequency among 8-year-olds to 11-year-olds than any other group that was observed. Other researchers have found similar results. For example, Hayden-Thomas, Rubin, and Hymel (1987) examined the sociometric preferences of kindergarten through third-grade students. This investigation showed that at each grade level, children rated opposite-sex peers significantly lower than same-sex peers. Furthermore, this trend seemed to be more pronounced with age in that children in third grade were more disliked by opposite-sex peers than children in kindergarten. A similar project revealed that when children reach formal school age, they indicate that they would invite more same- than opposite-sex friends to birthday parties (Feiring & Lewis, 1987). Although recent research suggests that opposite-sex peers play a larger role in middle childhood peer networks than

originally suspected (Zarbatany, McDougall, & Hymel, 2000), other-sex peers take on much greater importance in the lives of adolescents.

Adolescence

The transition to adolescence can be particularly difficult for many children. Dramatic changes involving the biological developments that accompany puberty, the way children think, and socially relate to others occur over a relatively few number of years. Furthermore, the social environment of the adolescent changes as the adolescent gains greater levels of independence (Berndt, 1982; Richards, Crowe, Larson, & Swarr, 1998). For example, in our society, adolescence denotes a level of maturity at which the individual is permitted to work, drive, vote, and marry. Social changes also take place for the adolescent on an intrapersonal and an interpersonal level (Csikszentmihalyi & Larson, 1984; Sippola, 1999). Acceptance and friendships become increasingly important as the role of peers becomes more integral in teenagers' lives. Moreover, as adolescents develop more sophisticated cognitive skills, their understanding of their relationships with both their friends and parents change to reflect a more advanced perception of the nature of human relationships and, as a result, several changes are made in the ways in which adolescents conceptualize and interact with the significant people in their lives.

The social transitions of adolescence are best understood at the levels of the same-sex and mixed-sex peer groups and the development of romantic relationships. Although same- and other-sex peers play a role in peer networks during previous stages of development, the focus of the present study is on the development of the same- and

mixed-sex peer groups in adolescence. As such, a more thorough and specific discussion of the same- and mixed-sex peer group during adolescence is warranted. Each will be explored more fully in turn.

The same-sex peer group. Friendships take on a new and important role in the lives of adolescents. For many, friends serve as a significant emotional resource to help cope with the challenging developmental tasks that go along with the transition to adolescence. The adolescent is generally confronted with broad-based questions about the self and the self as it relates to the rest of the world (Sippola, 1999) and he or she generally relies on friends to help in answering these kinds of questions. In fact, close friends and other peers have been cited as the primary partners in adolescent social interactions (Berndt, 1982). Adolescents often report having 4 to 6 best friends (Bagwell et al., 2001) and spending, on average, 22 hours per week with friends outside of the classroom (Csikszentmihalyi & Larson, 1984). Sullivan states that friends in early adolescence serve to offer children “consensual validation of their interests, hopes, and fears; bolster children’s feelings of self-worth; and provide affection and opportunities for intimate self-disclosure” (as cited in Asher & Parker, 1989, p. 6). As needs for intimacy arise during early adolescence, individuals most often satisfy them by developing a close, same-sex friend (Bagwell et al., 1998). Furthermore, Sullivan notes that friendships foster the development of interpersonal sensitivity and serve as models for different relationships later in life (e.g., romantic relationships). For the first time in the child’s life, he or she is able to appreciate people for who they are as opposed to show they can satisfy their personal needs. This new understanding leads to a genuine concern

for the well-being of another person, which, in turn contributes to the development of empathy, compassion, loyalty, and altruism (Asher & Parker, 1989).

The empirical work in this area helps to elucidate some of the changes that occur in friendships during early adolescence. Bukowski, Newcomb, and Hoza (1987) conducted a one-year longitudinal study involving sixth graders that examined the ways that children's conceptions of peers and friendships changed as they moved into adolescence. Specifically, these researchers found that over time children placed less of an emphasis on finding similarities (in particular their orientation toward academic achievement and teen culture) between themselves and their friends and focused more on finding friends who could provide support and satisfy their emotional needs. Furthermore, adolescents increasingly cited security as a central feature of their friendships. Berndt (1982) also discussed the growth of, and changes involved in, friendships across the transition from middle childhood/preadolescence to adolescence. He noted that when children are prompted on their conceptions of friendship (e.g., What is a friend?) comments about the intimate sharing of thoughts and feelings, as well as intimate knowledge of a friend, increase dramatically after entering adolescence. There is also a shift from acting competitively with friends to an attempt to maximize one another's happiness. Berndt speculated that it may be that adolescents realize that competition makes it difficult to maintain an intimate relationship. In other words, adolescents demonstrate prosocial behavior toward their friends and expect that their friends will act in the same manner. There is a natural reciprocity that exists among friends as they enter adolescence that does not appear earlier in childhood.

Particularly in early adolescence, the same-sex peer group is of integral importance to the teen (Kuttler & LaGreca, 2004; Miller, 1990). Same-sex peers fill needs for intimacy and companionship and in the early adolescent years they are consistently rated higher than opposite-sex peers on sociometric rating scales (Bukowski, Gauze, Hoza, & Newcomb, 1993). Bukowski and colleagues conducted a study of early adolescents aged 11 to 13 years old and found that adolescents in this age group had a clear preference for friends of their same-sex. Consistent with Bukowski et al. (1993), Richards, Crowe, Larson, and Swarr (1998) determined that younger adolescents in 5th through 8th grades clearly spent most of their time in groups of same-sex peers, whereas older adolescents in the later high school years were more likely to be part of a mixed-sex peer group. For the most part, it appears that younger adolescents spend more time thinking about the other-sex as opposed to actually being in the company of the opposite-sex. If, however, younger adolescents reported the presence of opposite-sex peers, the reporters were most likely to be female (Richards et al., 1998). In other words, younger adolescent females reported spending time with opposite-sex peers more often than younger adolescent males. It may be that females move along to the mixed-sex peer group (generally comprised of older males) developmentally prior to males.

The mixed-sex peer group. Although males and females may be developing at different rates, during adolescence peer networks become larger and more heterogeneous for both genders. Teenagers are exposed to increasing numbers of other-sex relationships. As noted, prior to adolescence, most children affiliate in gender segregated groups and have limited exposure to the other-sex (Maccoby, 1988). It is argued that in

early adolescence there is a change in one's intimacy needs from an "isophilic" choice (finding someone who is similar to the self) to a "heterophilic" choice (finding intimacy with someone of the opposite sex – someone who is different from the self; Sullivan, 1953). The social boundaries that typically separate the sexes during younger developmental periods begin to break down during adolescence (Gray & Feldman, 1997; Sippola, 1999). One study demonstrated that in contrast to high-school freshmen who spend 44% of their time in same-sex groups, seniors spend 21% of their time in same-sex groups and 24% in other-sex dyads (Csikszentmihalyi & Larson, 1984). By the time that adolescents reach the later high school years, they clearly include members of the opposite-sex as part of their peer group (Kuttler & LaGreca, 2004; Richards et al., 1998). As this work suggests, group activities become more oriented toward mixed-sex socializing and, as such, adolescents begin to internalize new norms for socializing within this new peer group.

Other-sex interactions in adolescence serve many important developmental functions. They provide opportunities for intimacy, companionship, experimentation with sex-role behaviors and sexual activity, enhancement of peer status, gaining independence from one's family, dating, and mate selection (Furman & Wehner, 1997; Hansen et al., 1992). Most importantly, they afford adolescents with the opportunity to gain insight into the opposite-sex (Fabes, 1983) and may provide the basis for developing romantic relationships later in adolescence (Connolly, Furman, & Konarski, 2001; Connolly & Goldberg, 1999). In the same way that same-sex friendships provided children with opportunities to gain new social skills, interactions with opposite-sex peers

also further the development of social competencies. It is clear that opposite-sex peer relationships in adolescence are different from same-sex interactions and can often present unique challenges. Grover and Nangle (2003) used focus group methodology to investigate the kinds of other-sex situations that adolescents find problematic. Previous attempts to examine the social skills required in interactions with the opposite-sex have focused primarily on date initiation behaviors. Although the results of Grover and Nangle's study indicated that dating and sexual situations were particularly challenging to adolescents, the participants reported a much broader range of situations that posed significant challenges. These situations included general communication, initiating friendships or relationships, friendships, dating, sexual situations, working with one another, situations involving drugs and alcohol, and harassment or criminal situations. Given the array of demanding situations that adolescents reported as difficult, it is likely that interactions with the opposite-sex require a distinct set of social skills (Hansen et al., 1992).

Heterosocial skills are defined as the social competencies required for initiating, maintaining, and terminating relationships with the opposite sex (Hansen et al., 1992). Many different mechanisms are hypothesized to potentially affect the development of these heterosocial competencies, including exposure to models of appropriate social skills, the associated consequences of an adolescent's social behaviors, exposure to peer social activities, and cognitive factors (i.e., self-statements, attributional processes; Hansen et al., 1992). For example, adolescents can learn appropriate heterosocial skills by observing the social interactions of peers, or by simply engaging in dating experiences

themselves. In turn, heterosocial competency may contribute to the experience of healthy and appropriate dating experiences. Theorists suggest that experiences accrued during informal dating within the context of the peer group may affect the trajectory of romantic relationships later in adolescence (Connolly & Goldberg, 1999). Researchers further speculate that heterosocial competence may serve other functions, such as recreation, entertainment, sexual stimulation, enhancement of self-esteem, promotion of independence, and the provision of intimacy. It should be noted that although heterosocial competence requires skills that are distinct from general social competence, the two constructs overlap considerably. In fact, in a recent investigation it was found that heterosocial competence and general social competence were highly significantly correlated with each other, but were differentially correlated with other constructs (Grover, Nangle, & Zeff, *in press*). Specifically, decreased heterosocial competence was related to elevated heterosexual social anxiety (i.e., anxiety experienced in the context of situations involving the opposite-sex) whereas general social competence was not. There appears to be something unique about heterosocial competence required when interacting with the opposite-sex that is different from the social competencies required for general situations. These findings imply that an adolescent who is socially competent within a same-sex peer group may nonetheless have considerable difficulty interacting in a mixed-sex group. In other words, although both kinds of competence are related, they remain conceptually distinct.

In the same way that social competence and heterosocial competence are associated yet distinct, success with platonic other-sex friendships appear to be closely

linked to competence with same-sex friendships. At the same time, other-sex relationships also seem to uniquely contribute to adolescent development (Lempers & Clark-Lempers, 1993). Miller (1990) investigated the relationship between adolescents' same-sex and opposite-sex peer relations by examining the association between adolescents' social cognitive skills, popularity, and perceived social competence with same-sex friends and opposite-sex peers. The findings indicate that same-sex social cognitive skills, popularity, and perceived social competence were related to opposite-sex social cognitive skills, popularity, and perceived social competence, suggesting an overlap between same-sex and other-sex peer relations. For example, it was found that boys who were popular in their same-sex interactions were also popular in the opposite-sex peer group.

The Development of Romantic Relationships

Dating relationships appear to be a natural consequence of the biological changes and the development of sexual maturity associated with early adolescence (Zani, 1991). Most adolescents begin dating between the ages of 13 and 15-years (Hansen et al., 1992). It seems that to some degree romantic relationships are simply transformed by individual development, as cognitive advances foster interpersonal skills and physical maturity increases the salience of heterosocial interactions (Collins et al., 1997; Steinberg, 1999). Other theorists suggest that social influences play a large role in the development of romantic relationships, including input from both parents and peers.

Brown (1999) presents a developmental contextual perspective for understanding the emergence and development of romantic relationships in adolescence. He suggests

that adolescent romantic relationships are both influenced by and help to shape the broader peer network in which the adolescent is developing. Over the course of adolescence, romantic relationships change dramatically in both form and function and follow a four-phase progression: initiation, status, affection, and bonding. The initiation phase is primarily self-focused with the primary objective of becoming an “effective romantic partner,” and generally gaining confidence in interacting with the opposite sex in romantic ways. During the status phase, the focus shifts from the self to the ties the self has with others. Adolescents select their partners in terms of their image and status within the peer group (Brown, 1999; Furman & Wehner, 1997). Soon the focus changes yet again from the peer group, in which the relationship is emerging, to the relationship itself. Brown labels this stage the affection phase and notes that it is at this time that adolescents seek out deeper levels of intimacy in their romantic affiliations. Finally, the bonding phase indicates that the adolescent has the ability to replace the passion of the affection stage with more practical concerns regarding the maintenance of a long-term relationship. According to Brown, when the adolescent (or young adult) reaches the bonding phase, he or she is capable of mature relationships.

During each of these four stages, peers serve distinct functions in the formation and shaping of romantic ties. For example, peers afford adolescents opportunities to interact with potential dating partners, to initiate and subsequently recover from these relationships, and to learn from romantic experiences. Brown emphasizes the importance of studying adolescent romantic relationships within the social context in which they form, remaining attentive to the varying social norms within differing peer systems.

Whereas Brown focused on the context of the peer group, some researchers believe that influences on the development of romantic relationships begin much before the emergence of the mixed-sex peer group. For example, Furman and Wehner (1997) draw upon the literature on internal working models (Bowlby, 1973) to describe how adolescents' interactions with dating partners may be similar to interactions with a primary caregiver at earlier stages of development. Theorists suggest that the initial attachment relationship is the basis of a general model of relationships that we take with us throughout life (Steinberg, 1999). Overall, those who describe early attachments as being secure have been found to be more socially competent and better psychologically adjusted than those who describe insecure attachment (Benson, Harris, & Rogers, 1992; Finnegan & Perry, 1993; Kerns, 1994; Kobak & Coke, 1994; Rice, 1990). As such, those who were securely attached as a child would be more likely to have positive and healthy romantic relationships during adolescence. In contrast, the literature suggests that more insecure patterns of attachment result in an increased sensitivity to rejection and possibly a greater fear of intimacy with a member of the opposite-sex (Feldman & Downey, 1994; Kobak & Sceery, 1988; Parker & Herrera, 1996). Furman and Wehner indicate that this interaction style will guide the dynamic of future relationships, both romantic and otherwise. These researchers' speculations are fitting with the developmental psychopathology paradigm in that they suggest several developmental pathways, based on patterns of attachment to the primary caregiver, that dictate subsequent psychological adjustment.

The theory that Furman and Wehner set forth rests on an assumption of continuity. These authors conceptualize the development of romantic relationships from a behavioral systems perspective. Over the course of development, an adolescent's romantic partner will eventually assume an increasingly important role in the functioning of one's attachment, caregiving, affiliative, and sexual behavioral systems. The romantic partner serves as an attachment figure if he or she is sought out in times of distress and if the individual provides support to the partner in similar kinds of situations. The partner may also act as someone who is looked to for companionship and friendship. Finally, the romantic partner can serve needs for sexual fulfillment. They suggest that as the individual learns to use a partner in these varied behavioral systems, he or she will do so more frequently and with a greater degree of skill. Moreover, developmental changes occur in terms of the way the adolescent views him or herself within romantic relationships.

Gray and Steinberg (1999) also place an emphasis on the role of family and parents in the emergence of romantic relationships. They suggest, however, that romantic relationships in adolescence serve the function of creating emotional autonomy from one's family. Moreover, they speculate that the emergence of romantic relationships is associated with changes in interpersonal status within the family. The authors note that because traditional routes of defining one's independence have largely been blocked for modern adolescents (e.g., financial independence, residential independence), they must resort to other methods for asserting their independence,

namely romantic associations. In an effort to demonstrate social maturity, adolescents will develop romantic affiliations.

Despite the evidence linking the role of parents and the family with the development of romantic ties, the results of longitudinal research are clear that peer networks are a context in which romantic relationships develop and that affiliation with peers contributes to the likelihood that these relationships will grow (Connolly et al., 2001; Dunphy, 1963). Connolly and Goldberg (1999) suggest that romantic emotions, behaviors, motives, and concepts progress at different rates across adolescence. Peer relationships have direct and reciprocated influences on each of these four components of romantic relationships. These influences will change according to each adolescent's developmental readiness to engage in more mature romantic relationships.

Connolly and Goldberg's (1999) theory provides the basis for the study presented herein. Specifically, these researchers support the notion of a natural progression for the development of adolescent romantic relationships in which adolescents move from intimate groups of same-sex friends, to a mixed-sex clique, and finally to dyadic relationships with a romantic partner. They suggest that the activities that contribute to the behavioral expressions of romantic affiliations are intimately tied to adolescents' relationships with peers. Specifically, they propose that adolescents build same-sex peer networks out of the context of their best-friend relationships in pre-adolescence. As adolescents develop, their cliques soon incorporate a mix of males and females who can take the role of either acquaintance or close friend. It is speculated that adolescents' dating activities first take place in the context of this mixed-sex group of peers and then

later take the form of primarily dyadic interactions. Furthermore, it is noted that often the primary function of the mixed-sex peer group is to provide access to potential dating partners.

This theory is based on the empirical investigations of Dunphy (1969), who conducted research with a sample of Australian adolescents. Dunphy completed a functional analysis of adolescents' peer groups and identified two peer structures he believed were characteristic of adolescence. In particular, Dunphy highlighted small groups of close same-sex friends which he labeled *cliques*, and larger networks of mixed-sex peers which he called *crowds*. He argued that the primary function of cliques was to facilitate the emergence of crowds. In turn, crowds provide access to potential mates with whom initial dating experiences begin. His results demonstrated that indeed romantic affiliations were preceded by a transition from a same-sex clique to a mixed-sex crowd. He concluded that peer groups are a context in which romantic relationships emerge and that the qualitative features of close friendships may influence that of romantic relationships. Connolly and Johnson (1996) also found that adolescents with larger peer groups and increased numbers of opposite-sex friends were more likely to be engaged in a romantic relationship than adolescents with fewer other-sex ties.

More recently, Connolly et al. (2000) tested the hypothesis that the peer group functions to facilitate the emergence of romantic relationships during adolescence. They suggested that same- and opposite-sex relationships play similar, yet distinct, roles in this process. Specifically, they hypothesized that because connections with same-sex peers emerge prior to other-sex relationships, they may serve as a foundation for experiences

with other-sex adolescents. Similarly, they further hypothesized that access to other-sex peers directly facilitates the development of romantic relationships and that the qualitative features of friendships may influence the qualities found in romantic relationships. These researchers collected data longitudinally over three years with a sample of 9th through 11th graders. They assessed the composition of adolescents' peer networks, whether the adolescent was involved in a dating relationship, and the qualitative features of both same- and opposite-sex relationships.

The results support the initial hypotheses set out by Dunphy over 30 years ago. In particular, Connolly and colleagues found that same-sex groups in grade 9 aided the emergence of mixed-sex peer groups in grade 10 and affiliation with a romantic partner in grade 11. More specifically, affiliation in the same-sex peer group provided adolescents with the social resources to then go on to develop relationships with opposite-sex peers. In turn, opposite-sex peers provided a forum in which to learn about the opposite-sex and meet potential dating partners. Indeed, the number of other-sex peers in the peer group increased over the three years and was related to having a romantic partner both concurrently and in subsequent years. In contrast, the same-sex peer network decreased in size over the three-year period and was not directly related to the presence of a romantic partner. Instead, in 10th grade the same-sex peer group was predictive of the size of the other-sex network which was predictive of a romantic relationship in 11th grade. As such, it appears that the same-sex network is indirectly related to the emergence of romantic relationships through its relationships with the other-sex network. Furthermore, the qualitative features of friendships at previous time

periods were related to later reports of the qualitative features of romantic relationships. Specifically, adolescents' ratings of social support and negative interchange with both their same- and opposite-sex friends were related to subsequent ratings of relationship quality within romantic relationships. Features of social support included companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance. Negative interchange was characterized by conflict and antagonism. It seems that these qualitative features transcend the peer group and emerge in romantic relationships. The applicability of the developmental psychopathology framework is clear in the sense that adolescents follow a continuous developmental trajectory in which the features of their friendship groups bear great influence on the qualities subsequently seen in romantic dyads. This research demonstrates the progressive and cumulative nature of normative social development in adolescence.

The importance of understanding the emergence of romantic relationships in adolescence becomes clear when considering the significant functions that these kinds of affiliations serve. The literature outlines several functions of romantic relationships in adolescence. For example, one kind of romantic affiliation, dating relationships, serve to develop sexual attitudes, interests, and sex-role behaviors and allow for experimentation in these areas. They promote interpersonal competence and enhance social status within the peer group (Hansen et al., 1992; Kuttler & LaGreca, 2004). Very often, having a date or participating in a dating relationship will promote an adolescent's peer status. In fact, some researchers assert that adolescents date more for their "audience" than for themselves (Hansen et al., 1992). Dating relationships allow for recreation,

entertainment, sexual stimulation, and contribute to the growing independence of the adolescent in furthering the separation from the family. Moreover, self-esteem generally benefits from the presence of a dating partner. As adolescents get older, romantic partners become more serious and fulfill more important needs in their life, including a desire for intimacy (Collins & Sroufe, 1999). Experiences in dating relationships in adolescence also provide the adolescent with the opportunity to further develop a repertoire of heterosocial skills (Hansen et al., 1992; Nangle & Hansen, 1993).

Researchers speculate that heterosocial competence in itself may serve functions such as recreation, entertainment, sexual stimulation, enhancement of self-esteem, promotion of independence, and the provision of intimacy (Hansen et al., 1992; Nangle & Hansen, 1993). Finally, and perhaps most importantly, dating relationships can lead to the choice of a long-term relationship partner. Dating relationships provide a context in which the adolescent can practice new skills, gain social competencies, and determine the kinds of features that they desire in a mate (Bagwell, Schmidt, Newcomb, & Bukowski, 2001). Kuttler and LaGreca (2004) found that, indeed, dating experiences served as a moderator of the relationships between girls' best friendships and romantic affiliations. As such, dating relationships may form the foundation of more serious romantic relationships later in adolescence and adulthood (Collins & Sroufe, 1999).

The Impact of Social Anxiety on Social Development

In light of the importance and lasting impact of peer, and subsequently romantic relationships, the effects of social anxiety on these associations are particularly worrisome. Anxiety can lead to avoidance and restriction of socialization experiences.

Restriction of social activities in efforts to avoid or reduce feelings of social anxiety impedes the development of interpersonal relationships. Considering the continuous nature of social anxiety, these kinds of interpersonal deficits are likely to persist and, in turn, influence the development of future relationships, including romantic dyads. The basic hypothesis examined in the present study was that social anxiety would lead to fewer and more impaired relationships within both the same- and mixed-sex peer groups. As such, it is important to consider the manner in which social anxiety affects the developing peer network. The following will serve to explore the mechanisms underlying the risks associated with high levels of social anxiety.

Mechanisms Underlying Risk

Literature suggests that the mechanisms associated with the deleterious effects of social anxiety are primarily behavioral (i.e., skill acquisition) or cognitive in nature (i.e., social cognition) (Beidel, Turner, & Dancu, 1985). Behaviorally, it has been noted that children who are not afforded the opportunity to interact with peers (potentially due to avoidance as a result of anxiety) do not gain the skills that typically develop in the context of those interactions (Beidel, Turner, & Dancu, 1985; Schneier, Heckelman, Garfinkel, & Campeas, 1994). Nangle and Hansen (1998) propose two potential pathways for skills deficits. These authors suggest that it could be that a skill was never learned or was ineffectively learned (likely due to avoidance and lack of experience). The second possibility is that the skill was learned, but is used appropriately only in particular situations (perhaps due to differential reinforcement, punishment, extinction of the behavior, or an inability to determine when to use the skill). They further suggest that

the use of a skill may become inhibited due to particular cognitions or anxiety.

Borkovec, Stone, O'Brien, and Kaloupek (1974) found that indeed, socially anxious individuals exhibited several skill deficits when placed in social interactions. These participants were less socially effective and they tended to speak less frequently while engaged in the interaction.

In addition to the behavioral mechanisms associated with social anxiety, there are several cognitive explanations for impairment in social functioning. According to some researchers, children's social cognitions are actualized by their social interactions. In turn, these cognitions influence children's subsequent social behaviors (Rubin & Stewart, 1996). In other words, peer interaction influences the development of social cognition and the ability to behave in a competent manner within the context of a peer group (Hartup, 1992; Rubin & Coplan, 1992). The socially anxious individual likely has unsuccessful and potentially aversive social interactions. The child, as a result, develops negative perceptions of his or her social-self. These cognitions influence future social interaction patterns. Foa and colleagues (1996) found evidence for negative expectations in terms of social situations among socially anxious individuals. Specifically, their findings indicate that participants with social anxiety disorder rated negative social events (but not non-social events) as more likely to occur and as more costly than a non-anxious control group.

Langston and Cantor (1989) conducted a study in which they examined the mechanisms associated with the relationship between social anxiety and impairment in adolescent social relationships. These researchers determined that it was not social

anxiety per se that determined impairment, but rather the behavioral strategies individuals used in attempting to make friends. Specifically, these researchers noted that socially anxious adolescents used a socially constrained style marked by a conservative and somewhat shy interaction pattern. The authors suggested that socially anxious adolescents use this style as a way of protecting themselves from social embarrassment and expectations for social failure. In this sense, both behavioral and cognitive mechanisms are working simultaneously to impact social development.

Still, the relationship between social withdrawal and anxiety can best be described as progressive and cumulative. A child or adolescent's social withdrawal could potentially affect social cognitive development or skill acquisition and, as a result, developmentally normative social interaction (Rubin & Burgess, 2001). As noted, Connolly and Goldberg (1999) suggest that socially anxious and withdrawn children are likely to encounter difficulties in finding acceptance in a same-sex clique, perhaps due to lack of skill acquisition or because of social cognitive deficits. Subsequently, these children are speculated to have problems in interactions with a mixed-sex peer group. Specifically, these children may not form ties with opposite-sex peers. Given Dunphy's (1963) hypothesis that the mixed-sex peer group serves as a forum to meet potential dating partners, a lack of interaction with the opposite-sex may hinder the development of romantic relationships. For example, socially withdrawn teens may have difficulty establishing the appropriate degree of intimacy with a dating partner, resulting in either an avoidance of intimacy or potential intimacy that is too intense (Collins et al., 1999).

Early Childhood

The relation between social withdrawal and anxiety, even as early as preschool, is best described as reciprocal. Anxiety is often marked by a persistent avoidance of peer interaction. Avoidance of these situations may serve to reduce anxious feelings and, as such, result in further avoidance in future social situations. Unfortunately, consistent social withdrawal and a lack of peer relationships interfere with the normal development of social competencies. Deficits in social competence reinforce feelings of social anxiety and negative self-esteem (Boivin, Hymel, & Bukowski, 1995; Hymel, Bowker, & Woody, 1993; Messer & Beidel, 1994; Rubin & Burgess, 2001). Children who behave in a socially incompetent manner are often rejected for their lack of skill, whereas their socially competent counterparts are reinforced for competent behavior (Rubin et al., 1998). Anxiety is reinforced through successive failures in these kinds of social situations. As a result, anxious children do not learn normal social interactive play behaviors and the cognitive skills accrued through these experiences suffer. Unfortunately, theorists note that as a result of avoidance of a variety of social situations, anxious children are likely to display pervasive disturbances in social performance and limited involvement in mainstream social activities (Francis, 1990).

Middle Childhood

Social learning theory would suggest that social anxiety and social skills deficits function in the same way during middle childhood as they did during the preschool years. As noted, a lack of peer interaction will result in the child becoming increasingly uncomfortable within the peer group due to less experience and lower skill levels. The

child's lack of skills results in consistent social failures and feelings of negative self-worth. These thoughts are repeatedly reinforced as the child continues to demonstrate a lack of social skills in his or her peer interactions (Rubin & Burgess, 2001). In terms of acceptance in the peer group, investigators have found that teachers report anxious children to be teased more often and to be more disliked by their peers than those that do not evidence symptoms of anxiety (Strauss, Frame, & Forehand, 1987; Strauss, Lahey, Frick, Frame, & Hynd, 1988). Furthermore, in a related study, it was found that children who were more socially withdrawn also exhibited higher levels of internalizing difficulties, including anxiety problems (Strauss, Forehand, Smith, & Frame, 1986). Similarly, children's friendship experiences are likely negatively impacted by the effects of social failures during previous stages of development. Ginsburg, LaGreca, and Silverman (1998) found that highly socially anxious children (ages 6-11-years) reported low levels of social acceptance and negative peer interactions with friends. It seems that children who have social failures during early childhood do not accrue the social and cognitive benefits that these relationships generally afford. As such, by the time these children reach middle childhood, they are already at a relative disadvantage socially as compared to normally developing age-mates.

Adolescence

Given the increased importance of peer acceptance and friendships in adolescence, the effects of social anxiety during this stage of development are particularly pronounced. It seems that when social anxiety emerges during previous stages of development, it has enduring and damaging effects well into adolescence. For

example, researchers of social withdrawal have found that social isolation at age 7 predicted low levels of social competence, self-worth, loneliness, and peer-group insecurity at age 14 (Rubin, Chen, McDougall, Bowker, & McKinnon, 1995).

Ollendick, Greene, Weist, and Oswald (1990) found that children who were characterized as withdrawn at age 10 were more likely to be anxious and disliked by peers as compared to well-adjusted age-mates five years later. Furthermore, Morison and Masten (1991) determined that children who were identified as socially isolated in middle childhood were more likely to evaluate their own social competence negatively by the time they reached adolescence. LaGreca and Lopez (1998) determined that adolescents in the 10th through 12th grades with higher levels of social anxiety reported lower peer acceptance and fewer friendships, as well as less intimacy, companionship, and support in close friendships. All of this research converges to suggest that the effects of social anxiety are cumulative and increasingly detrimental to the socially developing teen. The adolescent set on a trajectory of social isolation and withdrawal as a result of social anxiety seems to remain on that pathway throughout childhood. These individuals suffer in many different ways as a result of their anxiety, including continued impairment in social functioning as well as other internalizing disorders.

In many of the same ways already discussed in terms of same-sex friendships, social anxiety will affect the development and maintenance of the opposite-sex peer group (Dodge, Heimberg, Nyman, & O'Brien, 1987). Specifically, it seems that the reciprocal relationship between social competence and anxiety continues to exist in the context of other-sex interactions. Although limited empirical work exists regarding the

impact of social anxiety on the normative progression of opposite-sex peer relationships, Davila and Beck (2002) conducted one of the first studies investigating the effects of social anxiety on the interpersonal functioning of older adolescents. These authors found that individuals with higher levels of social anxiety had interpersonal styles in their close personal relationships reflective of conflict avoidance, avoidance of emotional expression, and greater levels of interpersonal dependence. In fact, the authors found that over-relying on others in addition to an inability to assert oneself mediated the relationship between social anxiety and interpersonal stress. Overall, it seems that mature social competencies required for the skilled negotiation of other-sex relationships are affected by the presence of anxious symptomatology.

Moreover, anxiety in dating relationships could have negative implications for future romantic relationships. In a survey of over 3800 first year college students, researchers found that approximately one third of them rated themselves as anxious in heterosocial situations (Arkowitz, Hinton, Perl, & Himadi, 1978). This anxiety may lower the frequency of heterosocial interaction and thus inhibit the development of heterosocial competency. As a consequence, the functions afforded by opposite-sex friendships and romantic relationships later in adolescence may suffer. For example, children characterized with anxious-avoidant attachment styles were less likely to date than their securely attached counterparts (Collins & Sroufe, 1999). Anxiety has been found to be associated with date initiation behavior and interactions with the opposite sex (Hansen et al., 1992). Dating anxiety may lead to a lack of intimate relationships and a general feeling of social isolation (Arkowitz et al., 1978). In an analysis of retrospective

reports, researchers determined that individuals with a history of social anxiety reported acute feelings of self-consciousness during social situations in junior high school and had fewer dating partners than a comparison group between the ages of 12 and 21 (Albano, Marten, Holt, Heimberg, & Barlow, 1995). Of concern is that research has identified several negative correlates of minimal dating relationships in adolescence, including decreased social skills, social withdrawal, or even romantic dysfunction later in adulthood (Collins & Sroufe, 1999; Nangle & Hansen, 1993; 1998). For example, individuals with limited experiences in romantic relationships in adolescence may be at risk for problems (e.g., social distress) when they enter romantic relationships in young adulthood, particularly in the college years (Asendorpf, 2000; Prisbell, 1997). Theorists suggest the presence of negative effects of social anxiety on the development of romantic relationships, however, the nature of the effects on the same-sex peer group, opposite-sex relationships and romantic affiliations are largely speculative at this point.

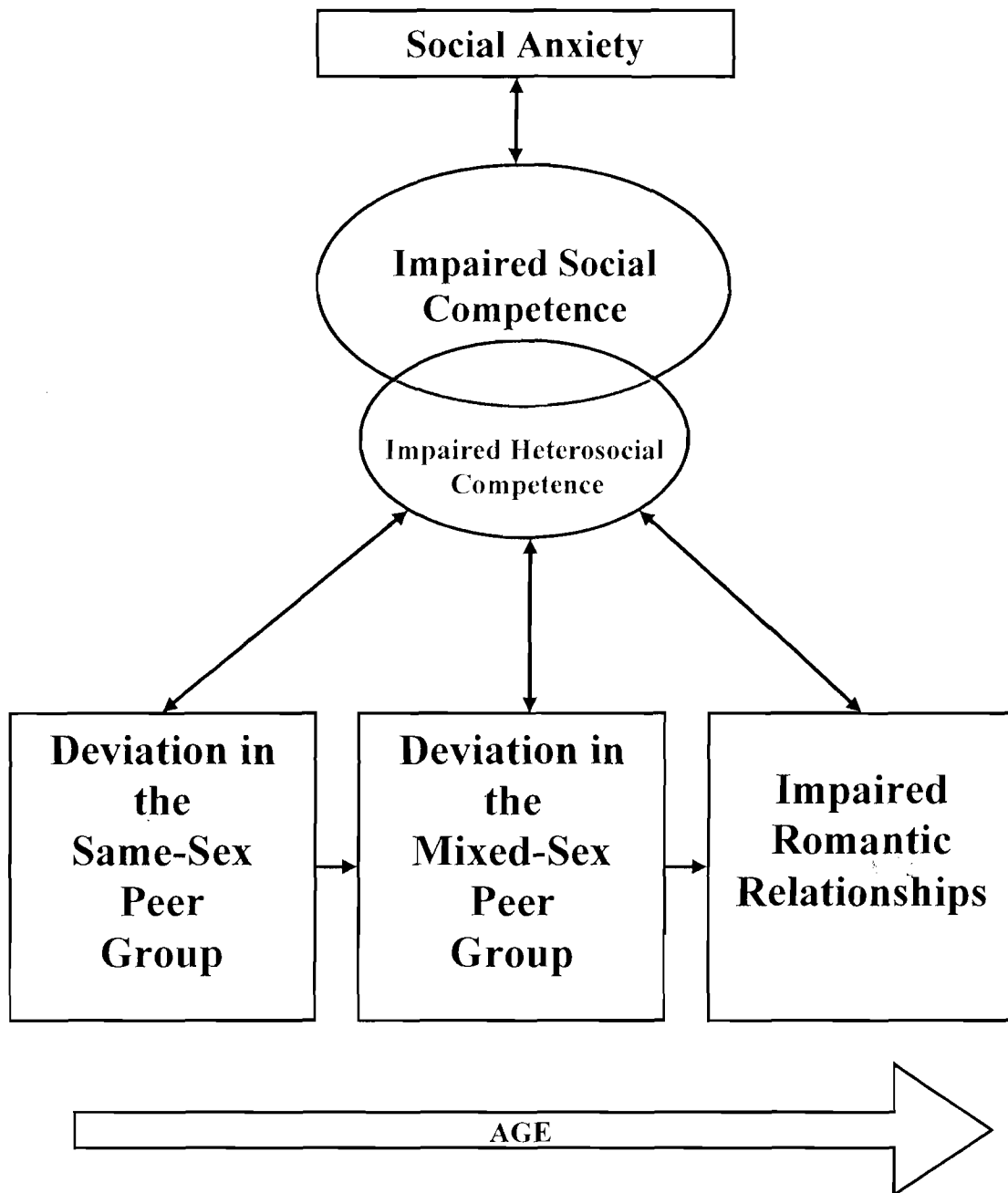
The Present Study

The present study sought to investigate the ways in which social anxiety impedes the development of romantic relationships in adolescence. Using a developmental psychopathology framework, it was speculated that social anxiety may set children on an alternative developmental trajectory marked by impairment in peer groups and leading to impaired romantic relationships. Social anxiety was examined in terms of how it affects the normal development of social relationships in adolescence as proposed by Connolly and colleagues (2001) beginning with the same-sex peer group, moving to the mixed-sex clique, and ultimately its impact on the formation of a dyadic relationship

with a romantic partner (see Figure 2). This project involved administering a series of questionnaires to students in two age groups: students enrolled in the 9th and 10th grades and students enrolled in the 11th and 12th grades. By examining children at two time points during adolescence, the continuity and progression of social anxiety could be evaluated at different phases during development and in terms of its effects on the developing teen. The questionnaires assessed social anxiety, peer acceptance, heterosocial competence, gender composition of adolescent peer networks, dating history, and relationship quality with significant others in the adolescent's life.

As seen in Figure 2, it was expected that social anxiety would exert effects first on the development of the same-sex peer group. Researchers of social anxiety have found that social isolation at early ages leads to later impairment with same-sex peers leading to low levels of social competence, perceived social competence, self-worth, and loneliness (e.g., Morison & Masten, 1991; Rubin, Chen, McDougall, Bowker, & McKinnon, 1995). Furthermore, children who withdraw as a result of anxiety become increasingly anxious and disliked by same-sex peers. These children have lower ratings of peer acceptance, less intimacy and support in close relationships, and less overall companionship (e.g., LaGreca & Lopez; 1998; Ollendick, Greene, Weist, & Oswald. 1990). In the current study, impairment in the same-sex peer group was determined through the Peer Relationships Questionnaire (PRQ; Connolly & Konarski, 1994), which assesses the size and gender composition of the peer network (i.e., number of same- and opposite-sex peers). Furthermore, the quality of close same-sex peer relationships was examined

Figure 2.1: Proposed Model



through the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985).

Impairments in the development of the same-sex group were next expected to contribute to deviation in the mixed-sex peer group. As depicted in Figure 2, and clearly documented by Dunphy (1963), and then later Connolly and colleagues (2000), normatively, a mixed-sex peer group emerges from a group of same-sex peers during adolescence. Researchers have noted that children who are not afforded the opportunity to interact with peers (potentially due to avoidance as a result of anxiety) do not gain the skills that develop in the context of those interactions and potentially develop negative social cognitions regarding their ability to interact effectively in social situations (e.g., Beidel, Turner, & Dancu, 1985; Hartup, 1992; Nangle & Hansen, 1998; Rubin & Coplan, 1992; Schneier, Heckelman, Garfinkel, & Campeas, 1994). Disruption in the mixed-sex peer network was assessed by the gender composition of the peer network, as measured by the PRQ, and the quality of close other-sex peer relationships, as reported on the NRI.

Fitting with the developmental psychopathology framework, same-sex and mixed-sex peer group deviation were hypothesized to set the stage for impaired romantic relationships. Researchers suggest that the mixed-sex peer group provides a forum for romantic relationships to emerge. Without the presence of opposite-sex peers within the group, the adolescent is at a significant disadvantage in terms of simply having access to potential dating partners (e.g., Connolly et al., 2000; Dunphy, 1963). It is noted that anxious adolescents are less likely to engage in dating behaviors and to have fewer dating partners overall (e.g., Albano, Marten, Holt, Heimberg, & Barlow, 1995; Arkowitz et al., 1978; Collins & Sroufe, 1999; Hansen et al., 1992). Impairment in romantic

relationships was assessed through reports of the quality of romantic relationships on the NRI and through an assessment of the adolescent's experience with dating relationships as measured by the Dating History Questionnaire (DHQ; Furman, 1997).

Underlying all these relationships are the ongoing and overlapping contributions of social competence and heterosocial competence. As noted, general social competence appears to contribute to the development of heterosocial competence. Heterosocial competence is unique in the sense that it applies strictly to situations involving the opposite-sex whereas general social competence implies capabilities required in more general kinds of social situations. Nonetheless, it is likely that those skills necessary for the competent negotiation of general social situations are linked to those required in interactions with the opposite-sex. In an investigation of a newly developed measure of heterosocial competence, measures of general social competence and heterosocial competence were significantly correlated, but they were differentially correlated to other constructs (Grover et al., in press). Specifically, heterosocial competence was correlated with heterosexual anxiety, whereas, general social anxiety was not. These findings suggest that although both kinds of competence are related, they remain conceptually distinct. Accordingly, each was thought to contribute in unique but similar ways to success in the peer group and subsequently to the development of romantic relationships. Furthermore, anxiety was expected to impact the development of both general social and heterosocial competence. For example, researchers have found links between social anxiety and withdrawal, and low levels of social competence, decreased self-worth, loneliness, and peer-group insecurity (e.g., Ollendick et al., 1990; Rubin et al., 1995).

Similarly, anxiety in heterosocial situations has been associated with deficits in social performance situations including friendship interactions (e.g., Arkowitz et al., 1978; Borkovec et al., 1974; Dodge et al., 1987; Himadi et al., 1980). As such, in the present investigation, elevated levels of anxiety were predicted to significantly impair both general social and heterosocial competence. General social competence was assessed with a peer sociometric rating procedure and heterosocial competence was assessed using the Measure of Adolescent Heterosocial Competence (MAHC; Grover et al., in press).

Age was predicted to play a central role in the present investigation. As shown in Figure 2, and, as noted throughout the review, social development appears to be continuous. Evaluating youth cross-sectionally at two age levels allowed for a closer examination of the effects of social anxiety on the continuity of development. Research has demonstrated that adolescents aged 13-15-years-old have a preference for friends of their same-sex, whereas older adolescents in the later high school years are more likely to be part of a mixed-sex peer group and to be more accepting of opposite-sex peers (e.g., Bukowski et al., 1993; Connolly, Furman, & Konarski, 2001; Csikszentmihalyi & Larson, 1984; Richards et al., 1998). It seems that as teenagers get older they are exposed to increasing numbers of other-sex relationships, and, as such, become more comfortable in those peer groups. Normatively, social and heterosocial competence increase with age, as the individual learns from previous experiences. As such, it seems that the impact of anxiety on both social and heterosocial competence would become more pronounced with age. In particular, anxious adolescents will be increasingly

delayed (behind their normally developing peers) in terms of social and heterosocial competencies, placing them at a greater disadvantage socially.

Although it does appear that adolescents follow the developmental trajectory outlined in Figure 2, males and females may be developing at different rates (Kuttler & LaGreca, 2004). Research has demonstrated that those younger adolescents who report participation in a mixed-sex peer group are more likely to be female (e.g., Richards et al., 1998). It may be that females move along to the mixed-sex peer group developmentally prior to males. Specifically, females (who mature physically earlier than males (Steinberg, 1999)) may be interacting in a peer group with older males. Males, in contrast, are not likely to affiliate with females older than themselves. Of note, females generally score higher on measures of general social competence, have a greater degree of intimacy in their friendships, and have a tendency to report larger peer networks than males (e.g., Cavell & Kelley, 1992; Connolly et al., 2000). A larger peer network and higher quality friendships may provide more opportunities to learn and practice both general social and heterosocial skills (Nangle & Hansen, 1998). In a recent investigation of heterosocial competence, females scored significantly higher than males on a measure of heterosocial competence (Grover et al., in press). These relative advantages in terms of competence may be related to females' tendency to progress quickly to affiliation with mixed-sex peers. It should be noted, however, that, on average, adolescent females also report higher levels of social anxiety (Grover et al., in press; LaGreca, 1998). It could be that, normatively, females are progressing along the proposed trajectory earlier than males and they are therefore placed in anxiety provoking situations at a younger age than

their male counterparts. The present study allowed for an examination of social development across gender in an effort to determine whether, in fact, females were moving along the hypothesized pathway earlier than males and whether they were experiencing a greater degree of anxiety.

It was predicted that more socially anxious adolescents would have impairment in the same-sex peer group, mixed-sex peer group, and romantic relationships. Specifically, the results were expected to reflect a pattern in which high levels of social anxiety (i.e., higher scores on the Social Anxiety Scale for Adolescents (SAS-A; LaGreca, 1998) were significantly associated with decreased social and heterosocial competence (i.e., lower ratings of peer acceptance, and lower scores on the MAHC). Furthermore, high anxiety scores were expected to be associated with impairment in the same-sex peer group (i.e., fewer number of same-sex friends reported on the PRQ; lower ratings of social support and higher ratings of negative interaction for same-sex peers on the NRI), mixed-sex peer group (i.e., fewer number and proportion of opposite-sex friends reported on the PRQ; lower ratings of social support and higher ratings of negative interaction for other-sex peers on the NRI), and romantic relationships (i.e., lower ratings of social support and higher ratings of negative interaction for a romantic partner on the NRI; limited dating history as indicated by the DHQ).

Within age groups, the high socially anxious groups were hypothesized to be significantly different from low socially anxious groups in that they would have lower levels of social competence and heterosocial competence (i.e., lower ratings of peer acceptance, and lower scores on the MAHC), a smaller and less gender diverse peer

group (i.e., less same- and opposite-sex peers nominated on the PRQ, and a lower proportion of opposite-sex peers), lower quality romantic associations (i.e., lower ratings of social support and higher ratings of negative interaction for a romantic partner on the NRI) and delayed onset of dating relationships (i.e., limited dating history as indicated by the DHQ).

Females were expected to be further along the hypothesized developmental trajectory than males in that they would have earlier participation in mixed-sex peer groups and romantic relationships. As such, females were expected to have higher scores than males in terms of heterosocial competence (i.e., higher scores on the MAHC). Moreover, females were expected to have a more diverse peer group (i.e., more nominations and a greater proportion of opposite-sex peers on the PRQ) and a more extensive history with dating relationships than males at each time-point (i.e., as evidenced by responses on the DHQ). These differences, however, were expected to be most pronounced within the group of younger adolescents.

Between age groups and across gender, both groups of younger adolescents were hypothesized to be significantly different from older adolescents. Normatively, it was expected that younger adolescents would not be as advanced along the proposed trajectory, nor would they have developed the social and heterosocial competencies that older adolescents had the opportunity to accrue. In particular, younger adolescents were predicted to have lower levels of heterosocial competence (i.e., lower MAHC scores), a more gender homogenous peer group with lower quality opposite-sex friends (i.e., fewer ratings and a lower proportion of opposite-sex peers on the PNQ; lower ratings of social

support on the NRI), no history of or fewer dating relationships (as evidenced by responses on the DHQ), and lower levels of quality in romantic dyads (i.e., lower scores for social support and higher scores for negative interaction on the NRI).

CHAPTER 2:

METHOD

Participants

Consent forms were distributed to students by participating teachers to be signed by a parent or guardian (see Appendix B.1.). Students under the age of 18 were required to return a signed consent form. Students who were 18 or above were given the option to sign their own informed consent form. Only adolescents with consent to participate were included in the study. In addition to obtaining informed consent from a parent or guardian, participants were also asked to give verbal assent of their willingness to participate in the study prior to the distribution of the surveys (see Appendix B.2.). A brief personal information sheet was also included with questionnaires to gather information about the participating population (see Appendix A.8.). Participants were asked their age, race, if they are currently dating, their sexual orientation, the sex of their current dating partner, satisfaction in current dating relationship, and the length of that relationship.

The mean age of the sample was 16.25, ranging from 14 years to 19 years. The final sample consisted of 267 younger adolescents (101 ninth graders and 166 tenth graders) and 189 older adolescents (68 eleventh graders and 121 twelfth graders). In terms of gender, the sample included 196 males and 261 females. Overall, there was a 72% participation rate across classrooms. The majority of the sample was Caucasian (92%) with a much smaller percentage of African Americans (3%) and other ethnicities (5%) represented. Furthermore, all teens were asked to report their sexual orientation on

a brief demographic questionnaire. Ninety-five percent of the sample was heterosexual, approximately 4% was bisexual, and less than one percent reported being homosexual. Approximately half of the sample (51%) reported a current dating relationship and having previously had sexual intercourse (52%). When analyzed separately by grade level, 116 (43%) younger adolescents were found to be involved in a current dating relationship and 107 (40%) had had sexual intercourse. In comparison, 117 (62%) older adolescents reported a current dating relationship and 128 (68%) had had sexual intercourse. When broken down by gender, 82 males (42%) and 151 (58%) females reported a current dating relationship and 101 (52%) males and 135 (52%) females indicated previous sexual intercourse. No differences in terms of dating and sexual activity were found across school districts sampled.

Measures

Social Anxiety

In order to assess self-reported social anxiety, adolescents were administered the Social Anxiety Scale for Adolescents (SAS-A; LaGreca, 1998; see Appendix A.1.). The scale consists of 22 self-statements that students rate on a 5-point Likert-type scale ranging from *not at all* (1) to *all the time* (5). The SAS-A has a three factor structure: fear of negative evaluation (FNE) that measures social evaluation anxiety, social anxiety and distress in general situations (SAD-General) that measures distress that is experienced generally when in situations with peers, and social anxiety and distress in new situations (SAD-New) that is a measure of distress specific to new situations with unfamiliar peers. There are 4-items on each subscale and 4 filler items. The SAS-A has

been tested for reliability and validity and has demonstrated adequate psychometric properties (LaGreca, 1989). Specifically, for a sample of 13- to 15-year-old adolescents test-retest reliabilities over a two-month interval were FNE = .78, SAD-G = .54, and SAD-N = .72. Test-retest reliabilities over a six-month interval were FNE = .75, SAD-G = .47, and SAD-N = .75. Internal consistencies were satisfactory for each subscale (FNE α = .91; SAD-G α = .76; SAD-N α = .83; Vernberg, Abwender, Ewell, & Beery, 1992). Furthermore, research has demonstrated initial support for the criterion and concurrent validity of the scales (Myers, Stein, & Aarons, 2002). The SAS-A is one of the most frequently used measures to assess social anxiety in adolescence.

There are no specific hypotheses regarding specific types of social anxiety and, therefore, a total score was computed and used in analyses. A total score is computed by adding the total of all items excluding filler items. Total scores on the SAS-A correlate highly with the social phobia section of the ADIS-IV (r = .74) and the SPAI – Social Phobia Scale (r = .74) (Garcia-Lopez, Olivares, Hidalgo, Beidel, & Turner, 2001). Over a 10 day interval, test-retest reliability for the SAS-A total score was r = .86. Total scores range from 18 – 90 with higher scores indicating a greater degree of social anxiety. In the present investigation, scores on the SAS-A ranged from 18 to 82 with a mean score equal to 42.26 and a standard deviation equal to 12.44. Furthermore, the SAS-A demonstrated excellent internal consistency with α = .93. Please see Appendix C for a complete table of descriptive statistics for all measures and scales used in the present investigation.

Peer Acceptance

A peer sociometric rating procedure was employed in order to assess peer acceptance (see Appendix A.7.). Peer acceptance is generally reflective of a general level of social competence. Peers were rated in terms of how much participants like to spend time with members of their class on a Likert type rating scale from 1 (*do not like spending time with*) to 5 (*like spending time with a lot*). An “N/A” category could be endorsed if the participant did not know the individual well enough to make a judgment. Rating scale methodology is often more reliable than sociometric nominations that ask adolescents to select the peers they like best or like least from a class roster (Foster, Inderbitzen, & Nangle, 1993). Implementing this kind of methodology with adolescents becomes more challenging because teen peer groups often extend beyond the classroom (Inderbitzen, 1994).

Nonetheless, in the present study, sociometric ratings were restricted to specific classrooms due to the constraints of data collection and subject recruitment. Specifically, agreement to participate in the project was obtained on a class by class basis. As such, all participating grademates were frequently unknown until several weeks after some of adolescents had completed the questionnaires. Accordingly, teens were asked to rate only the other adolescents within the same classroom that were also participating in the project. Sociometric ratings were only included in analyses if a 50% participation rate was reached for the classroom. This participation rate was achieved for every classroom with the exception of one. As a result, 7 students’ acceptance ratings were excluded from the final analyses. A mean acceptance score was computed for each participating student

with higher scores reflecting a greater degree of acceptance. In the present study, acceptance scores ranged from 1 to 4.75 with a mean equal to 2.78 and a standard deviation equal to .65 (see Appendix C).

Heterosocial Competence

Adolescents were asked to complete the Measure of Adolescent Heterosocial Competence (MAHC; Grover et al., in press) in order to assess competence in negotiating potentially problematic heterosocial situations (see Appendices A.2. & A.3.). The MAHC is a 40-item measure in which adolescents are presented with problematic social situations involving the opposite-sex and then asked to choose from a series of four possible responses to that situation. These four choices are ranked in order of competence with lower rankings indicating a less competent response. The ranked responses are scored with the less competent responses receiving a score of one and the most competent responses receiving a four. In an initial validation of the MAHC, support was found for both convergent and discriminant validity (Grover et al., in press). Specifically, the MAHC was found to be significantly correlated with theoretically-related constructs, such as heterosexual anxiety, assessed through an inversely scored measure accounting for the positive direction of the relationship ($r = .15, p < .05$) and general social competence ($r = .63, p < .01$). The measure of general social competence, however, was not significantly correlated with heterosexual anxiety. Given that social competence and heterosocial competence differentially relate to heterosexual social anxiety, it appears that there may be something distinct about each of these two constructs. As discussed previously, these findings may suggest that the MAHC taps into

something unique that is more than just general social competence. The MAHC was not significantly correlated with theoretically-unrelated constructs such as socioeconomic status ($r = -.08$). A total score for the MAHC was computed by summing all of the items with total scores ranging from 40 to 160 with higher scores indicating more heterosocial competence. In the current study, scores on the MAHC ranged from 75 to 145 with a mean score equal to 115 and a standard deviation equal to 12.98. The MAHC demonstrated adequate internal consistency with $\alpha = .78$ (see Appendix C).

Peer Network

Students were given the Peer Relationships Questionnaire (PRQ; Connolly & Konarski, 1994) in order to assess the gender composition of their peer networks (e.g., primarily same-sex peers, mixed-sex peers, or opposite-sex peers; see Appendix A.4.). The PRQ has been used frequently within the developmental literature over the past several years to assess the composition of adolescents' peer networks (e.g., Connolly & Konarski, 1994; Furman & Wehner, 1997). The adolescents were asked to identify teenage peers whom they believe to constitute their peer group (i.e., "people who you like, to whom you feel close, and with whom you spend time"). The adolescents were told to identify these peers only by initials and gender, and not by using their full name in order to preserve the confidentiality of students not participating in the project. Peer networks were indexed with both a frequency count of the number of both same- and other-sex adolescents listed by each student (i.e., "people who you like, to whom you feel close, and with whom you spend time") and the proportion of opposite-sex friends comprising the total peer group. Frequency counts typically have been used in the past to

score the PRQ, however, an absolute number of opposite-sex friends may not capture the true gender composition of the peer network. As such, a proportion was computed in addition to the frequency count in order to determine the number of opposite-sex peers in relation to same-sex peers. In the present investigation, total number of opposite-sex friends in the peer group ranged from 0 to 15 with a mean equal to 4.17 and a standard deviation of 2.74. Proportions of opposite-sex friends ranged from 0 to 1.00 with a mean of .37 and a standard deviation of .18 (see Appendix C).

Dating History

The Dating History Questionnaire (DHQ; Furman, 1997) is a 20-item measure that assesses the nature of adolescents' current relationship status and dating history (see Appendix A.5.). The adolescent was asked to respond to questions regarding when he or she began dating activities, number of dating partners, and the way he or she would describe him or herself when in a dating relationship. The first five items of the questionnaire focus on close friendships with both same- and opposite-sex friends. This measure has been used in previous research to assess adolescents' previous dating experiences (Furman & Wehner, 1997). The items on this questionnaire are not scored to determine a total score, but rather are examined item by item to determine features of previous dating relationships. Of most interest in the present investigation were the series of questions which ask adolescents to indicate the grade in which they began specific dating activities (e.g., when they became interested in boys/girls, when they first had a crush on someone, spent time with boys/girls). In order to be included in the primary data analysis, this series of questions needed to be consolidated because they were too

numerous to be examined item by item. Therefore, in order to facilitate data analysis, reliability statistics were computed on the onset of dating questions by age ($\alpha = .86$) to determine if a composite score could be used. Considering the strong internal consistency of these items, they were combined into a mean score (i.e., a mean grade for the onset of dating activities was computed). This mean composite, along with the two questions regarding number of dating partners were used in all analyses involving dating history. Composite scores ranged from 3 to 12 with a mean of 8 and standard deviation of 1.29 (see Appendix C). In other words, the mean grade of the onset of dating activities is the 8th grade.

Relationship Quality

To assess the qualitative features of close relationships, the students were administered the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985; see Appendix A.6.). It is noted that opposite-sex relationships increase in quality as these peers take on a larger role in adolescents' peer groups. The quality of three relationships was assessed using this measure. The three relationships analyzed included the adolescent's best same-sex friendship, his or her best opposite-sex friendship, and a current or last romantic relationship. The participants were asked to rate 33-items on a 5-point scale intended to measure various relationship qualities (e.g., reliable alliance, intimacy, affection, relative power, conflict, enhancement of worth, instrumental help, satisfaction of relationship, companionship, and importance of relationship) in each of the adolescent's close relationships. The NRI is a widely used measure in assessing relationship quality among adolescents (see Creasy & Jarvis, 1989; DeRosier &

Kupersmidt, 1991; Furman & Wehner, 1997; Hughes, Cavell, & Grossman, 1997; Jackson & Frick, 1998). Factor analyses indicated two dimensions to relationship quality including social support and negative interaction (Adler & Furman, 1988). A score for each of these dimensions is computed by averaging the items included on each of the scales. Scores range from 1 to 5, with higher scores indicating a greater degree of quality (e.g., greater social support). A scale score was computed for each relationship rated. Each relationship quality score was entered separately into the analyses. Analysis of internal consistency has yielded satisfactory reliability for the 10 scales with mean alphas equal to .80 (Furman & Buhrmester, 1985). Furthermore, test-retest reliability has been supported over a 1-month period (r 's ranging from .66 to .70; Connolly & Konarski, 1994). Appendix C includes descriptive data on the 6 scales used in the present analyses. Specifically, social support (SS) and negative interaction (NI) scores were computed for three relationships: boyfriend/girlfriend (BG), opposite-sex friendship (OS), and same-sex friendship (SS). In the present study, internal consistency was adequate on all scales, ranging from .85 to .95. Again, please see Appendix C for full table of descriptive statistics.

Procedure

The data were collected in either two, one-hour sessions or one, two-hour session in participating classrooms during the Spring 2004 semester. High-school students were asked to complete a series of questionnaires. Participants were provided with manila folders to hold up at their desk in order to keep responses private. After completion of the questionnaires, all participants were provided with a debriefing sheet with several

local resources that they could contact if they experienced distress as a result of participating in the study (see Appendix B.3.). All data used in analyses were obtained from heterosexual participants. This allowed for inclusion of nearly all data in analyses since such a small percentage of the sample reported being homosexual or bisexual. All students, however, were allowed to complete questionnaires and were treated in exactly the same manner during the administration of the measures. Students were informed of the nature of the surveys prior to their administration. Moreover, participants were informed that they should feel free to omit any question they felt uncomfortable answering and that they may end participation at any time without risk of penalty. The Primary Investigator was responsible and present for all data collection with assistance from trained graduate and undergraduate research assistants.

CHAPTER 3:

RESULTS

Data analysis was conducted in three steps. First, the associations among all major variables of interest were examined utilizing correlation analyses. In interpretation, a specific focus was placed on the pattern of relationships between social anxiety and outcome variables, such as competence, relationship quality, and dating history. Next, significant differences between groups of adolescents varying in terms of anxiety level, age, and gender, were examined through a series of multivariate analyses of variance (MANOVAs). In these analyses, dependent variables were grouped into conceptually similar clusters. Finally, social anxiety was investigated in a more continuous manner through the use of a series of simple regressions with both social anxiety and interaction-terms, created by combining the independent variables, as predictors. Each of these sets of analyses will be discussed more thoroughly in turn.

Correlation Analyses

Pearson product-moment correlations were used to examine the relationships among all major variables of interest including peer variables (i.e., peer acceptance, composition of the peer network, heterosocial competence), relationship quality variables (i.e., quality of same-sex friendships, opposite-sex friendships, and romantic relationships), and dating variables (i.e., onset of dating activities, number of dating partners). Analyses were first conducted collapsed across age and gender. To better understand the impact of gender on this pattern of relationships, however, analyses were next run separately by sex, but collapsed across age. In turn, they were then run

collapsed across gender, but separated by age. In both age groups and across gender, correlational analyses were expected to yield a pattern of effects in which SAS-A scores were *negatively* correlated with scores on the MAHC, sociometric ratings, the social support subscale of the NRI, frequency and proportion scores on the PRQ, and the presence and frequency of dating activities as indicated on the DHQ. Furthermore, scores on the SAS-A were expected to be *positively* correlated with the negative interaction subscale of the NRI and the onset of dating activities as indicated on the DHQ. Differential patterns of correlations were seen across each set of correlations. The following will summarize these findings, highlighting differential effects of social anxiety across groups.

Several significant relationships emerged when analyses were collapsed across age and gender. Table 3.1 includes a complete matrix of correlation coefficients. As predicted, social anxiety was found to be significantly negatively correlated with the number of opposite-sex friends in the adolescent's peer group, but surprisingly not the number of same-sex friends. Furthermore, there was a very strong negative correlation between social anxiety and heterosocial competence. Social anxiety was also significantly correlated with various aspects of relationships quality. Specifically, it was significantly negatively correlated with the social support in same-sex and opposite-sex relationships, but not boyfriend/girlfriend relationships, and positively correlated with negative interactions in same-sex relationships. In terms of the dating variables, the greater the severity of social anxiety, the later the adolescent was found to begin dating

Table 3.1. Correlations Computed Across Gender and Age

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Social Anxiety	-												
2. Peer Acceptance	-.01	-											
3. Heterosocial Competence	-.21***	-.03	-										
4. Total Friends	-.02	.01	.06	-									
5. Total Other-Sex Friends	-.11*	.01	.14**	.75***	-								
6. Proportion of Other-Sex	-.10*	.02	.15**	.18***	.70***	-							
7. Total Same-Sex Friends	.06	.00	-.03	.82***	.24***	-.35***	-						
8. Social Support Romantic	-.09	.00	.07	.09	.10*	.10	.03	-					
9. Negative Interact. Romantic	-.10	-.02	-.05	-.08	.02	.07	-.12*	-.10	-				
10. Social Support Other-Sex	-.17**	.04	.20***	.19***	.31***	.28***	.02	.24***	.02	-			
11. Negative Interact. Other-Sex	.06	-.02	-.05	-.11*	-.04	.09	-.14**	.01	.22***	.00	-		
12. Social Support Same-Sex	-.14**	.09	.09	.20***	.16**	.03	.17**	.22***	-.06	.50***	-.04	-	
13. Negative Interact. Same-Sex	.12*	.04	-.14**	-.08	-.04	.03	-.09	.02	.19***	-.02	.51***	-.17**	-
14. Onset of Dating Activities	.16**	-.05	-.04	-.12	-.21***	-.19***	.01	-.26***	-.08	-.24***	-.11*	-.12*	-.03

Notes: *p<.05; **p<.01; ***p<.001

activities and the fewer dating partners the adolescent had in the past year. No relationship between social anxiety and peer acceptance emerged. Overall, social anxiety was significantly related to success in the same-sex peer group, the mixed-sex group, and dating activities.

Patterns of correlations looked somewhat different when examined separately by gender. Table 3.2 includes a complete matrix of correlation coefficients for boys and girls respectively. Overall, a greater number of significant findings were observed for girls. For example, for girls, the relationship between social anxiety and the composition of the peer group was maintained, showing with elevated social anxiety, the fewer opposite-sex friends girls reported. Again, consistent with the overall pattern of findings, a very strong negative relationship emerged between social anxiety and heterosocial competence. As expected, there were highly significant relationships between social anxiety and social support qualities of same- and opposite-sex friendships, however no relationships were found with negative interaction qualities in any relationships. The relationship between social anxiety and dating history dropped just below significance. In contrast, for boys, the relationship between social anxiety and the composition of the peer group (i.e., the number of opposite-sex friends) dropped to non-significance. Nevertheless, the relationship between social anxiety and heterosocial competence remained strong. In terms of relationship quality, social anxiety was significantly negatively correlated with social support in same-sex friendships, and significantly positively correlated with negative interaction in same-sex friendships (marking a

Table 3.2. Correlations Computed Separately by Gender

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Social Anxiety	-	-.07	-.17*	.11	.04	.06	.12	-.08	.14	-.11	.12	-.16*	.17*	.18*
2. Peer Acceptance	.02	-	-.02	.01	.04	.08	-.03	.11	-.12	.12	-.13	.18*	-.09	-.10
3. Heterosocial Competence	-.31***	-.05	-	-.09	.04	.13	-.18*	.00	.00	.05	.02	.00	.00	.03
4. Total Friends	-.15*	.01	.15*	-	.73***	.12	.81***	.10	.01	.07	-.07	.19*	-.02	-.18*
5. Total Other-Sex Friends	-.25***	-.02	.19**	.76***	-	.68***	.20**	.06	.18*	.19*	.09	.11	.07	-.23**
6. Proportion of Other-Sex	-.24***	-.04	.15*	.23***	.74***	-	-.41***	.10	.25**	.24**	.22**	-.03	.11	-.15*
7. Total Same-Sex Friends	-.01	.02	.06	.82***	.24***	-.30	-	.09	-.15	-.05	-.18*	.18*	-.09	-.06
8. Social Support Romantic	-.11	-.10	.10	.06	.12	.10	-.04	-	.02	.34***	.09	.39***	.16*	-.31***
9. Negative Interact. Romantic	.08	-.05	-.06	-.12	-.07	-.07	-.09	-.17**	-	.03	.29***	.01	.21**	-.09
10. Social Support Other-Sex	-.22**	-.02	.31***	.25***	.38***	.31***	.06	.16*	.01	-	.09	.50***	.16*	-.24**
11. Negative Interact. Other-Sex	.02	.07	-.08	-.12	-.11	-.03	-.09	-.04	.18**	-.07	-	-.04	.62***	-.11
12. Social Support Same-Sex	-.22**	-.01	.08	.15*	.14*	.07	.11	.07	-.10	.53***	-.01	-	-.07	-.22**
13. Negative Interact. Same-Sex	.12	.13*	-.22**	-.09	-.09	-.03	-.07	-.07	.17**	-.15*	.42***	-.21**	-	-.08
14. Onset of Dating Activities	.12	-.01	-.12	-.10	-.22***	-.23***	.05	-.23**	-.06	-.25***	-.11	-.10	.02	-

Notes: *p<.05; **p<.01; ***p<.001; Males (N=196) above diagonal, Females (N=261) below diagonal

deviation in the pattern of findings seen within girls alone). In terms of the dating variables, the pattern remained the same in that with more social anxiety, the later boys were found to begin dating activities. Again, no relationship between social anxiety and peer acceptance was observed for either boys or girls. For girls, social anxiety appears to be affecting their relationships with both same – and other-sex peers, whereas for boys, the greatest impact seems to be with their same-sex associations. Nonetheless, for both males and females, social anxiety significantly affected the onset of dating activities.

In order to better understand the effects of age on this pattern of relationships, analyses were next conducted separately by grade level, with younger adolescents delineated by those who were enrolled in the 9th and 10th grades, and older adolescents as those in the 11th and 12th grades. Table 3.3 includes a complete matrix of correlation coefficients computed separately by age group. Differences did emerge in the pattern of findings observed for younger adolescents versus older adolescents with a greater number of significant relationships observed between social anxiety and the composition and quality of the opposite-sex peer group and romantic relationships for older teens. Specifically, for younger adolescents there was no relationship between social anxiety and the composition of the peer group whereas with older adolescents the greater degree of social anxiety, the fewer opposite-sex friends reported. In terms of relationship quality, for the younger age group, a significant negative correlation emerged between social anxiety and negative interactions in same-sex relationships, and a significant positive relationship between social anxiety and social support opposite-sex relationships was found. For older teens, a negative relationship between social anxiety and

Table 3.3. Correlations Computed Separately by Grade Level

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Social Anxiety	-	-.09	-.25**	-.11	-.17*	-.14	-.01	-.12	.16*	-.14	.02	-.24**	.11	.12
2. Peer Acceptance	.03	-	.04	-.02	.04	-.01	-.02	.00	-.04	.18*	.08	.13	.10	-.17*
3. Heterosocial Competence	-.19**	-.07	-	.04	.13	.15	-.05	.01	-.02	.18*	-.01	.10	-.19*	-.04
4. Total Friends	.03	.03	.08	-	.76***	.19*	.85***	.08	-.15	.29***	-.03	.23**	-.01	-.21**
5. Total Other-Sex Friends	-.07	.03	.15*	.75***	-	.70***	.30***	.14	-.03	.38***	.01	.27***	-.02	-.31***
6. Proportion of Other-Sex	-.08	.04	.14*	.18**	.71***	-	-.31***	.15	.04	.24**	.06	.14	-.01	-.25**
7. Total Same-Sex Friends	.11	.02	-.02	.80***	.19**	-.38***	-	-.02	-.16*	.18*	-.06	.15	.00	-.05
8. Social Support Romantic	-.06	-.01	.11	.09	.08	.07	.07	-	-.07	.23**	-.03	.26**	-.06	-.40***
9. Negative Interact. Romantic	.05	.00	-.07	-.02	.05	.10	-.08	-.12	-	.03	.24**	-.14	.16*	-.10
10. Social Support Other-Sex	-.19**	-.06	.22**	.10	.27***	.30***	-.10	.26***	.01	-	.15	.59***	.06	-.27**
11. Negative Interact. Other-Sex	.08	-.09	-.07	-.16*	-.06	.11	-.19**	.06	.23**	-.10	-	.05	.50***	-.12
12. Social Support Same-Sex	-.09	.07	.07	.17*	.09	-.04	.18**	.19**	.00	.43***	-.09	-	-.08	-.20*
13. Negative Interact. Same-Sex	.14*	.00	-.11	-.12	-.05	.06	-.14*	.10	.22**	-.08	.50***	-.22**	-	.00
14. Onset of Dating Activities	.18**	.03	-.03	-.06	-.16*	-.16*	.05	-.17*	-.06	-.22**	-.07	-.08	-.01	-

Notes: *p<.05; **p<.01; ***p<.001; Older adolescents (N=189) above diagonal, Younger adolescents (N=267) below diagonal

social support in same-sex friendships was significant, but a positive relationship between social anxiety and negative interaction in a romantic relationship also emerged. It seems that romantic relationships are most affected by social anxiety during the later adolescent years. For both age groups, however, the strong relationship between social anxiety and heterosocial competence remained consistent. In terms of dating, elevated social anxiety was associated with later onset of dating activities for younger teens, whereas social anxiety did not have an impact on dating for older adolescents. No relationship with peer acceptance was present for either age group.

Multivariate Analyses of Variance

The data were next analyzed using a series of 2 x 2 x 2 multivariate analyses of variance (MANOVAs) with social anxiety, gender, and grade designated as fixed factors. Social anxiety was divided into groups of high and low anxiety based on norms developed by LaGreca (1998), with a SAS-A score greater than 50 representing the highly anxious group and a SAS-A score below 36 delineating those with low anxiety. Several alternatives for dividing social anxiety were explored, including dividing groups based on standard deviations from the mean (see Appendix C for results of data analyzed in this manner). Using LaGreca's norms appeared to be the most psychometrically sound way to approach the data because it was consistent with previous work (LaGreca & Lopez, 1998), and also allowed for the inclusion of the greatest number of participants in the analyses.¹

¹ Dividing social anxiety into a three-level variable was also considered (see Appendix C for results of data analyzed in this manner). Descriptive statistics, however, revealed no significant differences between any of the major outcome variables for individuals with low anxiety versus those with moderate levels of anxiety (see Figures C.1. – C.5. in Appendix C). Accordingly, the most parsimonious solution was selected as the data analytic strategy.

Grade was split, again, with 9th and 10th graders representing the younger age group and 11th and 12th as the older age group.

Outcome variables were grouped into three clusters based on their conceptual similarities. Accordingly, a series of three MANOVA's were run. The first MANOVA examined differences among the groups in terms of the peer relationship/social competence variables including composition of the peer group (i.e., proportion of opposite-sex friends in the peer group, total number of friends in the peer group, total number of opposite-sex friends in the peer group, and total number of same-sex friends), sociometric acceptance, and heterosocial competence. The second MANOVA examined significant differences in relationship quality across groups. Relationship quality was measured in terms of social support and negative interaction in romantic relationships, opposite-sex friendships, and same-sex friendships. Finally, the third MANOVA examined differences among groups based on dating variables including onset of dating activities, dating partners within the past year, and overall number of dating partners.

MANOVAs were expected to yield a significant three-way interaction among age, social anxiety, and gender, significant two-way interactions between age and social anxiety, gender and age, and gender and social anxiety, and significant main effects for age, social anxiety, and gender. In terms of interactions effects, patterns of results were expected to reflect significant differences among all groups with older females with low levels of social anxiety reporting highest scores on the competence variables (peer acceptance, MAHC), a more gender diverse peer group as reported on the PRQ, higher quality of same and other-sex friends and as indicated by higher scores on the social

support subscale of the NRI and lower scores on the negative interaction subscale of the NRI, earlier onset of dating activities as indicated by responses on the DHQ, and higher quality of romantic relationships as indicated by higher scores on the social support subscale of the NRI and lower scores on the negative interaction subscale of the NRI. In turn, younger males with high levels of social anxiety were expected to demonstrate an opposite pattern of effects. They were expected to demonstrate lowest scores on the competence measures, a more gender homogenous peer group, lower quality same- and other-sex friends, and the absence or delayed onset of dating relationships, and, if present, lower quality romantic relationships.

In terms of main effects, within age groups, the highly socially anxious groups were hypothesized to be significantly different from low socially anxious groups in that they would have lower ratings of peer acceptance, lower scores on the MAHC, a smaller and less gender diverse peer group as measured by the PRQ, lower quality same-sex and other-sex friends as indicated by lower scores on the social support subscale of the NRI and higher scores on the negative interaction subscale of the NRI, the absence or delayed onset of dating relationships as indicated by reporting on the DHS, and lower quality romantic relationships as indicated by lower scores on the social support subscale of the NRI and higher scores on the negative interaction subscale of the NRI. Across age groups, normatively, it was expected that both groups of younger adolescents would be significantly different from both groups of older adolescents. In particular, younger adolescents were predicted to have lower MAHC scores, a more gender homogenous peer group as indicated by frequency and proportion scores on the PRQ, no history of or

fewer dating relationships as indicated by the DHQ, and lower scores on the social support subscale of the NRI and higher scores on the negative interaction subscale of the NRI for other-sex relationships and romantic dyads. In terms of gender, females were expected to have a more diverse peer group, as indicated by a greater proportion of opposite-sex peers on the PRQ, and a more extensive history with dating relationships than males at each time-point, as evidenced by responses on the DHQ. These differences, however, were expected to be most pronounced within the group of younger adolescents.

MANOVA #1: Peer Relationship/Social Competence Variables

The first MANOVA resulted in the inclusion of 115 males and 142 females, 162 younger adolescents and 95 older adolescents, and 148 teens with low anxiety and 109 teens with high anxiety in the analysis. Again, dependent variables included in this analysis were composition of the peer group, sociometric acceptance, and heterosocial competence. See Table 3.4 for summary of results. As expected, significant main effects for both social anxiety ($p < .001$) and gender ($p < .05$) emerged. For social anxiety, tests of between-subjects effects specifically revealed differences between highly anxious teens and those with lower levels of anxiety in heterosocial competence (High anxious $M = 111$; Low anxious $M = 117$) ($p < .001$) and total number of opposite-sex friends within the peer group (High anxious $M = 3.6$; Low anxious $M = 4.5$) ($p = .01$). In terms of gender, a significant difference was found for heterosocial competence ($p < .01$) with girls demonstrating significantly greater levels of competence (Girls $M = 117$; Males $M =$

Table 3.4. MANOVA #1: Peer Relationship/Social Competence Variables

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	2.45*
	Heterosocial Competence	7.23**
Grade	Overall Effect	.14
Social Anxiety	Overall Effect	4.51***
	Heterosocial Competence	19.21***
	Number of Opposite-Sex Friends	6.43*
Grade x Gender	Overall Effect	1.39
Gender x Social Anxiety	Overall Effect	1.76
Grade x Social Anxiety	Overall Effect	1.00
Gender x Grade x Social Anxiety	Overall Effect	.93

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

113). Surprisingly, however, no main effect for grade was found. Furthermore, no interactions among the fixed factors were observed.

MANOVA #2: Relationship Quality Variables

The second MANOVA again resulted in the inclusion of 115 males and 142 females, 162 younger adolescents and 95 older adolescents, and 148 teens with low anxiety and 109 teens with high anxiety in the analysis. Positive and negative aspects of relationship quality for same- and opposite-sex relationships, as well as romantic relationships, were included in this analysis. Those participants not rating a particular relationship were excluded from analyses. See Table 3.5 for summary of results. As expected, and similar to the findings from the first MANOVA, significant main effects for both social anxiety ($p < .001$) and gender ($p < .01$) emerged. For social anxiety, tests of between-subjects effects specifically revealed differences between highly anxious teens and those with lower levels of anxiety in negative interaction in romantic relationships (High anxious $M = 12.0$; Low anxious $M = 10.6$) ($p < .01$), social support (High anxious $M = 77.2$; Low anxious $M = 81.4$) ($p < .01$) and negative interaction (High anxious $M = 11.7$; Low anxious $M = 10.5$) ($p = .01$) in same-sex friendships, and social support in opposite-sex friendships (High anxious $M = 63.6$; Low anxious $M = 71.9$) ($p = .01$). Across these significant findings, elevated social anxiety implied less social support and more negative interactions in important relationships.

In terms of gender, significant differences between groups emerged for social support in romantic relationships (Males $M = 74.4$; Females $M = 77.6$) ($p < .05$), and social support (Males $M = 74.5$; Females $M = 84.4$) ($p = .001$) and negative interaction

Table 3.5. MANOVA #2: Relationship Quality Variables

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	5.12***
	Social Support in Romantic Relationships	5.50*
	Social Support in Same-Sex Relationships	11.93**
	Neg. Interact. in Same-Sex Relationships	6.16*
Grade	Overall Effect	1.91
	Neg. Interact. In Same-Sex Relationships	5.18*
	Neg. Interact. In Opposite-Sex Relationships	3.94*
Social Anxiety	Overall Effect	3.30**
	Neg. Interact. in Romantic Relationships	7.36**
	Social Support in Same-Sex Relationships	8.16**
	Neg. Interact. in Same-Sex Relationships	6.40*
	Social Support in Opposite-Sex Relationships	6.42*
Grade x Gender	Overall Effect	1.12
Gender x Social Anxiety	Overall Effect	.51
Grade x Social Anxiety	Overall Effect	1.71
Gender x Grade x Social Anxiety	Overall Effect	.55

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

(Males $M = 11.4$; Females $M = 10.5$) ($p = .01$) in same-sex friendships, with girls demonstrating significantly more social support and boys exhibiting significantly more negative interaction in their relationships. Although not reaching statistical significance, the effect for grade approached significance ($p = .08$) and statistically significant between-subjects effects were found for negative interaction in same- (Males $M = 11.4$; Females $M = 10.0$) and opposite-sex friendships (Males $M = 10.8$; Females $M = 9.5$) ($p < .05$), again with boys demonstrating a greater degree of negative interaction in each relationship. No interactions among the fixed factors emerged as significant.

MANOVA #3: Dating Variables

The final MANOVA resulted in the inclusion of 95 males and 122 females, 130 younger adolescents and 87 older adolescents, and 128 teens with low anxiety and 89 teens with high anxiety in the analysis. Adolescents not reporting dating activity were excluded from these analyses. Age of onset of dating activities, number of partners over the past year, and number of overall dating partners were included as dependent variables. Onset of dating activities was measured using a series of questions regarding varied dating behaviors (see Appendix A.5.). Reliability analysis revealed strong internal consistency for this cluster of questions ($\alpha = .86$). It was therefore decided to create a composite mean for inclusion in the MANOVA. The only finding that emerged as significant for this analysis was a main effect for grade ($p < .01$) with older students reporting a significantly later start to dating activities (Older $M = 8.3$; Younger $M = 7.9$). Otherwise no effects or interactions emerged as significant for this analysis. See Table 3.6 for summary of probability results.

Table 3.6. MANOVA #3: Dating Variables

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	.67
Grade	Overall Effect	3.97**
	Onset of Dating Activities	9.03**
Social Anxiety	Overall Effect	1.48
Grade x Gender	Overall Effect	1.77
Gender x Social Anxiety	Overall Effect	.86
Grade x Social Anxiety	Overall Effect	.26
Grade x Gender x Social Anxiety	Overall Effect	.89

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Regression Analyses

As a final step in the data analytic strategy, a series of simple regressions was conducted in an effort to examine the data, specifically social anxiety, in a more continuous manner. Two sets of regression analyses were run. In the first set, social anxiety remained the single predictor in all equations and was investigated in terms of its predictive value across each major outcome variable. Similar to correlation analyses, these initial regressions were first run collapsed across gender and grade, but were next analyzed separately by both to tease apart any differential effects of age or sex. The second set of regressions examined potential interaction effects using interaction terms. Three such terms were created: social anxiety x grade, social anxiety x gender, and social anxiety x grade x gender. Interaction terms served as the predictor in all equations and, again, were examined in terms of their predictive value across all major outcome variables. These latter regressions were run collapsed across groups. Regression analyses were expected to show a significant model of effects in which SAS-A scores significantly predicted scores on the MAHC, gender composition of the peer group, dating history, and scores on the NRI. It was expected that this model would hold when data were analyzed separately by age and gender. Moreover, interactions among social anxiety, gender, and grade were expected to significantly predict all major variables of interest. The discussion will now turn to discuss the specific results of these analyses.

Simple Regressions with Social Anxiety as a Predictor

As noted, regressions were first run collapsed across gender and grade. See Table 3.7 for a complete summary of regression findings. Results demonstrated elevated social

Table 3.7. Results of Simple Regressions with Social Anxiety as the Predictor

Dependent Variable	β	F
Peer Acceptance	-.01	.08
Heterosocial Competence	-.21	17.61***
Total Number of Friends	-.02	.18
Total Number of Same-Sex Friends	.06	1.67
Total Number of Opposite-Sex Friends	-.11	4.82*
Proportion Opposite-Sex Friends	-.10	4.44*
Romantic Social Support	-.07	2.76
Romantic Negative Interaction	.10	3.77
Opposite-Sex Social Support	-.17	11.18**
Opposite-Sex Negative Interaction	.06	1.27
Same-Sex Social Support	-.14	8.21**
Same-Sex Negative Interaction	.12	6.43*
Onset of Dating Activities	.16	10.68**
Number of Partners (12 months)	-.13	6.71*
Number of Partners (Total)	-.06	1.35

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

anxiety to significantly predict: decreased total number of opposite-sex friends in the peer group ($F = 4.83, p < .05$), lower proportion of opposite-sex friends in the peer group ($F = 4.44, p < .05$), increased negative interaction in romantic relationships ($F = 3.77, p = .05$), decreased social support ($F = 8.21, p < .01$) and higher levels of negative interaction ($F = 6.42, p = .01$) in same-sex friendships, lower levels of social support in opposite-sex friendships ($F = 11.18, p = .001$), later onset of dating activities ($F = 10.68, p = .001$), fewer total number of dating partners in the past month ($F = 6.71, p = .01$), and lower heterosocial competence ($F = 17.60, p < .001$).

Next, data were analyzed separately by gender. The pattern of findings showed some significant differences between sexes. See Table 3.8 for a complete summary of regression findings computed separately by gender. Overall, social anxiety was more predictive of outcome for females. For example, for boys, social anxiety did not significantly predict total number of opposite-sex friends in the peer group ($F = .31, p = .58$) while remaining a quite strong predictor for girls' number of opposite-sex friends ($F = 15.88, p < .001$). This same pattern occurred for proportion of opposite-sex friends in the peer network (males: $F = .68, p = .41$; females: $F = 15.33, p < .001$) and social support in opposite-sex relationships (males: $F = 1.76, p = .17$; females: $F = 10.85, p = .001$). Although not dropping below significance, social anxiety predicted heterosocial competence to lesser degree for boys ($F = 4.45, p < .05$) than for girls ($F = 23.67, p < .001$). The opposite pattern occurred in which social anxiety dropped below significance for females and became more predictive for males in just one instance. Specifically, whereas higher levels of social anxiety was no longer a significant predictor of increased negative

Table 3.8. Results of Simple Regressions with Social Anxiety as the Predictor Analyzed Separately By Gender

Dependent Variable	Males		Females	
	β	F	β	F
Peer Acceptance	-.07	.89	.02	.11
Heterosocial Competence	-.17	4.45	-.31	23.67***
Total Number of Friends	.11	2.15	-.15	5.97*
Total Number of Same-Sex Friends	.12	2.59	-.01	.03
Total Number of Opposite-Sex Friends	.04	.31	-.25	15.87***
Proportion Opposite-Sex Friends	.06	.68	-.24	15.33***
Romantic Social Support	-.08	1.02	-.12	2.81
Romantic Negative Interaction	.14	3.16	.08	1.59
Opposite-Sex Social Support	-.11	1.76	-.22	10.85**
Opposite-Sex Negative Interaction	.12	2.76	.02	.12
Same-Sex Social Support	-.16	4.46*	-.22	12.05**
Same-Sex Negative Interaction	.17	5.48*	.12	3.43
Onset of Dating Activities	.18	6.40*	.12	3.35
Number of Partners (12 months)	-.11	1.92	-.16	5.62*
Number of Partners (Total)	-.09	1.41	-.02	.06

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

interaction in females' same-sex friendships ($F = 3.43, p = .07$), it remained a significant predictor for males ($F = 5.48, p < .05$).

Finally, regressions were run separately by grade level, with grade split into younger and older groups of adolescents in the same manner as was done for conducting the MANOVAs. See Table 3.9 for a complete summary of regression findings computed separately by grade level. As was seen when the data were split by gender, a differential pattern of findings emerged when data were analyzed separately by grade level. As predicted, social anxiety tended to be a stronger and more significant predictor of outcome for older adolescents. For example, heightened social anxiety remained a significant predictor of fewer total number of opposite-sex friendships only for the older group of teens ($F = 5.04, p < .05$), but dropped below significance for younger adolescents ($F = 1.24, p = .27$). Furthermore elevated social anxiety significantly predicted increased negative interaction in romantic relationships ($F = 4.17, p < .05$) and decreased social support in same-sex friendships ($F = 9.87, p < .01$), only for older adolescents. In contrast, and somewhat surprisingly, social anxiety significantly predicted only negative interaction in same-sex friendships ($F = 4.63, p < .05$) and social support in opposite-sex friendships ($F = 8.43, p < .01$) for younger teens. All other patterns remained consistent across age group.

Simple Regressions with Interaction-Terms as Predictors

Determining whether any significant interaction relationships exist among social anxiety, grade level, and gender was central to the present investigation. Although these relationships were investigated through the use of MANOVAs, regressions were also

Table 3.9. Results of Simple Regressions with Social Anxiety as the Predictor Analyzed Separately By Grade

Dependent Variable	9 th and 10 th Grades		11 th and 12 th Grades	
	β	F	β	F
Peer Acceptance	.03	.17	-.09	1.37
Heterosocial Competence	-.19	8.16**	-.25	10.29**
Total Number of Friends	.03	.61	-.11	1.92
Total Number of Same-Sex Friends	.11	2.95	-.01	.02
Total Number of Opposite-Sex Friends	-.07	1.23	-.17	5.04*
Proportion Opposite-Sex Friends	-.08	1.67	-.14	3.34
Romantic Social Support	-.06	.85	-.12	2.42
Romantic Negative Interaction	.06	.70	.16	4.17*
Opposite-Sex Social Support	-.19	8.43**	-.14	2.91
Opposite-Sex Negative Interaction	.08	1.45	.02	.04
Same-Sex Social Support	-.09	1.65	-.24	9.87**
Same-Sex Negative Interaction	.14	4.63*	.11	2.00
Onset of Dating Activities	.18	8.58**	.11	2.41
Number of Partners (12 months)	-.12	3.64	-.14	3.35
Number of Partners (Total)	-.11	2.61	.01	.00

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

utilized in an effort to again investigate social anxiety in a more continuous manner.

Accordingly, three interaction terms were created: social anxiety x grade, social anxiety x gender, and social anxiety x grade x gender. Each of the variables was centered through the calculation of a deviation score (Holmbeck, 1997). Next the variables were multiplied to create each of the interaction terms respectively. Each interaction term was examined in terms of its predictive value across all major outcome variables included in the present study. Given the design of the analyses, these statistics were calculated across the entire data set and not separately by group.

As was indicated with MANOVA findings, interactions among the independent variables were for the most part non-significant. There were, however, a few significant findings from the regression analyses that should be noted. See Tables 3.10, 3.11, and 3.12 for complete summaries of regression findings. Of most importance was the interaction of social anxiety and gender. This interaction predicted age of first intercourse ($F = 4.51, p < .05$), total number of friends in the peer group ($F = 7.85, p < .01$), total number of opposite-sex friends in the peer group ($F = 9.77, p < .01$), and proportion of opposite-sex friends in the peer group ($F = 9.62, p < .01$). Specifically, females with higher levels of anxiety had fewer peers overall. The interaction of social anxiety, grade level, and gender significantly predicted length of current dating relationship ($F = 4.32, p < .05$). Otherwise, no other interactions emerged as significant across any of the dependents.

Table 3.10. Results of Simple Regressions with Social Anxiety x Grade as the Predictor

Dependent Variable	β	F
Peer Acceptance	-.05	1.23
Heterosocial Competence	.04	-.01
Total Number of Friends	-.06	1.78
Total Number of Same-Sex Friends	-.06	1.68
Total Number of Opposite-Sex Friends	-.03	.47
Proportion Opposite-Sex Friends	-.01	.05
Romantic Social Support	-.03	.35
Romantic Negative Interaction	.05	1.02
Opposite-Sex Social Support	.04	.63
Opposite-Sex Negative Interaction	-.04	.53
Same-Sex Social Support	-.07	1.66
Same-Sex Negative Interaction	-.03	.33
Onset of Dating Activities	-.04	.70
Number of Partners (12 months)	.04	.49
Number of Partners (Total)	.06	1.16

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.11. Results of Simple Regressions with Social Anxiety x Gender as the Predictor

Dependent Variable	β	F
Peer Acceptance	.04	.81
Heterosocial Competence	-.06	1.58
Total Number of Friends	-.13	7.85**
Total Number of Same-Sex Friends	-.07	1.94
Total Number of Opposite-Sex Friends	-.15	9.77**
Proportion Opposite-Sex Friends	-.15	9.62**
Romantic Social Support	-.02	.17
Romantic Negative Interaction	-.02	.11
Opposite-Sex Social Support	-.06	1.57
Opposite-Sex Negative Interaction	-.05	.97
Same-Sex Social Support	-.04	.70
Same-Sex Negative Interaction	-.02	.15
Onset of Dating Activities	-.05	1.02
Number of Partners (12 months)	.00	.00
Number of Partners (Total)	.04	.72

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.12. Results of Simple Regressions with Social Anxiety x Grade x Gender as the Predictor

Dependent Variable	β	F
Peer Acceptance	.01	.02
Heterosocial Competence	.05	1.10
Total Number of Friends	-.06	1.40
Total Number of Same-Sex Friends	-.08	3.03
Total Number of Opposite-Sex Friends	.00	.00
Proportion Opposite-Sex Friends	.04	.62
Romantic Social Support	-.04	.61
Romantic Negative Interaction	.07	2.12
Opposite-Sex Social Support	.02	.14
Opposite-Sex Negative Interaction	-.01	.08
Same-Sex Social Support	-.06	1.58
Same-Sex Negative Interaction	.05	1.09
Onset of Dating Activities	-.03	.27
Number of Partners (12 months)	.01	.01
Number of Partners (Total)	-.04	.59

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

CHAPTER 4:

DISCUSSION

The present study sought to investigate the ways in which social anxiety impedes the development of romantic relationships across adolescence. Previous research has demonstrated a natural progression for romantic associations during adolescence in which teens transition from same- to mixed-sex peer groups, and finally to dyadic relationships with romantic partners (Connolly et al., 2000; Dunphy, 1963). This developmental progression was the basis for the present investigation. As such, social anxiety was examined in terms of how it impacted affiliations at the levels of the same- and mixed-sex peer groups, as well as the formation of romantic relationships. Higher levels of social anxiety were expected to be associated with impairment at each of these three stages. With the proposed developmental progression, the effects of anxiety were theorized to be most pronounced within the older cohort of adolescents. In addition, gender was expected to affect the pattern of results. Social anxiety is more prevalent among females (LaGreca, 1998; LaGreca & Lopez, 1998), who are also thought to progress along the proposed developmental trajectory more quickly than their male counterparts (Steinberg, 1999). Therefore, social anxiety was expected to impact the females to a greater degree at each of the three levels.

Overall, despite some discrepant findings, the results supported the hypotheses. Social anxiety was associated with problems in the same-sex peer group, the mixed-sex clique, and, for older adolescents, romantic relationships. As expected, social anxiety affected females the most at each level. For ease of discussion, the results will be

summarized at the level of the regression analyses because these allow for an examination of anxiety as a continuous variable. The proposed developmental model will serve as the organizing framework for this discussion.

The Same-Sex Peer Group

In the proposed model, social anxiety was expected to exert its influence first on the same-sex peer group. More specifically, social anxiety was hypothesized to lessen both the quality and quantity of same-sex relationships. The results, however, showed mixed support for this hypothesis in that increased anxiety appeared to impair relationship quality, but bore no association with relationship quantity. Regarding quality, adolescents reporting higher levels of social anxiety also described less social support and a higher degree of negative interaction in their same-sex relationships. It appears that socially-anxious youth tend to have same-sex relationships with lower levels of positive qualities, such as intimacy, reliable alliance, companionship, nurturance, and affection, and higher levels of negative features, such as conflict and antagonism. Considering the prominent role that the same-sex peer group plays in social development at this stage, these findings are particularly concerning.

The association between social anxiety and same-sex relationship quality is consistent with the extant literature. For example, LaGreca and Lopez (1998) examined the relationship between social anxiety and peer relationships using a sample of 10th through 12th graders. These authors found that, at least for girls, elevated levels of social anxiety were associated with decreased intimacy, companionship, and support in close friendships. Similarly, Vernberg et al. (1992) found social anxiety to be predictive of

lower levels of intimacy and companionship in new friendship experiences of young adolescents. Moreover, social anxiety in the Davila and Beck (2002) investigation was associated with several features of close interpersonal relationships, including decreased assertiveness, conflict avoidance, less emotional expressivity, and increased interpersonal dependency. Other studies have yielded similar results with respect to the detrimental impact of social anxiety on relationship quality (e.g., Beidel, Turner, & Dancu, 1985; Goodyer, Wright, & Altham, 1989; Schneier, Heckelman, Garfinkel, & Campeas, 1994; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992). This kind of impairment in the same-sex peer group was in line with the proposed model, and may mark the initial deviation from normative social development for socially-anxious teens. The normative literature suggests that the same-sex peer network is a place where teens can develop values, a sense of identity, and the social skills necessary for success in other peer contexts (Furman, 1999). Without these provisions, socially-anxious adolescents may have difficulty in subsequent stages of development.

No relationship was found between social anxiety and the number of same-sex peer relationships. Consistent with the model and previous research, teens with higher social anxiety were expected to have fewer relationships. Indeed, in one of the few directly related investigations, LaGreca and Lopez (1998) discovered that adolescents with increased social anxiety reported having fewer overall friendships. A possible explanation for the discrepancy in findings in the present study may lie in assessment methods and varied dimensions of adolescent peer relationships. Specifically, in the LaGreca and Lopez (1998) study, youth were asked to name their “very best friends.” In

contrast, participants in the present study were simply asked to list *all* possible individuals in their peer group. It should be noted that when quality was assessed in the present investigation, the way in which friendship was operationalized was much more in line with the LaGreca and Lopez approach. Specifically, in both studies adolescents were asked to choose a specific friendship to rate. When quantity was assessed, LaGreca and Lopez continued to measure friendships, whereas the present study examined the composition of the peer network.

Thus, with respect to relationship quantity, the results of the two studies are hard to compare because one is examining friendships and the other broader peer networks. The dyads identified in the LaGreca and Lopez study met the criteria for friendship. As reviewed earlier, friendships are close, mutual dyadic relationships with peers. It is interesting to note, however, that varied types of relationships appear to exist under the general rubric of the “friendship” construct. For example, even preadolescent children are capable of differentiating between “good” and “best” friends in ways predictive of important outcome variables (Nangle et al., 2003). Furthermore, definitions requiring reciprocal nominations tend to identify fewer friendships than those allowing for unilateral choices (Erdley et al., 1998). Examining the definition used by LaGreca and Lopez (1998) more closely, it appears that these authors were more stringent in asking for “very best friends,” yet less so in not requiring reciprocal nominations. The mutuality implied in reciprocal friendship choices is considered to be the most important qualitative feature (Bukowski & Hoza, 1989).

The literature has clearly identified friendships and peer networks as two distinctive entities. For example, Urberg and colleagues (1995) sampled a group of 6th through 12th graders to evaluate the structure of adolescent peer networks. These researchers found that when teens described their peer networks, they included individuals who were not considered friends. Moreover, they also described the existence of friendships that were not included in the peer network. Other research has demonstrated that peer networks help to foster interpersonal interaction that aids in the development of interpersonal competency (Kuttler & LaGreca, 2004). It could be that because the same-sex network marks the starting point in the model, interpersonal deficits are likely only beginning at this level, and show more marked effects during subsequent stages. Overall, this research points to the peer network as a unique and important dimension of adolescent peer relationships. As such, it seems to make sense that more consistent findings were observed with the quality findings, when both studies were similarly examining friendship dyads.

The Mixed-Sex Peer Group

As set forth in the developmental model, continuity was expected such that social anxiety would impact the mixed-sex peer group much like it did the same-sex peer group. That is, increased social anxiety was hypothesized to lessen the quality and quantity of opposite-sex relationships in the peer group. Overall, strong support for this hypothesis was found. Specifically, increased social anxiety predicted lower quality opposite-sex friendships, but only in terms of social support. Furthermore, adolescents with higher

anxiety tended to have fewer and lower proportions of other-sex teens in their peer groups.

As with the same-sex peer group, socially-anxious youth tended to experience other-sex relationships that were lower in positive qualities, such as intimacy, reliable alliance, companionship, nurturance, and affection. Particularly important among these is the lessened intimacy, as Sullivan (1953) identified this quality as one of the most important features of adolescent friendships. Implicit in his work is the idea that intimacy in close same-sex friendships may serve as a “building block” upon which more mature relationships, such as romantic affiliations, are built. This notion seems to be supported in the present study. Perhaps the lessened intimacy in same-sex relationships experienced by socially-anxious teens contributed to their garnering less intimacy from their other-sex peers.

According to Collins et al. (1997), the ability to engage in intimate relationships is contingent on experiences during previous developmental periods. Although these authors discuss many early developmental experiences (e.g., attachment to a primary caregiver), their theory can be applied in the present investigation at the level of the same- and mixed-sex peer groups. It is possible that interaction with same-sex peers aids in the emergence of mixed-sex groups. Collins et al.’s assertions echo the contentions of Furman and Wehner (1997) who describe a “working model” theory of social development. These authors note that adolescents’ relationship experiences are influenced by their previous bonds (with both family and friends). In much the same way, same-sex peers may be influencing the quality of relationships with the other-sex.

Indeed, Furman and Wehner's hypotheses are consistent with the findings of Connolly et al. (2000) who determined that relationship qualities in early adolescence bear influence on later associations. Although these authors focused more specifically on the links between quality of same-sex friendships and romantic relationships, the premise remains the same. The present investigation adds to this body of literature by suggesting significant ties between the qualities in same-sex and other-sex peer relationships.

The failure of the quality findings to extend to the negative interaction dimension was somewhat surprising. One possible explanation for this finding stems from the fact that opposite-sex friendships are new and different experiences for adolescents (Sippola, 1999). As the peer group extends to include other-sex teens, adolescents tend to rate their same-sex associates as being closer and more important in terms of serving intimacy needs and support (Berndt, 1982; Bukowski et al., 1993; Lempers & Clark-Lempers, 1993). Interestingly, same-sex friends are not only rated higher on measures of intimacy and nurturance, but also in terms of conflict as well (Lempers & Clark-Lempers, 1993). Significantly less overall conflict exists within opposite-sex friendships (Lempers & Clark-Lempers, 1993). It seems negative interaction and conflict may imply a certain intimacy within a relationship. Perhaps, at this stage, opposite-sex relationships have not become intimate enough for there to be high degrees of negative interaction. Accordingly, a relationship between social anxiety and this quality in opposite-sex friendships would not be observed. Again, it should be noted that it is appropriate to discuss these relationships at the level of friendship because quality was assessed in the context of close friendships in the present study.

As predicted by the model, the quantity of opposite-sex peers was also reduced in the presence of increased social anxiety. Although very little empirical work has been done in this area of adolescent social development, Dodge, Heimberg, Nyman, and O'Brien (1987) used a daily behavioral diary method to investigate the heterosocial interactions of high and low socially anxious college students. These authors found that those classified as highly anxious engaged in fewer other-sex interactions over a two-week interval. As such, there seems to be some support for the model tested in the present study. That is, socially-anxious teens tend to have less exposure to other-sex peer relationships and experience lower quality in the ones they do develop. It could be that the development of their peer networks is somewhat delayed in that other-sex adolescents are not yet incorporated and the lessened exposure contributes to lower quality interactions. Limited experience with both same- and opposite-sex peers could help to explain why LaGreca and Lopez (1998) found that adolescents reporting higher levels of social anxiety reported fewer overall friendships with both males and females.

This idea is consistent with the research of Dunphy, and later Connolly and colleagues. The mixed-sex peer group appears to provide the first forum in which adolescents can gain significant exposure to their other-sex counterparts. It is within this context that they learn and practice the skills necessary for establishing and maintaining relationships with these peers (Hansen et al., 1992; Nangle & Hansen, 1998). Decreased numbers of other-sex peers in the network limit the opportunities for varied other-sex interactions. Limited interaction would further reduce learning and practice experiences, which, in turn, would result in the greater likelihood of heterosocial-skills deficits

(Grover et al., in press; Nangle & Hansen, 1998). Of course, lower skill and lessened interaction opportunities would further be expected to result in lower quality other-sex relationships. Indeed, in the present study, teens with higher levels of social anxiety tended to be less heterosocially competent, have fewer other-sex peers in their social networks, and experience lower quality other-sex relationships. Likewise, highly-anxious individuals in the Dodge et al. study participated in fewer other-sex interactions and reported poorer performance and less satisfaction in the interactions that did occur.

Inconsistent with predictions, social anxiety appeared to exert differential effects on the same- and other-sex peer networks. The number of same-sex peers remained unaffected, whereas the number of opposite-sex peers was reduced. Given the manner in which peer networks were assessed, it is uncertain how many of these relationships were reciprocated. It could be that same-sex peer groups are more affected than is reflected in the adolescents' self-reports. Nonetheless, it does appear that opposite-sex relationships may be more sensitive to the detrimental effects of social anxiety. Heterosocial situations generally invoke a strong, and not easily habituated, physiological response (Grover et al., in press; Nangle & Hansen, 1998). Contributing to the enhanced sensitivity of other-sex interactions to social anxiety is their "newness" for adolescents. Social anxiety is especially salient in situations that are new (LaGreca, 1998). Heterosocial situations are novel and challenging to the developing adolescent. Over 30% of male college students report excessive levels of anxiety in these interactions (Arkowitz et al., 1978). In fact, it has been noted that individuals may experience excessive levels of anxiety when placed in heterosocial situations, while remaining calm in other social interactions (Hansen et

al., 1992). The most significant evidence linking anxiety and opposite-sex ties pertains to the dating literature (e.g., Arkowitz et al., 1978; Collins & Sroufe, 1999; Hansen et al., 1992). The discussion will therefore turn to a more in depth review of the findings regarding romantic relationships.

Romantic Relationships

As outlined by the proposed model, it was hypothesized that social anxiety would be significantly related to dating history and quality of romantic associations. Elevated social anxiety was expected to be linked to later onset of dating activities, fewer dating partners, and decreased quality of romantic associations. There was significant evidence to support these hypotheses. Specifically, as expected, higher social anxiety significantly predicted later onset of dating activities, fewer dating partners over the past year, and negative interaction in romantic relationships. These findings support the primary hypothesis of the present investigation. Specifically, social anxiety was expected to have deleterious effects on the formation of romantic dyads, and this pattern was clearly demonstrated. Furthermore, taken together with the previous results, significant support for the proposed model was found in that social anxiety clearly impacted social adjustment at each of the three hypothesized levels.

In the model, impairment at each developmental stage was expected to be associated with the deficits in romantic relationships. Connolly et al.'s (2000) study suggests that this process is an incremental one that progressively impacts different peer structures over time. Other longitudinal work has also found evidence for the continuity of the effects of anxiety on social development. For example, children characterized with

anxious-avoidant attachment styles in youth were found to be less likely to date in their adolescent years than their securely attached counterparts (Collins & Sroufe, 1999).

Albano, Marten, Holt, Heimberg, and Barlow (1995) found that socially-anxious children report acute feelings of self-consciousness during social situations in junior high school and have fewer dating partners than a comparison group between the ages of 12 and 21. Pervasive anxiety has also been found to be associated with date initiation behavior as well as other interactions with the opposite-sex (Hansen et al., 1992).

The present investigation adds to this literature by providing some evidence linking impairment across peer structures. Connolly and colleagues (2000) demonstrated success with same-sex peers in grade 9 predicted the development of an opposite-sex peer group by grade 10, which, in turn predicted romantic relationships in grade 11. This work suggestive of a normative stage-like progression toward the development of romantic relationships supports speculations about the process that is occurring for socially-anxious adolescents. It is possible that deviation in the same-sex peer group leads to problems with opposite-sex peers which in turn contributes to impaired dating and romantic relationships. Although the present study precluded conclusions regarding development over time, Connolly's work provides evidence for a normative trajectory by which it is possible to assess deviation. Despite the hypotheses that were not supported in the present study, for socially-anxious adolescents, impairment across peer groups is clear.

Surprisingly, however, social anxiety was not related to social support in romantic relationships. This finding may again be related to the relative importance of same- and

opposite-sex peers in adolescents' lives. Despite incorporating opposite-sex peers and romantic partners into their social circles, teenagers still cite same-sex peers as their closest of bonds, particularly in the early adolescent years (Berndt, 1982; Lempers & Clark-Lempers, 1993). As such, qualities such as intimacy, compassion, and reliable alliance (i.e., those qualities comprising social support) may not yet be factoring into relationships with romantic partners. Indeed, literature regarding the development of romantic relationships generally suggests that adolescents become more sophisticated over time in their ability to use romantic partners to meet personal needs (Furman & Wehner, 1994, 1997). For example, Brown (1999) points out that over the course of adolescence, romantic relationships change dramatically in both form and function. He outlined a four-stage progression for adolescent romantic development. It is only during the third phase that adolescents seek out deeper levels of intimacy in their romantic affiliations. Brown's stage theory for the development of romantic relationships may help to explain why in the present study social anxiety affected social support in same-sex peer relationships, but not yet romantic ties.

Returning to the model, several factors were speculated to contribute to the observed pattern of findings. Potentially underlying the developmental process, social competence was expected to have an influence on each stage of the trajectory. Moreover, the effects of impaired competence were expected to be continuous in that deficits in the same-sex group would again predict skill deficits with opposite-sex peers, and then finally with romantic partners. The narrative will now turn to specifically explore the

role of social competence in this process, followed by a review of other contributing factors including grade and gender.

Contributing Factors

Social Competence

It was hypothesized that deficits in the social competence variables may significantly affect social success with same- and opposite-sex peers, and romantic partners. The proposed model suggested that social competence (measured through peer acceptance) and heterosocial competence play overlapping, yet distinct, roles in the development of romantic relationships. It was expected that elevated social anxiety would be associated with deficits in both heterosocial competence and peer acceptance. Mixed support for this assertion was found in that social anxiety predicted lower heterosocial competence, but not peer acceptance. As reviewed earlier, it seems clear that social anxiety is detrimental to the development of social skills necessary for interactions with the opposite-sex. In contrast, the failure to find a significant relationship between social anxiety and peer acceptance was surprising, but at the same time largely consistent with previous research.

The present study found evidence that social anxiety significantly impacts other-sex social competence. Similarly, in an initial psychometric evaluation of a heterosocial competence measure with teens, Grover et al. (in press) found lower scores to be associated with increased heterosexual social anxiety. Although anxiety associated with interaction with the other-sex appears to be a frequently occurring problem (Arkowitz et al., 1978; Hansen et al., 1992), it seems that pervasive and unremitting anxiety can have

detrimental effects on social competence (Beidel, 1998; Dodge, Heimberg, Nyman, & O'Brien, 1987). Furthermore, Borkovec, Stone, O'Brien, and Kaloupek (1974) found several skill deficits in socially anxious individuals. When placed in social interactions, these participants were less socially effective and they tended to speak less frequently while engaged in the interaction.

There are at least three possible explanations for the present findings linking social anxiety with heterosocial competence. First, it is possible that socially anxious teens never learned the skills necessary for interacting with the opposite-sex, or the skills were not learned adequately (Hansen et al., 1992; Nangle & Hansen, 1993). It could be that these teens were never exposed (or exposed minimally) to situations with the opposite-sex that would allow them to learn these skills. Indeed, researchers have suggested that children who are not afforded the opportunity to interact with peers do not gain the skills that typically develop in the context of those interactions (Beidel, Turner, & Dancu, 1985; Schneier, Heckelman, Garfinkel, & Campeas, 1994). As a result, adolescents interact even less frequently with the opposite-sex, or may even avoid these situations altogether. Unfortunately, this likely serves to exacerbate anxiety and impairments in competence continue (Nangle & Hansen, 1993).

A second possibility is that adolescents have acquired the necessary social skills, but that anxiety prevents their use (Nangle & Hansen, 1993). As noted previously, heterosocial anxiety is highly prevalent among adolescent populations (Arkowitz et al., 1978). Anxiety can be quite debilitating to adolescents, and skills can be harder to access during these times of intense stress. The inability to utilize heterosocial skills may lead to

negative interactions with the opposite-sex. This possibility leads to a third explanation for the link between social anxiety and heterosocial competence. It could be that repeated negative interaction with the opposite sex, either due to lack of skill or inability to access skills, reinforces avoidance of those situations. In other words, adolescents may determine, based on a history of negative encounters, that they are not equipped to handle interactions with the opposite-sex. Avoidance, in turn, fosters continued impairment (Hansen et al., 1992; Nangle & Hansen, 1993).

Given the hypothesized trajectory and the present study results, it can be speculated that impairment in heterosocial competence is one important mechanism by which opposite-sex relationships become impaired. As suggested by Nangle and Hansen (1998), social anxiety negatively affects skill development which, in turn, may influence the number and quality of relationships. Adolescents with fewer and lower quality opposite-sex relationships will have limited opportunities to practice social behaviors. As a result, they may fail to benefit from the normal “trial and error” learning process by which such skills are developed and refined (Hansen et al., 1992). Persistent impairment is likely to continue to affect the number and quality of opposite-sex ties.

In addition to heterosocial competence, general social competence was expected to be significantly related to social anxiety. Surprisingly, however, peer acceptance, which served as an indicator of more general social competence, was not associated with social anxiety. Previous work suggests a fairly reliable link between these two constructs. For instance, Inderbitzen, Walters, and Bukowski (1997) examined social anxiety and peer acceptance in a sample of early adolescents. They used a sociometric

nomination procedure to assess acceptance in which participants were asked to select same-sex students from their grade who best fit into categories such as “most liked” and “least liked.” Findings demonstrated that adolescents who were sociometrically classified as rejected or neglected by their peers reported significantly greater levels of anxiety than those who were popular or average. Similarly, LaGreca and Stone (1993), although focusing on a slightly younger (4th – 6th grade) population, used a sociometric nomination procedure and found that children who were less accepted by their peers reported elevated levels of social anxiety. Consistent findings were demonstrated by LaGreca and colleagues (1988) using a combined nomination and rating scale procedure, as well as Strauss et al. (1988) with a nomination procedure. Taken together, these studies provide a considerable amount of evidence to suggest that social anxiety and peer acceptance are linked.

At least three explanations exist for why the present study failed to yield similar results. First, research demonstrating a significant relationship between social anxiety and peer acceptance has focused on younger populations. Indeed, even the small number of studies using older samples tends to use early adolescent participants (below the age range examined in the present study; e.g., Inderbitzen et al., 1997). Perhaps social anxiety impacts peer acceptance at younger ages, but less so as children mature. The literature clearly identifies adolescence as a time in which friends take on increased importance (Berndt, 1982; Csikszentmihalyi & Larson, 1984; Sullivan, 1953). An interesting possibility is that friendships assume a more central role during adolescence over peer acceptance as needs for intimacy and reliable alliance increase (Berndt, 1982).

For example, Vernberg et al. (1992) examined the social experiences of sample of adolescents who had recently moved with their families. These authors found that social anxiety significantly predicted friendship quality, but was unrelated to rejection experiences for these teens. These findings speak to the possibility that friendships, more than peer acceptance, have increased vulnerability to the effects of social anxiety during adolescence. Unfortunately, however, this remains speculative rather than empirical because of the very limited relevant research.

In addition to age differences among samples, a second possibility for the null findings is that previous literature has frequently used only same-sex peers to assess acceptance (e.g., Inderbitzen et al., 1997; LaGreca et al., 1988; LaGreca & Stone, 1993). Of course, this procedure is quite appropriate for use with younger samples (typically assessed in the existing literature) when same-sex peers comprise a majority of the group (Berndt, 1982; Sullivan, 1953). As adolescents get older, however, opposite-sex peers play an increasingly important role in peer culture (Connolly & Goldberg, 1999; Connolly et al., 2000; Sippola, 1999; Sullivan, 1953) and, therefore, should be factored into the assessment of acceptance. The inclusion of the other-sex in the procedure, nonetheless, may have affected the pattern of results. In an examination of the relationship between same- and other-sex popularity, sociometric ratings were highly correlated for males, but were completely unrelated for females (Miller, 1990). Furthermore, research has demonstrated that early adolescents show differential patterns of attraction across gender. For example, research has found that females find peers “who stand out” in the group to be attractive, whereas males do not (Bukowski et al.,

2000). Taken together, sociometric ratings may vary as a function of rater gender, which would certainly impact the results.

Although peer acceptance was used as an index of social competence, the exact nature of the dimension of such competence it actually assesses is not always clear. For example, at least two studies with adolescents have found peer acceptance to be unrelated to self-report measures of social competence (Cavell & Kelley, 1992; Grover et al., in press). In a psychometric investigation of the Measure of Adolescent Social Performance (MASP), a self-report measure of general social competence, Cavell and Kelley (1992) found that the MASP, as expected, was related to measures of behavioral conduct, academic performance, friendship quality, and feelings of self-worth. It was not, however, related to self or teacher ratings of acceptance. The authors concluded that social competence may be more significantly related to constructs other than popularity, such as physical appearance and reputation. Likewise, in the Grover et al. (in press) investigation, the MASP was unrelated to ratings of peer acceptance, assessed in the same manner as the present investigation.

Acceptance refers to the cumulative positive or negative feelings peers have for an individual (Foster et al., 1993). As such, several variables in addition to social competence per se may factor into peer evaluation, including reputation and physical attractiveness. Research has demonstrated that non-behavioral factors predict peer acceptance to a greater extent than behavioral variables including sociability (Cavell & Kelley, 1992; Hanna, 1998). For example, in an investigation of adolescents attending summer camp, researchers found that increased physical attractiveness significantly

predicted higher levels of both peer acceptance and friendship quality (Hanna, 1998). In the present study, significant relationships were found between peer acceptance and same- and other-sex friendship quality. This pattern is consistent with the suggestion that physical appearance plays a role in their association. In contrast, social anxiety has been more routinely linked to social skills and behavioral deficits (e.g., Borkovec et al., 1974; Ginsberg et al., 1998; Hansen et al., 1992) and not to physical appearance (e.g., Dumas, Nilsen, & Lynch, 2001). The significant relationship between peer acceptance and onset of dating activities in the present study seems to make sense in light of the demonstrated link between dating and physical attractiveness. A wealth of previous research has exhibited strong associations between physical appearance and dating history (e.g., Frederick & Morrison, 1999; Peretti & Abplanalp, 2004; Rowatt, Cunningham, & Druen, 1999).

Such speculation, however, is not intended to discount the importance of the dimension of competence assessed by the peer acceptance measure. Indeed, in line with past research, peer acceptance and same- and other-sex friendship quality were significantly related in the present study. Specifically, peer acceptance was related to different dimensions of relationship quality in same-sex friendships for both males and females. Furthermore, for older adolescents, acceptance was significantly associated with quality of other-sex relationships and onset of dating activities. These findings fit nicely with the proposed model. In the model, it was speculated that peer acceptance would be related to same-sex relationships throughout adolescence, whereas peer acceptance was expected to be associated with opposite-sex relationships and dating with

older adolescents when it is likely other-sex relationships are more prominent. In the present study, quality of same-sex relationships was significantly related to peer acceptance across age and gender. Quality of other-sex relationships and onset of dating activities, however, were only significantly tied to peer acceptance with the older group of adolescents.

These findings were not surprising considering past research demonstrating reliable links between peer acceptance and relationship quality (e.g., Hanna & Berndt, 1995; Nangle et al., 2003; Parker & Asher, 1993; Phillipsen, 1999). For example, Phillipsen (1999), in an examination of friendship dyads in both middle childhood and early adolescence, found that children who were well accepted by their peers had fewer disagreements and were more positive and sensitive in their interactions with friends. With younger children, Parker and Asher (1993) found that low-accepted children were more likely to have lower quality friendships characterized by less help and guidance, validation and caring, intimate exchange, and conflict resolution. These children also experienced more conflict and betrayal than their more accepted counterparts. Overall, it seems the findings regarding peer acceptance and relationship quality in the present study were in line with both the existing literature and the proposed model.

Grade

Based on findings suggesting changes in adolescent peer networks with increasing grade (Connolly et al., 2000; Dunphy, 1963), the effects of social anxiety were expected to be more pronounced for older versus younger teens. Older adolescents should be further along the proposed developmental trajectory and thus more involved in

mixed-sex peer groups and romantic relationships. Strong support for this hypothesis was found in the present study. As expected, heightened social anxiety significantly predicted fewer other-sex teens in the peer group and lower quality romantic relationships only for the older cohort. For younger adolescents, in contrast, increased social anxiety was predictive of decreased relationship quality in same-sex and opposite-sex associations. This grade effect, however, did not hold for three of the variables, including dating activities, quality of opposite-sex friendships, or heterosocial competence, all three of which were significantly related to social anxiety even in the younger adolescent years.

These findings suggest that romantic dyads become most vulnerable to the affects of social anxiety in later adolescence when romantic relationships are a more salient part of adolescents' lives. In Connolly et al.'s longitudinal investigation, romantic affiliations became most significant in adolescents' lives in the 11th grade. In particular, Connolly and colleagues found that same-sex groups in grade 9 aided the emergence of mixed-sex peer groups in grade 10. In turn, the mixed-sex peer group served as context in which to learn about the opposite-sex and meet potential dating partners. The number of other-sex peers in the peer group increased over the three years and was related to having a romantic partner both concurrently and in subsequent years. A somewhat similar pattern may be present in the current study. Specifically, opposite-sex peers and romantic partners may only take on a prominent enough role in the later high school years. As such, it is only during these later years that social anxiety predicted the number of other-sex peers and quality of romantic associations.

The differential pattern of effects did not emerge across all outcome variables. Dating activities, quality of opposite-sex relationships, and heterosocial competence were all significantly related to social anxiety even in the younger adolescent years. The grades sampled in the present investigation were chosen based on findings demonstrating significant grade effects for dating and peer group composition (Connolly et al., 2000). Csikszentmihalyi and Larson (1984), for example, found that whereas ninth graders spent the most time in same-sex groups, by junior year adolescents were spending most of their time in mixed-sex groups. There is some evidence to suggest, however, that the transitions to a mixed-sex peer group and romantic affiliations are occurring at earlier ages than was found in the past. Connolly, Craig, Goldberg, and Pepler (2004) recently conducted a one year longitudinal investigation with nearly 1300 early adolescents enrolled in the 5th through 8th grades to examine this point. This project served as a follow-up to Connolly's initial study of the development stages leading to the formation of romantic dyads. These researchers again found support for the model in which adolescents progress from same-sex groups, to mixed-gender networks, and finally to romantic dyads. Interestingly, however, they noted that participation in exclusive same-sex groups is no longer the norm for early adolescents, and that even as early as the 5th grade, children are readily socializing with the opposite-sex.

In other words, younger teens may have progressed farther along the developmental trajectory than predicted. Perhaps as a result, significant differences between adolescents in younger and older grades were not observed. In a longitudinal investigation of peer companionship in middle childhood through mid-adolescence,

children in the fifth grade through eighth grades were asked to carry a pager and to document the time they spent thinking about, and in the company of, the opposite-sex (Richards et al., 1998). Even the youngest children had experiences with the opposite-sex, and by high school, these experiences were significant. Adolescents during even the early high school years were spending a great deal of time both thinking about and spending time with the opposite-sex. Moreover, there is evidence to suggest females in particular affiliate with older boys, even at younger ages (Steinberg, 1999). The involvement of young females with older boys could also have impacted the ability to find clear age effects.

Certainly, it is possible that in the present investigation the younger sample was already old enough to have had significant experiences with the other-sex. As such, it would have been necessary to look at children within younger grades in order to capture significant developmental differences. Another potential explanation points to relative interpretations of dating experiences. In the present study, it was found that younger adolescents had a tendency to report earlier onset of dating activities than older adolescents. This finding is quite consistent with literature that suggests that older adolescents report falling in love later than younger teens (Bouchey & Furman, 2003). It seems that adolescent conceptions of what constitutes dating and romantic relationships may change over time to reflect a more sophisticated way of thinking about romantic partners (Montgomery & Sorell, 1998). As such, a relationship between social anxiety and dating experiences may have emerged for younger teens potentially based on a different conception of what constitutes significant dating and romantic affiliations.

Gender

Similar to the expected variation across grade level, it was anticipated that females would show more advanced progression along the proposed trajectory. Females were also expected to show significantly higher levels of social anxiety when compared to males (LaGreca, 1998; LaGreca & Lopez, 1998) and consequently be more vulnerable to the impact of anxiety on the outcome measures. Significant support for these hypotheses was found in the present study. Specifically, girls were demonstrated to have markedly higher levels of social anxiety than their male counterparts. Furthermore, for girls, increased social anxiety significantly predicted decreased number and proportion of opposite-sex peers in the group. Social anxiety also predicted the quality of opposite-sex relationships. When examined separately for boys, these relationships were not significant.

These findings are consistent with the literature suggesting that females are most vulnerable to social anxiety and its associated deficits (e.g., Ginsburg, LaGreca, & Silverman, 1998). Ginsburg et al. found that parent ratings of social skills were lower for girls with social anxiety, which again, was not the case with males. Furthermore, girls with elevated levels of social avoidance and distress rated themselves as less socially accepted and reported decreased positive and increased negative interactions among peers. In this sense, it appears that both girls and their parents are viewing them as notably impaired in the presence of their anxiety. In the LaGreca and Lopez (1998) investigation, girls reported higher levels of social anxiety and more associated

difficulties with functioning, including less social support from classmates and fewer and lower quality friendships. These same effects were not observed for boys.

This literature converges with the present findings to suggest that girls are not only responding to higher levels of social anxiety, but they are also suffering the associated consequences of this anxiety at a significantly higher rate than males. There is some speculation that females are involving themselves in opposite-sex friendships and romantic relationships with males who are older than themselves. In contrast, it is hypothesized that males affiliate mostly with younger females in the later high school years (Steinberg, 1999). Some of the observed gender differences may be because males and females are reporting on different cohorts. Steinberg (1999) also makes the point that when males begin engaging in opposite-sex relationships, they have the added benefit of a few extra years of “maturity,” which may function to lessen some of the detrimental effects associated with social anxiety. In order to capture the ways in which social anxiety affects males, it may be necessary to sample an even older population, when opposite-sex relationships take on a more significant role in their lives. Another possibility would be to sample paired romantic dyads to ensure affiliation with an opposite-sex partner.

Although the present study anticipated stronger findings for females, it was predicted that males would also be vulnerable to the effects of social anxiety. When analyses were run separately by gender, many of the relationships that were strong for females were reduced for males, at times dropping to non-significance. For example, for males, no relationship emerged between social anxiety and the composition of the peer

group. In particular, there was no association between level of social anxiety and the number of opposite-sex peers reported by males. Also, although still significant, the relationship between social anxiety and heterosocial competence reduced considerably.

In addition to explanations already offered for the pronounced affects of social anxiety on females, there is also the possibility that these kinds of social concerns are just not a salient issue for boys in their teenage years. Past research has found that adolescent girls report more time with and thoughts about peers regardless of the gender of the peer (Buhrmester & Furman, 1987). In the already discussed Richards et al. (1998) study, across age levels, girls spent more time actually with and thinking about males than males spent thinking about and in the presence of females. In an examination of the gender differences associated with the qualitative features of both same- and opposite-sex relationships, Lempers and Clark-Lempers (1993) found significant variance across gender. In particular, these authors showed that females rated both same and opposite-sex friends higher on several dimensions of relationship quality including reliable alliance, companionship, admiration, affection, instrumental aid, intimacy, and satisfaction. These authors conclude that these gender differences may be related to differential patterns of gender socialization in our culture in which females are most concerned with the establishment of interpersonal relationships and males are most concerned with occupational identity and achievement.

Interaction Effects

Although each of the individual factors has now been examined, interactions among these terms have yet to be addressed. In the same way each of the individual

factors was anticipated to play a role in the development of romantic relationships, an interaction among predictors was also expected. Specifically, it was expected that all possible interactions among the independent variables including social anxiety, grade, and gender would yield significant findings. Surprisingly, however, no interactions emerged as significant when social anxiety was divided by group across any of the analyses, and only select interactions were significant when social anxiety was examined as a continuous variable. A social anxiety by gender interaction significantly predicted the total number of friends in the peer group, as well as the number and proportion of opposite-sex peers comprising that group. It appears that females with elevated levels of anxiety have fewer total and opposite-sex peers. These findings are very much in line with the previous discussion.

Nonetheless, for the most part, interactions did not play a significant role in the present investigation. The absence of interactions may be due to the pattern of results observed with the simple effects of grade and gender. Based on the hypothesized simple effects, it was anticipated that interaction effects would follow. Considering the pattern of findings, however, the lack of significant interactions is not surprising. The effects for grade were limited in some domains, and significant findings for gender were heavily weighted toward females. It makes sense that the interactions would be significantly affected by these patterns of the simple effects. It is also consistent that the only observed significance was for social anxiety x gender. Females had considerably higher social anxiety scores than males and this anxiety, as discussed, had marked effects on the composition of the peer group.

The kind of analyses selected for use may have also had a mild impact on the significance of the interaction terms. Specifically, when the amount of data available for analysis was reduced so that groups could be formed, none of the interactions emerged as significant. It is possible that limiting the data reduced the ability of the analyses to detect trends. Although a continuous look at social anxiety also produced largely null results with the interaction terms, the social anxiety x gender term did emerge as significant. It will be important for future investigations to consider the manner in which the data are examined, keeping in mind that a more continuous examination of social anxiety may capture significant trends that may be lost by artificially creating groups.

Limitations

The present investigation represented an initial attempt at clarifying the role of social anxiety in the development of romantic relationships across adolescence. Although several of the current hypotheses were supported, there were numerous surprising results as well. The discussion will now turn to discuss the limitations in study design and implementation that may have served as contributory factors. Four major limits to the current study are readily identified: (a) the cross-sectional design (b) sample characteristics, (c) the use of primarily self-report methodology, and (d) the use of sociometric ratings to assess social competence.

Cross Sectional vs. Longitudinal Study Design

The ideal in developmental research is longitudinal design. Longitudinal research reduces confounds such as individual differences among participants in different cohorts. Although cross-sectional research designs are best suited for correlational

research, longitudinal designs allow researchers to make statements about development over time. As demonstrated by Connolly and colleagues (2000), the longitudinal design allowed these researchers to draw conclusions regarding developmental trajectories. These kinds of conclusions were not possible based on the cross-sectional nature of the present investigation.

Sample Characteristics

A relatively large sample was drawn from public high schools in small urban areas in Maine. Two broad characteristics, however, of the individuals who participated in the present investigation may limit the generalizability of the findings. First, it has been demonstrated that urban and suburban youth differ from rural teens, particularly in terms of the development of romantic relationships. For example, some literature suggests that rural youth tend to report higher rates of dating violence than their urban or suburban counterparts (Spencer & Bryant, 2000). It has also been demonstrated that rural teens are more vulnerable to early alcohol and drug use leading to earlier sexual debut (Atav & Spencer, 2002). Moreover, the population of Maine is primarily Caucasian, consistent with the sample used in the present study. Ethnic diversity is closely tied with geography. It is possible that the developmental trends in the present investigation would change if the sample was drawn from a geographically different and more ethnically diverse population.

The second sample characteristic that may pose a limitation to the present study is the restricted age range that was sampled. As already discussed, it is possible that grade would have emerged as a more important factor if the sample had included

individuals who were both younger and older. It appears that the trajectory outlined by Connolly and colleagues truly begins prior to the high school years, and extends, at times, well beyond the high school years, particularly for males. Given that a major goal of the present investigation was to determine the effect of social anxiety along the continuum of this trajectory, it was a limitation that the sample likely reflected a place more toward the middle of the developmental progression.

Self-Report Methodology

A majority of the data collected in the present study was gathered through the use of self-report measures, with the exception of the sociometric rating procedure. As with any investigation in which the type of assessment remains consistent across constructs, one runs the risk of common method variance. It is nevertheless common practice to use self-report methodology when assessing internalizing problems such as anxiety. Furthermore, it is also the primary means by which to assess delicate issues such as those involving intimacy or distress with the opposite-sex, particularly with adolescents. Accordingly, these instruments were chosen for use in the present investigation. In future research, however, it may be beneficial to utilize a multi-method assessment in an effort to safeguard against this concern. For example, role play procedures have been used in past literature to assess heterosocial competence and heterosocial anxiety (e.g., Conger, Conger, & Cowan, 1991). Furthermore, constructs, such as anxiety, have been routinely examined through the use of biological assessment such as Galvanic Skin Response (GSR) or measurement of heart rate. These kinds of

instruments may be utilized in future work to facilitate multi-method assessment, and, in turn, reduce the impact of common method variance.

Use of Sociometrics

Social competence was a major variable of interest in the present study. It was expected that social competence would be significantly associated with social anxiety across both gender and grade level. Unfortunately, the manner in which social competence was measured, through the use of sociometric rating scales, very likely did not completely assess the construct. Worth noting, at the methodological level, assessing peer acceptance during the teenage years has been a challenge for peer researchers (Inderbitzen, 1994). Sociometric procedures are most frequently used with preschool and grade school children, who usually rate their participating classmates. These children generally spend the majority of the school day together. Implementing sociometric procedures with adolescents becomes more difficult because teen peer groups often extend beyond the classroom in ways that they did not during grade school (Inderbitzen, 1994). Some have suggested using all possible grademates (over just classmates) as an alternative. Still, researchers suggest that including too many names on a roster will similarly question the validity of the measure (Inderbitzen et al., 1997). These conflicting perspectives leave peer researchers in somewhat of a bind in terms of how to assess peer acceptance during the adolescent years.

Methodological issues were of no less concern in the present study. As noted, peer acceptance was assessed using rating scale methodology. All participating adolescents were asked to rate their classmates based on how much they enjoyed

spending time with them. Sociometrics were conducted by classroom. As such, each teen was asked to provide a rating for each student in the classroom in which they completed the questionnaires (i.e., English, Science). It was originally planned to obtain sociometric ratings across grademates, as opposed to just within classrooms. Teachers agreed to allow their classrooms to participate over time, frequently with several weeks passing between data collections within the same school. As such, participating grademates were sometimes not known until well after data had been collected in a given classroom, making collecting ratings across grademates impossible. Despite the fact that sociometric ratings were only included if at least half the class participated, these ratings included a very small portion of the potential peer group. It was quite possible that a given classroom would not include any peers of a participating adolescent, or many peers that the student could not rate because of their lack of acquaintance. Furthermore, much of the established literature has used nomination procedures, at least in part, in their assessment of acceptance (e.g., Inderbitzen et al., 1997; LaGreca et al., 1988; LaGreca & Stone, 1993; Strauss et al., 1988) as opposed to the rating scale methodology used in the present study. Varied methodology may have had a significant impact on the obtained results.

As such, the question of how social anxiety impacts social competence in the adolescent years remains. Furthermore, the role of more general social competence in the development of romantic relationships is still somewhat unclear. Considering the challenges associated with assessing peer acceptance during adolescence, along with the possibility that peer acceptance measures only one dimension of social competence, it

seems that future research will need to investigate alternative methods for assessing general social competence. These could include self-report instruments such as the Measure of Adolescent Social Performance (Cavell & Kelley, 1992) or alternative methods, such as parent ratings (e.g., Ginsberg et al., 1998) or role play procedures.

Conclusions

The findings of the present investigation clearly suggest that social anxiety is impacting the development of romantic relationships across adolescence. Social anxiety significantly predicted impairments in the same- and mixed-sex peer groups, as well as romantic relationships. Significant differences were found for both grade level and gender in that social anxiety demonstrated the most marked impairment for older adolescents and females. These findings are consistent with the model that guided the design of this project. The work of Dunphy and Connolly and her colleagues provided evidence for a normative pathway of romantic development in which adolescents move from groups of same-sex peers, to mixed-sex cliques, and then finally to romantic pairs. The present study demonstrated that continuity may exist for maladaptive patterns of socialization, as well. Connolly and Goldberg (1999) hypothesized that socially withdrawn children may have difficulty finding acceptance in the same-sex peer group, which in turn may contribute to deviation in the mixed-sex group. The authors suggest that this may lead to either the delayed onset of dating experiences, or dating outside the context of the peer group without the benefits that close relationships provide. It is possible, therefore, that the quality of romantic relationships may suffer. The findings of the present study are consistent with this hypothesized trajectory.

The present investigation did not allow for an examination of causation, but several speculations on what is underlying this process may be made. In Thomas Berndt's (1982) seminal article on the features and effects of adolescent friendships, he describes just how close same-sex friendships are during the early adolescent years. Moreover, he goes on to note, "friendships at these ages have a major influence on the development of personality, social skills, and social behavior" (p. 1447). Berndt's suggestions are very much in line with the theory put forth by Sullivan (1953) nearly 30 years before him. As suggested throughout this document, it appears that same-sex relationships set the stage for the development of opposite-sex ties (Connolly et al., 2001; Dunphy, 1963). The same-sex peer network appears to be a place where teens can develop values, a sense of identity, and the social skills necessary for success in other peer contexts (Furman, 1999). It therefore follows that impairment in the same-sex group as was found in the present investigation could have serious consequences for subsequent social development (Connolly & Goldberg, 1999; Goodyer, Wright, & Altham, 1989) including interaction with opposite-sex peers and the development of a mixed-sex peer group.

In this sense, impairment to the same-sex peer group seems to set the adolescent on a maladaptive developmental pathway that continues with problems in the mixed-sex group. There were several findings in the present investigation that are suggestive of the continuous effects of social anxiety. For example, the number of same-sex friends in adolescents' peer groups was positively related to the quantity of opposite-sex peers. Furthermore, the quality of same-sex friendships was significantly associated with the

quality of opposite-sex relationships. According to the developmental psychopathology framework, maladaptive outcomes are viewed to be a result of a combination of innate factors, environmental influence, and personal development (Rutter & Sroufe, 2000; Sroufe, 1990; 1997). Accordingly, not only would the presence of social anxiety affect the mixed-sex group, but the individual's personal development up to that point, including how successful the adolescent was with same-sex peers.

In the same respect, it is likely that those teenagers who are experiencing impairment within romantic relations would be the same adolescents who demonstrated deficits at the level of the same- and mixed-sex peers groups. In the present investigation, it was demonstrated that dating activities were significantly related to both the number of and proportion of opposite-sex peers in the network. Moreover, quality of romantic relationships was positively related to both number of opposite-sex peers in the network and quality of other-sex friendships. These findings further support the notion that social anxiety is bearing its influence continuously on the socially developing teen. There seems to be a maladaptive pathway that socially anxious teens are following that is markedly different than their non-anxious counterparts.

Overall, the present study is supportive of the contentions of Dunphy, Connolly, and others suggesting a stage-like progression toward the development of romantic relationships. Furthermore, the findings support the developmental psychopathology paradigm that framed this investigation. Specifically, it seems that social anxiety demonstrates significant effects on the development of romantic relationships across

adolescence. Some of the limitations of the present study, however, preclude making stronger conclusions.

Future Directions

Several avenues for future study stem from both the significant findings and the limitations of the present investigation. Some of the possibilities for future research have already been addressed within the previous discussion. There are, however, several ideas that are deserving of more pointed attention. First, the findings of the present study are consistent with the notion of a developmental progression from same-sex peers to a mixed-sex peer group to the formation of dyadic romantic relationships. It was also demonstrated that social anxiety impacts and limits this trajectory. As discussed, the full extent of the impact of social anxiety, however, may not have been fully revealed in the present study due to the limited age range and population sampled. It will be fruitful for future investigations to flush out the developmental impact of social anxiety by sampling and comparing across a wider age gap, extending outward in each direction. Moreover, it would be beneficial for this sample to be drawn across cultures including rural, suburban, and urban youth. Ideally, this would take place in the context of a longitudinal design in which the same adolescents are compared across time. As such, the full applicability of the developmental psychopathology paradigm can be explored, specifically continuity across development.

In keeping with the developmental psychopathology framework, it would also be beneficial for future research to explore resilience and protective factors that may be safeguarding some adolescents against the detrimental effects of social anxiety. This line

of research will enable psychologists to identify “at risk” children and adolescents and accordingly develop early intervention programs targeted at these individuals. For example, if it is determined that the presence of opposite-sex siblings protects against elevated levels of social anxiety when with opposite-sex peers, then only children may be considered “at risk.” In turn, even in the presence of social anxiety, adolescents who participate in school activities may be identified as more resilient than others. In this example, less active teens may also be identified as “at risk.” By recognizing children who are at higher risk for maladaptive outcomes, it becomes possible to divert them off of these divergent pathways and back toward normative development. The first step, however, remains in simply identifying protective factors as well as what facilitates resilience.

The present investigation represented an initial exploration into the role of social anxiety in the development of romantic relationships from a developmental psychopathology perspective. As such, the hypotheses were broad and, in turn, the analyses were aimed at determining overall significance of key relationships. Given that the findings in the present investigation were to a good extent significant, the next step seems to be further examining the nature of these relationships by hypothesizing specific models of effects and evaluating them through the use of advanced statistical modeling techniques. These kinds of analyses can further tease apart the direction of effects and the level of significance for each piece of the model. One particularly interesting relationship that emerged strongly across all of the analyses is that of social anxiety and heterosocial competence. This relationship remained significant across both gender and

grade. As such, it may represent a mechanism by which social anxiety affects the development of romantic relationships. This possibility, however, remains speculative at this point, and can only be truly flushed out through the use of more advanced statistical procedures. For now, the only certain conclusions that can be made are that social anxiety is quite prevalent during the high school years and can be detrimental to the social relationships of the developing teen. Given the layers of social affiliations (i.e., same- and mixed-sex peer groups) leading to romantic dyadic relationships in adolescence, there is no doubt that social anxiety plays a significant and perhaps critical role in the development of romantic dyads in the teenage years.

REFERENCES

- Adler, T.F., & Furman, W. (1988). A model for children's relationships and relationship dysfunctions. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (pp. 211-232). New York: Wiley.
- Ainsworth, M., & Bell S.M., (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41, 49-67.
- Albano, A.M., Marten, P.A., Holt, C.S., Heimberg, R.G., & Barlow, D.H. (1995). Cognitive-behavioral group treatment for social phobia in adolescents: A preliminary study. *The Journal of Nervous and Mental Disease*, 183, 649-656.
- Allen, J.P., Moore, C., Kupermine, G., & Bell, K. (1998). Attachment and adolescent psychosocial functioning. *Child Development*, 69, 1406-1419.
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Arkowitz, H., Hinton, R., Perl, J., & Himadi, W. (1978). Treatment strategies for dating anxiety in college men based on real-life practice. *The Counseling Psychologist*, 7(4), 41-46.
- Asendorpf, J.B. (2000). Shyness and adaptation to the social world of the university. In W.R. Crozier, (Ed.), *Shyness: Development, consolidation, and change* (pp. 103-120). Routledge: New York.

- Asher, S.R., & Parker, J.G. (1989). The significance of peer relationship problems in childhood. In B.H. Shneider, G. Attili, J. Nadel, & R.P. Weissberg (Eds.), *Social competence in developmental perspective* (pp. 5-23). Amsterdam: Kluwer Academic Publishing.
- Asher, S.R., Parkhurst, J.T., Hymel, S., & Williams, G.A. (1990). Peer rejection and loneliness in childhood. In S.R. Asher & J.D. Coie (Eds.), *Peer rejection in childhood* (pp. 253-273). New York: Cambridge University Press.
- Atav, S., & Spencer, G.A. (2002). Health risk behaviors among adolescents attending rural, suburban, and urban schools: A comparative study. *Family & Community Health, 25*, 53-64.
- Bagwell, C.L., Newcomb, A.F., & Bukowski, W.M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development, 69*(1), 140-153.
- Bagwell, C.L., Schmidt, M.E., Newcomb, A.F., & Bukowski, W.M. (2001). Friendship and peer rejection as predictors of adult adjustment. In D.W. Nangle & C.A. Erdley (Eds.), *New directions for child and adolescent development: Friendship and psychological adjustment* (pp. 25 -50). San Francisco: Jossey Bass.
- Baumrind, D. (1973). The development of instrumental competence through socialization. In A.D. Pick (Ed.), *Minnesota symposia on child psychology* (pp. 3-46). Minneapolis: University of Minnesota Press.

- Beidel, D.C. (1998). Social anxiety: Etiology and early clinical presentation. *Journal of Clinical Psychiatry, 17*, 27-31.
- Beidel, D.C., & Turner, S.M. (1997). Anxiety disorders. In S.M Turner & M. Hersen (Eds.), *Adult psychopathology and diagnosis*, (3rd ed.) (pp. 282-332). New York: John Wiley.
- Beidel, D.C., Turner, S.M., & Dancu, C.V. (1985). Physiological, cognitive and behavioral aspects of social anxiety. *Behavior Research and Therapy, 23*, 109-117.
- Beidel, D.C., Turner, S.M., & Morris, T.L. (2000). Behavioral assessment of childhood social phobia. *Journal of Consulting and Clinical Psychology, 68*, 1072-1080.
- Belsky, J., & Cassidy, J. (1994). Attachment and close relationships: An individual-difference perspective. *Psychological Inquiry, 5*, 27-30.
- Benson, M.J., Harris, P.B., & Rogers, C.S. (1992). Capacity for intimate relationships: A developmental construction. *Journal of Research on Adolescence, 2*, 187-204.
- Berndt, T.J. (1982). The features and effects of friendship in early adolescence. *Child Development, 53*, 1447-1460.
- Biederman, J., Hirshfeld-Becker, D.R., Rosenbaum, J.F., Herot, C., Friedman, D., Snidman, N., Kagan, J., & Faraone, S.V. (2001). Further evidence of association between behavioral inhibition and social anxiety in children. *American Journal of Psychiatry, 158*, 1673-1679.

- Bierman, K. L., & Montminy, H. P. (1993). Developmental issues in social-skills assessment and intervention with children and adolescents. *Behavior Modification, 17*, 229-254.
- Black, B., & Hazen, N.L. (1990). Social status and patterns of communication in acquainted and unacquainted preschool children. *Developmental Psychology, 26*, 379-387.
- Boivin, M., Hymel, S., & Bukowski, W.M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology, 7*, 765-785.
- Borkovec, T.D., Stone, N.M., O'Brien, G.T., & Kaloupek, D.G. (1974). Evaluation of a clinically relevant target behavior for analog outcome research. *Behavior Therapy, 5*, 503-513.
- Bouchey, H.A., & Furman, W. (2003). Dating and romantic experiences in adolescence. In G.R. Adams & M. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 313-329). Malden, MA, US: Blackwell Publishers.
- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psycho-Analysis, 39*, 350-373.
- Brown, B.B. (1999). "You're going out with who?" Peer group influences on adolescent romantic relationships. In W. Furman, B.B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 291-329). New York: Cambridge University Press.

- Bruch, M.A., Fallon, M., & Heimberg, R.G. (2003). Social phobia and difficulties in occupational adjustment. *Journal of Counseling Psychology, 50*, 109-117.
- Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Development, 61*, 1387-1398.
- Buhrmester, D., & Furman, W. (1986). The development of companionship and intimacy. *Child Development, 58*, 1101-1113.
- Bukowski, W.M., Gauze, C., Hoza, B., & Newcomb, A.F. (1993). Differences and consistency between same-sex and other-sex peer relationships during early adolescence. *Developmental Psychology, 29*(2), 255-263.
- Bukowski, W.M., & Hoza, B. (1989). Popularity and friendship: Issues in theory, measurement, and outcome. In T.J. Berndt & G.W. Ladd (Eds.), *Peer relationships in child development* (pp. 14-45). New York: John Wiley and Sons.
- Bukowski, W.M., Newcomb, A.F., & Hoza, B. (1987). Friendship conceptions among early adolescents: A longitudinal study of stability and change. *Journal of Early Adolescence, 7*(2), 143-152.
- Buss, A.H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Erlbaum.
- Cairns, R.B., Leung, M., Buchanan, L., & Cairns, B.D. (1995). Friendships and social networks in childhood and adolescence: Fluidity, reliability, and interrelations. *Child Development, 66*, 1330-1345.

- Caspi, A., Henry, B., McGee, R.O., Moffitt, T.E., & Silva, P.A. (1995). Temperamental origins of child and adolescent behavior problems: From age three to age fifteen. *Child Development, 66*, 55-68.
- Cavell, T.A., & Kelley, M.L. (1992). The measure of adolescent social performance: Development and initial validation. *Journal of Clinical Child Psychology, 21*, 107-114.
- Cole, M., & Cole, S.R. (1993). *The development of children* (2nd ed.). New York: Scientific American Books.
- Collins, A.W., Henninghausen, K.C., Schmit, D.T., & Sroufe, A.L. (1997). Developmental precursors of romantic relationships: A longitudinal analysis. In S. Shulman & W.A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 69-84). San Francisco: Jossey Bass.
- Collins, A.W., & Sroufe, A.L. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman & B. B. Brown (Eds.), *The development of romantic relationships in adolescence. Cambridge studies in social and emotional development* (pp. 125-147). New York: Cambridge University Press.
- Conger, J.C., Conger, A.J., & Cowan, G. (1991). Decoding deficits and social competency: A continuous rating approach. *Journal of Psychopathology & Behavioral Assessment, 13*, 73-87.

- Connolly, J.C., Craig, W., Goldberg, A., & Pepler, D. (2004). Mixed-gender groups, dating, and romantic relationships in early adolescence. *Journal of Research on Adolescence, 14*, 185-207.
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*(5), 1395-1408.
- Connolly, J., & Goldberg, A. (1999). Romantic relationships in adolescence: The role of friends and peers in their emergence and development. In W. Furman, B.B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 266-290). New York: Cambridge University Press.
- Connolly, J., & Johnson, A. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships, 2*, 185-195.
- Connolly, J., & Konarski, R. (1994). Peer self-concept in adolescence: Analysis of factor structure and of associations with peer experience. *Journal of Research on Adolescence, 4*, 385-403.
- Csikszentmihalyi, M., & Larson, R. (1984). *Being adolescent*. USA: Basic Books, Inc.
- Davidson, R.J. (1993). Childhood temperament and cerebral asymmetry: A neurobiological substrate of behavioral inhibition. In K.H. Rubin & J.B. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 31-48). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

- Davila, J., & Beck, J.G. (2002). Is social anxiety associated with impairment in close relationships? A preliminary investigation. *Behavior Therapy*, 33, 427-446.
- DeRosier, M.E., & Kupersmidt, J.B. (1991). Costa Rican children's perceptions of their social networks. *Developmental Psychology*, 27, 656-662.
- Dodge, C.S., Heimberg, R.G., Nyman, D., & O'Brien, G.T. (1987). Daily heterosocial interaction of high and low socially anxious college students: A diary study. *Behavior Therapy*, 18, 90-96.
- Duggan, C., Sham, P., Minne, C., Lee, A., & Murray, R. (1998). Quality of parenting and vulnerability to depression: Results from a family study. *Psychological Medicine*, 28, 185 – 191.
- Dumas, J.E., Nilsen, W., & Lynch, A.M. (2001). How much does physical appearance say about the psychological adjustment of competent and dysfunctional children? *Journal of Clinical Child Psychology*, 30, 385-398.
- Dunphy, D. (1963). The social structure of urban adolescent peer groups. *Sociometry*, 26, 230-246.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38, 1025-1034.
- Eng, W., Heimberg, R.G., Hart, T.A., Schneier, F.R., & Liebowitz, M.R. (2001). Attachment in individuals with social anxiety disorder: The relationship among adult attachment styles, social anxiety, and depression. *Emotion*, 4, 365-380.

- Erdley, C.A., Nangle, D.W., Newman, J.E., & Carpenter, E.M. (2001). Children's friendship experiences and psychological adjustment: Theory and research. In D.W. Nangle & C.A. Erdley (Eds.), *The role of friendship in psychological adjustment* (pp. 5-24). San Francisco: Jossey Bass.
- Erdley, C.A., Nangle, D.W., & Gold, J.A. (1998). Operationalizing the construct of friendship among children: A psychometric comparison of sociometric-based definitional methodologies, *Social Development*, 7, 62-71.
- Ernst, J.M., & Cacioppo, J.T. (1999). Lonely hearts: Psychological perspectives on loneliness. *Applied and Preventative Psychology*, 8, 1-22.
- Fabes, R.A. (1983). Adolescents' judgments of the opposite sex. *Adolescence*, 71, 535-540.
- Fabes, R.A., Martin, C.L., & Hanish, L.D. (2003). Young children's play qualities in same-, other-, and mixed-sex peer groups. *Child Development*, 74, 921-932.
- Feiring, C., & Lewis, M. (1987). The child's social network: Sex differences from three to six years. *Sex Roles*, 17, 11-12.
- Feldman, G., & Downey, S.I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, 70, 1327-1342.
- Foa, E.B., Franklin, M.E., Perry, K.J., & Herbert, J.D. (1996). Cognitive biases in generalized social phobia. *Journal of Abnormal Psychology*, 105, 433-439.
- Foster, S. L., Inderbitzen, H. M., & Nangle, D. W. (1993). Assessing acceptance and social skills with peers in childhood. *Behavior Modification*, 17, 255-286.

- Francis, G. (1990). Social phobia in childhood. In M. Hersen & C.G. Last (Eds.), *Handbook of child and adult psychopathology: A longitudinal perspective* (pp. 163-168). New York: Pergamon.
- Frederick, C.M., & Morrison, C.S. (1999). Date selection choices in college students: Making a potential love connection. *North American Journal of Psychology*, 1, 41-50.
- Furman, W. (1989). The development of children's social networks. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 151-172). New York: Wiley.
- Furman, W. (1999). Friends and lovers: The role of peer relationships in adolescent romantic relationships. In A.W. Collins & B. Laursen (Eds.), *Relationships as developmental contexts* (pp. 134-154). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21, 1016-1024.
- Furman, W., & Wehner, E.A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor & G.R. Adams (Eds.), *Personal relationships during adolescence. Advances in adolescent development: An annual book series* (pp. 168-195). Thousand Oaks: Sage Publications.
- Furman, W., & Wehner, E.A. (1997). Adolescent romantic relationships: A developmental perspective. In S. Shulman & W.A. Collins (Eds.), *Romantic relationships in adolescence: Developmental perspectives* (pp. 21-36). San Francisco: Jossey Bass.

- Garcia-Lopez, L.J., Olivares, J., Hidalgo, M.D., Beidel, D.C., & Turner, S.M. (2001). Psychometric properties of the Social Phobia and Anxiety Inventory, the Social Anxiety Scale for Adolescents, the Fear of Negative Evaluation Scale, and the Social Avoidance and Distress Scale in an adolescent Spanish-speaking sample. *Journal of Psychopathology and Behavioral Assessment*, 23, 51-59.
- Ginsburg, G.S., LaGreca, A.M., & Silverman, W.K. (1998). Social anxiety in children with anxiety disorders: Relation with social and emotional functioning. *Journal of Abnormal Child Psychology*, 26, 175-185.
- Glass, C.R., Gottman, J.M., & Shmurak, S.H. (1976). Response-acquisition and cognitive self-statement modification approaches to dating-skills training. *Journal of Counseling Psychology*, 23(6), 520-526.
- Goodyer, I.M., Wright, C., & Altham, P.M. (1989). Recent friendships in anxious and depressed school age children. *Psychological Medicine*, 19, 165-174.
- Gray, M.R., & Steinberg, L. (1999). Adolescent romance and the parent-child relationship: A contextual perspective. In W. Furman, B.B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 235-265). New York: Cambridge University Press.
- Gray, P., & Feldman, J. (1997). Patterns of age mixing and gender mixing among children and adolescents at an ungraded democratic school. *Merrill-Palmer Quarterly*, 43(1), 67-86.

- Grover, R.L., & Nangle, D.W. (2003). Adolescent perceptions of problematic heterosocial situations: A focus group study. *Journal of Youth & Adolescence*, 32, 129-139.
- Grover, R.L., Nangle, D.W., & Zeff, K.R. (in press). The measure of adolescent heterosocial competence: Development and initial construct validation. *Journal of Clinical Child and Adolescent Psychology*.
- Hanna, N.A. (1998). Predictors of friendship quality and peer group acceptance at summer camp. *Journal of Early Adolescence*, 18, 291-318.
- Hanna, N.A., & Berndt, T.J. (1995). Relations between friendship, group acceptance, and evaluations of summer camp. *Journal of Early Adolescence*, 15, 456-475.
- Hansen, D.J., Christopher, J.S., & Nangle, D.W. (1992). Adolescent heterosocial interactions and dating. In V.B. Van Hasselt & M. Hersen (Eds.), *Handbook of social development: A lifespan perspective* (pp. 371-393). New York: Plenum Press.
- Hartup, W.W. (1992). Friendships and their developmental significance. In H. McGurk (Ed.), *Contemporary issues in childhood social development* (pp. 175-205). London: Routledge.
- Hartup, W.W. (1996). The company they keep: Friendships and their developmental significance. *Child Development*, 67, 1-13.
- Hayden-Thomson, L., Rubin, K.H., & Hymel, S. (1987). Sex preference in sociometric choices. *Developmental Psychology*, 23, 558-562.

- Himadi, W. G., Arkowitz, H., Hinton, R., & Perl, J. (1980). Minimal dating and its relationship to other social problems and general adjustment. *Behavior Therapy*, 11, 345-352.
- Hollingshead, A.B. (1975). *Four factor index of social status*. (Available from the Department of Sociology, Yale University, P.O. Box 1965, New Haven, CT 06520).
- Hughes, J.N., Cavell, T.A., & Grossman, P.A. (1997). A positive view of self: Risk or protection for aggressive children? *Development and Psychopathology*, 9, 75-94.
- Hymel, S., Bowker, A., & Woody, E. (1993). Aggressive versus withdrawn unpopular children: Variations in peer and self-perceptions in multiple domains. *Child Development*, 64, 879-896.
- Inderbitzen, H. M. (1994). Adolescent peer social competence: A critical review of assessment methodologies and instruments. In T. H. Ollendick & R. J. Prinz (Eds.), *Advances in clinical child psychology* (pp. 227-259). New York: Plenum.
- Inderbitzen, H.M., Walters, K.S., & Bukowski, A. (1997). The role of social anxiety in adolescent peer relations. Differences among sociometric status groups and rejected subgroups. *Journal of Clinical Child Psychology*, 26, 338-348.
- Kagan, J. (1994). Inhibited and uninhibited temperaments. In W.B. Carey & S.C. McDevitt (Eds.), *Prevention and early intervention: Individual differences as risk factors for the mental health of children* (pp. 35-41). New York: Brunner/Mazel.

- Kagan, J. (1997). Temperament and the reactions to unfamiliarity. *Child Development*, 68, 139-143.
- Kagan, J., & Snidman, N. (1991). Temperamental factors in human development. *American Psychologist*, 46, 856-862.
- Kagan, J., Snidman, N., & Arcus, D. (1993). On the temperamental categories of inhibited and uninhibited children. In K.H. Rubin & J.B. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 19-28). Hillsdale, NJ: Lawrence Erlbaum.
- Keller, M.B., Lavori, P.W., Wunder, J., Beardslee, W.R., Schwartz, C.E., & Roth, J. (1992). Chronic course of anxiety disorders in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 595-599.
- Kerns, K.A. (1994). A longitudinal examination of links between mother-child attachment and children's friendships in early childhood. *Journal of Social & Personal Relationships*, 11, 379-381.
- Kobak, R.R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development*, 59, 135-146.
- Kupersmidt, J.B., Coie, J.D., & Dodge, K.A. (1990). The role of poor peer relationships in the development of disorder. In S.R. Asher & J.D. Coie (Eds.), *Peer rejection in childhood* (pp. 274-305). New York: Cambridge University Press.

- Kuttler, A.F., & LaGreca, A.M. (2004). Linkages among adolescent girls' romantic relationships, best friendships, and peer networks. *Journal of Adolescence*, 27(4), 395-414.
- LaGreca, A.M. (1998). *Social anxiety scales for children and adolescents*. Unpublished copyrighted manual.
- LaGreca, A.M., Dandes, S.K., Wick, P., Shaw, K., & Stone, W.L. (1988). Development of the Social Anxiety Scale for Children: Reliability and concurrent validity. *Journal of Clinical Child Psychology*, 17, 84-91.
- LaGreca, A.M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, 26, 83-94.
- LaGreca, A.M., & Stone, W.L. (1993). Social Anxiety Scale for Children – Revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology*, 22, 17-27.
- Langston, C.A., & Cantor, N. (1989). Social anxiety and social constraint: When making friends is hard. *Journal of Personality and Social Psychology*, 56, 649-661.
- Lapsley, D. K. (1990). Continuity and discontinuity in adolescent social cognitive development. In R. Montemayor, G. R. Adams, & T. P. Gullotta (Eds.), *From childhood to adolescence: A transitional period?* (pp. 183-204). Newbury Park, CA: Sage.
- Lempers, J.D., & Clark-Lempers, D.S. (1993). A functional comparison of same-sex and opposite-sex friendships during adolescence. *Journal of Adolescent Research*, 8, 89-108.

- Lonigan, C.J., & Phillips, B.M. (2001). Temperamental influences on the development of anxiety disorders. In M.W. Vasey & M.R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 60-91). New York: Oxford University Press.
- Lundy, B., Field, T., McBride, C., Field, T., & Largie, S. (1998). Same-sex and opposite-sex best friend interactions among high school juniors and seniors. *Adolescence*, 33, 279-289.
- Maccoby, E.E. (1988). Gender as a social category. *Developmental Psychology*, 24, 755-765.
- Masia, C.L., & Morris, T.L. (1998). Parental factors associated with social anxiety: Methodological limitations and suggestions for integrated behavioral research. *Clinical Psychology: Science and Practice*, 5, 211-228.
- Messer, S.C., & Beidel, D.C. (1994). Psychosocial correlates of childhood anxiety disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 33, 975-983.
- Miller, K.E. (1990). Adolescents' same-sex and opposite-sex peer relations: Sex differences in popularity, perceived social competence, and social cognitive skills. *Journal of Adolescent Research*, 5(2), 222-241.
- Mize, J., & Ladd, G.W. (1990). A cognitive-social learning approach to social skill training with low status preschool children. *Developmental Psychology*, 26, 388-397.

- Montgomery, M.J., & Sorell, G.T. (1998). Love and dating experience in early and middle adolescence: Grade and gender comparisons. *Journal of Adolescence*, 21, 677-689.
- Morison, P., & Masten, A. (1991). Peer reputation in middle childhood as a predictor of adaptation in adolescence: A seven-year follow-up. *Child Development*, 62, 991-1007.
- Morris, T.L. (2001). Social phobia. In M.W. Vasey & M.R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 435-458). New York: Oxford University Press.
- Moss, E., Rousseau, D., Parent, S., St-Laurent, D., & Saintonge, J. (1998). Correlates of attachment at school age: Maternal reported stress, mother-child interaction, and behavior problems. *Child Development*, 69, 1390-1405.
- Mysers, M.G., Stein, M.B., & Aarons, G.A. (2002). Cross validation of the Social Anxiety Scale for Adolescents in a high school sample. *Journal of Anxiety Disorders*, 16, 221-232.
- Nangle, D.W., Erdley, C.A., Newman, J.E., Mason, C.A., & Carpenter, E.M. (2003). Popularity, friendship quantity, and friendship quality: Interactive influences on children's loneliness and depression. *Journal of Clinical Child and Adolescent Psychology*, 32, 546-555.
- Nangle, D. W., & Hansen, D. J. (1993). Relations between social skills and high-risk sexual interactions among adolescents: Current issues and future directions. *Behavior Modification*, 17, 113-135.

- Nangle, D.W., & Hansen, D.J. (1998). Adolescent heterosocial competence revisited: The implications of an extended conceptualization for the prevention of high-risk sexual interactions. *Education and Treatment of Children, 21*, 431-446.
- Neeman, J., Hubbard, J., & Masten, A.S. (1995). The changing importance of romantic relationship involvement in competence from late childhood to late adolescence. *Development and Psychopathology, 7*, 727-750.
- Newcomb, A.F., & Bagwell, C.L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin, 117*, 306-347.
- Newcomb, A.F., & Bagwell, C.L. (1996). The developmental significance of children's friendship. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep* (pp. 289-322). New York: Cambridge University Press.
- Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin, 113*, 99-128.
- Oldenburg, C.M., & Kerns, K.A. (1997). Associations between peer relationships and depressive symptoms: Testing moderator effects of gender and age. *Journal of Early Adolescence, 17*, 319-337.
- Ollendick, T.H., Greene, R.W., Weist, M.D., & Oswald, D.P. (1990). The predictive validity of teacher nominations: A five-year follow-up of at-risk youth. *Journal of Abnormal Child Psychology, 18*, 699-713.

- Ollendick, T.H., Weist, M.D., Borden, M.C., & Greene, R.W. (1992). Sociometric status and academic, behavioral, and psychological adjustment: A five-year longitudinal study. *Journal of Consulting and Clinical Psychology, 60*, 80-87.
- Parker, J.G., & Asher, S.R. (1987). Peer relations and later personal adjustment: Are low accepted children at risk? *Psychological Bulletin, 102*(3), 357-389.
- Parker, J.G., & Asher, S.R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29*, 611-621.
- Parker, J.G., & Gottman, J.M. (1989). Social and emotional development in a relational context: Friendship interaction from early childhood to adolescence. In T.J. Berndt & G.W. Ladd (Eds.), *Peer relationships in child development. Wiley series on personality processes* (pp. 95-131). Oxford, England: John Wiley & Sons.
- Parker, J.G., & Herrera, C. (1996). Interpersonal processes in friendship: A comparison of abused and nonabused children's experiences. *Developmental Psychology, 32*, 1022-1038.
- Peretti, P.O., & Abplanalp, R.R. (2004). Chemistry in the college dating process: Structure and function. *Social Behavior and Personality, 32*, 147-154.
- Phillipsen, L.C. (1999). Associations between age, gender, and group acceptance and three components of friendship quality. *Journal of Early Adolescence, 19*, 438-464.
- Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. *Human Development, 15*, 1-12.

- Prinstein, M.J., & LaGreca, A.M. (2002). Peer crowd affiliation and internalizing distress in childhood and adolescence: A longitudinal follow-back study. *Journal of Research on Adolescence, 12*(3), 325-351.
- Prior, M., Smart, D., Sanson, A., & Oberland, F. (2000). Does shy-inhibited temperament in childhood lead to anxiety problems in adolescence? *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 461-468.
- Prisbell, M. (1997). Dating, social avoidance, and distress. *Psychological Reports, 81*, 463-466.
- Richards, M.H., Crowe, P.A., Larson, R., & Swarr, A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development, 69*(1), 154-163.
- Rowatt, W.C., Cunningham, M.R., & Druen, P.B. (1999). Lying to get a date: The effect of facial physical attractiveness on the willingness to deceive prospective dating partners. *Journal of Social & Personal Relationships, 16*, 209-223.
- Rubin, K.H., & Burgess, K.B. (2001). Social withdrawal and anxiety. In M.W. Vasey & M.R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 407-434). New York: Oxford University Press.
- Rubin, K.H., Bukowski, W., & Parker, J.G. (1998). Peer interactions, relationships, and groups. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Social, emotional and personality development* (5th ed.) (pp. 619-700). New York: John Wiley.

- Rubin, K.H., Chen, X., McDougall, P., Bowker, A., & McKinnon, J. (1995). The Waterloo longitudinal project: Predicting adolescent internalizing and externalizing problems from early and mid-childhood. *Development and Psychopathology*, 7, 751-764.
- Rubin, K.H., & Coplan, R.J. (1992). Peer relationships in childhood. In M. H. Bornstein & M.E. Lamb (Eds.), *Developmental psychology: An advanced textbook* (3rd ed.) (pp. 519-578). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Rubin, K.H., & Stewart, S.L. (1996). Social withdrawal. In E.J. Mash & R.A. Barkley (Eds.), *Child psychopathology* (pp. 277-307). New York: Guilford Press.
- Rutter, M., & Sroufe, A.L. (2000). Developmental psychopathology. *Development and Psychopathology*, 12, 265-296.
- Schneier, F.R., Johnson, J., Hornig, C.D., Liebowitz, M.R., & Weissman, M. (1992). Social phobia: Comorbidity and morbidity in an epidemiologic sample. *Archives of General Psychiatry*, 49, 282-288.
- Schneier, F.R., Heckelman, L.R., Garfinkel, R., & Campeas, R. (1994). Functional impairment in social phobia. *Journal of Clinical Psychiatry*, 55, 322-331.
- Schwartz, C.E., Snidman, N., & Kagan, J. (1999). Adolescent social anxiety as an outcome of inhibited temperament in childhood. *Journal of the American Academy of Child Adolescent Psychiatry*, 38, 1008-1015.
- Seifer, R., & Schiller, M. (1995). The role of parenting sensitivity, infant temperament, and dyadic interaction in attachment theory and assessment. *Monographs of the Society for Research in Child Development*, 60, 146-174.

- Shaughnessy, J.J., Zechmeister, E.B., & Zechmeister, J.S. (2000). *Research methods in psychology: Fifth edition*. New York: McGraw Hill.
- Sippola, L.K. (1999). Getting to know the “other”: The characteristics and developmental significance of other-sex relationships in adolescence. *Journal of Youth and Adolescence*, 28(4), 407-418.
- Spencer, G.A., & Bryant, S.A. (2000). Dating violence: A comparison of rural, suburban, and urban teens. *Journal of Adolescent Health*, 27(5), 302-305.
- Sroufe, A.L. (1997). Psychopathology as an outcome of development. *Development and Psychopathology*, 9, 251-268.
- Sroufe, A.L. (1995). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.
- Sroufe, A.L. (1991). Considering normal and abnormal together: The essence of developmental psychopathology. *Developmental and Psychopathology*, 2, 335-347.
- Stein, M.B., Tancer, M.E., Gelernter, C.S., Vittone, B.J., & Uhde, T.W. (1990). Major depression in patients with social phobia. *American Journal of Psychiatry*, 147, 637-639.
- Steinberg, L. (1999). *Adolescence*. Boston: McGraw Hill College.
- Stemberger, R.T., Turner, S.M., Beidel, D.C., & Calhoun, K.S. (1995). Social phobia: An analysis of possible developmental factors. *Journal of Abnormal Psychology*, 104, 526-531.

- Strauss, C.C., Frame, C., & Forehand, R. (1987). Psychosocial impairment associated with anxiety in children. *Journal of Child Clinical Psychology, 16*, 235-239.
- Strauss, C.C., Lahey, B.B., Frick, P., Frame, C.L., & Hynd, G.W. (1988). Peer social status of children with anxiety disorders. *Journal of Consulting and Clinical Psychology, 56*, 137-141.
- Sullivan, H.S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Thomas, A., & Chess, S. (1985). The behavioral study of temperament. In J. Strelau & F.H. Farley (Eds.), *The biological bases of personality and behavior: Vol. 1. Theories, measurement techniques, and development* (pp. 213-225). Washington, DC: Harper & Row.
- Turk, C.L., Heimberg, R.G., & Hope, D.A. (2001). Social anxiety disorder. In D.H. Barlow (Ed.), *Clinical handbook of psychological disorders* (3rd ed.) (pp. 114 – 153). New York: Guilford Press.
- Turnbull, J.E., George, L.K., Landerman, R., Swartz, M.S., & Blazer, D.G. (1990). Social outcomes related to age of onset among psychiatric disorders. *Journal of Counseling and Clinical Psychology, 58*, 832-839.
- Twentyman, C.T., & McFall, R.M. (1975). Behavioral training of social skills in shy males. *Journal of Consulting and Clinical Psychology, 43*, 384-395.
- Urberg, K.A., Degirmencioglu, S.M., Tolson, J.M., & Halliday-Scher, K. (1995). The structure of adolescent peer networks. *Developmental Psychology, 31*, 540-547.

- Vasey, M.W., & Dadds, M.R. (2001). An introduction to the developmental psychopathology of anxiety. In M.W. Vasey & M.R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 3- 26). New York: Oxford University Press.
- Vaughn, B.E., Azria, M.R., Krzysik, L., Caya, L.R., Bost, K.K., Newell, W., & Kazura, K.L. (2000). Friendship and social competence in a sample of preschool children attending Head Start. *Developmental Psychology*, 36, 326-338.
- Vernberg, E.M. (1990). Psychological adjustment and experiences with peers during early adolescence: Reciprocal, incidental, or unidirectional relationships? *Journal of Abnormal Child Psychology*, 18, 187-198.
- Vernberg, E.M., Abwender, D.A., Ewell, K.K., & Beery, S.H. (1992). Social anxiety and peer relationships in early adolescence: A prospective analysis. *Journal of Clinical Child Psychology*, 21, 189-196.
- Verschueren, K., & Marcoen, A. (1999). Representation of self and socio-emotional competence in kindergartners: Differential and combined effects of attachment to mother and to father. *Child Development*, 69, 1406-1419.
- Warren, S.L., Huston, L., Egeland, B., & Sroufe, L.A. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 637-644.
- Williams, C.L., & Ciminero, A.R. (1978). Development and validation of a heterosocial skills inventory: The survey of heterosocial interactions for females. *Journal of Consulting and Clinical Psychology*, 46, 1547-1548.

- Williams, S., Connolly, J., & Segal, Z.V. (2001). Intimacy in relationships and cognitive vulnerability to depression in adolescent girls. *Cognitive Therapy and Research*, 25, 477-496.
- Zani, B. (1991). Male and female patterns in the discovery of sexuality during adolescence. *Journal of Adolescence*, 14, 163-178.
- Zarbatany, L., McDougall, S., & Hymel, S. (2000). Gender-differentiated experience in the peer-culture: Links to intimacy in preadolescence. *Social Development*, 9, 62-79.

APPENDICES

Appendix A**MEASURES**

Appendix A.1.

Social Anxiety Scale for Adolescents – SAS-A

This is not a test, there are no right or wrong answers. Please answer each item as honestly as you can.

Use these numbers to show HOW MUCH YOU FEEL something is true for you:

- 1 = Not at all
- 2 = Hardly ever
- 3 = Sometimes
- 4 = Most of the time
- 5 = All the time

Now let's try these sentences first. How much does each describe how you feel?

- | | | | | | |
|-------------------------------|---|---|---|---|---|
| a. I like summer vacation.... | 1 | 2 | 3 | 4 | 5 |
| b. I like to eat spinach.... | 1 | 2 | 3 | 4 | 5 |
-
- | | | | | | |
|--|---|---|---|---|---|
| 1. I worry about doing something new in front of others..... | 1 | 2 | 3 | 4 | 5 |
| 2. I like to do things with my friends..... | 1 | 2 | 3 | 4 | 5 |
| 3. I worry about being teased..... | 1 | 2 | 3 | 4 | 5 |
| 4. I feel shy around people I don't know..... | 1 | 2 | 3 | 4 | 5 |
| 5. I only talk to people I know really well..... | 1 | 2 | 3 | 4 | 5 |
| 6. I feel that peers talk about me behind my back..... | 1 | 2 | 3 | 4 | 5 |
| 7. I like to read..... | 1 | 2 | 3 | 4 | 5 |
| 8. I worry about what others think of me..... | 1 | 2 | 3 | 4 | 5 |
| 9. I'm afraid that others will not like me..... | 1 | 2 | 3 | 4 | 5 |
| 10. I get nervous when I talk to peers I don't know very well..... | 1 | 2 | 3 | 4 | 5 |
| 11. I like to play sports..... | 1 | 2 | 3 | 4 | 5 |
| 12. I worry about what others say about me..... | 1 | 2 | 3 | 4 | 5 |
| 13. I get nervous when I meet new people..... | 1 | 2 | 3 | 4 | 5 |
| 14. I worry that others don't like me..... | 1 | 2 | 3 | 4 | 5 |
| 15. I'm quiet when I'm with a group of people..... | 1 | 2 | 3 | 4 | 5 |
| 16. I like to do things by myself..... | 1 | 2 | 3 | 4 | 5 |
| 17. I feel that others make fun of me..... | 1 | 2 | 3 | 4 | 5 |
| 18. If I get into an argument, I worry that the other person will not like me.. | 1 | 2 | 3 | 4 | 5 |
| 19. I'm afraid to invite others to do things with me because they might
say no..... | 1 | 2 | 3 | 4 | 5 |
| 20. I feel nervous when I'm around certain people..... | 1 | 2 | 3 | 4 | 5 |
| 21. I feel shy even with peers I know well..... | 1 | 2 | 3 | 4 | 5 |
| 22. It's hard for me to ask others to do things with me..... | 1 | 2 | 3 | 4 | 5 |

Appendix A.2.

Measure of Adolescent Heterosocial Competence – Male Version

Directions: For each question, select **ONE** item that best matches what you would do in each situation.

1. There is a new girl in your math class. The teacher assigns her a seat near you. You would like to introduce yourself. What would you do?
☐ Walk up to her and say, "Hi, my name is..."
☐ Wait for her to speak to me.
☐ Say hello and see what happens from there.
☐ Wait for an opportunity to say something funny.
2. You are at a school dance. You notice a girl across the room that you would like to talk to. You know her name, but you have never talked to her before. What would you do?
☐ Ask her to dance and then make conversation while dancing.
☐ Go up to her and introduce myself.
☐ I would be too shy to go up and talk to her.
☐ Get a friend to walk over with me and then start talking to her.
3. You are standing outside after school with a bunch of friends. You would like to call one of the girls, but you don't have her phone number. What would you do?
☐ Later, I would ask one of my friends for her number or call information.
☐ Make a remark that would hint for the number.
☐ Go up to her and ask her for it.
☐ I wouldn't do anything.
4. You talk to this girl during class sometimes and you would like to talk to her more. One evening, you look up her number in the phone book. What would you do?
☐ Call her, talk for a while, and then ask her out..
☐ Write down the number, but not call her.
☐ Call her and ask if it was ok to call, then start talking about regular things.
☐ Call her and talk about whatever comes up. Try to make sure there are no awkward pauses.
5. You have had a crush on a girl in school for weeks. You want to find out if she likes you. What would you do?
☐ Call her a lot and try to get her to like me.
☐ I wouldn't do anything.
☐ Ask my friends what she says about me.
☐ Ask her if she likes me and if we could get to know each other better.

6. One of your female friends asks you if you want to go to a movie Friday night with a group of friends. You already have plans to go out with your girlfriend on Friday. When you tell your friend, she says, "You are always spending time with your girlfriend. What about your friends?" What would you do?
- ☐ Apologize and say, "I already made plans, but I would love to hang out with friends on Saturday night."
 - ☐ Say, "You're right." Then reschedule with my girlfriend and spend time with my friends Friday night.
 - ☐ Go out with my girlfriend as planned, but plan on spending next Friday night with friends.
 - ☐ Say, "Why don't we all hang out together?"
7. You are having lunch with a group of friends when one of the girls starts saying something you really disagree with. What would you do?
- ☐ Argue with her until I convince her that I am right.
 - ☐ Argue with her. But if things get too serious, then I would crack a joke.
 - ☐ Talk to other people in the group.
 - ☐ Give my opinion, but at the same time, not put down her opinion.
8. You are concerned that one of your female friends may like you as more than a friend. You enjoy her company, but you do not want to date her. What would you do?
- ☐ Drop hints that I only like her as a friend, like saying, "You're a great friend. It's nice to have a female friend who isn't a girlfriend."
 - ☐ Nothing.
 - ☐ Tell her that she is a good friend, but I am not interested in her romantically.
 - ☐ Talk about other girls and how much I like them.
9. You are good friends with this girl. Recently, you can't seem to stop thinking about her. You realize that you like her as more than a friend. What would you do?
- ☐ Give her hints that I like her.
 - ☐ Nothing.
 - ☐ Ask her out.
 - ☐ Tell her how I feel and say I don't want to lose her friendship if she doesn't feel the same way.
10. One of your female friends asks you to go to the mall one afternoon. You promised you would help out another friend this afternoon. Impatient, she says, "Come on, don't let me down. A bunch of us are going. It would be really fun." You try to say no, but she keeps pressuring you. What would you do?
- ☐ Say, "Sorry, I can't. Maybe some other time."
 - ☐ Tell her he is not being fair by asking me over and over and that I already have plans.
 - ☐ Go to the mall with her.
 - ☐ Call the other friend and schedule another time you could help him out.

11. You have a huge crush on a girl in your English class. You have liked her for about a month. You talk in class and sometimes she stops you in the hall to say hello. You would like to ask her out. What would you do?
- () Ask if she wanted to go somewhere sometime.
 - () Have a friend ask her out for me.
 - () When we are talking in class, I would bring up a movie and see if she is interested in it. If she is, then I'd ask her to see it with me.
 - () Ask her what she is doing this weekend. If she says, "Nothing," then ask her if she wants to do something.
12. One day, a girl you know asks you out on a date. You want to turn her down, but you don't want to hurt her feelings. What would you do?
- () Tell her that I'm not interested in dating right now, but that I value our friendship and let's work on that.
 - () Tell her I like someone else and I'm very sorry.
 - () Tell her I will go with her but only as a friend.
 - () Tell her I am sick.
13. You are out in a first date with this girl. Suddenly you realize that neither of you has said anything for a while. You are getting a little uncomfortable. What would you do?
- () Break the silence by pointing out that neither of us has said anything.
 - () Wait for her to start a conversation.
 - () Ask her what she's thinking about.
 - () Try to start a conversation by asking something like, "How did school go today?"
14. You are going on a date with this girl. When she picks you up, she tells you that two of her girl friends are coming too. You like her friends, but you are surprised they are coming because you wanted to spend some time alone. What would you do?
- () Go along with it and talk to her later to make another date.
 - () Not go. Say, "I thought we would be alone. This will be awkward."
 - () Act normal and hope it doesn't happen again.
 - () Tell her I enjoy her friends, but I was looking forward to spending time alone with her.
15. You are out on a first date with this girl. At the end of the date, she pulls her car up in front of your house and says, "I had a great time." You say, "I had fun, too." You would like to give her a goodnight kiss. What would you do?
- () Wait for her to kiss me.
 - () Lean in and see what she does. According to her reaction, kiss her on the cheek or the mouth.
 - () Don't kiss her this time, but tell her that I would like to. Then next time, kiss her.
 - () Ask if I could kiss her. Kiss her if she says yes.

16. You are out on a date with this girl. You are having a nice time, but it's getting late and you are kind of tired. You want to end the date, but you don't want her to think you don't like spending time with her. What would you do?
- ☐ Say, "It's getting late and I'm tired. I had fun and like spending time with you. We should get together again soon."
 - ☐ Tell her I need to go home and sleep. Call her the next day to let her know I didn't ditch her.
 - ☐ Wait until she wants to go home.
 - ☐ Tell her I have a curfew and have to go home.
17. One day you are at the mall with your girlfriend and you run into a girl you dated a year ago. Later, your girlfriend asks you to tell her about your past relationships. What would you do?
- ☐ Be honest with her. After telling her, smile and say, "I'm really glad I'm with you now."
 - ☐ Tell her all my past girlfriends were losers and they didn't mean anything.
 - ☐ Tell her that I'd like to keep that information to myself. Hopefully, she'd understand.
 - ☐ Tell her it's in the past and I'm over the other girl. But if she keeps asking, I'd tell her about the other relationships.
18. You have plans to go out with your girlfriend after school today. Unfortunately, you have a horrible day in school. You still want to go out with your girlfriend, but you don't know if you will be much fun. What would you do?
- ☐ Act like nothing is wrong. Go out and not let her know I had a bad day.
 - ☐ Talk about my day with my girlfriend and then try to make the rest of the day fun.
 - ☐ Tell her we need to postpone our plans.
 - ☐ Tell her what happened and then ask if she still wants to go out with me today.
19. One day, you are taking a walk with your girlfriend. All of a sudden, she seems kind of angry. You ask her what is wrong, but she says nothing. You would really like her to share her feelings with you. What would you do?
- ☐ Say, "Something is wrong and maybe we should talk about it. It's fine if you don't want to talk, but I can't help you if I don't know what is wrong."
 - ☐ Try not to pressure her into telling me, but just show concern towards her so that she might open up and tell me.
 - ☐ Tell her if she can't be open with me, then I don't want a relationship with her.
 - ☐ Do things to take her mind off of whatever is bothering her..
20. You have been dating this girl for three months and you really like her. In fact, you think you love her. You want to tell her how you feel about her, but just thinking about it makes you nervous. What would you do?
- ☐ Write a letter and give it to her.
 - ☐ Wait another couple of months to make sure the feeling are for real.
 - ☐ Wait until she says it first.
 - ☐ Say, "I've never felt this way about a girl before."

21. You and this girl have gone out on four dates. You really like her and would like her to be your girlfriend. The next time you are talking on the phone, you want to talk about commitment. What would you do?
- ☐ Ask her how she thinks things are going and if she thinks of us as anything more. Then tell her how I feel.
 - ☐ Say, "So how do you feel about us?"
 - ☐ Talk about the past four dates and try to bring up the commitment word in a casual way so as not to force it on her.
 - ☐ Not say anything. If she wants to commit, she will say something.
22. Sometimes your girlfriend says things about other people that you don't agree with. One day, she starts talking about a teacher at school. You don't agree with what she is saying. What would you do?
- ☐ Be polite but tell her you think she is wrong.
 - ☐ Tell her not to talk about the teacher.
 - ☐ Not say anything.
 - ☐ Talk to her alone sometime and tell her how I feel.
23. You want your girlfriend to spend more time with you. It seems like every time you call her, she's over at a friend's house. Last weekend, you wanted to spend either Friday or Saturday night together, but she already had plans to hang out with her friends. What would you do?
- ☐ Say, "What's the point of us being together if I never get to see you and you never have time for us. Maybe you should think about whether this relationship is something you want."
 - ☐ Say, "I understand friends can be more important at times but I'd like to see you and spend more time with you."
 - ☐ Ask, "Why do your friends get more attention than I do?"
 - ☐ Tell her that we need to spend more time together, even if it is with her friends.
24. You have dated this girl for four months. You still like her, but you think you might like to date other people. You want to break up with her. What would you do?
- ☐ Tell her how I feel and that I want to move on.
 - ☐ Tell her I feel like we should both see other people, but I would still like to be close friends.
 - ☐ Tell her I still like her but I need to have a little space and see a few other people before I can know for sure how much I like her.
 - ☐ Stay with her because there is no use in trying to date other people if you have been with the same person for four months.
25. You broke up with your girlfriend about one month ago. You don't want to date her again, but you kind of miss her friendship. What would you do?
- ☐ Say, "I miss hanging out with you and our long talks. I think we could be friends if you feel the same way, but if it's too hard I understand."
 - ☐ Call her and explain that I want to be her friend, but that's it.
 - ☐ Try talking to her and just be friendly.
 - ☐ Nothing.

26. You and your girlfriend have been dating a long time. Lately, your relationship has become more physical. You have never talked about sex, but you think you should before things go any further. What would you do?
- ☐ Tell her I want to have sex and ask how she feels about it.
 - ☐ Talk about it with her and make sure we agree.
 - ☐ I couldn't talk about it unless she brought it up.
 - ☐ Say, "Look, before we get more physical, can we talk about what we are doing and how we stand?"
27. You and this girl have gone on a few dates together. Last time you went out, you ended up kissing for a while at the end of the date. You had a good time, but you know you are not ready to go much further physically. When you go out this weekend, you would like to tell her about what you are ready to do and what you are not ready to do sexually. What would you do?
- ☐ Tell her it's going too fast and I want to get to know him better.
 - ☐ Tell her exactly how I feel so there are no misunderstandings.
 - ☐ Ask how she feels first, then tell her how I feel.
 - ☐ It would be hard to bring the subject up. I would just hope she didn't want to go further.
28. You and your girlfriend have decided to have sex together. You haven't talked about birth control. One day, she calls you up and tells you her parents will be out of town this weekend. You think this might be a good time to talk about contraception. What would you do?
- ☐ Tell her I'll come over. I would have condoms with me when I went over.
 - ☐ Ask her if she is on birth control pills and ask if I could wear a condom.
 - ☐ Go over this weekend and wait until she brings it up.
 - ☐ Ask her what we should use for protection.
29. You and your girlfriend have decided to have sex. You have been told that before you have sex with somebody you should talk to her about sexually transmitted diseases. What would you do?
- ☐ Ask her if she has ever had sex before and ask about the past partners. Make sure she uses protection.
 - ☐ Ask her who she has had sex with and if she has any diseases.
 - ☐ Ask how many other people she has had sex with.
 - ☐ Ignore talking about this and assume she knows.
30. Thursday, you have a huge test. Right before class, this girl catches you in the hall and says, "I forgot about the test! If I fail this test, I'm going to flunk the class. Will you push your paper to the side of the desk so I can see the answers?" What would you do?
- ☐ Say, "No, that's cheating and I don't want to get in trouble. I can help you study if you want some help."
 - ☐ I'd go along with it.
 - ☐ Say, "Just do your best and you'll do fine."
 - ☐ Just smile and say, "You should have studied."

31. You are one of only three guys in your English class. One day the class reads a short story together. One of the girls shares what she thinks the story is about. You disagree. You want to share your version of the story with the teacher, but you think most of the girls will disagree. What would you do?
- ☐ () Keep my opinion to myself.
 - ☐ () Tell the teacher what I thought after class.
 - ☐ () Say what I have to say, but don't purposefully try to offend anyone.
 - ☐ () Raise my hand and tell my version.
32. You are in gym class. The teacher has given the class free time for the last 15 minutes. A girl in your class walks over to you dribbling a basketball and says, "I bet I can make more free throws than you." What would you do?
- ☐ () Say, "You're on, and if I win, you have to hang out with me on Friday."
 - ☐ () Say, "Maybe you can, but we'll never find out unless you shoot."
 - ☐ () Say, "I don't really care."
 - ☐ () I'd play with her.
33. You are in the lunchroom eating with some friends. You want to say something to this girl who is in one of your classes. She is sitting at a table with several of her friends. What would you do?
- ☐ () I wouldn't do anything.
 - ☐ () Wait until she wasn't with so many friends.
 - ☐ () Go sit at their table and join in with the conversation.
 - ☐ () Pass her a note.
34. You are hanging out with a group of friends (both girls and boys). Some of the group decides to go to a movie and the rest of the group decides to do something else. You don't want to go to a movie, but the other group is all girls. What would you do?
- ☐ () Try to convince a guy to come with me and then go with the girls.
 - ☐ () Go to the movies.
 - ☐ () Say, "I'll stay home tonight."
 - ☐ () Say, "Can we do both? Or one now and the other later?" Talk it out.
35. You hear that there is a new club forming at school. You go to the first meeting after school on Wednesday. As the meeting begins, you look around and realize that you are the only guy at the meeting. What would you do?
- ☐ () If it was a good club, I'd stay in it.
 - ☐ () Leave.
 - ☐ () Stay in the club and tell no one outside the club that I am the only guy.
 - ☐ () Get some of my friends to join.
36. You are at a party with a bunch of friends. A girl friend comes over to you and offers you a beer. When you say no, she says, "Oh come on, I brought this over just for you. You have to drink it!" What would you do?
- ☐ () Drink it.
 - ☐ () Tell her why I am not drinking.
 - ☐ () Say, "No thanks," and walk away.
 - ☐ () Say, "Maybe later," and don't do it later.

37. You and your girlfriend are over at her house. Your girlfriend starts talking about some weed she bought from another guy. You know you would get into big trouble if your parents found out that you had smoked pot. What would you do?
- ☐ Say, "No, I'm not into that stuff."
 - ☐ Say, "Okay," and hope my parents didn't find out.
 - ☐ Say, "No thanks, I'm all set."
 - ☐ Get up and leave. I don't want to risk getting in trouble.
38. You are at a party with a bunch of friends. You notice that the girl you have a crush on is at the party. Later, she comes over to you and you talk to her for a while. She puts her arm around you and you think she might kiss you. You really like this girl, but you think she might be high. What would you do?
- ☐ Say, "Maybe later."
 - ☐ If she kisses me, say, "Is this because you are high or because you like me?"
 - ☐ Say, "Talk to me when you aren't high."
 - ☐ Act like I don't know what she is doing and start talking to someone else.
39. Last week, this girl at school started winking at you whenever you looked at her. This week, she started making kissing noises when you walk by. You are not interested in her and you told her to stop it. Today when you arrive to class, she says, "Hey sexy." What would you do?
- ☐ Feel flattered and smile.
 - ☐ Ask her to please stop and if she doesn't, go talk to an adult.
 - ☐ Tell her that I am not interested and ignore her.
 - ☐ Play along and laugh so it would look like I thought she was joking.
40. A few weeks ago, a girl you work with started commenting on what you wear to work. One day, she complemented you on your shirt. Another day, she said blue was a nice color on you. Yesterday, she said your pants fit, "nice and tight." Afterward you felt really creepy. What would you do?
- ☐ Nothing.
 - ☐ Not wear anything tight again.
 - ☐ Tell her to stop looking at me and tell a friend at work.
 - ☐ Tell her I feel uncomfortable. If she doesn't stop, tell my supervisor.

Appendix A.3.

Measure of Adolescent Heterosocial Competence -- MAHC- Female Version

Directions: For each question, select **ONE** item that best matches what you would do in each situation.

1. There is a new guy in your math class. The teacher assigns him a seat near you. You would like to introduce yourself. What would you do?
☐ Walk up to him and say, "Hi, my name is..."
☐ Wait for him to speak to me.
☐ Say hello and see what happens from there.
☐ Wait for an opportunity to say something funny.
2. You are at a school dance. You notice a guy across the room that you would like to talk to. You know his name, but you have never talked to him before. What would you do?
☐ Ask him to dance and then make conversation while dancing.
☐ Go up to him and introduce myself.
☐ I would be too shy to go up and talk to him.
☐ Get a friend to walk over with me and then start talking to him.
3. You are standing outside after school with a bunch of friends. You would like to call one of the guys, but you don't have his phone number. What would you do?
☐ Later, I would ask one of my friends for his number or call information.
☐ Make a remark that would hint for the number.
☐ Go up to him and ask him for it.
☐ I wouldn't do anything.
4. You talk to this guy during class sometimes and you would like to talk to him more. One evening, you look up his number in the phone book. What would you do?
☐ Call him, talk for a while, and then ask him out..
☐ Write down the number, but not call him.
☐ Call him and ask if it was ok to call, then start talking about regular things.
☐ Call him and talk about whatever comes up. Try to make sure there are no awkward pauses.
5. You have had a crush on a guy in school for weeks. You want to find out if he likes you. What would you do?
☐ Call him a lot and try to get him to like me.
☐ I wouldn't do anything.
☐ Ask my friends what he says about me.
☐ Ask him if he likes me and if we could get to know each other better.

6. One of your guy friends asks you if you want to go to a movie Friday night with a group of friends. You already have plans to go out with your boyfriend on Friday. When you tell your friend, he says, "You are always spending time with your boyfriend. What about your friends?" What would you do?
- ☐ Apologize and say, "I already made plans, but I would love to hang out with friends on Saturday night.
 - ☐ Say, "You're right." Then reschedule with my boyfriend and spend time with my friends Friday night.
 - ☐ Go out with my boyfriend as planned, but plan on spending next Friday night with friends.
 - ☐ Say, "Why don't we all hang out together?"
7. You are having lunch with a group of friends when one of the guys starts saying something you really disagree with. What would you do?
- ☐ Argue with him until I convince him that I am right.
 - ☐ Argue with him. But if things get too serious, then I would crack a joke.
 - ☐ Talk to other people in the group.
 - ☐ Give my opinion, but at the same time, not put down his opinion.
8. You are concerned that one of your guy friends may like you as more than a friend. You enjoy his company, but you do not want to date him. What would you do?
- ☐ Drop hints that I only like him as a friend, like saying, "You're a great friend. It's nice to have a guy friend who isn't a boyfriend."
 - ☐ Nothing.
 - ☐ Tell him that he is a good friend, but I am not interested in him romantically.
 - ☐ Talk about other guys and how much I like them.
9. You are good friends with this guy. Recently, you can't seem to stop thinking about him. You realize that you like him as more than a friend. What would you do?
- ☐ Give him hints that I like him.
 - ☐ Nothing.
 - ☐ Ask him out.
 - ☐ Tell him how I feel and say I don't want to lose his friendship if he doesn't feel the same way.
10. One of your guy friends asks you to go to the mall one afternoon. You promised you would help out another friend this afternoon. Impatient, he says, "Come on, don't let me down. A bunch of us are going. It would be really fun." You try to say no, but he keeps pressuring you. What would you do?
- ☐ Say, "Sorry, I can't. Maybe some other time."
 - ☐ Tell him he is not being fair by asking me over and over and that I already have plans.
 - ☐ Go to the mall with him.
 - ☐ Call the other friend and schedule another time you could help her out.

11. You have a huge crush on a boy in your English class. You have liked him for about a month. You talk in class and sometimes he stops you in the hall to say hello. You would like to ask him out. What would you do?
- () Ask if he wanted to go somewhere sometime.
 - () Have a friend ask him out for me.
 - () When we are talking in class, I would bring up a movie and see if he is interested in it. If he is, then I'd ask him to see it with me.
 - () Ask him what he is doing this weekend. If he says, "Nothing," then ask him if he wants to do something.
12. One day, a guy you know asks you out on a date. You want to turn him down, but you don't want to hurt his feelings. What would you do?
- () Tell him that I'm not interested in dating right now, but that I value our friendship and let's work on that.
 - () Tell him I like someone else and I'm very sorry.
 - () Tell him I will go with him but only as a friend.
 - () Tell him I am sick.
13. You are out in a first date with this guy. Suddenly you realize that neither of you has said anything for a while. You are getting a little uncomfortable. What would you do?
- () Break the silence by pointing out that neither of us has said anything.
 - () Wait for him to start a conversation.
 - () Ask him what he's thinking about.
 - () Try to start a conversation by asking something like, "How did school go today?"
14. You are going on a date with this guy. When he picks you up, he tells you that two of his guy friends are coming too. You like his friends, but you are surprised they are coming because you wanted to spend some time alone. What would you do?
- () Go along with it and talk to him later to make another date.
 - () Not go. Say, "I thought we would be alone. This will be awkward."
 - () Act normal and hope it doesn't happen again.
 - () Tell him I enjoy his friends, but I was looking forward to spending time alone with him.
15. You are out on a first date with this guy. At the end of the date, he pulls his car up in front of your house and says, "I had a great time." You say, "I had fun, too." You would like to give him a goodnight kiss. What would you do?
- () Wait for him to kiss me.
 - () Lean in and see what he does. According to his reaction, kiss him on the cheek or the mouth.
 - () Don't kiss him this time, but tell him that I would like to. Then next time, kiss him.
 - () Ask if I could kiss him. Kiss him if he says yes.

16. You are out on a date with this guy. You are having a nice time, but it's getting late and you are kind of tired. You want to end the date, but you don't want him to think you don't like spending time with him. What would you do?
- ☐ Say, "It's getting late and I'm tired. I had fun and like spending time with you. We should get together again soon."
 - ☐ Tell him I need to go home and sleep. Call him the next day to let him know I didn't ditch him.
 - ☐ Wait until he wants to go home.
 - ☐ Tell him I have a curfew and have to go home.
17. One day you are at the mall with your boyfriend and you run into a guy you dated a year ago. Later, your boyfriend asks you to tell him about your past relationships. What would you do?
- ☐ Be honest with him. After telling him, smile and say, "I'm really glad I'm with you now."
 - ☐ Tell him all my past boyfriends were losers and they didn't mean anything.
 - ☐ Tell him that I'd like to keep that information to myself. Hopefully, he'd understand.
 - ☐ Tell him it's in the past and I'm over the other guy. But if he keeps asking, I'd tell him about the other relationships.
18. You have plans to go out with your boyfriend after school today. Unfortunately, you have a horrible day in school. You still want to go out with your boyfriend, but you don't know if you will be much fun. What would you do?
- ☐ Act like nothing is wrong. Go out and not let him know I had a bad day.
 - ☐ Talk about my day with my boyfriend and then try to make the rest of the day fun.
 - ☐ Tell him we need to postpone our plans.
 - ☐ Tell him what happened and then ask if he still wants to go out with me today.
19. One day, you are taking a walk with your boyfriend. All of a sudden, he seems kind of angry. You ask him what is wrong, but he says nothing. You would really like him to share his feelings with you. What would you do?
- ☐ Say, "Something is wrong and maybe we should talk about it. It's fine if you don't want to talk, but I can't help you if I don't know what is wrong."
 - ☐ Try not to pressure him into telling me, but just show concern towards him so that he might open up and tell me.
 - ☐ Tell him if he can't be open with me, then I don't want a relationship with him.
 - ☐ Do things to take his mind off of whatever is bothering him.
20. You have been dating this guy for three months and you really like him. In fact, you think you love him. You want to tell him how you feel about him, but just thinking about it makes you nervous. What would you do?
- ☐ Write a letter and give it to him.
 - ☐ Wait another couple of months to make sure the feeling are for real.
 - ☐ Wait until he says it first.
 - ☐ Say, "I've never felt this way about a guy before."

21. You and this guy have gone out on four dates. You really like him and would like him to be your boyfriend. The next time you are talking on the phone, you want to talk about commitment. What would you do?
- ☐ Ask him how he thinks things are going and if he thinks of us as anything more. Then tell him how I feel.
 - ☐ Say, "So how do you feel about us?"
 - ☐ Talk about the past four dates and try to bring up the commitment word in a casual way so as not to force it on him.
 - ☐ Not say anything. If he wants to commit, he will say something.
22. Sometimes your boyfriend says things about other people that you don't agree with. One day, he starts talking about a teacher at school. You don't agree with what he is saying. What would you do?
- ☐ Be polite but tell him you think he is wrong.
 - ☐ Tell him not to talk about the teacher.
 - ☐ Not say anything.
 - ☐ Talk to him alone sometime and tell him how I feel.
23. You want your boyfriend to spend more time with you. It seems like every time you call him, he's over at a friend's house. Last weekend, you wanted to spend either Friday or Saturday night together, but he already had plans to hang out with his friends. What would you do?
- ☐ Say, "What's the point of us being together if I never get to see you and you never have time for us. Maybe you should think about whether this relationship is something you want."
 - ☐ Say, "I understand friends can be more important at times but I'd like to see you and spend more time with you."
 - ☐ Ask, "Why do your friends get more attention than I do?"
 - ☐ Tell him that we need to spend more time together, even if it is with his friends.
24. You have dated this guy for four months. You still like him, but you think you might like to date other people. You want to break up with him. What would you do?
- ☐ Tell him how I feel and that I want to move on.
 - ☐ Tell him I feel like we should both see other people, but I would still like to be close friends.
 - ☐ Tell him I still like him but I need to have a little space and see a few other people before I can know for sure how much I like him.
 - ☐ Stay with him because there is no use in trying to date other people if you have been with the same person for four months.
25. You broke up with your boyfriend about one month ago. You don't want to date him again, but you kind of miss his friendship. What would you do?
- ☐ Say, "I miss hanging out with you and our long talks. I think we could be friends if you feel the same way, but if it's too hard I understand."
 - ☐ Call him and explain that I want to be his friend, but that's it.
 - ☐ Try talking to him and just be friendly.
 - ☐ Nothing.

26. You and your boyfriend have been dating a long time. Lately, your relationship has become more physical. You have never talked about sex, but you think you should before things go any further. What would you do?
- ☐ Tell him I want to have sex and ask how he feels about it.
 - ☐ Talk about it with him and make sure we agree.
 - ☐ I couldn't talk about it unless he brought it up.
 - ☐ Say, "Look, before we get more physical, can we talk about what we are doing and how we stand?"
27. You and this guy have gone on a few dates together. Last time you went out, you ended up kissing for a while at the end of the date. You had a good time, but you know you are not ready to go much further physically. When you go out this weekend, you would like to tell him about what you are ready to do and what you are not ready to do sexually. What would you do?
- ☐ Tell him it's going too fast and I want to get to know him better,
 - ☐ Tell him exactly how I feel so there are no misunderstandings.
 - ☐ Ask how he feels first, then tell him how I feel.
 - ☐ It would be hard to bring the subject up. I would just hope he didn't want to go further.
28. You and your boyfriend have decided to have sex together. You haven't talked about birth control. One day, he calls you up and tells you his parents will be out of town this weekend. You think this might be a good time to talk about contraception. What would you do?
- ☐ Tell him I'll come over. I would have condoms with me when I went over.
 - ☐ Consider going on birth control pills and ask him if he would wear a condom.
 - ☐ Go over this weekend and wait until he brings it up.
 - ☐ Ask him what we should use for protection.
29. You and your boyfriend have decided to have sex. You have been told that before you have sex with somebody you should talk to him about sexually transmitted diseases. What would you do?
- ☐ Ask him if he has ever had sex before and ask about the past partners. Make sure he uses protection.
 - ☐ Ask him who he has had sex with and if he has any diseases.
 - ☐ Ask how many other people he has had sex with.
 - ☐ Ignore talking about this and assume he knows.
30. Thursday, you have a huge test. Right before class, this guy catches you in the hall and says, "I forgot about the test! If I fail this test, I'm going to flunk the class. Will you push your paper to the side of the desk so I can see the answers?" What would you do?
- ☐ Say, "No, that's cheating and I don't want to get in trouble. I can help you study if you want some help.
 - ☐ I'd go along with it.
 - ☐ Say, "Just do your best and you'll do fine."
 - ☐ Just smile and say, "You should have studied."

31. You are one of only three girls in your English class. One day the class reads a short story together. One of the boys shares what he thinks the story is about. You disagree. You want to share your version of the story with the teacher, but you think most of the boys will disagree. What would you do?
- ☐ () Keep my opinion to myself.
 - ☐ () Tell the teacher what I thought after class.
 - ☐ () Say what I have to say, but don't purposefully try to offend anyone.
 - ☐ () Raise my hand and tell my version.
32. You are in gym class. The teacher has given the class free time for the last 15 minutes. A guy in your class walks over to you dribbling a basketball and says, "I bet I can make more free throws than you." What would you do?
- ☐ () Say, "You're on, and if I win, you have to hang out with me on Friday."
 - ☐ () Say, "Maybe you can, but we'll never find out unless you shoot."
 - ☐ () Say, "I don't really care."
 - ☐ () I'd play with him.
33. You are in the lunchroom eating with some friends. You want to say something to this guy who is in one of your classes. He is sitting at a table with several of his friends. What would you do?
- ☐ () I wouldn't do anything.
 - ☐ () Wait until he wasn't with so many friends.
 - ☐ () Go sit at their table and join in with the conversation.
 - ☐ () Pass him a note.
34. You are hanging out with a group of friends (both girls and boys). Some of the group decides to go to a movie and the rest of the group decides to do something else. You don't want to go to a movie, but the other group is all guys. What would you do?
- ☐ () Try to convince a girl to come with me and then go with the guys.
 - ☐ () Go to the movies.
 - ☐ () Say, "I'll stay home tonight."
 - ☐ () Say, "Can we do both? Or one now and the other later?" Talk it out.
35. You hear that there is a new club forming at school. You go to the first meeting after school on Wednesday. As the meeting begins, you look around and realize that you are the only girl at the meeting. What would you do?
- ☐ () If it was a good club, I'd stay in it.
 - ☐ () Leave.
 - ☐ () Stay in the club and tell no one outside the club that I am the only girl.
 - ☐ () Get some of my friends to join.

36. You are at a party with a bunch of friends. A guy friend comes over to you and offers you a beer. When you say no, he says, "Oh come on, I brought this over just for you. You have to drink it!" What would you do?
- ☐ Drink it.
 - ☐ Tell him why I am not drinking.
 - ☐ Say, "No thanks," and walk away.
 - ☐ Say, "Maybe later," and don't do it later.
37. You and your boyfriend are over at his house. Your boyfriend starts talking about some weed he bought from another guy. You know you would get into big trouble if your parents found out that you had smoked pot. What would you do?
- ☐ Say, "No, I'm not into that stuff."
 - ☐ Say, "Okay," and hope my parents didn't find out.
 - ☐ Say, "No thanks, I'm all set."
 - ☐ Get up and leave. I don't want to risk getting in trouble.
38. You are at a party with a bunch of friends. You notice that the guy you have a crush on is at the party. Later, he comes over to you and you talk to him for a while. He puts his arm around you and you think he might kiss you. You really like this guy, but you think he might be high. What would you do?
- ☐ Say, "Maybe later."
 - ☐ If he kisses me, say, "Is this because you are high or because you like me?"
 - ☐ Say, "Talk to me when you aren't high."
 - ☐ Act like I don't know what he is doing and start talking to someone else.
39. Last week, this guy at school started winking at you whenever you looked at him. This week, he started making kissing noises when you walk by. You are not interested in him and you told him to stop it. Today when you arrive to class, he says, "Hey sexy." What would you do?
- ☐ Feel flattered and smile.
 - ☐ Ask him to please stop and if he doesn't, go talk to an adult.
 - ☐ Tell him that I am not interested and ignore him.
 - ☐ Play along and laugh so it would look like I thought he was joking.
40. A few weeks ago, a guy you work with started commenting on what you wear to work. One day, he complimented you on your shirt. Another day, he said blue was a nice color on you. Yesterday, he said your pants fit, "nice and tight." Afterward you felt really creepy. What would you do?
- ☐ Nothing.
 - ☐ Not wear anything tight again.
 - ☐ Tell him to stop looking at me and tell a friend at work.
 - ☐ Tell him I feel uncomfortable. If he doesn't stop, tell my supervisor.

Appendix A.4.

Peer Relationship Questionnaire (PRQ)

[illegible]

- A. Strongly Disagree D. Agree
B. Disagree E. Strongly Agree
C. Neither Agree Nor Disagree

The next questions ask about "dating." By "dating," we mean spending time with someone you are seeing or going out with. Examples of this might include going to the movies, a game, a party, or hanging out at home. It doesn't have to be a formal date or something you planned in advance and it may be with a small group. The term "date" includes both one-time dates and time together as part of long-term relationships.

Please use the following for questions 6-8.

- A. Not allowed to date
- B. Not dating now
- C. Rarely date
- D. Dating or seeing one person casually
- E. Dating or seeing more than one person casually
- F. Mostly going out with one person and dating a few others
- G. Have a boy/girlfriend (and only see each other)
- H. Having a serious relationship with one person.
- I. Planning to get engaged, married, or live together
- J. Engaged, married, or living with someone

6. Which best describes you now? A B C D E F G H I J
7. Which usually describes you? A B C D E F G H I J
8. Which describes what you would like to be doing now? A B C D E F G H I J

9. When did you FIRST do each of the following? (if you have)

- A. Become romantically interested in boys/girls
 - a. _____ Grade
 - b. I haven't yet
- B. Have a "crush" on someone
 - a. _____ Grade
 - b. I haven't yet
- C. Feel at the time that you were "in love" with someone you were dating
 - a. _____ Grade
 - b. I haven't yet
- D. Hang around with both boys and girls
 - a. _____ Grade
 - b. I haven't yet
- E. Went to movies, concerts, sports, activities, and places with both boys and girls (but not as a date)
 - a. _____ Grade
 - b. I haven't yet
- F. Meet or go out with a group of boys and girls at night
 - a. _____ Grade
 - b. I haven't yet
- G. Went to dances or parties where there were both boys and girls
 - a. _____ Grade
 - b. I haven't yet
- H. Had close friends of the opposite sex whom you were not romantically involved with
 - a. _____ Grade
 - b. I haven't yet

- I. Dated or went out with someone, but with a group of friends
 a. _____ Grade b. I haven't yet
- J. Dated or went out with someone, just the two of you
 a. _____ Grade b. I haven't yet
- K. Dated or saw a few different people over the year
 a. _____ Grade b. I haven't yet
- L. Dated or went out with one person on a fairly regular basis for at least one month
 a. _____ Grade b. I haven't yet
- M. Had a boy/girlfriend
 a. _____ Grade b. I haven't yet
- N. Have a serious relationship
 a. _____ Grade b. I haven't yet
- O. Had a committed relationship in which you were planning to get engaged, married, or live together
 a. _____ Grade b. I haven't yet
- P. Got engaged, married, or lived with someone
 a. _____ Grade b. I haven't yet
10. What describes you best when you are not dating someone.
- A. I make a lot of effort to meet or get to know people whom I could date.
 - B. I make some efforts to meet or get to know people whom I could date.
 - C. I don't make many efforts, unless I am really interested in someone.
 - D. I really do not make any efforts. I just let things happen if they are going to happen.
 - E. I am not interested in dating.
 - F. I am not allowed to date.
11. Do you agree or disagree with the following statement: I think of myself as a "player."
- A. Strongly Disagree
 - B. Disagree
 - C. Neither Agree Nor Disagree
 - D. Agree
 - E. Strongly Agree
12. How satisfied have you been with your romantic or dating life (or not dating, if you don't date)?
- A. Very dissatisfied
 - B. Dissatisfied
 - C. Neither dissatisfied nor satisfied
 - D. Satisfied
 - E. Very satisfied

**** If you haven't started dating, you may STOP here. ****
(If you have started dating, please continue.)

13. How many different people have you dated or been seeing in the last 12 months?
 _____ (please write a number)
14. How many different people have you dated or been seeing since you began dating?
 _____ (please write a number)
15. Since you started dating, how often have you been in a relationship or dating people?
- | | |
|---------------------------|---------------------|
| A. Not Very Often | D. Most of the time |
| B. Some of the Time | E. Almost Always |
| C. About Half of the Time | |
16. Do you usually casually date or have long relationships?
- | | |
|--------------------------------|---------------------------------------|
| A. Almost always casually date | D. Mostly longer relationships |
| B. Mostly casually date | E. Almost always longer relationships |
| C. About half and half | |
17. How long do your relationships typically last?
- | | |
|--------------------|---------------------|
| A. 2 weeks or less | D. 3-6 months |
| B. 2-4 weeks | E. 7-12 months |
| C. 1-2 months | F. More than a year |
18. How many people have cheated on you?
- | |
|--------------------------------------|
| A. _____partners (write in a number) |
| B. Nobody has cheated on me. |
19. How many people have you cheated on?
- | |
|--------------------------------------|
| A. _____partners (write in a number) |
| B. I have not cheated on anybody. |
20. Who has usually initiated the breakup of past relationships?
- | | |
|---------------------------|------------------------|
| A. They almost always did | D. I usually did |
| B. They usually did | E. I almost always did |
| C. About even | |

Appendix A.6.

Network of Relationships Inventory (NRI)

ID # _____

Everyone has a number of people who are important in his or her life. These questions ask about your relationships with each of the following people: your mother, your father, a sibling, a relative, a grand-parent, a same-sex friend, and an opposite-sex friend.

The first questions ask you to identify your mother figure, your father figure, a sibling, a relative, a grandparent, and two friends about whom you will be answering the questions.

1. Circle the **mother figure** you will be describing. (If you have both, choose the one you think of as your primary mother figure.)

- A. Biological/Adopted Mother
- B. Step-Mother (or Father's Significant Other)
- C. Other _____

2. Circle the **father figure** you will be describing. (If you have both, choose the one you think of as your primary father figure.)

- A. Biological/Adopted Father
- B. Step-Father (or Mother's Significant Other)
- C. Other _____

3. If one of your **brothers or sisters** is participating in this study also, please choose him or her. If you do not have a sibling taking part in this study, please describe your relationship with the sibling you consider to be most important/closest to you. (If several are equally important/close, just select one.) **If you do not have a sibling, leave these questions blank.**

Your Sibling's First Name _____

How old is s/he? _____ years old.

4. Now we would like you to choose a **relative** who is/was most important to you. Is this person
a
a) **grandmother**, b) **grandfather**, c) **aunt**, or d) **uncle**? (Please circle one.) The relative's first
name
is _____.

5. Now we would like you to choose a boy/girl friend whom you are dating or dated. You may choose someone you are seeing now, or someone you went out with earlier in high school. If you choose a past boy/girl friend, please answer the questions as you would have when you were in the relationship.

Boy/Girl Friend's First Name _____

How long is/was the relationship? ____ years ____ months (*please fill in numbers*)

Are you seeing this person now? A. Yes B. No

6. Please choose the most important **same-sex friend** you have had in high school. You may select someone who is your most important same-sex friend now, or who was your most important same-sex friend earlier in high school. **Do not choose a sibling.** If you select a person with whom you are no longer friends, please answer the questions as you would have when you were in the relationship.

Same-Sex Friend's First Name _____

How long is/was the friendship? ____ years ____ months (*please fill in numbers*)

Are you close friends now?

A. Yes B. Friends, but not as close as before C. No

7. Please choose the most important **other-sex friend** you have had in high school. You may select someone who is your most important other-sex friend now, or who was your most important other-sex friend earlier in high school. **Do not choose a sibling, relative, or boy/girl friend—even if she or he is or was your best friend.** If you select a person with whom you are no longer friends, just answer the questions as you would have when you were in the relationship.

Other-Sex Friend's First Name _____

How long is/was the friendship? ____ years ____ months (*please fill in numbers*)

Are you close friends now?

A. Yes B. Friends, but not as close as before C. No

8. Sometimes we would also like you to answer the following questions about some **extra person**. If there is a name written in the space below, please answer about this person also.

Extra Person _____

Relationship _____

9. How much free time do you spend with this person?

10. How much do you and this person get upset with or mad at each other?

11. How much does this person teach you how to do things that you don't know?

	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

16. How much does this person treat you like you're admired and respected?

17. Who tells the other person what to do more often, you or this person?

	S/he always does	S/he often does	Ab out the same	I often do	I always do	S/he always does	S/he often does	Ab out the same	I often do	I always do	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

18. How sure are you that this relationship will last no matter what?

	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

19. How much do you play around and have fun with this person?

	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

20. How much do you and this person disagree and quarrel?

	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	Little or None	Som e- what	Very Muc h	Extre - mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

21. How much does this person help you figure out or fix things?

	Little or None	Somewhat	Very Much	Extremely Much	The Most	Little or None	Somewhat	Very Much	Extremely Much	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

22. How much do you and this person get annoyed with each other's behavior?

	Little or None	Somewhat	Very Much	Extremely Much	The Most	Little or None	Somewhat	Very Much	Extremely Much	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

23. How much do you share your secrets and private feelings with this person?

	Little or None	Somewhat	Very Much	Extremely Much	The Most	Little or None	Somewhat	Very Much	Extremely Much	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

27. Between you and this person, who tends to be the BOSS in this relationship?

	S/he always does	S/he often does	Abou t the same	I often do	I always do	S/he always does	S/he often does	Abou t the same	I often do	I always do	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

28. How sure are you that your relationship will last in spite of fights?

	Littl e or Non e	Som e- what	Very Muc h	Extr e- mely Muc h	The Most	Littl e or Non e	Som e- what	Very Muc h	Extr e- mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

29. How often do you go places and do enjoyable things with this person?

	Littl e or Non e	Som e- what	Very Muc h	Extr e- mely Muc h	The Most	Littl e or Non e	Som e- what	Very Muc h	Extr e- mely Muc h	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

37. In your relationship with this person, who tends to take charge and decide what should be done?

38. How sure are you that your relationship will continue in the years to come?

	Little or None	Somewhat	Very Much	Extremely Much	The Most	Little or None	Somewhat	Very Much	Extremely Much	The Most	
Mother	1	2	3	4	5	1	2	3	4	5	Boy/Girl Friend
Father	1	2	3	4	5	1	2	3	4	5	Same-Sex Friend
Sibling	1	2	3	4	5	1	2	3	4	5	Other-Sex Friend
Relative	1	2	3	4	5	1	2	3	4	5	Extra Person

39. Earlier, when we asked you to choose your most important same- and other-sex friends, we said that they could not be a sibling or a relative. Now please tell us who, of all these people, is your best friend?

A. My same-sex friend.

B. My opposite-sex friend.

C. My sibling. Name _____

D. My relative. Name _____

Appendix A.7.

Sociometric Rating Scale

Rate how much you like to spend time with each person below. If you do not know the person, please put an **X** in the space.

1	2	3	4	5	X
Don't really like to spend time with.				Like to spend time with a lot.	Don't know this person

Names	Rating
Andrew Archer.....	_____
Belinda Blue.....	_____
Charles Crawley.....	_____
.	
.	
.	
.	
.	
Zachary Zest.....	_____

Junior High	High School	Some College	College	Graduate School
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

Appendix B
ADDITIONAL FORMS

Appendix B.1.

Informed Consent

Dear Parent/Guardian,

Your child is being asked to participate in a University of Maine research project! We are interested in asking local junior high and high school students about friendships and relationships in adolescence. As you may have noticed, adolescents spend a lot of time with their friends. In fact, forming more intimate friendships with same-and opposite sex peers is one of the most important developmental tasks adolescents face. We are interested in learning about the development of opposite-sex friendships and romantic relationships in adolescence. We believe your child can help us help other adolescents by participating in our study.

What's involved? This project involves two hour-long series of surveys. The surveys ask about anxiety in social situations, social skills in situations involving the opposite-sex, general social skills, the number and gender of adolescents in your child's peer group, your child's history with dating experiences, and the quality of your child's close relationships including close same-and opposite-sex friendships and romantic relationships. The surveys also include a peer acceptance measure that requires teens to rate (privately) how much they enjoy spending time with each person in their grade on a scale of 1(don't enjoy) to 5 (enjoy a lot). Only the names of those teens that have permission to participate in this project will be included.

In addition, the survey contains a few optional background questions to help us describe those teens that participated in the study in general terms. These optional questions ask your teen's age, race, sexual-orientation, if your teen is dating someone (if so, how satisfied they are with that relationship), and if your adolescent has ever had sexual intercourse. The questionnaire also asks the student to indicate the occupation of the adults living within the home. Participating adolescents will be told that they do not have to answer any questions they do not want to. Your child can end participation at any time. Although we are interested in learning about romantic relationships with the opposite-sex, all adolescents (heterosexual, homosexual, and bisexual) will be allowed to complete all of the questionnaires regardless of sexual orientation.

Will answers be private? Names will not be attached to the data collected and the information will be used only for research purposes. There will be no way to connect your teen to his or her responses. The returned surveys will be kept in a locked laboratory and will eventually be destroyed.

Risks/Benefits: The risk involved in this project is no greater than what teens experience in daily school life. However, your teen will be provided with the name of a staff person at school with whom he or she can talk more about social interactions with the other-sex or romantic relationships. Also, we are both available to meet with teens to discuss their concerns. This research will be very valuable in helping us learn how romantic

relationships develop during adolescence. That knowledge will help psychologists and teachers design more effective education programs.

What do I need to do? Please fill out the second sheet and return to your child's teacher as soon as possible.

Questions? Please feel free to call Karen Zeff (581-2058) or Dr. Douglas Nangle (581-2045) if you have any questions. We love to talk about our research!

We hope that you will allow your child to be involved in this project. Thank you very much for your consideration.

Sincerely,

Karen R. Zeff
Doctoral Candidate

Douglas W. Nangle, Ph.D.
Associate Professor

Parent/Guardian consent for the University of Maine "Teen Friendships & Relationships Project."

_____ YES, my teen can participate.

_____ NO, my teen cannot participate.

Teen's Name: _____

Teacher's Name: _____ Grade: _____

Parent/Guardian Signature: _____

Appendix B.2.

Assent Script

Hi, my name is _____, and I am from the University of Maine. I am here today because I want to learn about adolescents. I am most interested in learning about your friendships and dating relationships.

This project involves two hour-long series of surveys. The surveys ask about situations involving friends, parents and dating partners. The first survey asks about how you feel in several different kinds of social situations. The second two surveys describe social situations and ask you to circle what you would do in that situation. The fourth survey asks you to indicate the number of different friends in your circle of friends and their gender. The fifth asks several questions about dating and your previous dating experiences. Next, you will be asked about your relationships with your close same-sex friends, opposite-sex friends, and romantic relationships. You will be asked to rate the different kinds of qualities you notice in each of those relationships. The last survey asks you to rate how much you enjoy spending time with each person in your grade on a scale of 1 (don't enjoy) to 5 (enjoy a lot). Only the names of those teens that have permission to participate in this project are included.

On the last page of the packet, there are some background questions that will be used to describe people involved in the study in general terms. They ask your age, race, if you are dating (and if so, how satisfied you are in your relationship), and if you have ever had sexual intercourse. It also asks about the occupations of the adults living in your house. For example, in my report on the study, I might say, "Participants ranged in age from 14 to 18 years. Most participants were white and 42% reported having sexual intercourse."

If there are any questions you do not want to answer, just draw an X through it and don't answer it. All your answers are confidential. This means that first, they are anonymous – your name is not on the survey. Please do not write your name on the survey. Second, your answers are private. This means that I will not show your teacher or anyone in the school anything that you write.

We sent a letter home to your parents or guardians and they agreed to let you participate, but we would like to have your permission also. When I hand out the survey, please let me know if you want to participate.

Appendix B.3.

Debriefing Statement

Thank you for participating. The information you gave us will be used to help other adolescents. If you have any further questions, please feel free to ask the University of Maine researcher that handed out this sheet or talk to (insert name of school staff person) at your school.

Below is a list of phone numbers for you to keep or pass along to a friend. Thank you for your time and your help!

Phone Help	1-800-245-8889
Rape Response Services	1-800-310-0000 or 989-5678
InfoLine (Referral Service)	1-800-204-2803

Appendix C
ADDITIONAL TABLES AND FIGURES

Table C.1. Descriptive and Reliability Statistics on Measures Used in the Present Study

Measure/ Scale	Alpha	Mean	Standard Deviation	Minimum	Maximum
SAS-A	.93	42.26	12.44	18	82
Peer Acceptance	n/a	2.78	.65	1	4.75
MAHC	.78	115	12.98	75	145
PRQ – Prop. of OS Friends	n/a	.37	.18	0	1
DHQ –Onset Questions	.86	8	1.29	3	12
NRI: BG - SS	.95	76.18	21.80	21	105
NRI: BG - NI	.92	11.15	5.38	6	30
NRI: OS - SS	.94	68.77	19.10	21	105
NRI: OS - NI	.87	10.85	4.51	6	27
NRI: SS - SS	.93	80.36	16.80	21	104
NRI: SS - NI	.85	10.27	4.31	6	30

Table C.2. MANOVA #1: Peer Relationship/Social Competence Variables with Social Anxiety as a Three Level Variable Divided by Norms

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	4.27***
	Heterosocial Competence	14.14***
	Total Friends	7.37**
	Number of Same-Sex Friends	4.09*
Grade	Overall Effect	.29
Social Anxiety	Overall Effect	2.29**
	Heterosocial Competence	9.95***
	Number of Opposite-Sex Friends	3.40*
Grade x Gender	Overall Effect	1.74
Gender x Social Anxiety	Overall Effect	1.11
Grade x Social Anxiety	Overall Effect	.62
Gender x Grade x Social Anxiety	Overall Effect	.52

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table C.3. MANOVA #2: Relationship Quality Variables with Social Anxiety as a Three Level Variable Divided by Norms

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	7.07***
	Social Support in Romantic Relationships	3.78*
	Social Support in Same-Sex Relationships	29.57***
	Neg. Interact. in Same-Sex Relationships	6.13*
Grade	Overall Effect	3.07**
	Neg. Interact. In Same-Sex Relationships	8.72*
	Neg. Interact. In Opposite-Sex Relationships	9.23**
Social Anxiety	Overall Effect	1.97*
	Neg. Interact. in Romantic Relationships	4.22*
	Social Support in Same-Sex Relationships	4.74**
	Neg. Interact. in Same-Sex Relationships	3.24*
	Social Support in Opposite-Sex Relationships	3.28*
Grade x Gender	Overall Effect	1.16
Gender x Social Anxiety	Overall Effect	1.18
Grade x Social Anxiety	Overall Effect	1.16
Gender x Grade x Social Anxiety	Overall Effect	.42

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table C.4. MANOVA #3: Dating Variables with Social Anxiety as a Three Level

Variable Divided by Norms

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	.55
Grade	Overall Effect	6.56***
	Onset of Dating Activities	12.17*
	Number of Dating Partners in Past 12 months	5.10*
Social Anxiety	Overall Effect	1.72
Grade x Gender	Overall Effect	.77
Gender x Social Anxiety	Overall Effect	1.07
Grade x Social Anxiety	Overall Effect	.22
Grade x Gender x Social Anxiety	Overall Effect	2.17*
	Number of Overall Dating Partners	4.43*

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table C.5. MANOVA #1: Peer Relationship/Social Competence Variables with Social Anxiety as a Three Level Variable Divided by Standard Deviations

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	1.50
Grade	Overall Effect	.90
Social Anxiety	Overall Effect	1.18
	Heterosocial Competence	5.46**
Grade x Gender	Overall Effect	1.55
Gender x Social Anxiety	Overall Effect	1.60
Grade x Social Anxiety	Overall Effect	.64
Gender x Grade x Social Anxiety	Overall Effect	.74

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table C.6. MANOVA #2: Relationship Quality Variables with Social Anxiety as a Three Level Variable Divided by Standard Deviations

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	6.54***
	Negative Interact. in Romantic Relationships	4.32*
	Social Support in Same-Sex Relationships	16.46***
	Neg. Interact. in Same-Sex Relationships	10.13**
	Neg. Interact. In Other-Sex Relationships	12.19**
Grade	Overall Effect	1.53
Social Anxiety	Overall Effect	3.37***
	Neg. Interact. in Romantic Relationships	5.58**
	Social Support in Same-Sex Relationships	6.58**
	Neg. Interact. in Same-Sex Relationships	9.67***
	Neg. Interact. in Opposite-Sex Relationships	3.23*
Grade x Gender	Overall Effect	.39
Gender x Social Anxiety	Overall Effect	1.52
Grade x Social Anxiety	Overall Effect	1.05
Gender x Grade x Social Anxiety	Overall Effect	1.49

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table C.7. MANOVA #3: Dating Variables with Social Anxiety as a Three Level

Variable Divided by Standard Deviations

Fixed Factors	Overall Effect/ Significant Between Subjects Effects	<i>F</i>
Gender	Overall Effect	.95
Grade	Overall Effect	4.40**
	Onset of Dating Activities	11.15**
Social Anxiety	Overall Effect	2.46*
	Onset of Dating Activities	3.38*
	Number of Dating Partners in Past 12 months	3.17*
Grade x Gender	Overall Effect	.88
Gender x Social Anxiety	Overall Effect	1.00
Grade x Social Anxiety	Overall Effect	.37
Grade x Gender x Social Anxiety	Overall Effect	.80

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Figure C.1. Mean Comparisons Across Anxiety Groups: Total Peers in Network

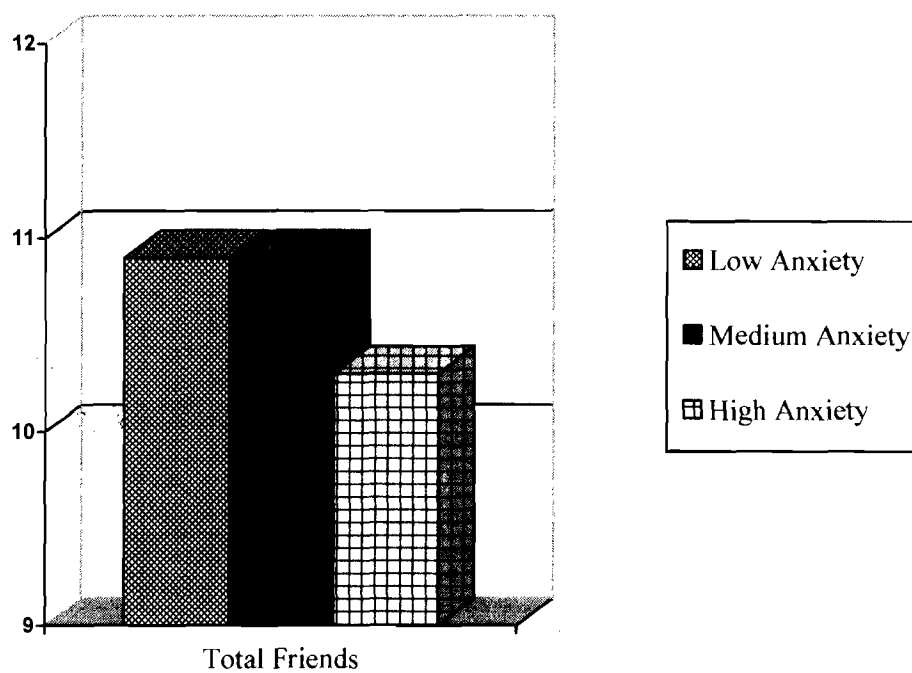


Figure C.2. Mean Comparisons Across Anxiety Groups: Total Opposite-Sex Peers

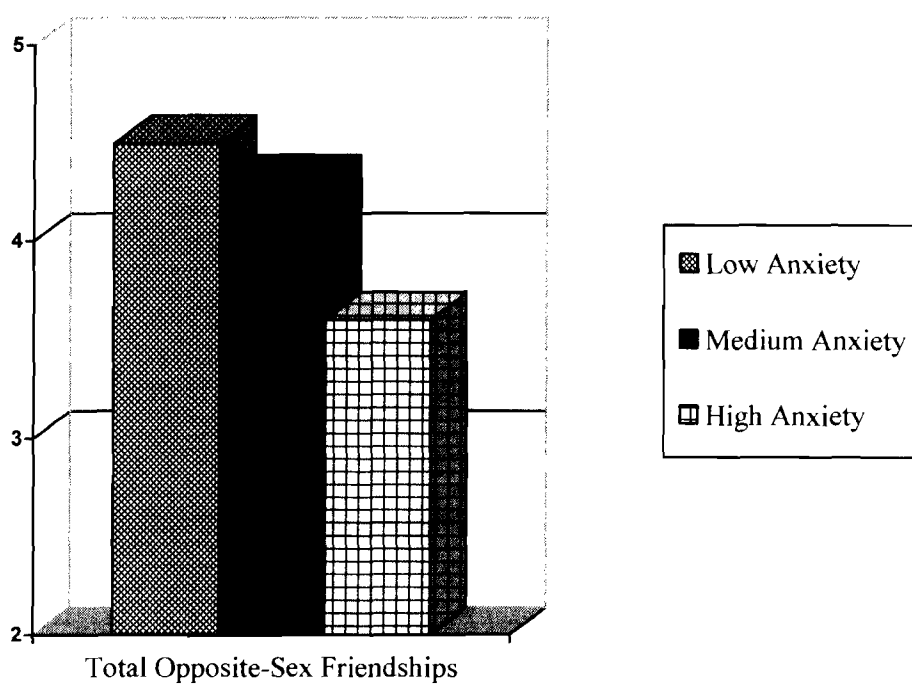


Figure C.3. Mean Comparisons Across Anxiety Groups: Total Close Friendships

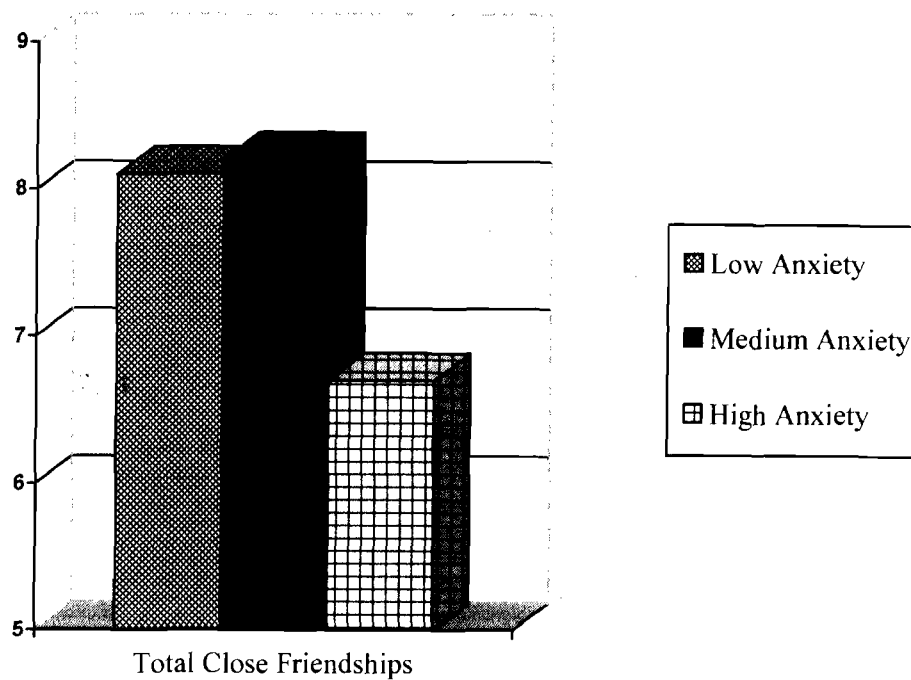


Figure C.4. Mean Comparisons Across Anxiety Groups: Proportion of Opposite-Sex Peers

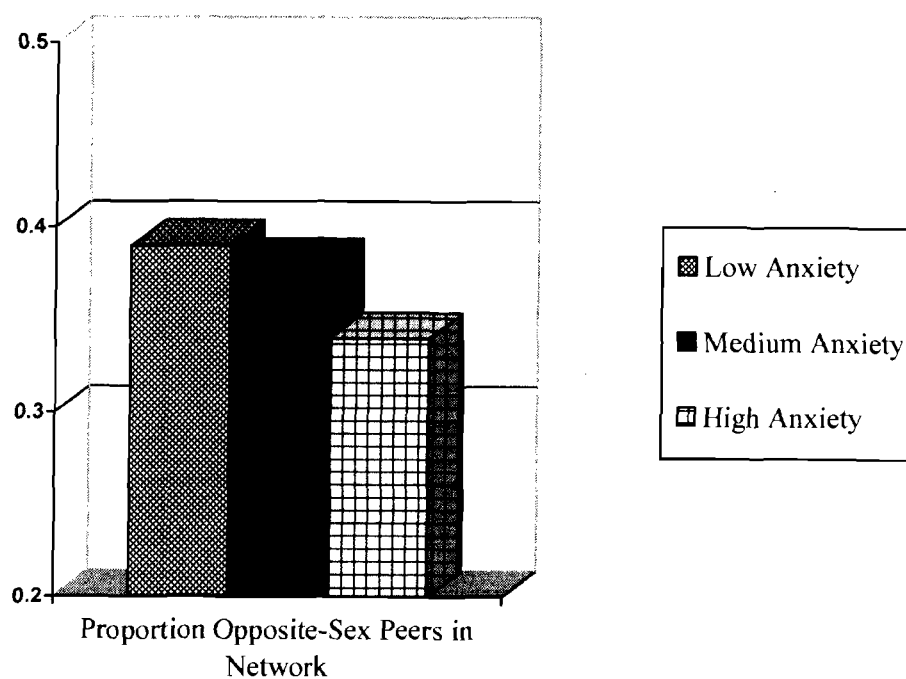
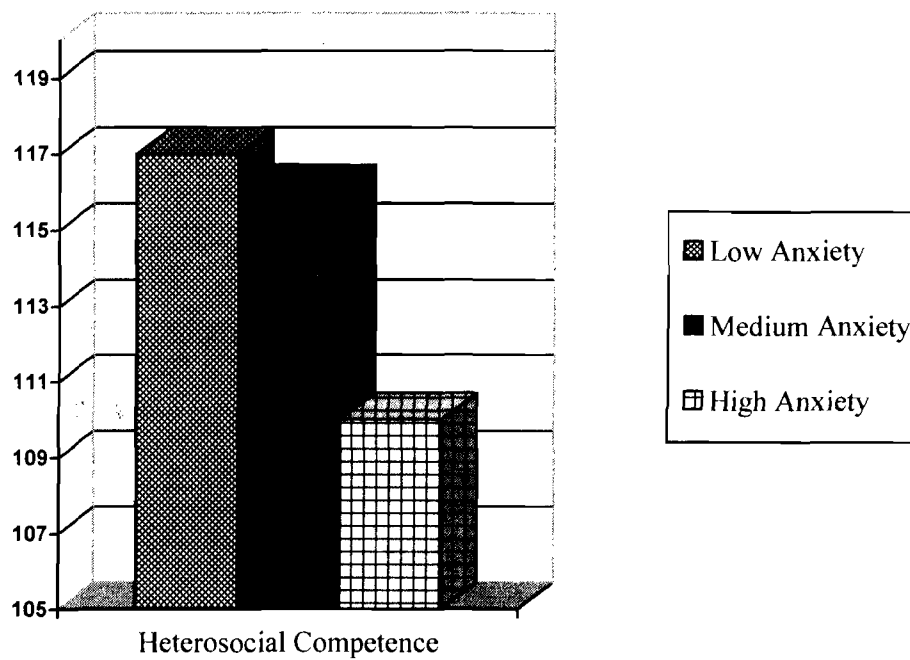


Figure C.5. Mean Comparisons Across Anxiety Groups: Heterosocial Competence



BIOGRAPHY OF THE AUTHOR

Karen Zeff was born in Freehold, New Jersey on June 25, 1977. She was raised in Harrington Park, New Jersey and graduated from Northern Valley Regional High School in Old Tappan in 1995. She attended Clark University and received her Bachelor's degree with High Honors in Psychology in May of 1999. Immediately following, she began her doctoral work in Clinical Psychology at the University of Maine during the fall of 1999. She received a Master of Arts degree in Psychology in May of 2004. She is currently completing her pre-doctoral internship at West Virginia University School of Medicine.

During her time in Maine, Ms. Zeff had her research published in the *Journal of Clinical Child and Adolescent Psychology* and the *Journal of Abnormal Child Psychology*. She also co-authored a chapter focused on peer intervention that appeared in the *Encyclopedia of behavior modification and therapy: Vol. 2: Child clinical applications*. Furthermore, she has prepared over 25 national and local conference presentations. Ms. Zeff is a member of the American Psychological Association, the Association for Behavioral and Cognitive Therapies, the Society for Research in Child Development, Society for Research on Adolescence, the Maine Psychological Association, and the New York State Psychological Association.

After receiving her degree, Ms. Zeff will begin a post-doctoral fellowship position at Brown University Medical School in clinical child and adolescent psychology. Ms. Zeff is a candidate for the Doctor of Philosophy degree in Clinical Psychology from The University of Maine in August, 2005.