

THE RELATIONSHIPS AMONG ADULT  
ATTACHMENT STYLE, PERCEIVED SOCIAL  
SUPPORT, AND SOCIAL ANXIETY IN COLLEGE  
STUDENTS

By

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STUDENTS

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## CHAPTER I

### INTRODUCTION

The transition to college brings about a period of adjustment for college students. Results from studies have shown that the transition to college can elicit differences in attachment style and college adjustment (Lapsley & Edgerton, 2002; Vivona, 2000), decreased perceptions of social support with increased levels of social anxiety (Larose & Boivin, 1998), and also homesickness (Fisher & Hood, 1987; Urani, Miller, Johnson, & Petzel, 2003). Once an individual leaves home to attend college he or she is placed in a novel or strange situation that entails a new living environment and the possibility of reorganizing new friendships or social support. This transition is likely to spark the development of new relationships with peers, romantic partners, colleagues, and professors. According to Leary (2001), the transition to college is likely to elicit a concern about rejection. Most people try to avoid rejection and experience emotions of sadness, anxiety, and loneliness when thinking they are rejected by others (Leary, 2001). Human beings have a drive to maintain positive and significant relationships, and the innate ability of motivation for interpersonal relationships is seen as a protective measure that increases chance of survival in times of external threat (Baumeister & Leary, 1995). Interpersonal relationships could be conceptualized as a type of bond or attachment. Attachment, as conceptualized

by Bowlby (1969), is “the seeking and maintaining proximity to another individual”, (p. 194). Attachment styles exhibited by the student during college have been linked to psychological well-being (Love & Murdock, 2004), support seeking (Collins & Feeney, 2000; Vogel & Wei, 2005) and social interaction (Tidwell, Reis, & Shaver, 1996; Aspelmeier & Kerns, 2003). In fact, college students who are suffering from feelings of emotional loneliness have been found to have insecure adult attachment styles and inabilities with forming close relations with other people (Bogaerts, Vanheule, & Desmet, 2006). More specifically, college students who have an insecure attachment style characterized by attachment avoidance believe that others will not be responsive to his or her disclosure of feelings, with a tendency to use deactivating strategies to keep themselves at a distance from others (Wei, Russell, & Zakalik, 2005). Conversely, college students who have secure attachment styles were more likely to transcend problems with friends and experience lower levels of conflict (Saferstein, Neimeyer, Hagans, 2005) and feel more competent on academic tasks and express more positive attitudes toward exploring novel and social situations (Aspelmeier & Kerns, 2003).

Perceived social support is an area of life that may change as the result of leaving home to attend college. Perceived social support has been a more significant issue than actual or received social support because of the correlates with well-being (Wethington & Kessler, 1986; Lakey & Heller, 1989). Knowing that social support is available may allow students to feel more comfortable in their transition and adaptation to a new environment. Perceived social support is defined as the perception that social support is available if someone wished to



access the support of another person (Sarason, Pierce, Shearin, Sarason, & Waltz, 1991).

Researchers have explored the characteristics of attachment styles and perceived social support. How a student perceives his or her social support may be a result of their attachment style (i.e. inner working models of the self and others) (Collins & Feeney, 2004; Blain, Thompson, & Whiffen, 1993; Sarason et al., 1991). These inner working models of the self and others can be positive or negative (Bartholomew & Horowitz, 1991). A positive model of the self and others was found to be positively associated with higher levels of perceived social support from friends and parents among undergraduate college students (Blain et al., 1993). Negative attributes about the self (feelings of anxiety and social rejection) have been found to be accompanied with lower levels of perceived social support (Sarason et al., 1991).

Perceptions of social support have also been found to have implications for cognitive processing, in that college students with lower perceptions of social support tended to view attempts of support from others as unhelpful and to recall fewer instances of supportive behavior compared to college students with higher perceptions of social support (Lakey & Cassady, 1990). Explanatory styles such as optimism and pessimism may contribute to how a college student perceives social support. Brissette, Scheier, & Carver (2002) found that greater optimism among college students was associated with having larger friendship networks and less stress and depression after the first two weeks of college than those students who were pessimistic in their general views.

Homesickness among first-year college students appears to be the result of experiencing high levels of psychological distress and having low levels of perceived social support (Newland & Furnham, 1999). Since college can be a time of stress, social skills may have a relationship with social support in the ability to buffer stress. Changes in social support and friendship have been found to be predicted by social skills, whereby increases in social skills were found to be related to increased perceived support and the development of friendships (Cohen, Sherrod, & Clark, 1986). Perceived social support appears to help college students navigate the many challenges of college life.

Attachment styles and perceived social support have been related to feelings of anxiety and depression in college students (Priel & Shamai, 1995). Social anxiety may result from a concern for self-presentation (Schlenker & Leary, 1982) and negative views of oneself (Van Buren & Cooley, 2002). Attachment styles have also been found to be associated with social anxiety among non-student clinical samples (Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001). Individuals with preoccupied attachment styles reported less comfort in close relationships, experienced greater anxiety of being rejected by others, greater fear of negative evaluation, and greater social interaction fear in comparison with individuals who had a secure attachment style. Schlenker and Leary (1982) state that social anxiety is “the prospect or presence of personal evaluation in real or imagined situations” (p. 642). Since the college student is attempting to foster more independence, it may be likely that social anxiety will result if one is having difficulty negotiating new relationships with other college students, especially if the student is having trouble in the first year of college.

Social anxiety has been associated with more homesickness at the beginning of the semester and has been found to be consistent over time during the fall semester (Urani, Miller, Johnson, & Petzel, 2003). Social anxiety within non-student clinical populations has been found to be associated with social support network size (Ham, Hayes, & Hope, 2005). Younger women who had been diagnosed with social anxiety disorder reported fewer social support networks and more dissatisfaction with social support than older women in the sample. For college students who are socially anxious, research has shown that their social anxiety influences how they perceive other socially anxious students. They perceived these students as having less strength of character and viewed them as less physically attractive (Purdon, Antony, Monteiro, & Swinson, 2001).

#### Statement of the problem

Past research has documented how attachment styles are related to perceived social support (Sarason, et al., 1991; Collins & Feeney, 2004; Blain, Thompson, & Whiffen, 1993) and how they are also related to social anxiety (Vertue, 2003; Van Buren & Cooley, 2002). More research is needed to understand how perceived social support is related to social anxiety and attachment styles in college students. No researchers have examined how perceived social support relates to attachment style and social anxiety. Mediation models of research have been conducted to explore how adult attachment styles relate to social self-efficacy (Mallinckrodt & Wei, 2005) and how self-organization mediates the relationship between attachment styles and distress (Lopez, Mitchell, & Gormley, 2002), and how psychological distress or

perceived social support mediates the relationship of attachment style and help-seeking intentions (Vogel & Wei, 2005).

#### Purpose of the study

The purposes of the present study were to (1) examine the relationships among attachment styles, perceived social support, and social anxiety in undergraduate college students; (2) to explore attachment styles and perceptions of social support as possible predictors of social anxiety and (3) to explore whether perceptions of social support significantly contribute to social anxiety above and beyond what attachment styles explain in relation to social anxiety.

## CHAPTER III

### Methodology

#### Participants

The participants in the study originally totaled 205. Nine participants were removed from the study as a result of significant missing data, and another two students were deleted because they were significantly older than the rest of the sample.

The final sample of students consisted of 194 undergraduate college students. The mean age of participants was 19.41 years of age (SD = 1.39), with a range of 18-24. Approximately 71.6% of the participants were female (n = 139) and 28.4% were male (n = 55).

The majority of the participants identified themselves as Caucasian (78.8%, n = 153); 3.6% (n = 7) identified themselves as African American; 3.1% (n = 6) identified themselves as Asian American; 2.6% (n = 5) reported they were Hispanic; 4.6% (n = 9) reported they were Native American; 6.2% (n = 12) identified themselves as Biracial; .5% (n = 1) identified themselves as Multiracial, and .5% (n = 1) identified themselves as Other.

With respect to college classification, 55.2% of the participants identified themselves as freshman (n = 107), 14.9% as sophomore (n = 29), 17% as junior (n = 33), and 12.9% as senior (n = 25). In terms of marital status, 93.8% (n = 182) identified themselves as single, 1.0% (n = 2) reported themselves to be in a partnered relationship, and 5.2% (n = 10) identified themselves as separated.

In terms of sexual orientation, 97.9% of the participants identified themselves as heterosexual (n = 190), 1% as gay or lesbian (n = 2), and 1% identified themselves as bisexual (n = 2). See Table 1 for more information on the demographics of the sample.

### Measures

The following instruments were used in the study:

Demographic page. On the first page of the on-line survey, participants completed questions related to their age, gender, race, sexual orientation, academic year in college, marital status, and living situation.

The Relationships Questionnaire (Bartholomew & Horowitz, 1991). The RQ is a 4-item self-report measure of attachment styles. Participants read each item (one paragraph per item) and rated the extent to which they identified with each of the four attachment styles, using a 7-point Likert scale (1 = *neutral*, 7 = *not at all like me*). This instrument was adapted to measure participants' attachment style levels with people in general, rather than their romantic relationships with others (for which the RQ was originally developed to measure). Each item measures one of the attachment styles: secure, preoccupied, fearful, and dismissing. The secure attachment item measures the extent to which a person has a positive view of him/herself as well as a positive view of others. The preoccupied item measures the extent to which a person is preoccupied about his/her worth or value in relation to others, assuming others are generally available and trustworthy. The fearful item measures the extent to which a person has a negative view of him/herself and others. The dismissive item measures the extent to which a person has a positive view of others while at

the same time have a general disregard for others. Higher scores on each item indicate more endorsement of that particular attachment style level.

The RQ has adequate test-retest reliability with family ratings (coefficients ranging from .75 to .86) and peer ratings (coefficients ranging from .74 to .88; Bartholomew & Horowitz, 1991). Internal consistency reliability estimates were not been calculated given that each of the four items represents a different attachment style (i.e., one item subscales).

The RQ has convergent validity, average coefficient of .43, and discriminant validity, average coefficient of -.09, with other measures of attachment, such as the Family Attachment Interview and the Peer Attachment Interview, respectively (Griffin & Bartholomew, 1994).

The Perceived Social Support Friends and Family Scale (PSS-Fr & PSS-Fa) (Procidano & Heller, 1983). The PSS measures the extent to which participants believe that their needs for support are being fulfilled by friends and family. The PSS-Fa is a 20-item subscale that assessed perceived support from family. An example of a PSS-Fa item is “*My family gives me the moral support I need.*” The PSS-Fr is a 20-item subscale that assessed perceived support from friends. An example of a PSS-Fr item is “*Most other people are closer to their friends than I am.*”

Participants responded to each item with either a *yes*, *no*, or *don't know*. A response of *yes* = 1, and a response of *no* = 0. A response of *don't know* is not scored. Higher scores indicate more perceived social support on both subscales. The one-month test-retest reliability estimates ranged from .77 to .86 for the PSS-Fa and from .75 to .81 for the PSS-Fr subscale (Procidano, 1992). Internal

consistency coefficients ranged from .84 to .90 on the PSS-Fr subscale and from .88 to .91 for the PSS-Fa subscale (Procidano, 1992). The internal consistency reliability estimates for the PSS-Fa and PSS-Fr for this sample were .91 and .87, respectively.

There is some evidence of convergent validity for the PSS-Fa and other measures of family support. For example, the PSS-Fa has been significantly correlated with the Cohesion and Expressiveness subscales of the Family Environment Scale ( $r = .67$  and  $.51$  respectively; Procidano, 1992). There is also evidence of the convergent validity for the PSS-Fr and other measures of social support from others. For example, the PSS-Fr was moderately correlated with the total score of the Interpersonal Support Evaluation List ( $r = .61$ ; Procidano, 1992).

The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998). The SIAS is a 20-item self-report measure that assessed one's reactions to social interactions with groups of people. Participants rated each item on a 5-point Likert Scale (0 = not characteristic of me, 4 = extremely characteristic of me). An example of an item from the SIAS is "*when mixing socially I am uncomfortable.*" The scores can range from 0-80, with higher scores indicating higher levels of social anxiety.

The test-retest reliability over a time frame of 4 weeks and 12 weeks was .92, and was tested with a sample of individuals from the community, undergraduate college students, and individuals who had social phobia, agoraphobia, and simple phobia (Mattick & Clarke, 1998). A two-week test-retest reliability estimate for the SIAS was .86 for a college student sample and



Cronbach alpha estimates range from .88 to .93 (Brown et al., 1997). The internal consistency reliability estimate of the SIAS total score for this sample was .92

Factor analysis has been utilized to assess construct validity. One factor with an eigenvalue greater than 1.0 was obtained, accounting for 43.4% of the variance. Seventeen of the 20 items had high loadings ( $>.40$ ) that were explained by the one factor (Mattick & Clarke, 1998). The convergent validity of the SIAS was evident in that social anxiety as measured by the SIAS was significantly and positively related to other measures of social anxiety, such as the Social Avoidance and Distress Scale (.74) and the Fear of Negative Evaluation scale (.44) (Heimberg et al., 1992).

The Social Phobia Scale (SPS; Mattick & Clarke, 1998). The SPS is a 20-item self-report measure of anxiety in situations involving observations from other people. Participants rated each item on a 5-point Likert scale (0 = not characteristic of me, 4 = extremely characteristic of me). An example of an item from the SPS is “*I get nervous that people are staring at me as I walk down the street.*” Scores range from 0-80, with higher scores indicating higher levels of social phobia.

Test-retest reliability with individuals from the community, undergraduate college students, and individuals who had social phobia, agoraphobia, and simple phobia over a time frame of 4 weeks was .91. Test-rest reliability assessed over a twelve-week time span was .93 (Mattick & Clarke, 1998).

The internal consistency reliability estimate of the SPS from the normative sample was .94. The internal consistency reliability estimate of the SPS total score for this sample was .93.

Construct validity was assessed by using factor analysis. Three factors were obtained that had eigenvalues greater than 1.0, and 47.7% of the variance was accounted for by the three factors. Discriminant validity is evidenced in that the social phobic sample scored higher on the SPS than the agoraphobic sample and normal sample. The scales were able to discriminate between clinical groups (Mattick & Clarke, 1998). Evidence for convergent validity is evidenced by intercorrelations between the SPS and Fear of Negative Evaluation Scale (FNES) .60, Fear Questionnaire (FQ) .69, and the State-Trait Anxiety Inventory (STAI-T) .57.

### Procedure

The primary investigator sought the participation of approximately 200 undergraduate college students who were enrolled at Oklahoma State University. Participants for the study were recruited through the SONA system, which is a shared on-line research participant pool site. College students currently enrolled in introductory psychology classes for the spring 2008 semester who were required to participate in research were directed to view a list of research projects, including this one. Participants were invited to participate in a research study exploring their relationships and their feelings about those relationships in college. If interested, they clicked on the URL, directing them to the website where they read the informed consent page explaining the purpose of the study, the benefits and risks of participation, and that their survey responses would be

confidential and anonymous. For those who participated, they clicked the “Agree to Participate” button, which directed them to the surveys to complete. For those who decided not to participate, they clicked the “Do Not Agree to Participate” button, which directed them back to the SONA webpage. Participants were directed to a website to complete a demographic page and four questionnaires if they clicked the “Agree to Participate” button. The participants were informed that the measures would take approximately 30-45 minutes to complete. Participants did not write their names on any of these forms.

After participants completed the surveys, they clicked the “Submit Form” button, which directed them to a webpage that thanked them for their participation and referred them to counseling services resources if interested. Participants earned extra course credit for their participation. Most introductory and lower-level psychology and other courses offered students a small amount of course credit (usually less than 5% of their grade) for participation in the research process. In psychology courses, students were required to earn five units of research experience. This requirement may be fulfilled in one of three ways: 1) serving as a human participant in one or two current research project(s), 2) attending two Undergraduate Research Colloquia, or 3) researching and writing two 3-4 page papers on designated research topics. Each hour of participation in a research project as a participant was generally regarded as satisfying one unit of the requirement, students completing a half hour received .5 units of credit. Students participating in this study earned 1 unit of credit. They were directed to a separate website to enter their name in order to earn their credit for participation. Their names were kept separate from survey responses. The

primary investigator and the advisor had access to the data file, and the file will be stored for 3 years on a computer hard-drive and jump drive. The data file contains no information which could identify participants.

## CHAPTER IV

### Results

#### Preliminary Analyses

Prior to conducting the analyses to answer the research questions, preliminary t-tests were conducted to explore demographic group differences in the main outcome variables of social interaction anxiety and social phobia, as well as the predictor variables of attachment and perceived social support.

There were no significant racial group differences (White vs. People of Color) in social interaction anxiety,  $t(190) = .07, p = .94$ , social phobia,  $t(190) = -.44, p = .66$ , secure attachment,  $t(191) = .58, p = .56$ , fearful attachment,  $t(191) = -.15, p = .88$ , preoccupied attachment,  $t(191) = -.01, p = .99$ , dismissive attachment,  $t(191) = -1.14, p = .26$ , perceived social support from family,  $t(190) = -.28, p = .78$ , and perceived social support from friends,  $t(191) = -.07, p = .95$ .

T-tests were conducted to explore potential gender differences in social interaction anxiety, social phobia, attachment, and perceived social support.

There were no significant gender differences in the outcome variables of social interaction anxiety,  $t(191) = -.34, p = .74$  and social phobia,  $t(191) = 1.1, p = .27$ . However, significant gender differences were noted for some of the other study variables, such as fearful attachment,  $t(192) = 2.42, p = .02$ , dismissive attachment,  $t(192) = -2.12, p = .04$ , perceived social support from family  $t(191) = 3.1, p = .003$ , and perceived social support from friends,  $t(192) = 2.6, p = .01$ .

College women reported more fearful attachments and more perceived social support from friends and family compared to college men; college men reported more dismissive attachments compared to college women.

Preliminary correlational analyses were conducted to explore the relationships of age and family income with social interaction anxiety and social phobia. Age was not significantly correlated with social interaction anxiety ( $r = -.003$ ,  $p = .97$ ) and social phobia ( $r = -.08$ ,  $p = .27$ ). However, there was a significant, negative correlation between age and perceived social support from friends ( $r = -.22$ ,  $p = .002$ ). Viewing others as supportive was associated with being younger in age.

Family income was significantly and negatively related to social interaction anxiety ( $r = -.23$ ,  $p = .002$ ) and social phobia, ( $r = -.19$ ,  $p = .009$ ), but not with the predictor variables. College students who came from lower family income backgrounds tended to report higher scores on social interaction anxiety and social phobia; college students who came from higher family income backgrounds tended to report lower scores on social interaction anxiety and social phobia.

The main analyses were conducted with and without controlling for family income. Given that there were no significant differences in the regression analysis findings (controlling versus not controlling for family income), the regression findings will be presented without controlling for family income.

### Main Analyses

The means and standard deviations, as well as actual and possible score ranges of the scales for this study was calculated. See Table 2.

Correlations. Pearson correlational analyses (two-tailed) were conducted to explore the bivariate relationships between and among attachment styles, perceived social support, social interaction anxiety, and social phobia.

Social interaction anxiety and social phobia was significantly related ( $r = .73, p = .000$ ). Students who reported more social interaction anxiety were more likely to have higher levels of social phobia, meaning that they are more likely to avoid social interaction if they feel anxious, which can cause distress in their lives.

Social interaction anxiety was significantly and positively related to levels of fearful ( $r = .33, p = .000$ ) and preoccupied attachment ( $r = .26, p = .000$ ). In addition, social phobia was significantly and positively related to levels of fearful ( $r = .28, p = .000$ ) and preoccupied attachment ( $r = .19, p = .01$ ). College students who report more social interaction anxiety and social phobia tend to report more fearful and preoccupied attachments with people in general. Both of these attachment styles reflect a tendency to have a negative view of themselves in relation to others.

There was a significant, negative relationship between secure attachment style and levels of social interaction anxiety ( $r = -.44, p = .000$ ), as well as social phobia ( $r = -.25, p = .001$ ). College students who had more positive views of themselves and others to people in general appear to feel more comfortable interacting with people within social settings.

Social interaction anxiety was significantly and negatively related to perceived social support from friends ( $r = -.35, p = .000$ ) and family ( $r = -.27, p = .000$ ). In addition, social phobia was significantly and negatively related to

perceived social support from friends ( $r = -.26, p = .000$ ) and family ( $r = -.15, p = .04$ ). College students who perceive less support from friends and family tend to report more social anxiety and social phobia.

Secure attachment style levels were significantly and positively associated with perceived social support from family ( $r = .22, p = .002$ ) and friends ( $r = .29, p = .000$ ). College students who tend to have a secure attachment with people in general perceive social support as accessible with family and friends.

Insecure attachment style levels (i.e. fearful, preoccupied, and dismissive) were significantly and negatively related to perceived social support from friends and/or family as follows: fearful attachment and perceived social support from friends ( $r = -.21, p = .003$ ); preoccupied attachment and perceived social support from family ( $r = -.15, p = .043$ ); and dismissive attachment with perceived social support from friends ( $r = -.24, p = .001$ ). College students who feel less secure in their relationships with people in general tend to perceive less social support from friends and family. See Table 3 for the correlation matrix.

#### Regression Findings For Attachment Styles with Perceived Social Support

Forward regression analyses were conducted to explore which attachment styles were predictive of perceived social support from friends and family. A secure attachment style was the only significant predictor of perceived social support from family  $F(1,193) = 9.39, p = .002$ , accounting for a total of 4.7% of the variance. The other attachment styles did not significantly enter the equation. See Table 4 for the regression findings.

A secure attachment style was also a significant predictor of perceived social support from friends  $F(1,194) = 17.81, p = .000$ , which accounted for 8.5%



of the variance. Dismissive attachment style levels entered the equation second,  $F(1,194) = 13.43$ ,  $p = .000$ , and accounted for an additional 3.8% of the variance in perceived social support from friends scores ( $F$  change = 8.37). See Table 4 for the results of these regression findings.

#### Regression Findings for the Attachment Styles with Social Interaction Anxiety and Social Phobia

Two multiple regression analyses were conducted to explore how all four attachment styles linearly related to social anxiety and social phobia. In the first regression, social interaction anxiety was the criterion variable. All four attachment styles were entered simultaneously into the equation,  $F(1,192) = 15.06$ ,  $p = .000$ , and accounted for 24.2% of the variance in social interaction anxiety scores.

In the second regression, social phobia was the criterion variable. All four attachment styles were entered simultaneously into the equation,  $F(1, 192) = 5.59$ ,  $p = .000$ , and accounted for 10.6% of the variance in social phobia scores.

Forward regression analyses were conducted to explore which attachment style levels were significant predictors of social interaction anxiety and social phobia. In the first multiple regression analysis, a secure attachment style was a significant predictor of social interaction anxiety  $F(1,193) = 45.51$ ,  $p = .000$ , accounting for 19.2% of the variance. Preoccupied attachment entered the equation second,  $F(1,193) = 29.61$ ,  $p = .000$ , and added an additional 4.6% variance ( $F$  change = 11.26). College students who had more secure attachments in general and who were less preoccupied (i.e., less likely to view

themselves negatively in relation to others) were less likely to experience social interaction anxiety.

In the second multiple regression analysis, a fearful attachment style was found to be the significant predictor of social phobia,  $F(1,193) = 16.30$ ,  $p = .000$ , which accounted for 7.9% of the variance. College students who had more fearful attachment styles (i.e., negative views of self and others) reported more social phobia. An attachment style characterized by fearfulness appears to be a plausible explanation for experiencing social phobia because of feelings of insecurity with the self and feelings of insecurity with others. See Table 5 for the results of these regression findings.

#### Regression Findings for Attachment Styles and Perceived Social Support as Predictors of Social Interaction Anxiety and Social Phobia

Multiple regression analyses were conducted to explore the linear relationship of attachment styles and perceived social support with social interaction anxiety and social phobia. In addition, hierarchical regression analyses were conducted to assess the extent to which perceived social support contributed to social interaction anxiety and social phobia above and beyond what attachment styles explain in relation to social anxiety and social phobia. For both sets of analyses, attachment styles (i.e., secure, preoccupied, fearful, and dismissive) and perceived social support (i.e., friends and family) were entered as two separate blocks in the analyses.

A multiple regression analysis was conducted for social interaction anxiety first. Attachment styles (as a block) were forced into the equation first,  $F(1,191) = 14.89$ ,  $p = .000$ , and accounted for 24.2% of the variance in social interaction

anxiety scores. Perceived social support from friends and family (as a block) was entered in second and was also a significant predictor of social interaction anxiety,  $F(1,191) = 13.35, p = .000$ , and added an additional 6% of the variance in social interaction anxiety scores ( $F$  change = 8.03). Feelings of attachment with people in general as well as perceptions that friends and family are accessible during times of need appear to be significant factors that contribute to college students having feelings of anxiety when interacting in social settings. In particular, less secure attachments in general and less perceived social support from friends and family were linearly related to more social interaction anxiety for college students.

Next, a hierarchical regression analysis was conducted to explore the individual contributions of perceived social support from friends and family in relation to social interaction anxiety after controlling for attachment styles. Attachment styles (as a block) were forced into the equation first and accounted for 24.2% of the variance in social interaction anxiety scores. Perceived social support from friends entered the equation next,  $F(1, 191) = 14.79, p = .000$ , and accounted for 4.2% of the variance. Perceived social support from family,  $F(1,191) = 13.35, p = .000$ , entered the equation third and accounted for an additional 1.8% of the variance in social interaction anxiety scores. It appears that the extent to which college students feel anxious when interacting with others is predicted more by the belief that their friends are accessible, rather than members of their family. However, perceived social support from friends and family are meaningful in understanding social interaction anxiety above and beyond what attachment explains.

A multiple regression analysis was conducted to assess how attachment styles and perceived social support contribute to the explanation of social phobia. Attachment styles (as a block) were forced into the equation first,  $F(1,191) = 5.68$ ,  $p = .000$ , and explained 10.8% of the variance in social phobia scores. Perceived social support from friends and family (as a block) was entered in second and was also a significant predictor of social phobia,  $F(1,191) = 5.14$ ,  $p = .000$ , and added an additional 3.5% of the variance in social phobia scores ( $F$  change = 3.74). Feelings of attachment with people in general as well as perceptions that friends and family are accessible during times of need appear to be significant factors that contribute to college students having social phobia. In particular, less secure attachments in general and less perceived social support from friends and family were linearly related to more social phobia for college students.

Next, a hierarchical regression analysis was conducted to explore the individual contributions of perceived social support from friends and family in relation to social phobia after controlling for attachment styles. Attachment styles (as a block) were forced into the equation first and accounted for 10.8% of the variance in social phobia scores. Perceived social support from friends entered the equation next,  $F(1,191) = 6.0$ ,  $p = .000$ , accounting for an additional 3.1% of the variance. The attachment styles and feelings that college students have about people in general are predictive of social phobia (i.e., social avoidance), but the perceptions that their friends are accessible during times of need appear to have a more significant role when having feelings of social phobia than the belief that members of their family are accessible during times of need. See

Tables 6 and 7 for the results of the multiple and hierarchical regression findings respectively.

## CHAPTER V

### Discussion

Social anxiety and social phobia appear to be significant issues for college students. College students in this study who reported more social interaction anxiety were more likely to have higher levels of social phobia, meaning that they are more likely to avoid social interaction if they feel anxious, which can cause distress in their lives. Of interest, family income was a demographic variable significantly related to social anxiety and social phobia in college students. Higher income levels were associated with less social anxiety and social phobia in college students.

#### Attachment and Social Anxiety/ Social Phobia.

College students who reported more insecure, fearful, and preoccupied attachments with others tended to experience more social anxiety and social phobia (i.e., avoidance). College students who have a positive view of themselves and others (i.e., secure attachment) tend to feel more comfortable when interacting with other people in social settings and seek social interactions. College students who had more negative views of themselves, as evidenced by preoccupied and fearful attachments, tended to have more social anxiety and social phobia, which confirms previous research findings that explored the role of negative self-thoughts (Mahone, Bruch, & Heimberg, 1993) and negative views of the self (Van Buren & Cooley, 2002). Mahone et al. (1993) found that

individuals were more likely to experience social anxiety when they had negative thoughts about themselves and focused on the positive attributes of a partner during a conversation. Van Buren and Cooley (2002) found that individuals with a fearful attachment style did not report higher levels of social anxiety than individuals with a preoccupied attachment style. Individuals who have a negative model of themselves and others would be a plausible explanation for experiencing social anxiety because of their tendency to have a deficit with assertiveness (Bartholomew & Horowitz, 1991). Consistent with previous research (Priel & Shamai, 1995), individuals with a dismissive attachment style in the present study were less likely to report feelings of social anxiety. According to Tidwell, Reis, and Shaver (1996), individuals with an avoidant or dismissive attachment style may be more likely to structure their lives in ways to minimize their chances of being close with other people, which may be an explanation as to why they were less likely to report feelings of social anxiety in this study.

When exploring the linear relationship of attachment styles with social anxiety and social phobia, some interesting findings unfolded. All four attachment styles accounted for 24.2% of the variance in social interaction anxiety scores and 10.6% of the variance in social phobia scores for college students.

Follow-up forward regression analyses revealed that secure and preoccupied attachment styles were the two most significant attachment style predictors of social interaction anxiety among college students; fearful attachment was the only significant predictor of social phobia. Thus, college students who had more secure attachments in general and who were less

preoccupied (i.e., less likely to themselves negatively in relation to others) were less likely to experience social interaction anxiety. College students who had more fearful attachment styles (i.e., negative views of self and others) reported more social phobia.

#### Perceived Social Support and Social Anxiety/Phobia

Perceptions of social support from friends and family were both significantly and negatively related to social interaction anxiety and social phobia. College students who have feelings of social anxiety and social phobia tend to experience less support from their friends and family.

#### Perceived Social Support and Attachment Styles

Perceived social support from friends and family was also significantly related to attachment styles. College students who had positive views of themselves and others (secure attachments) tend to believe that their friends are supportive in times of need. This has been supported in previous research. Priel and Shamai (1995) also found that individuals with a secure attachment style were more likely to report higher levels of perceived social support than individuals with an insecure attachment style, as well as more likely to be satisfied with the support they were receiving.

College students who had negative views of others (as evidenced by fearful and dismissive attachments) tend to believe that friends will not be available during times of need. In addition, college students who generally feel good about others but are preoccupied in negative views of self tend to not feel as much support from their family. In previous research, fearful attachments were related to less perceived support from romantic partners (Collins and



Feeney, 2004). Therefore, the results of the present study extend the findings to friends and family in general.

When exploring the linear relationship of attachment styles and perceived social support from friends and family (forward regressions), secure attachment styles was a significant predictor of both perceived social support from friends and family. Dismissive attachments also accounted for some unique variance in perceived social support from friends.

Perceived social support from friends and family significantly contributed to social interaction anxiety and social phobia above and beyond what attachment styles explained. Attachment styles accounted for 24.2% of the variance in social interaction anxiety scores. Perceived social support from friends and family accounted for an additional 6% of the variance in social interaction anxiety scores (4.2% from family and 1.8% from friends). It appears that the extent to which college students feel anxious when interacting with others is predicted most by the quality and nature of their relationships with people in general followed by the belief that their friends are accessible, rather than members of their family. However, perceived social support from friends and family are meaningful in understanding social interaction anxiety above and beyond what attachment explains.

Attachment styles accounted for 10.8% of the variance in social phobia scores. Perceived social support from friends and family accounted for an additional 3.5% of the variance in social phobia scores (of which 3.1% was for perceived social support from friends). College students with social anxiety and social phobia tended to have attachment problems with people in general and

perceived less support from friends and family. Perceptions that friends are accessible during times of need appear to have a more significant role when college students experience social phobia than the belief that members of their family are accessible during times of need.

Other studies have been conducted to assess the role that attachment styles and social support have with psychological distress (Mallinckrodt & Wei, 2005; Lopez, Mitchell, & Gormley, 2002), but no researchers until now have examined if perceived social support from friends and/or family adds to our understanding of social anxiety and social phobia in college students after controlling for the quality and nature of one's relationships with others (i.e., attachment). The findings from the present study indicate that perceived social support (i.e., primarily from friends) does contribute additionally to the understanding of social anxiety and social phobia, above and beyond the relationship between attachment styles and social interaction anxiety and social phobia. Therefore, perceptions that friends are available and supportive are most important in relation to social anxiety and social phobia than family support.

#### Implications for Practice

Understanding the role of attachment and perceived social support in predicting social anxiety may help the mental health practitioner better conceptualize problems that a student can bring to counseling while attending college. By understanding the relationships among variables that have been found to contribute to the adjustment to college, mental health practitioners can implement interventions to help their clients with the adjustment to college. Mental health practitioners need to ascertain the attachment styles of their clients

as well as their level of perceived social support when addressing social anxiety issues. If the client is deemed to be exhibiting a fearful or dismissing attachment style, then the practitioner may need to focus in developing rapport and trust with the client more extensively so that the client will be more open to exploration of the self.

In regard to perceived social support, counselors and psychologists may help the college students to explore ways of receiving social support if the client presents with beliefs of not having adequate social support. In previous studies, gender-based personality attributes, such as expressiveness and instrumentality, were found to relate to perceived social support; in fact, perceived social support was found to mediate the relationship between expressiveness (nurturance, interpersonal sensitivity, and empathy) and interpersonal aspects of psychological adjustment. Individuals who are having problems with relationships, and who tend to measure high in expressiveness, may best be helped in resolving relationship problems by focusing on social support skills (Wang, Heppner, & Berry, 1997).

Anxiety is one symptom of affect that may dampen the ability of a college student to reach out to others for support, more specifically social anxiety. Social anxiety in college students can influence the degree to which they not only interact with others, but also how they perceive other students who are socially anxious, whereby socially anxious students view other socially anxious students as less physically attractive and having less strength of character (Purdon, Antony, Monteiro, & Swinson, 2001). Counselors and psychologists can work

with the socially anxious college student by helping him or her extinguish the anxiety they may feel when interacting with others.

The quality and nature of college students' relationships with others (attachment) as well as their perceptions of support from friends and family are important in understanding their social anxiety and potential avoidance in social situations. Therefore, it is important for counselors and psychologists to address both attachment and social support issues when working with college student clients who present with social anxiety and/or social phobia problems. Helping students to develop more positive views of themselves and of others will help build college students' secure attachments to manage any social anxiety and/or avoidance they may have. Bolstering perceptions of support from friends and actual support will help college students in coping with any social anxiety or social avoidance they may have.

### Limitations

There were several limitations to the study. In particular, a significant limitation was that the majority of the sample was female ( $n = 139$ ), Caucasian ( $n = 153$ ), and single ( $n = 182$ ). Therefore, these findings may not generalize to other college students who do not fit this profile. Also, the majority of the sample identified themselves as freshman college students ( $n = 107$ ). Future studies need to explore differences in the main study variables with respect to ethnicity, gender, marital status, and academic class.

Other limitations exist with respect to the ability to participate in an online research study. Since the study used self-report measures, participants may not have accurately recalled their experiences or they may have responded in

socially desirable ways, possibly as a result of becoming uncomfortable or aware of distressing memories that relate to their friends and family. The students may not have completed the questionnaires in one setting as well. Also, the participants may not have been knowledgeable or motivated to complete questionnaires on the SONA online research participation system. Future studies need to examine other methods of data collection to insure that participants complete the questionnaires in a specific amount of time.

Another limitation of this study was the nature of the instruments. Other attachment instruments may have been implemented which could have provided a different perspective on attachment styles, such as attachment styles with primary caregivers. Also, different anxiety instruments could have been utilized, which may have provided a more thorough description of anxious states or traits, rather than anxiety that is felt only in social situations.

The present study was correlational in nature, and since the independent variables were not manipulated in an experimental design, a causation model cannot be inferred.

#### Areas for Further Research

Researchers should explore other ways that attachment styles and perceived social support relate to social anxiety and social phobia in college students. One method researchers could utilize is exploring different types of thought processes inherent within individuals that may relate to their perceptions of support and feelings of anxiety in social interactions, such as cognitive schemas. The Relationships Questionnaire (Bartholomew & Horowitz, 1991) was utilized in this study to assess the attachment styles that students have with

people in general, and the Social Interaction Anxiety Scale and Social Phobia Scale (Mattick & Clarke, 1998) were implemented to assess social anxiety and social phobia. Researchers should utilize instruments that may assess long-standing attachment styles with parents and different situations or types of performances that elicit feelings of social anxiety, such as the Parental Bonding Inventory (Parker, Tupling, & Brown, 1979) and the Liebowitz Social Anxiety Scale (Liebowitz, 1987).

In addition, further research could clarify the types of negative self-schemas and core beliefs that may contribute to social anxiety and social phobia in college students. While attachment measures assess in general the inner working models of participants in terms of self and others in general, they do not assess the specific types of beliefs students have about themselves and their relationships with others.

Researchers could systematically manipulate different types of social interaction and performances to assess attachment styles, perceived social support, and social anxiety to provide an index into the extent to which the attachment styles with parents contribute to perceptions of social support and feelings of social anxiety in public settings. Also, researchers might examine the differences between perceived social support and actual support when assessing social anxiety to ascertain if differences exist between perceived and actual social support and social anxiety in social settings. Differences in perceived and actual social support and feelings of social anxiety can help the mental health practitioner to process with the client his or her perceptions of the support of their

friends and how it compares or contrasts with the actual support they are receiving.

### Summary

Attachment styles and perceived social support from friends and family were significant predictors of social anxiety and social phobia in college students. When considered together, attachment styles account for approximately 25% of the variance in social anxiety and 10% of the variance in social phobia. When considered individually, attachment styles characterized by a positive working model of others (i.e., secure and preoccupied) was predictive of social interaction anxiety, but attachment styles characterized by having a negative working model of the self and others (i.e., fearful) was predictive of social phobia. Perceived social support, primarily from friends, contributed significantly to the understanding of social anxiety and social phobia in college students, above and beyond what attachment styles explained. Therefore, it is important for counselors and psychologists to address not only the beliefs college students have about themselves and others in general, but also their perceptions of support from their peers.

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## APPENDICES

## APPENDIX A: Research Questions and Hypotheses



### Research Questions

1. What are the relationships between and among attachment styles, perceived social support, and social anxiety?
- 2a. What is the relationship of attachment styles with perceived social support?
- 2b. Which attachment styles are significant predictors of perceived social support?
- 3a. What is the relationship of attachment styles with social anxiety?
- 3b. Which attachment styles are significant predictors of social anxiety?
4. What is the relationship of attachment styles and perceived social support with social anxiety?
5. Do perceptions of social support significantly contribute to social anxiety above and beyond what attachment styles explain in relation to social anxiety?

### Null Hypotheses

1. There will be no statistically significant relationships between and among attachment styles, perceived social support, and social anxiety.
- 2a. Attachment styles, when considered together, will not be statistically significantly related to perceived social support.
- 2b. None of the attachment styles will be statistically significant predictors of perceived social support.
- 3a. Attachment styles, when considered together, will not be statistically significantly related to social anxiety.
- 3b. None of the attachment styles will significantly predict social anxiety.
4. Attachment styles and perceived social support, when considered together, will not significantly relate to social anxiety.

5. Perceived social support will not significantly add to social anxiety after statistically controlling for the relationship between attachment styles and social anxiety.

## APPENDIX B: Literature Review

## CHAPTER II

### REVIEW OF LITERATURE

The literature review will present the need for more research to explore the relationships between and among attachment, perceived social support, and social anxiety. The basic tenets of attachment, perceived social support, and social anxiety among college students will be reviewed.

#### Attachment

Attachment, as conceptualized by Bowlby (1969), is “the seeking and maintaining proximity to another individual,” (p. 194). Attachment to the caregiver is believed to be initiated early in life. Infants at about the age of four months use perceptual discrimination to search for the whereabouts of the mother, and at about two years of age the child and his or her attachment behavior is activated by frightening circumstances (Bowlby, 1969). The process of attachment allows for an individual to develop inner working models of the self and inner working models of others. Individuals build inner working models of the self during infancy that center around how acceptable or unacceptable they are in the eyes of attachment figures, while also forecasting accessibility and responsiveness of attachment figures for support (Bowlby, 1973).

The attachment an individual has with his or her caregiver as a child can also be observed to exist with their peers during childhood, to which the attachment behavior changes direction toward other figures during adolescence

(Bowlby, 1969). In other words, the interaction of parenting between the child and the primary care-giver can shape how the child views relationships with other people. An individual who has grown up with affectionate parents has known whom to seek for support and protection and that as an adult he or she believes there will be trustworthy figures in times of difficulty (Bowlby, 1973). Yet, it may not just be the quality of the attachment, but that “the more experience of social interaction an infant has with a person the stronger his attachment to that person becomes” (Bowlby, 1969, p. 222).

Ainsworth et al. (1978) were able to derive different styles of attachment from their experimental study on the “strange situation”, and from this research, the attachment styles secure, anxious-ambivalent, and avoidant were formed. A baby and his or her mother were observed in an unfamiliar environment to assess the extent to which the baby would play with novel toys. The mother left the room after the stranger approached her baby, and returned a few minutes later with the attempt to get the child to play with the toys again. The second separation involved leaving the baby alone, to which the stranger returned before the mother.

Different levels of distress exhibited by the baby were found to exist between the attachment styles when the mother departed and returned to the experimental situation. Securely attached infants acted somewhat distressed when the mother returned. Anxious-ambivalent babies acted distraught and protested when the mother left the room and when she returned. Avoidant babies

showed actions of not being distressed when the mother left and when she returned.

However, attachment styles are not solely confined to the behaviors of responsiveness between an infant and his or her caregiver. Hazan and Shaver (1987) conceptualized romantic love as reflecting the process of attachment. In their study, the frequencies of different attachment styles in childhood were found to be as common the frequency of attachment styles in adulthood. In other words, there were parallels between the infant-caregiver attachment style and reports by adults of their relationships with parents during childhood. Also, people with different attachment styles hold different beliefs about trustworthiness, romantic love, and their own worthiness of love.

Bartholomew and Horowitz (1991) later conceptualized the inner working model of attachment as having a positive structure or a negative structure in reference to self and others that carry over into adulthood, to which an individual could be classified as having a secure or insecure attachment style. Secure individuals have a positive inner working model for the self and others, and generally view others as accepting and responsive. Preoccupied individuals have a negative working model of themselves and positive working model of others that is marked by a personal sense of unworthiness with a desire to gain increased acceptance of the self through the acceptance of others. Dismissing individuals have a positive model of self, yet a negative model of others. These individuals tend to desire independence and avoid relationships. Fearfully attached individuals have a negative inner working model of self and others with

a personal sense of unworthiness and expectation that others will be rejecting and untrustworthy (Bartholomew & Horowitz, 1991).

### Correlates of Attachment Styles in College Students

Differences in attachment styles can elicit a variety of ways in how college students think and feel about themselves, and how they interact with other people. Attachment styles exhibited by students during college have been linked to psychological well-being (Love & Murdock, 2004), support seeking (Collins & Feeney, 2000; Vogel & Wei, 2005) and social interaction (Tidwell, Reis, & Shaver, 1996; Aspelmeier & Kerns, 2003).

Dalton, Frick-Horbury, and Kitzmann (2006) conducted a study in an effort to investigate the retrospective reports of parenting by undergraduate college students. Also, the researchers sought to determine if the inner working model of the primary caregiver continued into young adulthood. One objective of the study was to separate the differences in the caregiving relationships college students had with their mother and father and how these relationships might predict their relationships in young adulthood. The seventy-five undergraduate college students indicated their retrospective reports of parental behavior by completing a modified version of Descriptions of Parental Caregiving Style (DPCS) questionnaire, which entailed indicating on a 5- point Likert scale, ranging from 1 (very uncharacteristic) to 5 (very characteristic), the extent to which 3 sentences from the sections of the caregiving style of warm or responsive, cold or rejecting, and ambivalent or inconsistent was applicable to him or her. The students also completed the Attachment and Object Relations Inventory (AORI), which

assesses the quality of current relationships. The students rated on a 5-point Likert scale of 1 (strongly disagree) to 5 (strongly agree) their perceptions of relationships with romantic partners, peers, and parents, while also reporting their own ability to form secure, independent, and close relationships with others. The students were surveyed under conditions with no more than 15 students in a session. The researchers found that the students who provided more positive ratings of parenting reported greater quality in relationships with parents and the romantic partner, and that when individuals identified the mother as the primary caregiver, her parenting was related to the current quality of relationships with parents than the father's parenting. Individuals who identified the father and his parenting behavior as the primary caregiver reported positive ratings of their fathers during their childhood and were more likely to report secure and close relationships with their romantic partners. One limitation might be that the majority of the sample included female college students (65%). Therefore, the results may not generalize to male college students.

In a similar vein, Levy, Blatt, and Shaver (1998) sought to understand the role of attachment styles and parental representations, the beliefs about the parents, among undergraduate college students. The authors hypothesized that the parental representations of securely attached individuals would be more positive and mature than individuals who are insecurely attached. Anxious-ambivalent individuals were hypothesized to provide parental descriptions that contained more attributes than individuals who had a dismissive attachment style. Fearfully attached individuals were hypothesized to express more complex



descriptions of parental representations than individuals who exhibited a dismissive attachment style. The participants included one hundred eighty-nine undergraduate students from the State University of New York at Buffalo with a median age of 19 years, who were selected from a pool of 863 students enrolled in introductory psychology courses. After the screening session conducted in a classroom, an equal amount of students was selected from each attachment style: secure, avoidant, and anxious-ambivalent. The students were contacted one to two months later to complete the attachment measure again in groups of 20 to 25 students, along with other measures.

The students were asked to reflect on their most important romantic relationships and to decide which attachment prototype developed by Hazan and Shaver (1987) (secure, avoidant, and anxious-ambivalent) best described their experiences. The students responded on a 7-point scale ranging from very dissimilar to similar to rate their experiences and behaviors in their romantic relationships. Of the one hundred and eighty-nine students, only 54 students were administered Bartholomew's four-category self-report measure of attachment because the authors did not use the measure until after the data collection had started. The participants were asked to select one paragraph from four paragraphs that describe four different attachment styles (secure, preoccupied, fearful, and dismissing) with self-rating scales. Booklets asking the participants to describe their mother and father on a 7-point scale of traits such as affection, nurture, and ambition were developed by the authors and administered. Results indicate that securely attached individuals in romantic

relationships provided more benevolent representations of both parents than individuals with an insecure attachment. Both romantically insecure groups (i.e., anxious-ambivalent and avoidant) demonstrated more ambivalence about the relationships with their parents in comparison to the group of individuals with a secure attachment style. The anxious-ambivalent group provided fewer parental attributes, such as affectionate, than individuals who had a secure attachment style. There were also interactions between gender and attachment style, such that women with an avoidant attachment style professed their mothers to be more ambivalent than women who had a secure or anxious-ambivalent attachment style. Women with an avoidant attachment style reported higher conceptual levels of their parents when compared to men who had an avoidant attachment style. The present study contributed to the literature of attachment in that the results shed light on parental associations that are characteristic to different romantic attachment styles. However, a limitation of the study is that the students were asked to reflect on the experiences of past romantic relationships and to describe characteristics of their parents. The recall may not be accurate due to the amount of time that has passed between assessment and the experiences within the relationships. Parent and romantic partner behavior might be understood better had the students been observed with their romantic partner and parents in an experimental study.

The previous two groups of researchers did not explore how attachments to step-families might relate to other attachments (i.e., peer, romantic) for college students. Differences in attachment styles may be influenced by the type of

family, such as a step-family. Love and Murdock (2004) devised a study in effort to ascertain if there would be differences in attachment styles between undergraduate college students who were raised by biological parents compared to those raised by step-families. The authors hypothesized that attachment variables would mediate the relationship between the step-family and biological family and psychological well-being in young adults. The average age of the participants was 19.17 years. Students qualifying for the study had to be between the ages of 18 and 21, to have grown up with both biological parents, or to have grown up with a step-family between the ages of 4 and 14. Participants from intact families spent an average of 18.74 years with the family, with a range of 4 to 21 years; participants from step-families spent an average of 10.58 years, with a range of 5 to 16 years. Parental attachment was assessed by the Parental Bonding Inventory (PBI), which is recollection of the bonding in the first 16 years of life. It is a 25-item self-report measure of parent-child bonding. The two subscales, Care and Overprotection, are two dimensions of a relationship that are bipolar, in which higher scores on the Care subscale indicate greater amounts of care, and higher scores on the Overprotection subscale indicating more overprotection. The Comprehensive Affective Personality Scale (CAPS) was used to assess affective components of adjustment, to which the participants rated answers on a Likert scale. Life satisfaction was measured by the Brief Life Satisfaction Scale (BLS), a 10-item questionnaire asking participants to respond by using a Likert scale. The Conflict scale of the Family Environment Scale (FES) was administered to assess level of family conflict.

Results indicated that maternal care and paternal care were significant predictors of psychological well-being. There were small differences between stepfamilies and biological families with respect to individuals who reported their mother as the primary caregiver. A moderate difference existed between groups when the participants reported the father as the primary caregiver. The attachment with the father appears to be more disrupted by living with a step-family because the majority of the students in the sample reported a stepfamily that consisted of living with the biological mother. Living with a biological family was associated with higher levels of well-being, as well as the tendency to report more secure attachments with their parents than individuals who lived with step-families. Attachment levels were found to partially mediate the relationship between family type and psychological well-being. One limitation of the study was that the majority of the sample was Caucasian (64%) and female (69%). These results may not generalize to other races or to males. Also, students were only allowed to participate if their age fell within the range of 18 to 21 years old, and the results are only applicable to college students within the age range of 18-21 years. A reason why individuals from intact biological families reported higher levels of well-being and more secure attachment relations than individuals from step-families may be due to having spent more time with those family members. One contributing factor of the current study is that it documents that individuals differ in psychological well-being with respect to the type of family in which they were raised, and that the attachment an individual has with a stepfather may be problematic for some people.

At times, differences in attachment styles with parents can contribute to how college students feel about their interactions with peers, including feelings of loneliness. The study by Bogaerts et al (2006) was conducted to explore the relationships of parental and peer attachments with emotional loneliness in a sample of graduating psychology students at Ghent University in Belgium. The authors hypothesized that the primary causal variable would be the working model of parental attachment is; the intermediate variable would be the working model of peer attachment; and emotional loneliness will be a direct effect of the working model of attachment. There was also an interest in how attachment styles might differ for students who never felt emotionally lonely compared to students who felt emotionally lonely most of the time. Participants included 440 undergraduate college students, with a mean age of 22 years and 2 months. Two hundred and eighty-five students were currently in a relationship, and close to 50% had been in the relationship for more than 2 years. The Parental Bonding Inventory (PBI) was administered to the college students in order to assess the recollections of attitudes and parental behavior of the mother and father. In order to assess the current adult attachment style with peers, the authors used the Relationships Questionnaire (RQ), which consists of four short paragraphs that describe a prototypical attachment style. The measure asks the participants to respond to each paragraph on a 7-point Likert scale. Emotional loneliness was measured by the administration of one item, namely a question asking “Do you ever feel lonely?” Participants responded to this question using a 4-point Likert ranging from (0) never to (3) very often. The results indicate that peer attachment

served as an intermediate variable in the linear causal relationship between parental attachment and feelings of loneliness. There was a significant, positive relationship between parental attachment and adult attachment. Yet, there was not a direct, linear relationship between parental attachment in childhood and feelings of loneliness as a young adult. There were differences in adult attachment styles (i.e., secure, fearful, and preoccupied) with respect to respondents who reported feeling lonely versus respondents who reported that they were not lonely. The study contributed to the literature on attachment by documenting the role of insecure attachment styles with emotional loneliness, and that parental attachment in childhood can influence attachment styles in adulthood. A limitation of the study may have been found in the assessment of loneliness, which was a one-item measure. The one-item measure does not accurately describe how often the individual feels lonely. A standardized instrument of loneliness may have been more useful and specific in describing different tangents of loneliness. Along with emotional loneliness, differences in attachment styles among undergraduate students may contribute to other negative feelings or emotions, such as depression and anxiety if students perceive that their needs of interaction with others are not being met.

Wei, Russell, and Zakalik (2005) sought to determine the relationships between attachment styles and depression in college students, as well as if social self-efficacy and self-disclosure were the primary mediators that affect attachment anxiety and attachment avoidance. Participants were 308 freshman college students, the majority of whom were Caucasian (92%). The mean age of

the sample was 18.31 years. Students completed surveys using an on-line format one time, either during the fall semester or the spring semester. Participants completed the Experiences in Close Relationships Scale (a 36-item self-report measure of romantic attachment), the Social Self-efficacy Scale (6-item measure of how confident and competent they feel in interpersonal relationships), the short form of the Center for Epidemiological Studies-Depression Scale (an 11-item measure of depression levels), and the short version of the UCLA Loneliness Scale (10-item measure of loneliness). The data was collected from the students during the first and second semesters of their first year of college. The results extracted from the study indicate freshmen college students with high levels of attachment anxiety exhibited feelings of loneliness and subsequent depression through the mediator of self-efficacy while college students with high levels of attachment avoidance experienced levels of loneliness and subsequent depression through the mediator of self-disclosure. Social self-efficacy, the mediator variable between attachment anxiety and loneliness, possibly suggests that individuals with social competence problems may perceive lower levels of support from others. The findings from the present study add to the literature of attachment by including the importance of social self-efficacy and its effects on feelings like loneliness and a depression. Since 92% of the sample indicated that they were of the Caucasian race, the study may be limited in the ability to generalize to other races. Other cultures may have different beliefs on attachment relations and social self-efficacy desires. Loneliness, anxiety, and depression may affect how college students perceive

and interact with other students. This may also correlate with romantic relationships.

Collins and Feeney (2000) sought to explore the relationships of dating couples and how attachment styles might shape the beliefs of a person as to whether or not they will seek support during stressful interactions, as well as the likelihood that their partner would provide caregiving behavior in response to support-seeking behavior. The sample consisted of 93 dating couples from a northeastern university in the U.S. The member recruited for participation in the study was determined as the support seeker, and the partner was defined as the caregiver. The mean age of support seekers was 19 years, with an age range of 17-26 years. The mean age of caregivers was 19.8 years, with an age range of 17-33. Attachment was measured by the Adult Attachment Scale (AAS), which has 22 items that measure attachment anxiety and avoidance. Students were also administered Bartholomew's four attachment prototypes, which consists of asking participants to respond on a 7-point Likert scale the extent to which each paragraph closely resembled his or her general style of romantic relationships. The students completed a 25-item measure of relationship quality that assessed such dimensions as satisfaction, intimacy, and conflict. A nine-item mood scale in which the students responded to positive and negative emotions on a 7-point scale was used before and after the interaction with the romantic partner. The procedure involved videotaping the participants playing a game together, in effort to help the couple relax in front of the camera. Couples discussed a problem for up to 10 minutes. The students were asked at the end of the experiment to



provide their subjective perceptions of the interaction by rating six items on a 7-point scale that included behaviors such as listening, understanding, and responsiveness. The results gleaned from the study indicate that individuals engaged in more direct support seeking behavior when they rated their problem as stressful, which was associated with their partner providing more effective caregiving responses. Support seekers felt better after the interaction with their partner when they perceived their partner as more caring and supportive. Attachment avoidance was associated with ineffective support seeking behavior, while attachment anxiety was linked to caregiving from the partner that was ineffective. Indirect strategies, such as hinting and sulking, were used by the partners when support seekers who exhibited higher levels of avoidance were less likely to seek support in response to increased stress. Partners reporting higher levels of anxiety related to attachment were considered poor caregivers because of the tendency to provide less instrumental support, as well as the tendency to display more negative support behaviors. The findings from the present study contribute to the literature on attachment and social support by showing that the relationships between social support and attachment can be understood from multifaceted approaches, such as assessing moods before and after an experimental situation. However, a limitation of the current study may be the experimental situation which was thought to induce stress, thereby causing uncertainty as to whether or not the attachment system was activated. The situation may not have been stressful enough for the student to seek the support of his or her partner. Also, the ability to generalize to other college students is

limited to those students who are involved in a romantic relationship. It may be likely that students who casually date a partner instead of being involved in an actual relationship may have the same emotional experiences related to attachment styles and support seeking.

In another study, Tidwell, Reis, and Shaver (1996) explored the relationship between attachment styles and social interaction in addition to assessing the role physical attractiveness may have with attachment and social interaction. The sample consisted of 125 undergraduate students living in dormitories at the State University of New York at Buffalo, composed of 60 men and 65 women with an age range of 17-21 years. The sample provided almost equal representation across the three attachment styles, which does not reflect the proportions of attachment styles in the general population. Attachment was measured according to Hazan and Shaver's single-item measure, which asks participants to select from three descriptions that are characteristic of their romantic relationships. Each description contained an attachment style: secure, avoidant, and anxious-ambivalent. A 7-point Likert scale that ranged from 1 (disagree strongly) to 7 (agree strongly) was used for each student to assess how each style of attachment was characteristics of him or herself. The method for documenting social interaction was based on a diary the participants kept for one week. The authors contend that using a diary can provide an ongoing assessment of social interaction instead of a self-report method of social interaction used for convenience of data collection that may be biased on inaccurate recall of events. Any social encounter with another person was

defined as an interaction, even if they did not speak. Participants were also instructed to indicate on a 7-point Likert scale the extent to which they engaged in social encounters including but not limited to intimacy, self-disclosure, quality, and satisfaction. The attachment styles were assessed during a mass setting of introductory psychology students. An equal number of students that lived in the on-campus dormitories and who fit each attachment category were randomly selected to come back a week later with the social interaction diary. The students were then photographed, if they chose. If they chose not to be photographed, the credits received for participation in the study would not be affected. The photographs of 57 students were sent to another university to be rated on physical attractiveness scale of 1 (very unattractive) to 15 (very attractive). Results indicate that avoidant participants reported significantly lower levels of positive emotions and intimacy in opposite-sex interactions than participants who had a secure or anxious-ambivalent attachment style, as well as higher levels of negative emotions. Participants with an ambivalent attachment style reported higher levels of intimacy in comparison to participants with a secure attachment style. Participants with a secure attachment style were able to provide a clearer differentiation between romantic and opposite-sex partners on the variables of intimacy and positive emotion than participants with an avoidant and ambivalent attachment style. With respect to intimacy, participants with a secure attachment style disclosed more to romantic partners than participants with an avoidant attachment style. During interactions, participants with an avoidant attachment style experienced the most negative emotion with romantic partners, and when

compared to participants with a secure and ambivalent attachment style, interacted less often and for a shorter amount of time with their partner of the opposite sex. There was not a significant relationship between physical attractiveness and attachment style. The results of this study added to the attachment literature by documenting how students with different attachment styles may interact with romantic partners, and with how they interact with people throughout the period of a week. A limitation may have been the use of the diary of social interaction, more specifically the accuracy of recall of the type of social encounter. Despite instructing the students to write in the diary as soon as possible after the social encounter, some students may not have had the social diary with them during the social encounter, or too much time may have elapsed between the social interaction and the entry of the information in the diary, thereby possibly causing an inaccurate recall of the social encounter.

Another study that focused on attachment styles and social interaction was conducted by Aspelmeier and Kerns (2003). The authors wanted to explore the relationships between attachment styles and the exploration of social domains, or the seeking of novel experiences in an environment, and were interested in ascertaining if different attachment styles may relate to the desire to search for new information. Exploratory behavior was defined as seeking novelty situations and information search, which relate to academic performance and exploration of social domains. The authors hypothesized that individuals with a secure attachment would show more exploratory behavior than individuals with a preoccupied or fearful attachment because of the support from others that are

perceived as a source of security. Individuals who are classified as having a dismissive attachment were hypothesized to avoid novelty and have low levels of social exploration. Fearfully attached students were hypothesized to display the most negative feelings of exploration, such as a lack of motivation. The second study was conducted in effort to replicate the first, only this time the students were given the exploratory task of working a puzzle while under observation in a laboratory. Secure individuals were hypothesized to exhibit the greatest levels of exploration and curiosity, as well as exhibiting higher levels of manipulation of the puzzle box. It was hypothesized that preoccupied and fearfully attached students would have the lowest levels of involvement and manipulation, resulting from a lack of competence. In study 1, 200 undergraduate students with a mean age of 19.5 years and an age range of 17 to 35 years completed questionnaires in groups of 5-15 students. Attachment was measured by Bartholomew's 4-item questionnaire, and another measure that consists of 13 descriptive statements based on the attachment measure of Hazan and Shaver. The authors constructed a 52-item measure designed to measure exploration that included curiosity and information search, beliefs about academic competence, and interactions in social and academic domains. Study 2 consisted of 69 undergraduate college students with a mean age of 19.6 years and an age range of 17 to 43 years who completed the same attachment measures that were used in study 1. Exploration in study 2 consisted of asking students to play with challenging puzzles, such as multi-colored cubes. The experimenter left the room for 5 minutes while the participant was videotaped. The videotapes of the

participants were later observed for time spent manipulating the objects and a qualitative aspect was measured by how the participants manipulated the objects. Social information search was measured by administering descriptions of hypothetical dating partners to the participants, to which they would decide if they would date that person. The participants were also instructed to imagine that they were not currently in a relationship and that they had a chance to go on a blind date. Results indicate that adult close/romantic relationships are correlated with differential patterns of exploration. According to study 2, male participants exhibited an association between self-reported attachment and exploratory behavior. Secure attachment was related to feelings of competence at academic tasks and positive attitudes about exploring novel situations. Dismissing attachment was associated with avoiding exploration of social information, and males with higher levels of dismissive attachment manipulated the puzzles less often and did not exhibit high levels of persistence when attempting to solve the puzzle. Preoccupied attachment was related to anxiety over academic performance, while students with a fearful attachment exhibited negative attitudes about novelty and physical exploration when compared to students who had a secure attachment style. A limitation of the present study is the type of measure used to assess exploratory behavior. The puzzles used may not have been challenging or interesting enough for the student to manipulate, and since males manipulated the puzzles more often than females, the toys may not have been gender-neutral. Also, the results are only able to be generalized to undergraduate students who are in current and close relationships.

As college students venture through their college years, they may develop friendship relations with significant others. Saferstein, Neimeyer, and Hagans (2005) explored what kinds of attachment styles were predictive of different types of non-romantic friendships. Gender differences (same or opposite sex) were presumed to exist between attachment styles and friendships. Participants were 330 undergraduate students who had a mean age of 17.72 years. They completed measures of attachment and friendship qualities. Attachment was measured by the Adult Attachment Measure, which is a self-report measure consisting of three paragraphs instructing the participants to choose the paragraph that is the best description of themselves. The Friendship Qualities Scale is a 23-item measure of non-romantic relationships, which consists of such dimensions as companionship, closeness, and security. The participants completed a measure for their best friend of the same sex and the best friend of the opposite sex. A five-point scale was used to assess the friendships, ranging from 1 (never or almost never true) to 5 (always or almost always true). Results from the study indicate that participants with had an insecure attachment reported lower levels of companionship and security with their best friends, with regard as to whether or not they could overcome hardships or difficulties. Participants with an anxious and avoidant attachment reported higher levels of conflict with their opposite-sex best friend than participants who had a secure attachment. Women reported higher levels of companionship and protection, while men tended to experience greater aid and security in relation to same-sex friends than opposite-sex friends. This effect was not found in the women.

Attachment interacted with sex of friends in determining levels of reflective appraisal (acceptance, validation, attachment) in that same and opposite-sex friends do not exhibit similar levels of reflective appraisal among adolescents with a secure and insecure attachment. A limitation of the present study involves the assessment of the best friends. Some students may not have a specific best friend of the same or opposite sex, possibly causing some of the participants to describe the qualities of their best friends as a whole, and which may dilute the actual assessment of one best friend from the same or opposite sex.

In sum, different attachment styles among college students have been found to exist among exploratory and novel situations (Aspelmeier & Kerns, 2003), romantic love (Hazan & Shaver, 1987), support seeking in romantic relationships (Collins & Feeney, 2000), emotional loneliness (Bogaerts, Vanheule, & Desmet, 2006), anxiety and depression (Wei, Russell, & Zakalik, 2005), social interaction (Tidwell, Reis, & Shaver, 1996), and with friendship qualities (Saferstein, Neimeyer, & Hagans, 2005). Since attachment is believed to be constant through the life of an individual, it is likely that his or her attachment may contribute to how he or she perceives the responsiveness of people other than the primary caregiver, with attachment becoming directed toward other people in adolescence (Bowlby, 1969). An individual who has grown up with affectionate parents has known whom to seek for support and protection and that as an adult he or she believes there will be trustworthy figures in times of difficulty (Bowlby, 1973). Since the attachment style changes toward romantic partners and significant others, it is likely that how he or she perceives the



accessibility of other people will relate to attempts to access the support of other people of whom the student is not romantically involved. This may relate to perceived social support.

### Perceived Social Support

Perceived social support is defined as the perception that social support is available if someone wished to access the support of another person (Sarason et al., 1991). Since social support is a derivative of how people perceive others, it is no wonder that research focusing on perceptions should include components of cognitive psychology and cognitive processing with social perception and social psychology. The research on social cognition might be best understood as people who operate under schemas, according to Fiske and Taylor (1984). “A schema is a cognitive structure that contains knowledge about the attributes of a concept and the relationships among those attributes” (Fiske & Taylor, p. 149). Schemas provide a sense of prediction and control that can be critical to well-being. Moreover, schemata help to guide the perceptions of new information and memories of old information. Person schemata involve the understanding of specific individuals which helps in categorizing others. “Person schemata of all sorts shape the processes of perception, memory, and inference to conform to our general assumptions about other people” (Fiske & Taylor, p.154). Self-schemata are verbal self-concepts and information about the self. Schemata are hard to change because of the influence they have with perception and memory, but they may be able to change with repeated exposure to particular instances.

Depending on the stage of schemata formation, they can help or hurt the ability to learn new information.

Lindzey and Aronson (1985) note that schemas are subjective theories that stem from generalizing the individual experiences of a person with his or her social world. The schemas that people hold about particular domains can allow the person to have consistency in responses, to be able to predict future behavior, and to have better recall of information. The authors further contend that individuals are more likely to remember confidently the people, events, and situations that fit schemas when they have to form a general impression. “Personality schemas facilitate the production of global general impressions of others” (Lindzey & Aronson, p. 161). The evaluation of social perception creates the social reality of the perceiver in that he or she is influenced by his or her target of another person.

At times, it may seem to some people that not only should perceived social support be crucial to the well-being of an individual but also the social support actually received. Yet, research findings indicate that perceived social support is more important to well-being than support that was actually received (Wethington & Kessler, 1986). The study by Wethington and Kessler (1986) was devised in order to investigate if differences might exist between perceived support, received support, and adjustment to life events that are stressful. The data was obtained from a 1976 national survey conducted by the University of Michigan that consisted of married adults who were between the ages of 21 and 65. Life events was measured by asking the participants to respond to a question

that asked the participant to think of the last time something really bad happened to them and to describe what it was about. Perceived support availability was measured by asking the participants to respond on a 0-3 scale, ranging from very true to not all true, to the statement “These days I really don’t know who I can count on for help.” The measuring of received support entailed having the participants to describe the people that helped them cope, and to describe the types of received support. Listening, comforting, and giving advice are some of the support functions coded into categories. Psychological distress was assessed by a measure that consisted of 20 items or statements that described bodily feelings related to anxiety and depression. Upon analyzing the results, the authors concluded that perceived social support served as a buffer against stress more strongly than actual support received.

#### Correlates of Perceived Social Support in College Students

Perceived social support can be understood as a cognitive variable influencing interactions with other people (Lakey & Cassady, 1990), as a predictor in the number of friendships (Brissette, Scheier, & Carver, 2002), and how social skills play a role with increased levels of social support (Cohen, Sherrod, &, 1986). Though researchers have documented the role perceived social support has with the development of friendship networks, explanatory styles like optimism and pessimism, and social skills, few researchers have attempted to explore other variables that may result from a lack of perceived social support from friends and family, such as depression, anxiety, and social anxiety.

Procidano and Heller (1983) devised three studies in effort to develop and validate a new measure of perceived social support: support from friends and support from family. The authors contend that perceived social support may be influenced by long-standing traits and changes in mood within. Perceived social support was designed to measure the support, information, and feedback an individual perceives that he or she is receiving from friends and family. In Study 1, the authors explored scale development and construct validity. Two hundred and twenty-two undergraduate students with a mean age of 19 years were recruited for participation. A pool of 35 items with a test-retest reliability coefficient  $r = .83$  over a one month interval was drawn from the initial pool of 84 items. Each of the 35 items was used twice, once for family, and once for friends. All three groups of participants received the perceived social support measure, with group 1 receiving the Life Experience Survey, Social Network Questionnaire, and the Langner 22-item screening instrument. Group 2 received the Short Form MMPI and the Marlowe-Crowne Social Desirability measures. Group 3 received the California Psychological Inventory, Dating and Assertion Questionnaire, and the Interpersonal Dependency measures. Results from Study 1 indicate that the newly developed perceived social support scales predicted symptoms better than characteristics of social network or life events. There was a negative relationship between the average amounts of time a person knew members of his or her social support network with the PSS-Fr.

Study 2 was implemented in effort to investigate possible effects of within-person positive or negative attitude sets with the PSS-Fr and PSS-Fa. The

authors were interested if altered mood states, or changes produced by self-statements, affected reporting of perceived social support. The participants in this study consisted of 105 undergraduate students who had a mean age of 19 years. The participants completed that PSS-Fr, PSS-Fa, Multiple Affective Adjective List (MAACL)-depression (MAACL- DEP) and anxiety (MAACL-ANX), Internal-External Locus of Control, Social Desirability, and Short Vocabulary Test. The participants were assigned to a self-statement condition when they returned one week later: positive, negative, or control. The participants read the self-statements to themselves, said the statement aloud, and then thought about each self-statement. Results indicate individuals reported fewer feelings of depression and anxiety, expressed and internal reinforcement, if they were in the group who read and thought about the positive self-statements in comparison with the control group. Individuals who were in the group that read and thought about negative self-statements reported greater feelings of depression and lower levels on the PSS-Fr. These individuals in comparison with the control group were likely to express a belief in external reinforcement.

Study 3 explored comfort in self-disclosure and similarities in network perceptions of friends and family. One hundred five undergraduate students with a mean age of 20.5 years who had a same-sex sibling attending the same university were included for participation.

The subjects were selected for participation by a campus telephone directory, and were sent copies of the PSS measures. The participants were asked to bring the inventories and a close same-sexed friend or same-sexed

sibling. The participants completed the PSS-Fr, PSS-Fa, State-Trait Anxiety Inventory, and Self-Disclosure Questionnaires devised for the present study. The participants and their companion were videotaped for five minutes after completing the inventories, with talk time, task-relevant, task irrelevant, and self-reference being scored as present or absent. Results indicate that PSS scales achieved validation. Siblings indicated reciprocity in disclosure with one another, experienced similar levels of anxiety, and, in comparison to friends, experienced greater similarity in coping styles. Participants who were high on PSS-Fr experienced lower levels of trait anxiety, and were more open about themselves in their dialogue with companions. Participants who were low on the PSS-Fr had a verbal inhibition tendency with friends. The study has added to the literature of perceived social support by showing the importance of friends and family, with the ability to experimentally validate reasons for including the newly developed perceived social support measure to be used in future studies. A limitation of the current study is the demographic nature in the sample of students. For instance, it is not known how each race is represented in the sample, or the percentages of gender that comprise the sample.

Lakey and Cassady (1990) conducted two studies to ascertain how cognitive processes might relate to perceived social support. Study 1 was conducted in effort to assess if perceived social support operated as a cognitive personality variable. It was believed that there would be differences between perceived social support and enacted support in regard to measures of cognitive personality variables. The sample consisted of one hundred and one college

students (70 women and 31 men). Students completed a measure on perceived social support and a measure on enacted social support. The Interpersonal Support Evaluation List is a scale of 48 items that assesses available social support. The authors modified the current version by adding a response format that consisted of 4 different points that ranged from strongly agree to strongly disagree. Enacted support was measured by the Index of Socially Supportive Behavior, which is a 40-item scale asking respondents to state frequency of supportive behaviors received from others over the past month. The cognitive personality variables were measured by the Rosenberg self-esteem scale, Form-A of the Dysfunctional Attitudes Scale, and personal control items. The Beck Depression Inventory (BDI) and the Trait form of the State-Trait Anxiety Inventory were used to assess psychological distress. The measures were completed by the students in groups of 25-35 and the data was collected across three semesters. Results from Study 1 indicate that perceived support was associated with high self-esteem and psychological distress, whereas enacted support was not associated with psychological distress. With respect to psychological distress and low perceived social support, individual differences in negative cognition accounted for a substantial amount of the relationship. For Study 2, it was hypothesized that students who perceived less support would evaluate novel supportive behaviors as less helpful and would recall a higher amount of support behaviors that were negative, while also recalling a smaller amount of support behaviors that were positive in comparison to students who perceived more support. The sample for study 2 consisted of one hundred and one introductory

psychology students, with 41 being men, and one student not indicating his or her sex. The Social Support Evaluation and Recall Task (SSERT) was developed by the authors for use in Study 2. The students read six paragraphs, to which the participants were instructed to imagine they are describing a personal or academic problem to a relative or friend. Responses to the paragraphs of supportive behavior were reported on a 5-point scale that ranged from very helpful to very unhelpful. A distraction test (a 60 word association test) was used to prevent rehearsal of responses. The participants completed the same measures as Study 1, but they were also administered the Procidano and Heller (1983) measure of perceived social support, the PSS-Fr and PSS-Fa. It consists of 20 items that reflect perceptions of support from family and 20 items that reflect perceptions of social support from friends. The current study modified the version by having participants respond to the items on a 5-point scale that ranged from strongly agree to strongly disagree. Results from Study 2 indicate perceived social support was positively associated with helpfulness of support and recalling instances of helpful supportive behaviors. One limitation of both studies is that there were more women in the sample than men, to which the results may not generalize to men. The results add to the literature of social support by providing evidence that perceived social support may operate as a personality variable that influences the extent to which individuals view the interactions with others as supportive.

Research on social support has also examined how explanatory styles, such as optimism and pessimism, can contribute to the development of social



networks and psychological adjustment in college students (Brissette, Scheier, & Carver, 2002). Undergraduate college students were assessed within the first three weeks of the fall semester and at the end of the semester (last week of November, or first two weeks of December). Perceived stress, friendship network size, perceived social support, and depression were assessed at the beginning and the end of the first semester. Optimism and self-esteem were assessed at the beginning of the semester, and coping was assessed at the end of the semester. The authors hypothesized that the development of more extensive and supportive friendship networks during the first semester would be associated with greater optimism. There was also the need to examine the extent to which optimists exhibited greater psychological adjustment than college students who identify themselves as pessimists, as well the degree to which quantity and quality of social network ties mediated the differences between explanatory styles and psychological adjustment. Eighty-nine first-year college students completed the initial assessment and the follow-up questionnaire, of which 46 were women and 43 were men. The average age of the sample was 17.9 years. The students completed the Life Orientation Test, which is an 8-item self-report measure of optimism that asks the respondents to rate statements on a 5-point scale ranging from 0 (strongly disagree) to 4 (strongly agree). Self-esteem was measured by Rosenberg's 10-item Self-Esteem Scale, which consists of 5 items worded positively and 5 items that are worded negatively. The participants responded on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). Forty-five items of the 60 items used in the Cope, a multidimensional

coping instrument, was administered to the students in which they were instructed to rate how often they engaged in the strategy they read in each statement. The Interpersonal Support Evaluation List was administered to the students in effort to measure perceived social support in which they were asked to respond to statements as either true or false. Friendship network size was assessed by having participants indicate on a 5-point scale ranging from 0 (none) to 4 (four or more) his or her number of close friends. Depression was measured by the Beck Depression Inventory (BDI) and perceived stress was measured by the 14-item Perceived Stress Scale. Participants rated each item on a 5-point scale ranging from 1 (never) to 5 (very often). Results indicate that greater optimism was associated with having larger friendship networks after the first two weeks of college without predicting greater increases in friendship network size at the end of the semester, which indicates that the association between optimism and increased social support is because of friendships that are of high quality, rather than the number of friendship networks. In comparison to pessimists, optimists had a smaller increase in stress and depression. Increases in social support associated with optimism helped to explain the relationship between optimism and psychological adjustment.

Perceived social support is an area of life that may change as the result of leaving home to attend college. Knowing that social support is available may allow students to feel more comfortable in their transition and adaptation to a stressful event or a new environment. Cohen, Sherrod, and Clark (1986) devised a study to understand the role that social support and social skills have with

protection against stressful events. The first goal was to assess if the stress-buffering ability of social support was attributed to social skills. The second goal was to determine if people differing on levels of social competence, social anxiety, or self-disclosure would report different levels of perceived availability of support. Another purpose was to determine how stable differences in social skills would play a role in the development of friendships and perceptions of availability of social support sources. Four hundred and eighty-three freshmen college students at Carnegie-Mellon University completed the questionnaires at freshmen orientation. The majority of the sample consisted of male participants (66.5%), with 33.5% being female. The mean age was 18.72. A total of one hundred and thirty students from the sample of 483 completed questionnaires in panel 1 and 2. Ninety-three students out of the 188 from panel 2 completed questionnaires in panel 3. The Interpersonal Support Evaluation List was administered in order to measure social support. The participants were asked to indicate on a scale from 0 to 4 the number of close friends that they have, but they were instructed in the second and third panels to indicate how many male and female friends were important to them. The Perceived Stress Scale was administered to assess a global measure of perceived stress. Depression was measured by the Center for Epidemiological Studies Depression Scale (CES-D). A subscale of the Self-Consciousness Scale was administered to the students to assess social anxiety. It consists of 6-items that ask the participants to respond to each statement on a 5-point scale ranging from 0 (extremely uncharacteristic) to 4 (extremely characteristic). A measure of self-disclosure consisting of 21 self-

disclosure items was only administered during the first panel. Each participant rated on a 5-point scale from 1 (almost nothing) to 5 (complete disclosure) the information they disclosed to females and to males. The findings gleaned from the study indicate that effects of support existed after controlling for social anxiety, self-disclosure, and social. Changes in available social support and friendship formation were predicted by social skills, and social skills, in turn, were associated with increases in perceived support and friendships. Self-disclosure was found to be a predictor of support and the development of friendships. An important contribution to the literature of social support is of the importance in results that document the role of social skills and self-disclosure with friendship development, whereby those who are comfortable disclosing thoughts and feelings to others may be more likely to attract friends.

Instead of conducting research that assesses social support and the effects it may have on currently experienced emotions, there is research that has been conducted in effort to explore certain emotions as possibly resulting from a loss or having an insufficient amount of social support. A study by Newland and Furnham (1999) was undertaken in effort to explore if perceived social support played a role in the experience of homesickness among college freshmen. They cite that homesickness has been explained by the vulnerability hypothesis, immunization hypothesis, and the selective vulnerability hypothesis. The authors contend that the loss of social support during the transition to college may serve as another explanation in how homesickness develops in college students. Moreover, the authors believe that perceived and enacted measures of social

support would serve as predictors of homesickness. One hundred and twenty-three undergraduate speech/language students with an age range of 19-30 years, of which 75% (92) of the sample was female, completed the questionnaires over a period of two weeks. Perceived social support was measured by the Interpersonal Support Evaluation List and the Social Support Questionnaire. Enacted support was measured by the Inventory of Socially Supportive Behaviors and the Instrumental-Expressiveness Scale. A measure of homesickness, the Dundee Relocation Inventory, was used along with General Health Questionnaire, which detects psychological components of ill health. The findings extracted indicate that there was a significant negative correlation between the responses of students on the Dundee Relocation Inventory and the General Health Questionnaire, which is may be suggestive of a tendency for an individual with psychological disturbance to have a social network that is of lower quality. However, the current results may be limited in that the majority of the sample was female, resulting in the ability to generalize only to female college students.

Finally, it appears that perceived social support has great implications with college students. Perceived social support can be understood as a cognitive variable that influences how a person interacts with other people (Lakey & Cassady, 1990). The explanatory style of optimism has influenced the number of friendship networks among college students (Brissette, Scheier, & Carver, 2002). Perceived social support has been shown to be associated with social skills and friendship formation, whereby support has been found to buffer the effects of

stressful events (Cohen, Sherrod, & Clark, 1986). Research on social support in college students has also led to results that have implications with homesickness (Newland & Furnham, 1999) Negative feelings, such as social anxiety, may be a challenge for college students.

### Social Anxiety

Schlenker and Leary (1982) state that “social anxiety is the prospect or presence of personal evaluation in real or imagined situations” (p. 642). Social anxiety results when people desire to make a preferable impression on other people, real or imagined, and believe they will fail to make the preferable impression. Also, the more a person believes that he or she will not receive preferred reactions from others the greater the anxiety. If a person believes that he or she cannot make a preferred impression on others there will be a withdrawal and the experience of negative affect. Individuals will be trapped in the assessment stage if withdrawal is not possible and will be preoccupied with replaying the problems, and may use alternative self-presentation behavior, such as fidgeting behavior. Self-handicapping tactics like blaming poor performance on sickness or a bad night of sleep are likely to be used if the person cannot find other explanations for the self-presentation problem. Those who think of themselves as socially anxious will be more likely to experience social anxiety and display behaviors that are characteristic of social anxiety, thereby creating a possible self-fulfilling prophecy.

Leary and Kowalski (1995) advise that certain situational domains are likely to give rise to an individual experiencing social anxiety. The most anxiety

producing situations are likely to be a formal situation, such as talking in front of an audience. Another anxiety producing situation is an informal encounter with others, like meeting strangers or going to a party. Social anxiety is also exacerbated by situations that may demand assertive behavior. An example of assertive behavior that is likely to elicit social anxiety is expressing disagreement to another person.

Vertue (2003) believes that social anxiety can be understood from an evolutionary and attachment style perspective. An evolutionary perspective on attachment and social anxiety entails proposing that humans have a natural propensity to seek and maintain a proximal distance with significant others, thereby increasing the chance of survival. This relates to social anxiety in that humans are born with a monitoring system that keeps them alert to the threat of social exclusion or rejection, which can result in social anxiety. The attachment style can serve as a buffer against social anxiety in that those individuals with a secure attachment have positive working models of the self and others and are more likely to have better social skills that would allow them to interact with others with a lesser amount of anxiety as compared to individuals with negative working models of self and others and an insecure attachment. Negative models of attachment may drive the need for approval, resulting in high levels of motivation to make positive impressions on others, thereby contributing to social anxiety.

#### Correlates of Social Anxiety in College Students

Ham et al. (2005) found that within a clinical non-student population, social anxiety was associated with social support network size, with younger women who had been diagnosed with social anxiety disorder reporting fewer social support networks. Though Ham et al. (2005) studied a clinical population sample, other researchers have explored social anxiety among college students and observations that may indicate a college student is socially anxious, with socially anxious students perceiving other socially anxious students as having less strength of character and them less physically attractive (Purdon, et al., 2001). If college students become socially anxious and do not develop meaningful relationships with other students, homesickness may develop, especially if the student is living away from home the first time during the freshmen year of college (Urani, et al., 2003).

As college students spend more time away from home, there is the possibility that homesickness may arise. Urani, Miller, Johnson, and Petzel (2003) investigated homesickness in college students who reported experiencing social anxiety. The authors contend that the transition from high school to college is a period of stress marked by students having feelings associated with wanting to go back home. Social anxiety was hypothesized to contribute to homesickness through social support in that individuals who reported higher levels of social anxiety would also report lower levels of social support, which in turn, may serve as a predictor for homesickness. One hundred and five undergraduate students (87 females) with a mean age of 18.07 years that lived away from home while attending college were administered the questionnaires in small groups in which



they were asked to reflect on the feelings they experienced from the fifth week through the seventh week of school, as well as how they felt during the first two weeks of school. Homesickness was measured by the Dundee Relocation Inventory (DRI), consisting of 26 items that are rated by participants on a 3-point scale with responses defined as Never = 0, Sometimes = 1, and Often = 2. Social anxiety was measured by the Social Anxiety Scale for Adolescents (SASA). Participants rated 18 descriptive statements according to how much each statement is “true for you” on a 5-point scale ranging from 1 (Not at all) to 5 (All the time). The Social Support Scale for Children and Adolescents as measure used to assess social support from home environment and school environment. The scale consists of 24 items with each item having two pairs of statements, to which students are to choose one statement that is most true of him or her and rate the statement they choose from a range of 1 = negative support to 4 = positive support. Results indicate that social anxiety and homesickness were positively and significantly related at the beginning of the semester, but a significant relationship between the initial levels of social anxiety and homesickness later in the semester did not exist. Yet, social anxiety later in the semester was negatively and significantly related to levels of social support, and levels of social support later in the semester were negatively and significantly related to levels of homesickness. A limitation of the present study is the nature of recall that was utilized, such that the college students may have encountered difficulty reflecting back on the first two weeks of school because the duration of time between the first two weeks of school and the administration of the

questionnaire may have been too long for accurate recall of events. Purdon, Antony, Monteiro, and Swinson (2001) devised a study to explore social anxiety in college students. The authors hypothesized that individuals who have low levels of social anxiety would have impressions of other people would not be negatively influenced by others who thought they were experiencing social anxiety, and that individuals high in anxiety would not perceive anxiety symptoms as a problems within themselves, but as a problem with respect to the inability to meet high expectations that were imposed by others. The sample consisted of eighty-one undergraduate college students, 21 of which were men. The mean age was 25. Social anxiety was measured by the Social Phobia Scale (SPS) and the Social Interaction Anxiety Scale (SIAS). Each measure is a 20-item self-report measure of social anxiety. The SPS is used to assess anxiety as it relates to someone anticipating being observed or actually being observed by others, such as public speaking. The SIAS is used to assess social anxiety as it relates to the interaction with others in social situations, such as initiating conversations. Symptoms of social anxiety were assessed by the Symptoms of Social Anxiety Scale (SSAS), which consists of 24 symptoms of social anxiety, such as internal symptoms like heart palpitations, and external symptoms like blushing and sweating. Participants rated the frequency they experienced each symptom on a Likert scale ranging from 0 (Never) to 4 (Always). The Negative Evaluation Questionnaire was administered to the participants, to which they were instructed to rate how social anxiety they observed in others influenced their perceptions about the other person's qualities, including, but not limited to, intelligence,

attractiveness, strength of character, and ambition. The participants rated the qualities on a 5-point Likert scale ranging from 1 (I would think they are less [intelligent, ambitious, etc.]) to 5 (I would think they are more [intelligent, compassionate, attractive, etc.]). Participants also completed the Marlowe-Crowne Social Desirability Scale (MCSDS), a 33-item self-report measure of culturally acceptable behaviors. The results extracted from the study indicate some participants experienced all of the symptoms of anxiety at least once, with most individuals experiencing symptoms of anxiety in social situations on more occasions. Blushing, sweating, and laughing were cited as symptoms of social anxiety that were experienced most frequently. The majority of the participants endorsed the belief that noticing someone as anxious would not influence their perceptions of that individual, such as his or her intelligence, reliability, or mental health. However, individuals indicated that they would think less of a person and his or her leadership abilities if they exhibited symptoms of social anxiety and a majority of the participants would have doubts about the person's strength of character. Participants who were socially anxious viewed other socially anxious participants as less attractive, as well as them having less strength of character. Results from the present study contribute the literature of social anxiety in college students by documenting how socially anxious people perceive others who have social anxiety, which can contribute to the extent to which people will not engage within one another as a result of possibly perceiving each other as less attractive and having less strength of character. A limitation may rest within the design and procedures, namely that of using self-report measures. An experimental situation

could have been used to assess if the participants who are socially anxious and have certain perceptions of others who are also socially anxious will be prone to verbalize or act on their beliefs toward each other.

Another study was also devised to ascertain the perceptions of others. Mahone, Bruch, and Heimberg (1993) conducted an experimental study to investigate how negative self thoughts and the perceptions of others relate to social anxiety in undergraduate college students. The participants were administered thought-listing protocols of self-focused thoughts that were positive (thoughts that facilitate performance and/or increase personal confidence), negative (thoughts that may inhibit skilled performance and/or decrease personal confidence), and neutral (thoughts that were non-evaluative). The subjects also filled out thought-listing protocols about others that were positive (favorable impressions or beliefs that the female confederate had a higher status than the participant), negative (the belief that the confederate had a lesser status than the participant), and non-evaluative (thoughts involving the confederate without using an evaluative manner). Each male was shown a photograph of the female confederate of which he would have five minute conversation. Next, they were administered a thought-listing protocol and self-efficacy rating before the interaction with the confederate. Via an intercom, the men made a self-efficacy rating at intervals of 1, 3, and 5 minutes. The confederates were instructed to remain neutral in conversation, give brief responses, and to avoid speaking for more than half of the total talk time. The sample consisted of 60 male undergraduate students with a heterosexual orientation and a mean age of 19.5

years. Self-efficacy was assessed by administering a question asking the respondents to indicate on a 7-point Likert ranging from 1 = very unlikely to 7 = very likely the extent to which they believe that they will make a positive impression on their interaction partner. The self-efficacy was administered after completing the thought-listing protocols, before the conversation began with the confederate, and at time intervals of 1, 3, and 5 minutes. Subjective anxiety was assessed by administering the Multiple Affective Adjective Checklist (MAACL-A). It consists of eleven positive affect items and 10 negative affect items related to anxiety. The questionnaire was completed after the participant interacted with the confederate. The Timed Behavior Checklist for Performance Anxiety (TBCL) was used in order to code for behavioral observations of anxiety (gaze aversion, hurried speech, voice quivers, etc.) that were taken from videotape footage of the participant interacting with the confederate. After controlling for variance, results indicate that thoughts about the positive attributes of the conversation partner contributed to behavioral anxiety. Perceived positive attributes of the partner was not a significant predictor of self-efficacy ratings and subjective anxiety. There was an inverse relationship between negative self-thoughts and self-efficacy ratings collected prior to and early on during the interaction of conversation. The results add to the literature of social anxiety by demonstrating how focusing on positive attributes of other people during an interaction may actually add to or precipitate feelings of social anxiety.

Social anxiety is one feeling that may arise among college students as they adjust to new living circumstances away from home and form new

friendships. Homesickness may be one consequence of having socially anxious feelings. Homesickness has been shown to have consequences for college students who are socially anxious at the beginning of the semester, and social anxiety being significantly associated with levels of social support later in the semester (Urani, Miller, Johnson, and Petzel, 2003). Social anxiety among college students can influence how they are perceived by others through observable indications of anxiety such as blushing, sweating, and difficulty with self expression, and how college students perceive others who are socially anxious, such as thinking others as having less strength of character and being less attractive (Purdon, Antony, Monteiro, and Swinson (2001). Conversely, researchers have shown that the intentional focus on positive attributes of other people can increase feelings of social anxiety (Mahone, Bruch, & Heimberg, 1993).

#### Other Explanations of Adult Attachment Styles in College Students

The aforementioned studies investigated variables that relate to adult attachment styles, perceived social support, and social anxiety among college students. The use of mediational models in exploring variables provides a different picture of the relationships that exist between certain variables. The primary relationships explored in past studies have focused on the relationship between adult attachment styles in college students and psychological distress, with other underlying variables mediating those relationships.

Lopez et al. (2002) conducted a study to explore and test a mediational model in regard to adult attachment styles and distress among undergraduate

college students. Self-organization (i.e., coping with problems without impulsivity, experiencing of a stable sense of self, and projection to others of authentic and non-defensive self-image) was believed to mediate the adult attachment orientation and distress because of the interrelationships between and among cognitive, affective, and interpersonal reflective self functions. The study included 127 undergraduate students, with 36 males and 91 females. The mean age was 19.96 years, with comparable representation from all classes: 27% freshman, 28% sophomores, 22% juniors, and 22% seniors. Ninety-seven percent of the students indicated that they were single or never married. The participants completed the Life Experiences Survey (LES), a measure asking participants to rate on a 7-point Likert scale the extent to which of the 60 life event changes impacted them positively or negatively. Ten additional items for college students are assessed, such as academic probation; the Experiences in Close Relationships, short form (ECR), a self-report measure of romantic adult attachment consisting of 36 items to be rated on a 7-point Likert scale; the Problem-Focused Style of Coping (PF-SOC), an 18-item measure that assesses reactive, suppressive, and reflective coping styles in which participants are to respond on a 5-point Likert scale how often each item describes their particular affective and cognitive responses daily; the Self-Concealment Scale (SCS), a 10-item scale measuring the conscious concealing of personal intimate information that is negative in which participants are asked to rate each item on a 5-point scale; the self-splitting subscale of the Splitting Index, a measure asking participants to respond on a 5-point scale their level of agreement with each item

about experiences of depersonalization and self-fragmentation; the Hopkins Symptom Checklist (HSCL), a self-report inventory of 58 items asking participants to respond on a 4-point scale the extent to which they experienced each symptom during the past week; the Personal Problems Inventory (PPI), a 20-item measure of problems commonly experienced by college students (e.g., alcohol use) using a 6-point scale that asks the participants to rate the severity of each problem in their lives. Results gleaned from the study suggest attachment anxiety, self-splitting, and SCS scores contributed to distress prediction when adult attachment and self-organization measures were entered into the regression in a forward manner. Self-splitting and self-concealment mediated the relationship between adult attachment anxiety and distress. Attachment avoidance was not as strongly related to problem coping and distress due to a tendency of avoidant individuals to underreport distress. Age had a significant negative relationship with personal problems  $r = -.30$ , in that younger students reported more personal problems than older students. A limitation of the study is that the majority of participants were college women who reported a Caucasian racial background. Therefore, the results may not generalize to college men or students with different cultural backgrounds. The results contribute to the literature of mediational models exploring attachment styles and psychological distress in that the mediating variables of self-concealment and self-splitting describe the specific intra-personal processes that may give rise to psychological distress experienced by undergraduate college students.



Mallinckrodt and Wei (2005) implemented a study to explore if two social competencies, social self-efficacy and emotional awareness, would mediate the relationship between attachment styles and psychological distress and social support. In particular, it was hypothesized that social self-efficacy would serve as a mediator for the effect of attachment anxiety and emotional awareness would serve as a significant mediator for attachment avoidance. Specifically, those participants who had an avoidant attachment style were believed to display low emotional awareness because of a tendency to use deactivating strategies that repress conscious awareness of attachment feelings. Participants who were high in attachment anxiety were thought to be vulnerable to deficits in social self-efficacy from unresponsive parenting in childhood. Participants included 430 undergraduate students (258 women and 164 men) from a large public Midwestern university comprised the sample. The average age of the students was 19.72 years. Four hundred and one students were single and never married, and 369 of the participants identified themselves as “White/Caucasian”. Participants completed the Experiences in Close Relationships Scale, which consists of rating 18 items on a 7-point Likert scale; an adapted version of the Self-Efficacy Scale (SES) in which the participants rated items on a 5-point response format; and the Toronto Alexithymia Scale-20 (TAS-20), a 20-item self-report measure in which participants responded to each item on a 5-point scale that covers difficulty identifying feelings, difficulty describing feelings, and an orientation in which an individual avoids thinking about feelings. The participants also completed the Social Provisions Scale (SPS), which is a 24-item measure of

perceived social support that asks participants to rate each item on a 4-point Likert scale, and the Outcome Questionnaire (OQ), a 45-item instrument in which participants rate each item on a 5-point scale. Results indicate that attachment anxiety and avoidance were positively associated with psychological distress, and were also found to be negatively associated with perceived social support. Attachment anxiety had a significant negative relationship with emotional awareness. Social self-efficacy and emotional awareness were significant predictors of the direct effects of attachment anxiety and avoidance. A unique unexpected finding was that attachment anxiety and emotional awareness were related. One limitation of the present study is that the sample consisted of 401 students who were single and never married, and since the assessment of attachment explored romantic relationships, results may not generalize to students who are or have been married.

Although research on mediational models of attachment have explored how attachment styles relate to psychological distress, very few researchers have explored psychological distress and perceived social support as mediators between attachment and help-seeking intent. Vogel and Wei (2005) constructed a study to explore the differences of attachment styles with regard to perceived social support and psychological distress. It was believed that there would be differences for help seeking-intent between individuals who had attachment anxiety and individuals who had attachment avoidance. The authors hypothesized that there would be a positive direct link between attachment anxiety and help-seeking intentions and a negative direct link between

attachment avoidance and help-seeking intentions. It was also hypothesized that the relationship between attachment anxiety and attachment avoidance and help-seeking intentions would be indirectly mediated by distress. Individuals with attachment anxiety and avoidance would perceive less social support, relating to increased levels of psychological distress, which then leads to an increased possibility of seeking the help from a professional. Participants of the study were 355 undergraduate students attending a large Midwestern university. Two hundred and thirty-seven women and 118 men comprised the total sample. Sixty-five percent of the sample classified themselves as college freshmen, and 85% of the sample was Caucasian American. The participants completed the Experiences in Close Relationships (ECR) measure of attachment on romantic relationships, the Hopkins Symptoms Checklist-21 (HSCL-21), Social Provisions Scale (SPS), and the Intentions to Seek Counseling Inventory (ISCI). Results indicate that individuals who were classified as having an avoidant attachment are less likely to seek help, and individuals who have attachment anxiety are more likely to seek help and acknowledge psychological distress. Attachment avoidance did not predict psychological distress when attachment anxiety and perceived social support were controlled. Individuals with attachment anxiety and attachment avoidance perceived less social support, which then was found to be negatively associated with experienced psychological distress. The distress experienced by individuals with attachment anxiety and attachment avoidance was positively associated with intention to seek professional help. A limitation within the current study is the ability to generalize results to college students from

ethnically diverse backgrounds. Individuals who reported an Asian American, African American, biracial or multiracial, and Hispanic ethnic background only represent a combined total of 15% of the sample. However, the results of the study contribute to the literature of adult attachment and mediational models by shedding light on the attachment styles that may seek counseling support, and the attachment styles that may acknowledge distress-increasing the likelihood to seek the help of a professional.

The experiences that children have with their primary caregivers can determine the qualities of relationships they would like to have with significant others, romantic and nonromantic. The degree to which individuals perceive their friends and family as supportive can elicit a variety of feelings, including loneliness, depression, and anxiety. Researchers contend that differences in attachment styles will tend to elicit differences in perceived social support among college students, and in turn, differences in perceived social support will tend to elicit various types of affect in college students. Though relationships among adult attachment, perceived social support, and psychological distress have been studied, no researchers have studied the interrelationships between and among attachment styles, perceived social support, and social anxiety, more specifically, as to how perceived social support relates to adult attachment styles and social anxiety. Exploring these relationships may help the mental health practitioner to become cognizant of a college student and his or her beliefs of trust with their family and friends, and the degree to which viewing others as supportive contributes to the likelihood that he or she would experience social anxiety when

attempting to interact with people other than friends and family in social situations.

## APPENDIX C: Tables

Table 1

Demographics (n = 194)

Age

Mean = 19.41 sd = 1.39; Range 18-24

Gender

Female 139 (71.6%)

Male 55 (28.4%)

Race

African American 7 (3.6%)

Asian American 6 (3.1%)

Caucasian 153 (78.8%)

Hispanic 5 (2.6%)

Native American 9 (4.6%)

Biracial 12 (6.2%)

Multiracial 1 (.5%)

Other 1 (.5%)

Marital Status

Single 182 (93.8 %)

Partnered 2 (1.0%)

Married 0 (0.0%)

Separated 10 (5.2%)

Sexual Orientation

Heterosexual 190 (97.9%)

	Gay/Lesbian	2 (1.0 %)
	Bisexual	2 (1.0 %)
College Year		
	Freshman	107 (55.2%)
	Sophomore	29 (14.9 %)
	Junior	33 (17.0 %)
	Senior	25 (12.9%)
Greek Membership Status		
	Yes	55 (28.4 %)
	No	139 (71.6 %)
Living Situation		
	Residence Hall	94 (48.7%)
	Off-Campus	63 (32.6%)
	Greek House	29 (15.0 %)
	Campus Apartment	7 (3.7 %)
Currently In a Romantic Relationship		
	Yes	99 (51.0%)
	No	95 (49.0 %)
Length of Relationship	M = 9.9 months	SD = 16.55 months
		Range = 84 months
Number of Friends	M = 6.56	SD = 5.45
		Range = 50
Family Income		



Less than \$10,000	15 (7.7%)
\$10,001-\$15,000	1 (.5%)
\$15,001-\$20,000	8 (4.1%)
\$20,001-\$25,000	4 (2.1%)
\$25,001-\$30,000	4 (2.1%)
\$30,001-\$40,000	17 (8.8%)
\$40,001-\$50,000	13 (6.7%)
\$50,001-\$60,000	16 (8.2%)
\$60,001-\$70,000	22 (11.3%)
\$70,001-\$80,000	14 (7.2%)
\$80,001-\$90,000	17 (8.8%)
\$90,001 or more	63 (32.5%)

Table 2

Means, Standard Deviations, and Ranges for Attachment, Perceived Social Support,

Social Interaction Anxiety, and Social Phobia Scores (n = 194)

<u>Subscales</u>	<u>Mean</u>	<u>SD</u>	<u>Actual Range</u>	<u>Possible Range</u>
Secure Attachment	4.42	1.59	7	7
Fearful Attachment	3.90	1.75	7	7
Preoccupied Attachment	3.37	1.74	7	7
Dismissive Attachment	3.79	1.53	7	7
Perceived Social Support-Fa	15.66	4.82	20	20
Perceived Social Support-Fr	16.56	3.87	18	20
Social Interaction Anxiety	24.94	13.65	64	80
Social Phobia	16.69	12.67	64	80

SD = Standard Deviation

Perceived Social Support-Fa = Perceived Social Support Family Scale

Perceived Social Support-Fr = Perceived Social Support Friends Scale

Table 3

Bivariate Correlations Between and Among Attachment, Perceived Social Support,

Social Interaction Anxiety, and Social Phobia Scales (n = 194)

	SIAS	SPS	PSS-Fa	PSS-Fr	Secure	Fear	Preocc	Dismiss
SIAS	1	.73**	-.27**	-.35**	-.44**	.33**	.26**	.06
SPS		1	-.15*	-.26**	-.25**	.28**	.19**	.05
PSS-FA			1	.18*	.22**	-.13	-.15*	-.07
PSS-FR				1	.29**	-.21	-.09	-.24**
Secure					1	-.54**	-.11	-.15*
Fearful						1	.25**	.15*
Preoccupied							1	-.16*
Dismissive								1

\* =  $p < .05$

\*\* =  $p < .01$

SIAS = Social Interaction Anxiety Scale

SPS = Social Phobia Scale

PSS-Fa = Perceived Social Support-Family Scale

PSS-Fr = Perceived Social Support-Friends Scale

Fear = Fearful Attachment

Preocc = Preoccupied Attachment

Dismiss = Dismissive Attachment

Table 4

Multiple Regression Findings for Attachment Styles as Predictors of Perceived Social

Support from Family and Friends

<u>Criterion Variable</u>	<u>Predictor Variable(s)</u>	<u>R</u>	<u>Rsq</u>	<u>Rsq Ch</u>	<u>F</u>	<u>F(ch)</u>	<u>r</u>
PSS-Family	Secure Attach	.217	.047	0	9.39**	0	.22
PSS-Friends	Secure Attach	.291	.085	.085	17.81**	0	.29
	Dismissive Attach	.351	.123	.038	13.43**	8.37	-.24

\* =  $p < .05$

\*\* =  $p < .01$

Secure Attach = Secure Attachment

Dismissive Attach = Dismissive Attachment

PSS-Fa = Perceived Social Support-Family Scale

PSS-Fr = Perceived Social Support-Friends Scale

Table 5

Multiple Regression Findings for Attachment Styles as Predictors of Social Interaction

Anxiety and Social Phobia

<u>Criterion Variable</u>	<u>Predictor Variable(s)</u>	<u>R</u>	<u>Rsq</u>	<u>Rsq Ch</u>	<u>F</u>	<u>F(ch)</u>	<u>r</u>
Social Interaction	Secure Attach	.439	.192	.192	45.51**	0	-.44
	Preoccupied Attach	.48	.238	.045	29.61**	11.26	.26
Social Phobia	Fearful Attach	.28	.079	.079	16.3**	0	.28

\* =  $p < .05$

\*\* =  $p < .01$

Secure Attach = Secure Attachment

Preoccupied Attach = Preoccupied Attachment

Fearful Attach = Fearful Attachment

Social Interaction = Social Interaction Anxiety Scale

Social Phobia = Social Phobia Scale

Table 6

Multiple Regression Findings for Attachment Styles and Perceived Social Support as

Predictors of Social Interaction Anxiety and Social Phobia

<u>Criterion Variable</u>	<u>Predictor Variable(s)</u>	<u>R</u>	<u>Rsq</u>	<u>Rsq Ch</u>	<u>F</u>	<u>F(ch)</u>
Social Interaction	Attachment	.491	.242	0	14.89**	0
	PSS-Fr and Fa	.550	.302	.061	13.35**	8.03
Social Phobia	Attachment	.329	.108	0	5.68**	0
	PSS-Fr	.379	.143	.035	5.14**	3.74*

\* =  $p < .05$

\*\* =  $p < .01$

Attachment = Secure, Fearful, Preoccupied, and Dismissive Attachment Styles

PSS-Fa = Perceived Social Support-Family Scale

PSS-Fr = Perceived Social Support-Friends Scale

Social Interaction = Social Interaction Anxiety Scale

Social Phobia = Social Phobia Scale

Table 7

Hierarchical Regression Findings for Attachment Styles and Perceived Social Support as

Predictors of Social Interaction Anxiety and Social Phobia

<u>Criterion Variable</u>	<u>Predictor Variable(s)</u>	<u>R</u>	<u>Rsq</u>	<u>Rsq Ch</u>	<u>F</u>	<u>F(ch)</u>
Social Interaction	Attachment	.491	.242	0	14.891**	0
	PSS-Fr	.533	.284	.043	14.789**	11.151**
	PSS-Fa	.550	.302	.018	13.35**	4.688*
Social Phobia	Attachment	.32	.108	0	5.675**	0
	PSS-Fr	.373	.139	.031	6**	.011*

\* =  $p < .05$

\*\* =  $p < .01$

Attachment = Secure, Fearful, Preoccupied, and Dismissive Attachment Styles

PSS-Fa = Perceived Social Support-Family Scale

PSS-Fr = Perceived Social Support-Friends Scale

Social Interaction = Social Interaction Anxiety Scale

Social Phobia = Social Phobia Scale

APPENDIX D: Demographics Sheet



**Directions: Please answer each question by filling in the text box or clicking to select your response.**

How old are you?

Sex:

Female

Male

Other

Race: (Check all that apply)

African American/Black

American Indian/Native American

Asian/Asian American

Hispanic/Latino(a)

White/Non-Hispanic

Other

Are you:

Single

Partnered/Common Law

Married

Separated

Divorced

Widowed

What is your sexual orientation?	
<input type="checkbox"/>	Heterosexual
<input type="checkbox"/>	Gay/Lesbian
<input type="checkbox"/>	Bisexual

What year are you in college?	
<input type="checkbox"/>	Freshman
<input type="checkbox"/>	Sophomore
<input type="checkbox"/>	Junior
<input type="checkbox"/>	Senior
<input type="checkbox"/>	Graduate student

Are you a member of a fraternity or sorority?	
<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

What is your current living situation?	
<input type="checkbox"/>	Residence Hall
<input type="checkbox"/>	Off-campus Housing
<input type="checkbox"/>	Sorority or Fraternity House

<input type="checkbox"/>	On-campus Apartment
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What is your annual family income level? (Check One)			
<input type="checkbox"/>	Less than \$10,000	<input type="checkbox"/>	\$40,001 to 50,000
<input type="checkbox"/>	\$10,001 to 15,000	<input type="checkbox"/>	\$50,001 to 60,000
<input type="checkbox"/>	\$15,001 to 20,000	<input type="checkbox"/>	\$61,001 to 70,000
<input type="checkbox"/>	\$20,001 to 25,000	<input type="checkbox"/>	\$70,001 to 80,000
<input type="checkbox"/>	\$25,001 to 30,000	<input type="checkbox"/>	\$80,001 to 90,000
<input type="checkbox"/>	\$30,001 to 40,000	<input type="checkbox"/>	\$90,001 or more

How many people are supported in this income?

How many close friends do you have?

Are you currently in a dating or romantic relationship?	
<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

If so, how long have you been in the relationship?

## APPENDIX E: Informed Consent

## Informed Consent

You are invited to participate in a study exploring college students' experiences regarding their relationships with friends and family and how they feel about social relationships in general. Participation in this study involves the completion of four questionnaires and a demographic form, which should take approximately 30 to 45 minutes. The potential benefit of participating in this study is an increased awareness of how you feel about your relationships with friends and family. There are no foreseeable risks in participating in this study.

Participation in this study is completely voluntary. If you choose to participate, please complete the questionnaires in this study. There is no penalty for not participating and you have the right to withdraw your consent and participation at any time. Participants will earn extra course credit for their participation. Most introductory and lower-level psychology and other courses offer students a small amount of course credit (usually less than 5% of their grade) for participation in the research process. In psychology courses, students are required to earn five "units" of research experience. This requirement may be fulfilled in one of three ways: 1) serving as a human participant in one or two current research project(s), 2) attending two Undergraduate Research Colloquia, or 3) researching and writing two 3-4 page papers on designated research topics. Each hour of participation in a research project as a participant is generally regarded as satisfying one "unit" of the requirement, students completing a half hour will receive .5 units. Students participating in this study will earn 1 unit of credit.

All information collected in this study is strictly confidential. No individual participants will be identified. The primary investigator and the advisor will have access to the data file, and the file will be stored for 3 years on a computer hard-drive and jump drive. The data file will have no information that could identify participants. Your instructor will not know your individual responses to the questionnaires. However, we will indicate that you have participated in this study by assigning you one research credit in the SONA database. Your participation in this study is greatly appreciated. If you have questions about your rights as a research volunteer, you may contact Dr. Sue C. Jacobs, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or [irb@okstate.edu](mailto:irb@okstate.edu). If you agree to participate, please click the "Agree to Participate" button. If you do not wish to participate, please click the "Decline to Participate" button. By clicking the "Agree to Participate" button, this will serve as your electronic signature for participation in this study.

We thank you for completing questionnaires for this study. We are very interested in how college students feel about their relationships with their friends and family, and how students interact with other people in general. Sometimes, when people participate in research studies, they may become aware of their own feelings and experiences that they may wish to discuss with others, including counseling professionals. We have provided you with a list of resources in case you become aware of your interest in seeking help to cope with your thoughts and feelings about yourself and/or your relationships with

others. Please feel free to talk with counselors at one of these community resource agencies for assistance. You may also wish to contact the primary researcher of this study, Steven Roring, B.A. or Carrie Winterowd, Ph.D., 409 Willard Hall, Oklahoma State University, Stillwater, OK, 74078 at 405-744-9446. We appreciate your participation in this study.

### Resource List

This is a list of some centers that provide counseling services to college students.

Counseling Psychology Clinic

408 Willard Hall

Oklahoma State University

Stillwater, OK 74078

405-755-6980

University Counseling Services

316 Student Union

405-744-5472

Reading and Math Center (counseling services are available here)

102 Willard Hall

Oklahoma State University

Stillwater, OK 74078

405-744-7119

APPENDIX F: Institutional Review Board Approval

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**Oklahoma State University Institutional Review Board**

Date: Wednesday, November 28, 2007  
IRB Application No ED0797  
Proposal Title: The Relationships Among Adult Attachment Style, Perceived Social Support and Social Anxiety in College Students  
Reviewed and Processed as: Exempt

**Status Recommended by Reviewer(s): Approved Protocol Expires: 11/27/2008**

Principal Investigator(s)

Steven Roring 4100 W. 19th Apt. B105 Stillwater, OK 74074	Carrie Winterowd 409 Willard Stillwater, OK 74078
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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Sue C. Jacobs, Chair  
Institutional Review Board



## VITA

Steven Anthony Roring II  
Candidate for the Degree of  
Master of Science

Thesis: THE RELATIONSHIPS AMONG ADULT ATTACHMENT STYLE,  
PERCEIVED SOCIAL SUPPORT, AND SOCIAL ANXIETY IN  
COLLEGE STUDENTS

Major Field: Community Counseling

Personal Data: B.A. in Psychology with Honors, Southeastern Oklahoma  
State University, May 2006.

Education: Completed the requirements for the Master of Science in  
Community Counseling at Oklahoma State University,  
Stillwater, Oklahoma in July, 2008.

Experience: Oklahoma State University Academic Services for Student-Athletes,  
January 2008-Present

Oklahoma State University Student Counseling Center Intern  
Therapist, June 2007-May 2008.

Southeastern Oklahoma State University Statistics Tutor, January  
2005-May 2006.

Lifespan Counseling Recreational Therapist Intern, January 2006-  
April 2006

Professional Memberships: Golden Key International Honour Society  
Chi Sigma Iota Honor Society  
The Honor Society of Phi Kappa Phi

Name: Steven Anthony Roring II

Date of Degree: July, 2008

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE RELATIONSHIPS AMONG ADULT ATTACHMENT STYLE,  
PERCEIVED SOCIAL SUPPORT, AND SOCIAL ANXIETY IN  
COLLEGE STUDENTS

Pages in Study: 114

Candidate for the Degree of Master of Science

Major Field: Community Counseling

Scope and Method of Study: This study examined the relationships between and among attachment styles, perceived social support, and social anxiety among 194 undergraduate students.

Findings and Conclusions: The results indicated that attachment styles and perceived social support from friends and family were significant predictors of social anxiety and social phobia. When considered together, attachment styles account for approximately 25% of the variance in social anxiety and 10% of the variance in social phobia. Perceived social support, primarily from friends, contributed significantly to the understanding of social anxiety and social phobia above and beyond what attachment styles explained. Implications of the findings for counseling college students are discussed.

ADVISER'S APPROVAL: Dr. Carrie Winterowd

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