ROMANTIC RELATIONSHIP ATTACHMENT AND IDENTITY STYLE AS PREDICTORS OF ADOLESCENT INTERPERSONAL COMPETENCE: A MEDIATION MODEL

Except where reference is made to the work of others, the work described in this dissertation is my own or was done in collaboration with my advisory committee. This dissertation does not include proprietary or classified information.

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ROMANTIC RELATIONSHIP ATTACHMENT AND IDENTITY STYLE AS PREDICTORS OF ADOLESCENT INTERPERSONAL COMPETENCE: A MEDIATION MODEL

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ROMANTIC RELATIONSHIP ATTACHMENT AND IDENTITY STYLE AS PREDICTORS OF ADOLESCENT INTERPERSONAL COMPETENCE: A MEDIATION MODEL

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VITA

Amber L. Paulk was born in Florence, AL on January 17, 1982, the daughter of Gilbert and Shelia Paulk. She graduated from Wilson High School in June of 2000. After high school graduation she attended Auburn University, and in December of 2003 she graduated *summa cum laude* with a Bachelor of Arts degree in Psychology. She began her graduate studies in the Department of Human Development and Family Studies at Auburn University in January of 2004. In August of 2006, she graduated with a Master of Science degree. She continued to pursue the degree of Doctor of Philosophy in Human Development and Family Studies at Auburn University with a special interest in identity development in the context of romantic relationships.

DISSERTATION ABSTRACT

ROMANTIC RELATIONSHIP ATTACHMENT AND IDENTITY STYLE AS PREDICTORS OF ADOLESCENT INTERPERSONAL COMPETENCE: A MEDIATION MODEL

Amber L. Paulk

Doctor of Philosophy, August 9, 2008
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(B.A., Auburn University, 2003)

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Since interpersonal competence is such a significant predictor of a variety of important outcomes for adolescents, the central goal of the current study was to investigate the developmental factors of attachment style and identity style as predictors of interpersonal competence. In the preliminary analyses, there was a significant, negative association between anxiety and interpersonal competence; however, when avoidance was added to the model, the association between anxiety and interpersonal competence became non-significant. The findings supported our hypothesis that there would be a significant, negative association between the avoidant style and interpersonal competence. A diffuse-orientation was a negative predictor of interpersonal competence, while information-orientation was a positive predictor of interpersonal competence across all analyses. These findings suggest that, controlling for the impact of the other two

identity styles, adolescents who are actively exploring their environments in order to make-decisions and problem-solve (high information-orientation) are more interpersonally competent than adolescents who score low on information-orientation. In the current study, two mediation models were examined. The first mediation model predicted that identity styles would mediate the association between attachment styles and interpersonal competence, while an alternative model predicted that attachment styles would mediate the association between identity styles and interpersonal competence. Based on the results of the mediation analyses, the alternative model provided a significantly better fit of the data. The path from information-orientation to interpersonal competence decreased in weight when the mediators (i.e., avoidance and anxiety) were added to the model, indicating partial mediation, and the path from diffuse-orientation to interpersonal competence decreased in weight and significance when the mediators were added to the model, indicating full mediation. Only the path from avoidance to interpersonal competence was significant, which indicates that the associations between information- and normative-orientations to interpersonal competence are mediated by avoidance.

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I. INTRODUCTION

In adolescence, interpersonal competence takes on a new meaning than in previous developmental periods (Conger & Keane, 1981; Parker & Gottman, 1989). Adolescents are expected to be more competent than their preadolescent counter-parts at initiating and maintaining friendships, providing emotional support, disclosing personal information, and asserting themselves when necessary (Buhrmester, 1990; Crick & Dodge, 1994; Dodge, 1985). Research consistently has shown that adolescents with poorer interpersonal competence are more likely to experience a variety of unhealthy outcomes (e.g., more loneliness, depression, psychopathology, and lower academic achievement), while adolescents with better interpersonal competence are likely to have more optimal outcomes during this developmental period (e.g., more friendship and dating success, lower incidence of psychopathology, and more academic achievement) (Aronen & Kurkela, 1998; Buhrmester, 1990; Hoffmann, Powlishta, & White, 2004).

Because interpersonal competence is such a significant predictor of a variety of important outcomes for adolescents, the central goal of the current study was to investigate individual differences in interpersonal competence during adolescence. Other studies that have investigated individual differences in adolescent interpersonal competence have chosen to focus on how parental factors (e.g.,

the impact of parental control or parent-child attachment) or teen characteristics (e.g., personality traits or attractiveness) influence adolescents' interpersonal competence (Banta, 2004; Laible, 2007; McDowell & Parke, 2005; McGinnis, 1997; Ruschena, Prior, & Sanson, 2005). However, more recent studies indicate that previous research has not attended to how developmental factors may impact adolescent interpersonal competence (Anders & Tucker, 2000; Berzonsky & Kuk, 2000; Berzonsky et al., 1999; Miller, 1996).

Adolescence is a unique time in human development when a series of transitions occur to prepare adolescents for the responsibilities of young adulthood (Connolly & Goldberg, 1999; Kan & Cares, 1999). One critical transition that occurs during this time that differentiates adolescence from earlier developmental periods is a weakening of gender-based friendship barriers and the introduction of romantic relationships (Furman & Buhrmester, 1992). The formation and maintenance of these new types of relationships become an intense preoccupation and over time romantic partners become increasingly important to adolescents' social and emotional worlds (Miller & Benson, 1999; Snyder & Stukas, 1999). As adolescents begin to achieve greater independence from their parents, they look to close relationships to fulfill their intimacy needs and explore their identities (Connolly & Goldberg, 1999). Therefore, romantic relationships offer adolescents a context to simultaneously develop a sense of autonomy and a sense of relatedness (Erikson, 1968), and both of these developmental processes have implications for how adolescents will relate in their current and future interpersonal relationships (Furman & Buhrmester, 1992). Therefore, the primary purpose of the current investigation was to examine the developmental factors of attachment style and identity exploration style as

predictors of interpersonal competence. This study also explored identity exploration style as a mediator between attachment style and interpersonal competence, as well as an alternative model whereby attachment style mediated the associated between identity style and interpersonal competence.

For the purposes of the current investigation, Buhrmester's (1990) definition and operationalization of interpersonal competence was used, because it offers a comprehensive description by exploring competence across five interpersonal task domains: initiation, negative assertion, self-disclosure, emotional support and conflict management (see Figure 1). Initiation refers to one's ability to initiate social activities with others. Negative assertion refers to the ability to stand-up for oneself when necessary and refuse unreasonable demands. Self-disclosure refers to one's ability to share personal information and confide in others. Emotional support refers to one's ability to show genuine empathy when a companion is experiencing problems or difficulties. Finally, conflict management refers to one's ability to work through disagreements with others in a healthy way (i.e., without violence or name-calling).

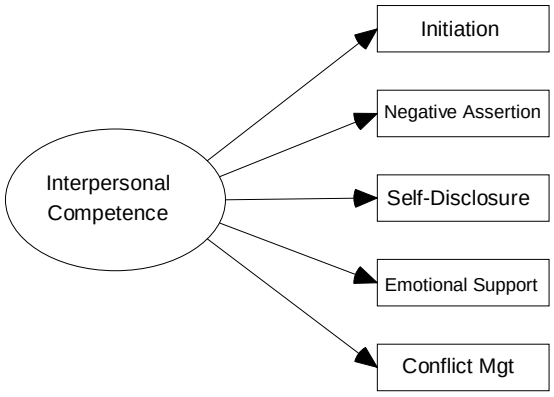

Figure 1. *Latent Construct of Interpersonal Competence with the Manifest Variables: Initiation, Negative Assertion, Self-Disclosure, Emotional Support, and Conflict Management*

Attachment & Interpersonal Competence

Developed by Bowlby (1969, 1982), attachment theory asserts that individuals form internal working models, or mental representations of self and other, which impact their feelings about, and behavior in, relationships. Models of self can be either positive (i.e., one feels worthy of love and care) or negative (i.e., one feels unworthy of love and care), and models of other can be either positive (i.e., one feels others are available and responsive) or negative (i.e., one feels others are distant or rejecting) (Bartholomew, 1990; Bartholomew & Horowitz, 1990). A negative model of self is characterized as an anxious attachment style, while a negative model of other is characterized as an avoidant attachment style (Feeney & Noller, 1996). In contrast, a secure attachment style is characterized by possessing both positive models of self and of other. Although attachment was initially studied in the context of parent-child relationships, Bowlby (1982) contended that subsequent interactions with other relationship partners could potentially update one's working models. In subsequent research, attachment was studied in other types of relationships (e.g., with peers and romantic partners), and these studies found that models of self and other can vary across different types of relationships (Collins & Read, 1994; La Guardia, Ryan, Couchman & Deci, 2000).

Recent adult attachment research has shown that models of self and other in romantic relationships are associated with individual differences in social functioning (Anders & Tucker, 2000; Miller, 1996). In a study of 117 college undergraduates, Miller (1996) found that secure participants were more socially flexible in their social responses across different conflict situations (i.e., they knew when to let something go versus stand

up for themselves). However, insecure participants (i.e., participants with higher scores on avoidance and/or anxious/ambivalence) had significantly lower variation in their responses to conflict situations reflecting less social flexibility. Similarly, in a study of 104 undergraduates, Anders and Tucker (2000) found that interpersonal communication (i.e., appropriate self-disclosure, assertiveness, and interpersonal sensitivity) mediated the association between participants' attachment styles and size of their social support networks. Specifically, when interpersonal communication competence was added to the model, the association between attachment and social network support was eliminated and deficits in interpersonal communication competence accounted for the smaller support network sizes.

While these studies (Anders & Tucker, 2000; Miller, 1996) found that attachment style was significantly associated with variables related to interpersonal competence (i.e., social flexibility and interpersonal communication), no studies to date have studied the association between romantic relationship attachment styles and interpersonal competence in adolescence or studied the association between these two variables using Buhmester's (1990) more complete and encompassing definition of interpersonal competence, which assesses participants' perceptions of their ability to initiate social interactions, offer emotional support, manage conflict, assert themselves when necessary, and disclose appropriate personal information. Therefore, in the current study we proposed to extend these findings and assess if attachment styles in romantic relationships are associated with interpersonal competence in high school aged adolescents using a broader conceptualization of interpersonal competence (Buhrmester,

1990). Specifically, we hypothesized that there would be: (a) a significant, negative association between anxiety and interpersonal competence and (b) a significant, negative association between avoidance and interpersonal competence (see Figure 2). It was also hypothesized that the interaction between anxiety and avoidance would make a unique, significant contribution to competence, and that the highest competence would be found for those with lower levels of anxiety and lower levels of avoidance (i.e., secure style).

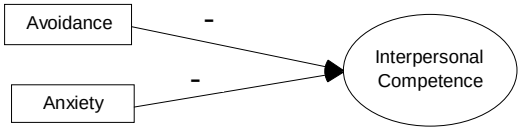

Figure 2. *Conceptual Model of Avoidance and Anxiety as Predictors of Interpersonal Competence*

Identity & Interpersonal Competence

Due to an increase in cognitive maturity, the process of identity consolidation begins during adolescence (Erikson, 1950, 1968). Erikson (1950) defined identity as "one's ability to maintain inner sameness and continuity of one's meaning for others" (p.89). The literature has shown that identity exploration in adolescence takes place largely in the interpersonal contexts of friendships and romantic relationships (Kroger, 1989). The supportive environment of peers provides the context whereby adolescents can explore "who they are, what they believe, and who they will become" (Parker & Gottman, 1989, p. 125). In this sense, identity is, and must be, developed in a social world with one's peers, with whom one will transition into the adult world (Erikson, 1968; Marcia, 1994). In fact, in a review of social and emotional development across the lifespan, Parker and Gottman (1989) posited that since self-definition and self-

exploration are so central during adolescence they are the underlying themes of friendship and romantic relationships during this period of development.

Using the concept of exploration as a central process of identity development, Berzonsky (1990) developed a process model to explain differences in how individuals vary in their approaches to processing identity-relevant information. He identified three processing styles: informational, normative, and diffuse. Information-oriented individuals actively explore to obtain and evaluate self-relevant information in order to problem-solve and make decisions. Normative-oriented individuals concentrate on the expectations of significant others when they are problem solving and making decisions. Diffuse-oriented individuals procrastinate and avoid problem-solving and decision-making until circumstances dictate their actions.

Research conducted by Berzonsky and colleagues has found that identity styles are associated with individual differences in social functioning (Berzonsky & Kuk, 2000; Berzonsky et al., 1999). In a study of 198 college undergraduates, Berzonsky et al. (1999) found that diffuse-oriented individuals were more likely to avoid hanging out with friends or in peer group settings and they also reported lower expectations for success in social situations than any other group, while information-oriented and norm-oriented individuals were less likely to avoid friends and peers and expected more success in social situations. In an extension of this study, Berzonsky and Kuk (2000) conducted a study of 363 college freshman (median age of 18) that examined the association between identity style and adjustment in new social situations, using the transition to a university as a new social context. The results indicated that diffuse-oriented individuals reported

the lowest levels of the ability to initiate and maintain friendships, be tolerant of others, and be self-assured. In contrast, information- and normative-oriented individuals again had significantly better social skills, with information-oriented individuals reporting more tolerance of others than any other group.

While the studies by Berzonsky and colleagues (Berzonsky & Kuk, 2000; Berzonsky, 1999) did find associations between identity style and variables related to interpersonal competence (i.e., cognitions, adjustment to college), the current study was the first to investigate the direct association between identity styles and interpersonal competence. It was hypothesized that identity style would significantly predict individual differences in interpersonal competence. Specifically, we hypothesized that there would be: (a) a significant, positive association between information-orientation and interpersonal competence, (b) a significant, positive association between normative-orientation and interpersonal competence, and (c) a significant, negative association between diffuse-orientation and interpersonal competence.

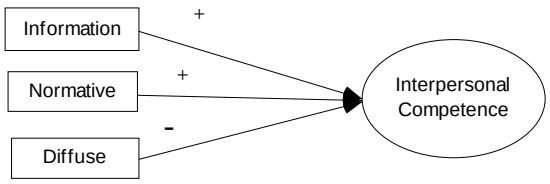

Figure 3. *Conceptual Model of Information-, Normative-, and Diffuse-Orientations as Predictors of Interpersonal Competence*

An Exploration of Two Mediation Models

While Erikson's (1950) theory would suggest theoretical connections between attachment processes and identity development, few studies have attempted to empirically link these constructs. In terms of the variables of interest to the current study,

an extensive search on PsycInfo revealed no study that directly investigated the association between identity style and romantic relationship attachment; however, some studies have explored constructs related to attachment and identity styles (Meeus et al., 2002; Passmore et al., 2005)

In a study of 148 adolescents (mean age 15), Meeus, Oosterwegel, and Vollebergh (2002) found that parental and peer attachment (i.e., measured as a psychosocial emotional connection but not as attachment style) predicted identity exploration and commitment in different domains. Father attachment predicted school commitment, while peer attachment predicted relational exploration and relational commitment. Furthermore, maternal attachment predicted peer attachment, and peer attachment in turn predicted school exploration (i.e., the impact of parental attachment on identity exploration was mediated through peer attachment). Similarly, Passmore, Fogarty, and Bourke (2005) sampled 200 adults (mean age 37) in order to examine the association between parental bonding, identity style, and self-esteem in adoptees (N=100) and non-adoptees (N=100). While the researchers were not directly assessing the association between parental bonding (i.e., again, measured as an emotional connection but not attachment style) and identity style, inter-correlations between variables were provided, and the correlation between information- and diffuse-orientations and parental bonding (i.e., for both mothers and fathers) were not significant. However, normative-orientation received a significant positive correlation with mother bonding and father bonding.

The measures in these two studies did not include dimensions of the attachment construct as discussed by Bowlby (1969), as they were primarily assessing the quality of the parent-child relationship. However, since positive relationships are more likely among individuals with secure attachment styles, these findings may be suggestive of an association between attachment styles and identity exploration. Therefore, we proposed to test for an association between romantic relationship attachment styles and identity styles.

If anxiety and avoidance interfere with identity exploration then being less secure in dating/romantic relationships would predict a less active style of identity exploration (lower scores on information style). In turn, we hypothesized that lower scores on the information style would be associated with less interpersonal competence. In sum, we hypothesized that identity exploration style would mediate the association between adult attachment style and interpersonal competence. That is, we hypothesized that identity style would specify how (or the mechanism through which) attachment style would influence interpersonal competence. If identity style mediated the association between attachment style and interpersonal competence, then the direct association between attachment style and interpersonal competence would be eliminated (see Figure 4).

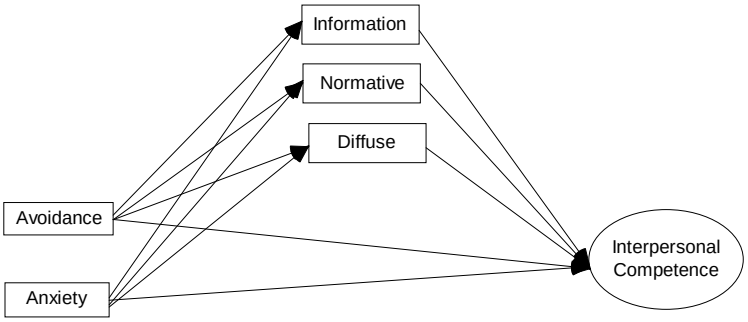

Figure 4. *Conceptual Model of Hypothesized Mediation: Attachment Styles as Predictor and Identity Styles as Mediator of Interpersonal Competence*

This study also examined an alternative mediation model using Erikson's (1950) fifth and sixth stages of development (i.e., identity versus identity diffusion and intimacy versus isolation) as the theoretical basis. Erikson (1950) saw the development of identity and intimacy as independent, yet interrelated, processes. In college-age samples, research has shown that identity development is a predictor of the establishment of meaningful, intimate relationships with others (Dyk & Adams, 1990), and studies have also shown that romantic relationship attachment style is significantly associated with individuals' capacity for intimacy (Mayseless & Scharf, 2007).

Based on Erikson's (1950) conceptualization of identity preceding intimacy, and intimacy's association with romantic relationship attachment in the literature (Mayseless & Scharf, 2007; Reis, 2006), we proposed an alternative model that assessed if lower scores on the information style would interfere with adolescents' development of secure romantic relationship attachment (i.e., resulting in more avoidant or anxious attachment styles). In turn, we assessed if possessing a more avoidant or anxious attachment styles would be associated with less interpersonal competence. That is, we hypothesized that

attachment style would specify how (or the mechanism through which) attachment style would influence interpersonal competence.

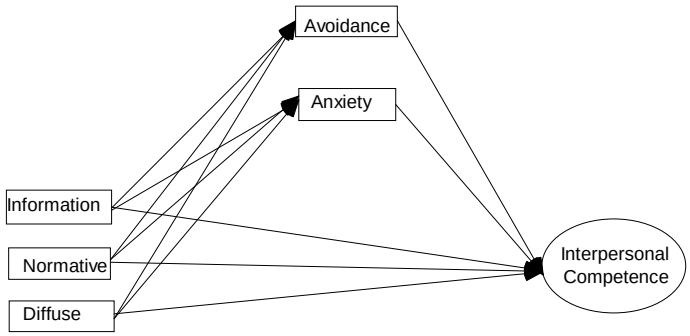

Figure 5. *Conceptual Model of Alternative Mediation Model: Identity Styles as Predictor and Attachment Styles as Mediator of Interpersonal Competence*

II. REVIEW OF LITERATURE

The purpose of this chapter is to conduct an in-depth review of literature on attachment and identity development in order to gain a better understanding of how these constructs are associated with one another and with adolescent interpersonal competence. Following an opening discussion of interpersonal competence and the variation in its definition, we will adopt a conceptual definition of interpersonal competence that emphasizes adolescents' self-perceived capacities to initiate social interactions, offer emotional support, manage conflict, be assertive when necessary, and disclose appropriate personal information (Buhrmester, 1990). Toward these goals the subsequent review of literature is organized into four major sections discussing relevant literature pertaining to the following themes: the importance of interpersonal competence during adolescence (Aronen & Kurkela, 1998; Buhrmester, 1990; Laursen, Furman, & Mooney, 2006), attachment and interpersonal competence (Kobak & Sceery, 1988; Weinfield, Ogawa, & Sroufe, 1997), identity development and interpersonal competence (Bersonsky, 1990; Berzonsky & Kuk, 2000; Berzonsky et al., 1999), and identity exploration as a mediator of the association between attachment and interpersonal competence (Meeus et al., 2002; Passmore et al., 2005).

Interpersonal Competence

Perhaps because interpersonal competence is so central to optimal functioning across so many areas of human development (e.g., psychological, relational, academic, occupational), there are an abundance of definitions of interpersonal competence in social

science literature (Asher & Parker, 1989; Gullotta, Adams, & Montemayor, 1990; Reed, 1994). Most researchers agree that defining interpersonal competence is extraordinarily elusive, because its meaning varies based on interaction context, cultural norms, and developmental period (Dodge, Pettit, & McClaskey, 1986; Schneider, 1992). The difficulty of finding a universal definition is also due, in part, to the fact that interpersonal competence encompasses many other psychological constructs (e.g., social perception, appraisal, personality), and every discipline has a different perspective on which elements are key to defining and operationalizing interpersonal competence (Merrell & Gimpel, 1998). Depending upon the vantage point of the discipline (e.g., psychology, sociology, and education), different traits, behaviors, and abilities are considered essential in defining interpersonal competence (Schneider, 1992).

Psychological definitions tend to focus on how reinforcement and punishment of social behaviors impact individual well-being (Libet & Lewinsohn, 1973). One such psychological definition characterizes interpersonal competence as "individual behaviors that maximize the probability of reinforcement and decrease the likelihood of punishment…whereby social outcomes of individual behavior are a vital part of psychological well-being" (Gresham, 1981, p. 12). On the other hand, sociological definitions tend to focus on the linkage between individual behavior and group norms (MacGuire & Priestley, 1981). One example of a sociological definition of interpersonal competence is "the nexus between the individual and the environment; the tools used to initiate and sustain group relations as deemed appropriate by society or subculture within a particular society" (Schneider et al., 1988, p. 48). Educational definitions tend to focus

on one's ability to fulfill role requirements in the classroom or with one's peers (Merrell & Gimpel, 1998). One such educational definition is "an individual's observed behavior during a social interaction characterized by the ability to sustain social roles" (Sattler, 1988, p. 112).

In an attempt to discern common themes across interpersonal competence definitions, Merrell and Gimpel (1998) examined sixteen definitions of interpersonal competence from various disciplines, including education, social work, psychology, and sociology. They found three major themes: peer-acceptance, behavioral-skill, and social validity. Peer-acceptance definitions of interpersonal competence focus on the degree to which one is popular or well-liked. When using a peer-acceptance definition researchers often measure children's understanding of social situations and emotional expressions, their interpretation and reaction to social stimuli, and their cooperation in social situations (Matson, 1988). Researchers often measure both the target's perception of and reaction to specific social situations, as well as acquiring outside perspectives of the target's likeability or popularity among peers (MacGuire & Priestley, 1981). Peer-acceptance definitions are often used in examining social competence during early and middle childhood, because these assessments rely less on the child's introspection or reflection on his or her behaviors, which would be more characteristic of older samples (i.e., adolescence and beyond) (Mize & Pettit, 1997).

Behavioral-skill definitions focus on the antecedents and consequences of social behaviors and the degree to which certain behaviors are rewarded versus punished by one's social group (Merrell & Gimpel, 1998). Competent behaviors maximize social

reward and minimize social punishment (Libet & Lewinsohn, 1973). Finally, social validity definitions are a hybrid of both peer-acceptance and behavioral-skill definitions. They focus on the connection between social behavior and acceptance by peers (Buhrmester, Furman, & Wittenberg, 1988; Schneider, Attili, Nadel, & Weissberg, 1988). When using a social validity definition, researchers are often interested in understanding how social skills and behaviors are associated with positive social judgment by one's peers and quality relationships with others (Gresham, 1981). Social validity definitions are best studied in non-clinical samples of adolescents and adults because they often require some ability to reflect on one's own behavior with others (Pehrson, 2007).

For the purposes of the current investigation, the social validity or hybrid definition offered by Buhrmester (1990) was used because it offers a comprehensive definition and operationalization of interpersonal competence. Buhrmester's (1990) Interpersonal Competence Questionnaire (ICQ) is a widely used instrument that is designed to assess perceived interpersonal competence across five relationship domains: initiation (e.g., "Finding and suggesting things to do with new people who you find interesting and attractive"), negative assertion (e.g., "Telling a close companion you don't like a certain way s/he has been treating you"), conflict management (e.g., "Being able to put begrudging (resentful) feelings aside when having a fight with a close companion"), emotional support (e.g., "Helping a close companion get to the heart of a problem s/he is experiencing"), and disclosure (e.g., "Letting a new companion get to know the 'real' you"). Now that we have reviewed how we will define interpersonal

competence in the present study, we turn to a review of literature pertaining to the importance of interpersonal competence during adolescence.

Interpersonal competence during adolescence. During adolescence, interpersonal competence becomes increasingly important as teens become progressively more independent from their parents and seek out friends and romantic partners to meet their social and emotional needs (Conger & Keane, 1981; Parker & Gottman, 1989; Zani, 1993). Research consistently has shown that adolescents with poorer interpersonal competence are more likely to experience a variety of unhealthy, sub-optimal outcomes (e.g., more loneliness, depression, psychopathology, and lower academic achievement), while adolescents with better interpersonal competence are likely to have more optimal outcomes during this developmental period (e.g., more friendship, dating success, academic achievement, and lower incidence of psychopathology) (Aronen & Kurkela, 1998; Buhrmester, 1990; Hoffmann, Powlishta, & White, 2004).

One such study of adolescent interpersonal competence was conducted by Aronen and Kurkela (1998). They sampled 134 Finnish fourteen and fifteen year-old adolescents. Using a social validity definition of interpersonal competence, they used the Social Competence subscale of Achenbach's (1991) Youth Self Report as they were interested in assessing how adolescents' social skills and behaviors were associated with social judgment by their peers, and how participants' perception of their competence and perception of how they were judged by their peers then impacted their academic achievement, social behavior and mental health. The Social Competence subscale of Achenbach's (1991) Youth Self Report asks participants to report their perceptions of

their behavior in social situations (e.g., I am nervous or tense), how they think they are perceived by peers (e.g., I don't get along with other kids), and how well they typically get along with others (i.e., about average, better than average, above average). Participants' scores across all items were combined for their interpersonal competence score. The results indicated that greater interpersonal competence was associated with more academic achievement, less antisocial and delinquent behavior, and a lower incidence of psychological disorders. The authors suggest that interpersonal competence may serve as a protective factor during development, and other studies suggest (Zani, 1993; Zimmer-Gembeck, Siebenbruner & Collins, 2001) that interpersonal competence may be more pertinent to optimal functioning during adolescence than at any previous developmental period.

Consistent with this view, Buhrmester (1990) found that interpersonal competence indeed has a different developmental significance for two age groups. In a cross-sectional study of 102 ten to twelve year-old preadolescents and 70 thirteen to sixteen year-old adolescents, interpersonal competence was operationalized using the ICQ (Buhrmester et al., 1988). Buhrmester (1990) found that interpersonal competence was associated with more social repercussions for adolescents than preadolescents. Adolescents with poorer interpersonal skills reported having fewer friends, less intimacy in their relationships with friends, more alienation, loneliness, and depression than their preadolescent counter-parts.

It has been suggested that one reason why interpersonal competence takes on such importance during adolescence is the introduction of romantic relationships (Brooks-

Gunn & Paikoff, 1993, 1997; Zani, 1993; Zimmer-Gembeck et al., 2001). Research has shown that adolescents with poor interpersonal skills have more difficulty initiating and maintaining romantic relationships (Barber, Eccles, & Stone, 2001; Tarrant, MacKenzie, & Hewitt, 2006). Laursen, Furman, and Mooney (2006) conducted a two-year longitudinal study of 199 adolescents (100 girls; 99 boys) that examined the stability of interpersonal competencies over time and across relationships with both friends and romantic relationship partners. In this study, interpersonal competence was defined in terms of peer acceptance by both peers and romantic partners. The Self-Perception Profile for Adolescents (Harter, 1988) was used, which asks questions pertaining to one's perceived social acceptance (e.g., "Some teens are popular with others their age BUT other teens are not very popular"), friendship competence (e.g., "Some teens are able to make really close friends BUT other teens find it hard to make really close friends"), and romantic competence (e.g., "Some teens feel that people their age will be romantically attracted to them BUT other teens feel worry about whether people their age will be attracted to them"). First, participants are asked to decide which group in the statement is most representative of them (e.g., popular versus not popular) and then indicate how descriptive that choice is of them (i.e., "really true for me" to "sort of true for me").

When participants began the study, they were in the 10th grade (mean age of 16) and during the final phase of data collection participants were in the 12th grade (mean age of 18). During all four waves of data collection, participants' were asked to identify three friends and (if they had one) their current romantic partner. Each participant's friends and romantic partner were then asked to complete measures that assessed the target subject's

interpersonal competence as a friend and romantic partner. The results indicated that participants who were rated higher in social competence by both friends and relationship partners also gave themselves higher competence ratings. These findings were stable across time and whether the friends or partners changed or not.

Since interpersonal competence is such a significant predictor of a variety of important outcomes for adolescents, the central goal of the current study is to investigate individual differences in interpersonal competence during adolescence. Other studies that have investigated individual differences in adolescent interpersonal competence have chosen to focus on how parental factors (e.g., the impact of parental control or parent-child attachment) or teen characteristics (e.g., personality traits or attractiveness) influence adolescents' interpersonal competence (Banta, 2004; Laible, 2007; McDowell & Parke, 2005; McGinnis, 1997; Ruschena et al., 2005). However, more recent studies indicate that previous research has lacked attention to how developmental factors may impact individual differences in adolescent interpersonal competence (Anders & Tucker, 2000; Berzonsky & Kuk, 2000; Berzonsky et al., 1999; Miller, 1996).

After all, adolescence is a unique time in human development when a series of transitions occur to prepare adolescents for the responsibilities of young adulthood (Connolly & Goldberg, 1999; Kan & Cares, 1999). Advances in self-reflection and perspective-taking abilities allow adolescents to understand their environments (and how they are seen by others in their environment) in a new way (Erikson, 1950; Marica, 1993). Adolescents are capable of comparing their experiences to those of others, and perhaps more importantly, they are capable of comparing their experiences across

different types of relationships to one another (Bosma & Gerlsma, 2003). This advancement in cognitive complexity also coincides with another critical transition that differentiates adolescence from earlier developmental periods: the introduction of romantic relationships (Furman & Buhrmester, 1992). The formation and maintenance of these new types of relationships become an intense preoccupation and over time romantic partners become increasingly important to adolescents' social and emotional worlds (Miller & Benson, 1999; Snyder & Stukas, 1999). As adolescents begin to achieve greater independence from their parents, they look to other close relationships to fulfill their intimacy needs and explore their identities (Connolly & Goldberg, 1999). So, romantic relationships offer adolescents a context to simultaneously develop a sense of autonomy and a sense of relatedness (Erikson, 1968). Therefore, the developmental processes of attachment and identity development have implications for how adolescents will relate in their current and future interpersonal relationships (Furman & Buhrmester, 1992).

In many ways the developmental processes of identity and attachment are inextricably linked (Bosma & Gerlsma, 2003). As one researcher put it: "Once acknowledging that the overall direction of life is toward interdependence and synthesis, we can see that conceptions that overly reify the self run the risk of disembedding it from its nature as a set of organizational *processes* within and between persons" (Ryan, 1991, p.233). Therefore, in the current study we used an integrative approach to understanding interpersonal competence by exploring *both* of these developmental factors and how they impact adolescent interpersonal competence. We turn now to a review of foundational

literature of attachment theory and research (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Hazan & Shaver, 1987) and studies that have examined how romantic relationship attachment is associated with interpersonal competence (Anders & Tucker, 2000; Miller, 1996).

Attachment

The subsequent section reviewing attachment theory and research will be organized as follows. First, we will discuss the underlying principles of attachment theory (Bowlby, 1969, 1982), and then we will discuss the various ways in which attachment has been operationalized and researched. Specifically, we will examine two camps of attachment research: attachment in the context of parent-child relationships (Ainsworth et al., 1978; Main & Goldwyn, 1984) and attachment in the context of adult romantic relationships (Bartholomew, 1990; Hazan & Shaver, 1988). Next, we will focus on important questions that have arisen out of adult attachment research (Collins & Read, 1994; La Guardia et al., 2000), which will then lead into a discussion of methodological issues in adult attachment research (Pottharst & Kessler, 1990; Waters, Cromwell, Elliott, Corcoran, & Treboux, 2002). Then, we will discuss how attachment will be defined and operationalized in the current study (Brennan, Clark, & Shaver, 1998). Finally, we will review previous research that has examined links between romantic relationship attachment and variables associated with interpersonal competence (Anders & Tucker, 2000; Miller, 1996).

Underlying principles of attachment theory. Attachment theory (Bowlby, 1969) asserts that children seek proximity to caregivers during times of distress (e.g.,

separation) because they are more vulnerable when separated from caregivers. Bowlby (1953) posited that, based on a "warm, intimate, and continuous relationship with [their] mothers (or permanent mother substitute)," children develop internal working models, or representations of how children expect caregivers will interact with them (p. 57). Bowlby (1969, 1982) proposed that internal working models include a model of self (i.e., the degree to which one feels worthy of care) and model of other (i.e., the degree to which one believes that others are trustworthy and reliable) which becomes generalized to all relationships.

Models of self can be either positive (i.e., one feels worthy of love and care) or negative (i.e., one feels unworthy of love and care), and models of other can be either positive (i.e., one feels others are available and responsive) or negative (i.e., one feels others are distant or rejecting) (Ainsworth et al., 1978; Bowlby, 1969). A negative model of self is characterized as an anxious attachment style, while a negative model of other is characterized as an avoidant attachment style (Feeney & Noller, 1996). In contrast, a secure attachment style is characterized by possessing both positive models of self and of other. The degree to which one is secure or insecure in her/his attachment style is important, because "gradually security of attachment becomes a feature of the individual's personality structure, hence contributing to behavioural stability, both in time and across different relationships" (Bosma & Berlma, 2003, p. 9).

Bowlby (1979) postulated that attachment processes do not stop in childhood but continue to influence human beings' behavior in relationships "from the cradle to the grave" (p. 405), and many researchers have attempted to study attachment across the

lifespan, albeit in different ways (Simpson & Rholes, 1999). Indeed, the study of attachment in adulthood has split into two unique programs of research (Bartholomew & Shaver, 1998; Sperling, 1991). One camp of research continues to focus on attachment in the context of the parent-child relationship (i.e., from the child-parent relationship through the adult-parent relationship), because they view it as the prototypical model of all relationships (Ainsworth et al., 1978; Main & Goldwyn, 1984). The other program of research focuses on attachment in the context of other types of relationships (i.e., peer and romantic relationships) (Bartholomew, 1990; Hazan & Shaver, 1994). Below these two perspectives are reviewed in turn.

Attachment in the context of the parent-child relationship. Ainsworth et al. (1978) conducted early research on attachment processes in the context of the parent-child relationship. In order to operationalize attachment as defined by Bowlby (1969), they developed the Strange Situation which evaluated children's behavior upon separation and reunion with their caregivers. The separation from mother and introduction of a stranger to the child's setting was meant to induce stress and threat, and children's behavior during the separation/reunion episodes was viewed as an indicator of the nature of the child's attachment to the caregiver. Based on their observations, the researchers classified three attachment styles: secure, anxious/resistant, and anxious/avoidant. Ainsworth et al. (1978) described secure children as those who confidently explored their environment in the company of their caregiver and sought out their caregiver as a secure-base if they became distressed. Anxious/resistant children were described as those who did not confidently explore their environment in the

company of their caregiver, were excessively attentive toward their caregiver, and when they became distressed they were not easily comforted. Anxious/avoidant children were described as those who responded to distress by avoiding contact with their caregivers.

In the 1980s, Main and Goldwyn (1985) extended research on attachment processes into adulthood. They developed the Adult Attachment Interview (AAI), which is a semi-structured interview containing eighteen questions that ask participants to describe their relationship with their parents when they were children. In the interview, participants are asked questions that probe for adjectives to describe their relationships with parents, memories that demonstrate why these adjectives were selected, and any instances of parental separation, rejection, or abuse. Participants also describe their current relationship with their parents, and if the participants are parents they describe their own experiences as a parent.

Main and colleagues (Main & Goldwyn, 1984; Main, Kaplan, & Cassidy, 1985) were attempting to understand adults' working models of self and other in the context of the parent-child relationship. However, there has been growing recognition that one's attachment style may vary across different types of relationships (Collins & Read, 1990; La Guardia et al., 2000). Indeed, even parent-child attachment researchers have found that children may have different attachment styles across different parental figures (e.g., one style for mother and one style for father) (Diener, Isabella, & Behunin, 2008; Fegran, Helseth, & Solveig, 2008). Subsequent research suggested that working models are more likely to be altered in the context of different types of relationships, such as peer or romantic relationships (Buhrmester et al., 1988; Ricks, 1985). Therefore, we turn now to

consider social psychologists' broadening of the picture of adult attachment and explore the attachment system in other types of relationships, especially romantic relationships (Bartholomew, 1990; Hazan & Shaver, 1987).

Attachment in the context of romantic relationships. A large body of social psychology research has been devoted to understanding how individuals' schemas and expectations impact their perceptions and interpretations of social situations (Feeney & Noller, 1996; Shaver & Mikulincer, 2006). Therefore, it is not surprising that social psychologists were interested in using Bowlby's (1969, 1982) attachment framework as a paradigm to understand how people filter social information (Cromwell, Treboux, Gao, Fyffe, Pan, & Waters, 2002; Mikulincer, 1991). Social psychologists argued that working models were termed "working" because they are not fixed but remain open to modification when one encounters new information or has relationships that contradict or challenge one's existing premise (Mikulincer & Shaver, 2005; Zeifman & Hazan, 2000). Perhaps this is why social psychologists have primarily focused on attachment outside of the parent-child relationship (e.g., in romantic relationships) (Feeney & Kirkpatrick, 1996; Feeney & Noller, 1990).

In the 1980s when social psychologists entered the attachment research field, they conceptualized attachment as a pattern of thoughts, feelings and behaviors that changes over time as one has new relational experiences and encounters new types of relationships (Collins & Read, 1990; Hazan & Shaver, 1987). They proposed that just as child-caregiver relationships can be described as secure, anxious-ambivalent, or avoidant in their attachment style – so could adults be described in their approaches to romantic

relationships. They suggested that romantic relationship formation was analogous to the development of child-caregiver attachment processes in that adults can derive comfort and security from romantic partners, particularly during times of distress.

Hazan and Shaver (1987) developed a self-report measure to identify three styles of attachment in romantic relationships (i.e., secure, anxious-ambivalent, and anxious-avoidant). Their measure had three paragraph-long descriptions appropriate for adult romantic relationships based on the defining elements of Ainsworth et al.'s (1978) operationalization of attachment. The three paragraphs are paraphrased here: (a) anxious-avoidant: "I am somewhat uncomfortable being close to others…I find it difficult to trust…I am nervous when anyone gets too close," (b) anxious-ambivalent: "I find that others are reluctant to get as close as I would like…I worry that my partner doesn't really love me…sometimes this scares people away," (c) secure: "I find it relatively easy to get close to others…I don't worry about being abandoned or someone getting too close to me." Participants chose the statement that was most representative of their experience in romantic relationships in general and then rated on a scale of 1 to 7 (1 = strongly disagree, 7 = strongly agree) how well the statement they chose represented them. The first empirical study of Hazan and Shaver's (1987) self-report measure was conducted through a survey in a Denver, Colorado newspaper and 620 readers (415 women, 205 men) responded. The majority of the sample responded were classified as secure (56%), but 19% were classified as anxious-ambivalent and 25% were classified as avoidant.

Hazan and Shaver's (1987) findings were replicated in other samples (e.g., undergraduate students), and their work in the field of romantic relationship attachment

style was extended by other researchers (e.g., Bartholomew & Horowitz, 1991; Mikulincer, 1991). For example, Bartholomew (1990) advanced the study of romantic relationship attachment by identifying two underlying dimensions that together represent the model of self and other. Specifically, she suggested that models of self can be either positive (worthy of love and care) or negative (unworthy of love and care) and that models of other can be either positive (available and responsive) or negative (distant or rejecting). Combining the model of self and other, Bartholomew and Horowitz (1990) created a self-report measure assessing four adult attachment styles. Positive model of self and other was classified as secure style (i.e., "relatively easy to become close emotionally and comfortable with dependence on others and having others depend on them"). Positive model of self and negative model of other was classified as dismissing style (i.e., "comfortable without close emotional relationships; important to feel independent, prefer not to depend on others"). Negative model of self and positive model of other was classified as preoccupied style (i.e., "want to be completely emotionally intimate with others, but others are reluctant to get as close; uncomfortable without close relationships"). Negative model of self and other was classified as fearful style (i.e., "somewhat uncomfortable getting close to others; find it difficult to trust or depend on others").

Many studies have used Bartholomew and Horowitz's (1990) operationalization to explore the association between attachment style and a variety of social issues, including: relationship satisfaction and quality (Collins & Read, 1990; Möller, Hwang, & Wickberg, 2006), domestic violence (Kwong, Bartholomew, & Henderson, 2003;

Stanley, Bartholomew, & Taylor, 2006), and sexual behavior (Birnbaum, Reis, & Mikulincer, 2006; Yesmont, 1992). Interpersonal competence also has been addressed (Anders & Tucker, 2000; Miller, 1996). We will explore these studies in more depth in a subsequent section.

Although romantic relationship attachment research has had a significant impact in the field of social psychology, it has also led to many new questions (La Guardia et al., 2000; Simpson & Rholes, 1998). For example, how does attachment in the parent-child relationship differ from attachment in romantic relationships? Can one have multiple attachment styles? If so, how are these styles organized? The next section is devoted to reviewing research that has attempted to address these questions.

Questions in adult attachment research. The first question that is important to address is how does attachment in the parent-child relationship differ from attachment in romantic relationships? They differ in three important ways. First, although the two traditions of adult attachment research (i.e., parent-child and romantic relationship) both developed out of Bowlby's (1969) classic attachment theory, they differ in that they focus on internal working models at different levels of consciousness (Simpson & Rholes, 1998). Parent-child attachment is conceptualized and measured as an unconscious process between parent and child, while romantic relationship attachment is thought of and measured as something that can be assessed at the conscious level (Bartholomew & Shaver, 1998; Sperling et al., 1996). Secondly, while classic attachment theory focuses on the parent as the primary attachment figure, romantic relationship attachment theory adds romantic partners as attachment figures (Caldwell, 1996; Feeney, 1995; Goldberg,

2000). Finally, parent-child attachment is fundamentally different in that the parent serves as the secure-base figure for the child and care-giving is uni-directional (i.e., from parent to child); however, romantic relationship partners may serve as secure-bases for one another and care-giving is bi-directional (Bartholomew, 1990; Bartholomew, & Horowitz, 1991).

Research has shown that adolescents have attachment relationships with parents, peers, and romantic partners (Weiss, 1982, 1991). During the developmental period of adolescence, while their relationships with their parents are changing, adolescents seek separation and individuation from their parental relationships (Erikson, 1950). Nevertheless, adolescents still require assurance of parental investment and seek out parents as a secure-base during times of distress or uncertainty (Ainsworth, 1991). Weiss (1982) argues that during adolescence the primary attachment relationship gradually shifts from the child-caregiver relationship and opens up to a variety of attachment relationships. During this time, attachment to parents does not disappear, rather, it changes form. Adolescents begin to look to other relationships for security while retaining parents as a secure base (Ainsworth, 1991). The periods in which they begin to turn to other sources for security become longer and longer, until parents are no longer the primary source of security but one of many attachment relationships. This feeling of "felt security" can be based on other key people besides caregivers. As attachment relationships become more differentiated, internal working models do as well (Weiss, 1982, 1991). Therefore, internal working models of friends and romantic partners are formed and adolescents form representations of model of self (e.g., self as worthy of

care) and model of other (e.g., romantic partners as reliable and trustworthy) in these relationships.

Some research has argued that the attachment style developed in the child-caregiver relationship persists into the future and influences one's attachment style in other types of relationships (Main & Goldwyn, 1984; Main et al., 1985). Researchers from this particular stance argue that attachment style learned as a child becomes one's understanding of relationships in general, and therefore influences one's preferred style of interacting with others as an adult. However, an alternative line of research indicates that attachment style can vary across different types of relationships (Shemmings, 2006; Simpson, Collins, & Tran, 2007). La Guardia et al. (2000) conducted a study of 136 college undergraduates that examined within-person variability in attachment. Participants' attachments were assessed using the Inventory of Adolescent Attachments (IAA; Greenberg, Siegel, & Leitch, 1983). The IAA is a 60 item self-report questionnaire which asks participants to answer questions that assess the degree to which they trust others will be there for them and the degree to which they feel they are worthy of others' love and care. It is designed to examine attachment across each of the following relationships: mother, father, another significant adult (e.g., professor or boss), best friend, romantic partner, and roommate. Results indicated that participants reported different attachment styles across different types of relationships. La Guardia et al. (2000) as well as others (Collins & Read, 1994; Shemmings, 2006) have replicated these findings, and the current theoretical proposition is that internal working models vary across different types of relationships. Individuals have a global attachment style that

organizes experience across all relationships, but one also develops models of self and other in each significant relationship they have.

One final difference between the two programs of research is that in the parent-child attachment framework the secure-base relationship is uni-directional, while the romantic relationship secure-base relationship can be bi-directional (Bartholomew, 1990; Bartholomew, & Horowitz, 1991). Bowlby (1953) posited that parents serve as the secure-base for the child and that during times of distress children seek proximity to their caregivers. However, in adult romantic relationships partners turn to one another during times of distress and derive comfort from one another (Hazan & Shaver, 1987).

Based on this review of literature, there are three primary differences between parent-child and romantic relationship attachment research. First, parent-child and romantic relationship attachment research conceptualize and measure internal working models at different levels of awareness (Simpson & Rholes, 1998). Secondly, they differ in that parent-child researchers argue that attachment style learned as a child becomes one's understanding of relationships in general, and therefore influences one's preferred style of interacting with others as an adult. However, researchers who study romantic relationship attachments argue that attachment style can vary across different types of relationships (Shemmings, 2006; Simpson, Collins, & Tran, 2007). Finally, parent-child attachment is fundamentally different in that the parent serves as the secure-base figure for the child and care-giving is uni-directional (i.e., from parent to child); however, romantic relationship partners may serve as secure-bases for one another and care-giving is bi-directional (Bartholomew, 1990; Bartholomew, & Horowitz, 1991).

Another subject in attachment research that warrants considerable review is methodological issues (Simpson & Rholes, 1998; Waters et al., 2002). Debate continues between the comparability of measurement in child versus adult attachment research (Cromwell et al., 2002). There is also considerable debate about what are the most appropriate measures for romantic relationship attachment (i.e., categories versus dimensions) (Pottharst & Kessler, 1990). Therefore, we turn now to a discussion of methodological issues in attachment research.

Methodological issues in attachment research. Although the two camps of adult attachment research (i.e., parent-child versus romantic relationship attachment) both trace their origins to Bowlby's (1969) attachment theory, each discipline assesses individual differences in different ways and asks different questions. However, in a review of literature across both parent-child attachment and adult-adult attachment, Waters et al. (2002) observed that Bowlby's (1969) theory emphasizes proximity seeking in close relationships across the lifespan, and therefore both types of attachment programs (i.e., parent-child and adult-adult) should have a place in attachment research. However, Waters et al. (2002) does admit that not having a common language, or common method, has made it difficult for parent-child and adult-adult researchers to find common ground.

Classically, parent-child attachment researchers have preferred measures that tap into the unconscious aspects of attachment processes (e.g., interviews or behavioral observation). For example, the Adult Attachment Interview (Main & Goldwyn, 1984) focuses on retrospective accounts of participants' relationships with caregivers, where attachment is measured indirectly. Respondents are not asked to call to awareness

specific attributes of relationships. Rather participants are asked to talk about their relationship with their caregiver(s) in general, and their interviews are coded not based on what they recall (i.e., content of the memories) but on *how* participants' reflect on and evaluate their memories. If participants seem to recall their attachment experiences openly and objectively they are coded as secure, if participants seem preoccupied with dependency on their parents then they are coded as anxious-ambivalent, and if participants seem to dismiss attachment experiences as having little or no value they are coded as avoidant.

Main and Goldwyn (1984) created the Adult Attachment Interview to measure attachment style indirectly or at an unconscious level, with the expectation that it would correlate with Ainsworth et al.'s (1978) Strange Situation, which taps child-parent attachment at an unconscious level through observation of children's behavior (Bartholomew & Shaver, 1998). Therefore, it is not surprising that the Adult Attachment Interview (Main & Goldwyn, 1984), which is designed to tap into attachment at an unconscious level, does not correlate with self-report measures of attachment, which are commonly used in studies assessing romantic relationship attachment. For example, the Experiences in Close Relationships Scale (ECRS) (Brennan et al., 1998) asks participants to answer questions pertaining to their current feelings and behavior across romantic relationships in general. The items are designed to tap into participants' anxiety or fear of abandonment and participants' avoidance or discomfort with closeness. The reason that self-report measures, such as the ECRS, are preferred in studying attachment in adult romantic relationships is because it is believed that adults can process and report on their

thoughts and feelings across their relationships with romantic partners, whereas this would certainly be difficult or impossible for children (Bartholomew & Shaver, 1998; Shaver & Mikulincer, 2006).

Since the two programs of research are attempting to measure attachment at different levels of awareness, the lack of correspondence between measures from the two programs is not surprising (Simpson & Rholes, 1998; West, Sheldon, & Reiffer, 1987). Therefore, as Waters et al. (2002) concluded, one should not determine that one type of measurement (i.e., parent-child or romantic relationship measures) is better than the other. The type of attachment measure (i.e., interview versus self-report) should be chosen based on the interest of the researcher (i.e., interest in parent-child versus romantic relationship attachment).

Attachment in the present study. It is essential to note that although the two programs of adult attachment research are tapping into attachment on different levels of awareness, the concept of internal working models is at the core of both parent-child and romantic relationship attachment research (Cromwell et al., 2002). Bowlby (1969, 1982) viewed attachment as a phenomenon that persisted throughout one's lifetime, which was associated with the availability and responsiveness of close others. In the current investigation we chose to assess attachment style in the context of romantic relationships for several reasons. First, we chose to assess attachment in romantic relationships, and measure attachment on a conscious level, because we wanted to understand how adolescents think about their relationship experiences on a conscious level, which we expected would be associated with individual differences in interpersonal competence. In

the next section we review studies that have found associations between romantic relationship attachment style and variables associated with interpersonal competence (Asher & Parker, 1989; Gullotta et al., 1990). We also chose this method because self-report measures of attachment are easier to administer, and in this study the instruments were administered during regular high school class periods making interviews with each adolescent impractical.

There is still controversy over which is the "best" self-report measure of adult romantic relationship attachment (Brennan et al., 1998). Most recently, adult attachment researchers have moved away from typologies and categories to focusing on two orthogonal dimensions of attachment: level of anxiety (i.e., the degree to which one has a positive or negative model of self) and level of avoidance (i.e., the degree to which one has a positive or negative model of other) (Hindy, Schwartz, & Brodsky, 1989; Marcus & Kramer, 2001). The dimensional approach is beneficial for measurement for several reasons. First, while categories can be useful tools in understanding a particular phenomenon, there are few human personality characteristics that can be genuinely categorized (Grabill & Kerns, 2000; Pottharst & Kessler, 1990). Secondly, the dimensional approach simplifies comparisons across attachment measures (Simpson & Rholes, 1998). Finally, unlike dimensions, categories can disguise or amplify subtle differences (Bartholomew & Shaver, 1998). Based on these benefits, the current study used a dimensional approach. Now that we have reviewed important literature pertaining to attachment theory and research, we turn to a review of studies documenting the

association between adolescents' attachment and constructs that demonstrate interpersonal competence (Kobak & Sceery, 1988; Weinfield et al., 1997).

Attachment and interpersonal competence. In adolescence, interpersonal competence demands that one have access to and be able to apply appropriate cognitions, emotions, and behaviors in interpersonal situations (Asher & Parker, 1989; Gullotta et al., 1990; Reed, 1994). Attachment literature argues that one's cognitions about relationships are based on one's attachment (Bowlby 1969, 1982), and research has shown that variables associated with interpersonal competence vary based on attachment in adolescent and adult samples (Ander & Tucker, 2000; Miller, 1996). For example, Miller (1996) conducted a study of 117 undergraduates (65 females, 52 males) that investigated the association between romantic relationship attachment and social flexibility as the ability to be flexible in one's response across different conflict situations.

Participants completed Simpson's (1990) attachment questionnaire (13 items that assess participants' attachment to romantic partners in general, 5 secure; 4 anxious; 4 avoidant attachment items). Then, participants completed a conflict response questionnaire (Miller, 1989) to assess how they would respond across 10 different conflict situations. For example, differences of opinion (e.g., friend has different political views on a particular issue than you), personal criticism (e.g., friend criticizes a joke you told), and mutual interference with plans (e.g., a friend's music interferes with your studying). Four responses were provided for each situation (i.e., assertive, tactful, acquiescent, or aggressive). In different conflict situations, different responses were considered most appropriate. Appropriate use of these different responses indicated

flexibility in social responses. The results of Miller's (1996) study indicated that secure participants were more socially flexible in their social responses across different conflict situations (i.e., they knew when to let something go versus stand up for themselves). However, insecure participants (i.e., avoidant or anxious/ambivalent) had significantly lower variation in their responses to conflict situations reflecting less social flexibility (i.e., they were less likely than secure participants to recognize when assertiveness or acquiescence was more appropriate).

In a similar study, Anders and Tucker (2000) conducted a study of 104 undergraduates (55 women, 49 men) that investigated the association between attachment, interpersonal communication competence, and social support. Interpersonal communication competence was tested as a mediator between participants' attachment style and social support networks. Participants completed the Experiences in Close Relationships Scale (Brennan et al., 1998), which is a 36 item self-report measure of attachment style which yields scores for anxiety and avoidance, with low scores on both indicating a secure attachment style. Interpersonal communication was measured using the Interpersonal Communication Competence Scale (Rubin & Martin, 1994), which contains 30 items designed to tap into skills associated with effective communication in interpersonal situations (e.g., appropriate self-disclosure, assertiveness, and interpersonal sensitivity). Finally, social support was measured using the Social Support Questionnaire (Sarason, Sarason, Shearin, & Pierce, 1987), which asks participants to list the initials of up to nine individuals who provide them with support across six domains (e.g., who

accepts you totally, who can you count on to help you feel better when you're feeling down, who can you count on to console you if you are really upset, etc.).

The results indicated that less secure individuals reported significantly fewer individuals in their social networks and these individuals supported them across fewer domains. On the other hand, more secure individuals reported significantly more individuals in their social networks and these individuals supported them across more domains. Analyses also indicated support for the proposed mediation model. Specifically, when interpersonal communication competence was added to the model, the association between attachment and social network support was eliminated (i.e., deficits in interpersonal communication competence accounted for the smaller support network sizes and support across fewer domains rather than attachment style).

These studies (Anders & Tucker, 2000; Miller, 1996) found that romantic relationship attachment was significantly associated with factors associated with interpersonal competence (i.e., social flexibility and interpersonal communication competence) in college-aged subjects. In the current study we considered whether romantic relationship attachment style was associated with interpersonal competence in younger adolescents. Specifically, we hypothesized that there would be (a) a significant, negative association between anxiety and interpersonal competence and (b) a significant, negative association between avoidance and interpersonal competence. It was also hypothesized that the interaction between anxiety and avoidance would make a unique, significant contribution to competence, and that the highest competence would be found for participants who were low in both anxiety and avoidance (i.e., secure style).

We turn now to a review of foundational literature of identity development (Erikson, 1950/1968), identity exploration (Berzonksy, 1990), and studies that have examined how identity exploration is associated with interpersonal competence (Berzonsky & Kuk, 2000; Berzonsky et al., 1999).

Identity Development

Due to an increase in cognitive maturity, adolescents begin the process of identity development in earnest that will last throughout their lifetime (Erikson, 1950; Grotevant, 1993; Waterman, 1992). Erikson (1950) defined identity as "one's ability to maintain inner sameness and continuity of one's meaning for others" (p. 89). The literature has shown that identity exploration in adolescence takes place largely in the interpersonal contexts of friendships and romantic relationships (Kroger, 1989). The supportive environment of peers provides the context whereby adolescents can explore "who they are, what they believe, and who they will become" (Parker & Gottman, 1989, p. 125). In this sense, identity is, and must be, developed in a social world with one's peers, with whom one will transition into the adult world (Erikson, 1961; Marcia, 1993). As Higgins and Parsons (1983) wrote:

> Adolescents…are expected to acquire and practice the social skills of adults, to experiment with what they are in relation to others, and to 'try on' new behaviors and experiences. In other words, they are expected to begin the process of attaining somewhat coherent, permanent answers to the questions "Who am I?" and "What will I become?" (p. 29).

In fact, in a review of social and emotional development across the lifespan, Parker and Gottman (1989) posited that since self-definition and self-exploration are so central during adolescence they are the underlying themes of friendship and romantic relationships during this period of development. Since identity exploration occurs largely in the peer context, we proposed that different styles of exploration (i.e., identity styles) would be associated with adolescents' interpersonal competence. We turn now to a review of studies documenting the association between identity exploration (i.e., identity styles) and constructs related to interpersonal competence (Berzonsky & Kuk, 2000; Berzonsky et al., 1999).

Identity style and interpersonal competence. In an attempt to operationalize differences in identity exploration, Berzonsky (1990) developed a process model to explain differences in how individuals process and explore identity relevant information. He identified three processing styles: informational, normative, and diffuse. The information-oriented style is associated with active exploration to obtain and evaluate self-relevant information in order to problem-solve and make decisions. The normative-oriented style concentrates on the expectations of significant others when problem solving and making decisions. The diffuse-oriented style is associated with procrastination and avoidance of problem-solving and decision-making until circumstances dictate actions.

Berzonsky and colleagues (Berzonsky & Kuk, 2000; Berzonsky et al., 1999) have found that identity style is associated with several psychosocial constructs, including constructs related to interpersonal competence. For example, Berzonsky et al. (1999)

conducted a study of 198 late adolescents (i.e. college undergraduates with a median age of 21) that examined the association between adolescents' identity style and their cognitive attributional strategies in social situations. Cognitive attributional strategies were defined as adolescents' tendency toward anticipating success or failure in a given social situation, and the social situations assessed were the affiliative contexts of friendship and peer group settings. In order to measure adolescents' cognitive attributional strategies, Berzonsky et al. (1999) had participants complete self-report instruments assessing their expectations for success in social situations and task-irrelevant social behavior (i.e., the degree to which participants behaved in ways that purposefully prohibited their social involvement, such as making excuses so they did not have to hang out with friends or in peer group settings).

The results of the Berzonsky et al. (1999) study indicated that compared to information- and normative-oriented individuals, diffuse-oriented adolescents engaged in more task-irrelevant behavior in social settings (e.g., they were more likely to engage in tasks to avoid hanging out with friends or in peer group settings) and reported lower expectations for success in peer relationships than any other group. Information-oriented and norm-oriented individuals both used more task-relevant behavior in social situations and reported higher expectation for success than diffuse-oriented individuals.

In an extension of this study, Berzonsky and Kuk (2000) conducted a study of 363 college freshman (median age = 18) that examined the association between identity style and adjustment in new social situations, using the transition to university as a new social context. The authors defined adjustment in a new social situation as the ability to develop

mature interpersonal relationships, which measured participants' ability to initiate and maintain friendships, be tolerant of others, and be self-assured with one's peers (i.e., not continually seeking reassurance from others). The results indicated that diffuse-oriented individuals reported the lowest levels of adjustment across operationalizations. Information- and normative-oriented individuals were again more similar than different in that both groups had significantly better social adjustment than diffuse-oriented individuals; however, information-oriented individuals reported significantly more tolerance of others than normative-oriented individuals.

Based on the research of Berzonsky and colleagues (Berzonsky & Kuk, 2000; Berzonsky et al., 1999), we hypothesized that identity style would significantly predict individual differences in interpersonal competence. Specifically, it was hypothesized that there would be (a) a significant, positive association between information-orientation and interpersonal competence, (b) a significant, positive association between normative-orientation and interpersonal competence, and (c) a significant, negative association between diffuse-orientation and interpersonal competence.

An Exploration of Two Mediation Models.

In the previous two sections we examined the associations between attachment style and interpersonal competence (Anders & Tucker, 2000; Miller, 1996) and identity style and interpersonal competence (Berzonsky & Kuk, 2000; Berzonsky et al., 1999). In the current section, we explore the possibility of two mediation models. In the first model, we explore if identity styles mediate the association between attachment styles and interpersonal competence, while in the alternative model we explore if attachment

styles mediate the association between identity styles and interpersonal competence. We review theoretical support for each model in turn.

Association between Bowlby's attachment and Erikson's stages ('trust' and 'identity'): Support for the first mediation model. Erikson (1950) proposed a series of stages that describe the process of psychological and emotional development throughout the lifespan. The first stage begins during the first year of life, and Erikson (1950) termed this first developmental stage as "trust versus mistrust," because during this stage children develop a sense of trust (or mistrust) in their caregivers and therefore others. According to Erikson (1968):

> Mothers create a sense of trust in their children by that kind of administration which in its quality combines sensitive care of the baby's individual needs and a firm sense of personal trustworthiness within the trusted framework of their culture's life style. This forms the basis in the child for a sense of identity which will later combine a sense of being 'all right,' of being oneself, and what other people trust one will become (p. 249).

Erikson's (1950) conceptualization of the stage of trust versus mistrust parallels ideas suggested by Bowlby's (1969) theory of attachment and internal working models. As previously reviewed, Bowlby (1969) proposed that internal working models included a model of self (i.e., the degree to which one feels worthy of care) and model of other (i.e., the degree to which one believes that others are trustworthy and reliable) that become generalized to all relationships. Importantly the same interpersonal dynamic is posited as the source of this first developmental outcome in both theories. If children's

needs are met reliably by their caregivers, Bowlby (1969) asserts that children develop secure models of self and other. Under these conditions, Erikson (1950) asserts that children develop the sense that they are worthy of care and that others are trustworthy; however, if children's needs are not met sufficiently, Erikson (1950) believed that the child will go into the next stage of development with the remnants of this unfinished task (i.e., sensing that others are unreliable and untrustworthy).

Erikson's (1950) model proposed that through successive resolutions of these earlier developmental crises, an optimally functioning child will have developed a sense of trust, autonomy, initiative, and industry before entering Erikson's fifth stage of development called identity versus identity diffusion. Erikson believed that during this developmental crisis, adolescents explore the self, experiment with different roles, and question their basic objectives, beliefs, and values. Although Erikson believed that even the well-adjusted adolescents struggle to find a sense of identity during this developmental period, he also believed that a mistrusting child who is filled with shame, guilt, and inferiority would be less likely to develop a sense of identity during this stage of development.

Erikson (1950) suggested that children who develop a sense of trust in their relationship with caregivers are more confident in exploring their environment, which is a crucial step in developing an autonomous self. Children who are trustworthy and capable of more exploration are able to learn more about their environment, enrich their skills and competencies, and eventually discover that they are capable of being independent (Erikson, 1968). That is, this initial responsiveness and support from caregivers later

allows adolescents and young adults to feel confident that they can go out into the world without their caregivers. Putting Erikson's (1968) and Bowlby's (1969) ideas together, it would be reasonable to surmise that more positive models of self and other would be associated with more exploration of identity alternatives.

Up to this point, we have reviewed theoretical associations between attachment and identity style. Based on the theoretical assertions presented herein, we proposed that anxiety and avoidance would interfere with identity exploration. Specifically, anxious adolescents would be preoccupied with seeking love and approval from their romantic partners, which would interfere with their identity exploration. Avoidant adolescents would resist closeness, which would interfere with their identity exploration. We hypothesized that less (or less effective) exploration in turn would interfere with adolescents' interpersonal competence. In sum, we hypothesized that identity exploration style would mediate the association between adult attachment style and interpersonal competence. In order to present our mediation model, we will review the extremely limited empirical studies that have investigated the association between attachment and identity style. Although these studies have major limitations, their findings are suggestive of an association between attachment and identity exploration.

While no study has directly investigated the association between romantic relationship attachment and identity style, some studies have explored constructs related to attachment and identity style. For example, Meeus et al. (2002) conducted a study of 148 adolescents (mean age 15) living in the Netherlands. The purpose of the study was to examine the association between parental and peer attachment and adolescents' relational

and school identity. Relational identity and school identity were assessed using the Utrecht-Groningen Identity Development Scale (U-GIDS, Meeus, 1996). Participants completed the relational and school subscales, which contained items designed to tap into adolescents' exploration and commitment across these two domains. Participants' attachment to parents and peers was assessed using a self-report questionnaire called the Inventory of Parent and Peer Attachment (IPPA), which asks participants to answer questions that assess the degree to which they trust their parents/peers, will be there for them when they are in need of comfort (e.g., "My mother respects my feelings") (Armsden and Greenberg, 1987).

The researchers found that parental and peer attachment predicted identity exploration and commitment in different domains. Father attachment predicted school commitment, while peer attachment predicted relational exploration and relational commitment. In addition, one significant parent-peer attachment linkage was found: maternal attachment predicted peer attachment, and peer attachment in turn predicted school exploration (i.e., the impact of maternal attachment on identity exploration was mediated through peer attachment). Although availability and support are dimensions of the attachment construct, they also represent the quality of parent-adolescent attachment relationship and may have little to do with Bowlby's attachment construct. Nevertheless, these findings may be suggestive of an association between attachment and identity style.

In another study, Passmore et al. (2005) sampled 200 adults (mean age 37) in order to examine the association between parental bonding, identity style, and self-esteem in adoptees (N = 100) and nonadoptees (N = 100). Parental bonding was assessed using

the Parental Bonding Inventory (PBI) (Parker et al., 1979), which is a 25 item questionnaire that asks participants' to rate their parents on two dimensions: level of care (i.e., on a continuum of hyper-responsive to unresponsive) and level of protection (i.e., on a continuum of overprotection to underprotection). Each item was rated on a 4-point scale (0 = very unlike; 3 = very like), and 12 of the items were reverse scored, so that higher scores indicated the most optimal levels of care and protection. Participants completed the scale twice: once for mother bonding and once for father bonding. The scores for the two dimensions (i.e., level of care and level of protection) were combined to create mother bonding and father bonding scores. Identity style was assessed using Berzonsky's (1992) Identity Style Inventory, and self-esteem was assessed using Rosenberg Self-Esteem Scale (Rosenberg, 1989).

While the researchers were not directly assessing the association between parental bonding and identity style, inter-correlations between variables were provided. In their study, the correlations between information- and diffuse-orientations and parental bonding (i.e., for both mothers and fathers) were not significant. However, normative-orientation had a significant positive correlation with mother bonding [r = .30, N = 200, p <.001], as well as father bonding [r = .33, N = 200, p <.001]. Parental bond is also conceptualized as an attachment related construct, but it does not strike very close to the construct as described by developmental attachment researchers. While parental bonding may represent a relationship quality indicator, it is also reflective of the attachment construct and therefore this study may be suggestive of an association between attachment and identity style.

In order to expand upon the theoretical assertions of Bowlby (1969, 1982) and Erikson (1950) we proposed that identity style would mediate the association between romantic relationship attachment style and interpersonal competence. If anxiety and avoidance interfere with identity exploration then being less secure in dating/romantic relationships would predict a less active style of identity exploration (lower scores on information style). In turn, we hypothesized a lower scores on the information style would be associated with less interpersonal competence. In sum, we hypothesized that identity exploration style would mediate the association between adult attachment style and interpersonal competence. That is, we hypothesized that identity style would specify how (or the mechanism through which) attachment style would influence interpersonal competence.

Association between Erikson's stages of identity and intimacy: Support for an alternative mediation model. This study also examined an alternative mediation model using Erikson's (1950) fifth and sixth stages of development (i.e., identity versus identity diffusion and intimacy versus isolation) as the theoretical basis. Erikson (1950) saw the development of identity and intimacy as independent, yet interrelated, processes. In college-age samples, research has shown that identity development is a predictor of the establishment of meaningful, intimate relationships with others (Dyk & Adams, 1990), and studies have also shown that romantic relationship attachment style is significantly associated with individuals' capacity for intimacy (Mayseless & Scharf, 2007; Reis, 2006).

Based on Erikson's (1950) conceptualization of identity preceding intimacy, and intimacy's association with romantic relationship attachment in the literature (Mayseless & Scharf, 2007), we proposed an alternative model that assessed if lower scores on the information style would interfere with adolescents' development of secure romantic relationship attachment (i.e., resulting in more avoidant or anxious attachment styles). In turn, we assessed if possessing a more avoidant or anxious attachment styles would be associated with less interpersonal competence. That is, we hypothesized that attachment style would specify how (or the mechanism through which) attachment style would influence interpersonal competence.

In order to test for mediation in the proposed models, several steps are necessary (Holmbeck, 1997). First the direct effect must be established (A→C) (Holmbeck, 1997). Assuming adequate fit, then the fit of the overall model is tested (A→B→C), and path coefficients are examined for significance. In the final step, the mediational effect is tested by evaluating the fit of the overall model under two conditions: (a) when the path from the predictor to the outcome (A→C) is constrained to zero and (b) when the path is not constrained to zero. "If there is a mediational effect, the addition of the A → C path to the constrained model should not improve the fit" (Holmbeck, 1997, p. 602).

III. METHOD

Data were collected as part of a five-year evaluation study of a relationship education program, Relationship Smarts, funded at the federal level by the U.S. Department of Health and Human Services and at the state level by Alabama's Children's Trust Fund. The goal of the program was to teach adolescents the knowledge and skills necessary to have healthy dating relationships and increase their likelihood of having healthier relationships in the future.

Procedure

All participants were in grades 9 – 12 in Alabama public high schools and were students in a Family and Consumer Sciences (FCS) course. FCS teachers delivered a curriculum (Relationship Smarts) in regularly scheduled classes and administered a pre-test and post-test to their students. Data for this study were from year 2 of this 5-year funded project. It was in this year that all the relevant scales were included in the evaluation instruments. In all, 43 teachers participated in the program during project year 2. Although all classes completed both pre-test and post-test questionnaires, only the pre-test questionnaires were used for this study. Forty-two of the participating teachers were female and one was male. Both student assent and parental consent were obtained with the cooperation of participating teachers.

Subjects

During year 2 of the project, 1,644 students returned pre-surveys. For the purposes of the current study, 107 surveys were removed due to data problems. (e.g., response sets, for example, circling one entire column of responses [all neutrals] on a page, suggesting participant did not read individual items). Also, 84 participants were eliminated because they completed less than half of the items on any one of the subscales of interest. Ninety-four percent of the sample identified themselves as either African-American (*N*=486, 35%) or Caucasian (*N*=870, 59%). The remaining 6% of respondents identified themselves as Hispanic (*N*=41, 3.5%), Native American (*N*=8, 0.5%), Asian American (*N*=4, 0.2%), or other (*N*=29, 1.8%), while 15 participants did not provide an ethic affiliation. These ethnic groups were so small in comparison to the majority groups (i.e., African-American and Caucasian) that there was insufficient power to conduct comparison analyses among all ethnic groups. Therefore, 97 participants were eliminated because they did not identify themselves as either African-American or Caucasian. Therefore, a total of 1,356 students were used in analyses for the current investigation.

Descriptive analyses were conducted to evaluate the distributions of the sample (see Table 1). On average, participants were 16.2 years old. Eighty percent of the sample was female (*N*=1, 090), 18% was male (*N*=238), and 2% did not respond (*N*=28). The reason that males were underrepresented in the sample is because males are typically underrepresented in Family and Consumer Sciences classes, which is where the program was implemented and evaluated during project year 2. Thirty-four percent of the sample

was in ninth grade, 28% was in tenth grade, 23% was in eleventh grade, and 15% was in twelfth grade.

Table 1. *Descriptive Statistics for Whole Sample (N=1,356)*

Variable	*N*	Percentage of Sample
Female	1,090	80%
Male	238	18%
African-American	486	36%
Caucasian	870	64%
Ninth Grade	463	34%
Tenth Grade	385	28%
Eleventh Grade	316	23%
Twelfth Grade	190	15%

Measures

Participants completed surveys that assessed demographic variables and several scales pertaining to their knowledge of, attitudes about, and behaviors in interpersonal relationships. Scales that assessed the variables of interest were presented in the questionnaire in the following order: identity styles, attachment styles, and interpersonal competence. In classes that lasted 50 minutes, the questionnaire had to be split into two parts and given during two class periods in order to allow students enough time to complete the questionnaire. In the 50 minute version of the survey, identity styles were assessed in the first portion of the survey that students completed, while attachment styles and interpersonal competence were assessed in the second portion of the survey.

Because the questionnaires were completed during regular high school class periods, and in order to manage the burden of data collection for participants while tapping the range of constructs needed, full scales were not used. For each subscale, between 40-50% of items were excluded based on factor analyses conducted in

independent samples. For more specific information on how items were chosen, see Appendix D.

Assessment of attachment style. The Experiences in Close Relationships Scale (ECRS) (Brennan et al., 1998) was used to assess adolescents' attachment. The ECRS contains 36 items. Eighteen ECRS items (i.e., nine for each subscale) were selected for use in the current investigation. The nine items for each subscale were chosen after conducting an exploratory factor analysis (EFA) with a convenient sample of 294 college students. An EFA with the 18 original avoidance items found three factors and an alpha of .93. A second EFA was conducted with the 9 selected avoidance items and found one factor and an alpha of .89. Analyses revealed that those nine avoidance items captured 93% of the variance of the original 18 items; therefore, those nine items were used in the current investigation. Another EFA was conducted for the anxiety subscale. An EFA with the 18 original anxiety items found three factors and an alpha of .91. The second EFA was conducted with the 9 selected anxiety items and found two factors and an alpha of .86. Those nine anxiety items captured 93% of the variance of the original 18 items; therefore, those items were used in the current investigation.

On the ECRS, participants are asked to rate the degree which they agree/disagree with each item on a scale of 1 to 5, '1' being "strongly disagree" and '5' being "strongly agree." Nine of the items are designed to tap into participants' level of anxiety in romantic relationships. An example of an anxiety item is: "I often wish that my partners' feelings for me were as significant as my feelings for him/her." Nine of the items are designed to tap into participants' level of avoidance in romantic relationships. An

example of an avoidance item is: "I am nervous when romantic partners get too close to me." Responses to anxious and avoidant items were summed and averaged to obtain participants' means across each dimension, with higher scores indicating higher levels of anxiety and avoidance. In the current sample, the reliabilities for the two observed composites were .79 for avoidance and .78 for anxiety.

Assessment of identity style. The Identity Style Inventory (ISI) was used to assess participants' identity styles (Berzonsky, 1992). The complete ISI contains 40 items designed to assess each of Berzonsky's (1990) identity styles: information-oriented, normative-oriented, and diffuse-oriented, as well as identity commitment. However, the commitment subscale was not used in the current investigation. Based on exploratory factor analyses with a convenient sample of college students, we selected six items from each subscale for a total of eighteen items. For the original 11 items on the information-oriented subscale, an EFA found four factors and an alpha of .63. A second EFA with the 6 selected information items found one factor and an alpha of .65, and those six items captured 62% of the variance of the original 11 items. For the original 9 items on the normative-oriented subscale, an EFA found three factors and an alpha .69. A second EFA with the 6 selected normative items found two factors and an alpha of .74, and those six items captured 86% of the variance of the original 9 items. For the original 10 items on the diffuse-oriented subscale, an EFA found two factors and an alpha of .80. A second EFA with the 6 selected diffuse items found two factors and an alpha of. 74, and those 6 items captured 88% of the variance of the original 10 items.

On the ISI, participants are asked to rate the degree to which they agree/disagree that each item describes them on a scale of 1 to 5, ‘1' being “strongly disagree” and ‘5' being “strongly agree.” Respectively, a sample item of the information-oriented style is: “I've spent a great deal of time thinking seriously about what I should do with my life,” for the normative style: “I prefer to deal with situations where I can rely on social norms and standards,” and for the diffuse-oriented style “I'm not really thinking about my future now; it's still a long way off.” Responses were summed and averaged for each subscale to obtain participants’ scores for information-, normative-, and diffuse-orientation. In the current sample, the reliabilities for the three observed composites were .71 for informational style, .67 for normative style, and .69 for diffuse style.

Assessment of interpersonal competence. The Interpersonal Competence Questionnaire (ICQ) (Buhrmester et al., 1988) was used to assess participants’ interpersonal competence. The original ICQ contains 40 items, but based on exploratory factor analyses 25 items (i.e., five from each subscale) were selected for the following investigation. An EFA was conducted with the original 8 items of the conflict management subscale and two factors and alpha of .79 were found. A second EFA was conducted with the 5 selected conflict management items and one factor and an alpha of .74 were found. Those five conflict management items captured 85% of the 8 original ICQ items and therefore were chosen for use in the current investigation. Exploratory factor analyses were conducted for each of the four remaining subscales (i.e., initiation, negative assertion, emotional support, and self-disclosure) and five items from each were

selected based on acceptable reliabilities. See Appendix D for details on the remaining subscales.

On the ICQ, participants are asked to rate their perceived competence on each item on a scale of 1 to 5, '1' being "poor at this" and '5' being "excellent at this." The ICQ is designed to measure perceived interpersonal competence across five relationship domains: initiation (e.g., "Finding and suggesting things to do with new people who you find interesting and attractive"), negative assertion (e.g., "Telling a close companion you don't like a certain way s/he has been treating you"), conflict management (e.g., Being able to put begrudging (resentful) feelings aside when having a fight with a close companion"), emotional support (e.g., Helping a close companion get to the heart of a problem s/he is experiencing"), and disclosure (e.g., Letting a new companion get to know the "real" you"). Responses were summed and averaged to obtain participants' scores for each subscale. In the current analyses, the reliabilities for the ICQ subscales were .81 for initiation, .82 for negative assertion, .74 for self-disclosure, .83 for emotional support, and .77 for conflict management.

IV. RESULTS

Pearson correlations and structural equation modeling (SEM) were used to test the hypothesized associations among the variables. It was predicted that attachment styles and interpersonal competence would be associated in the following ways: (a) a significant, negative association between anxiety and interpersonal competence, (b) a significant, negative association between avoidance and interpersonal competence, and (c) the interaction between anxiety and avoidance would make a unique, significant contribution to competence and that the highest competence would be found for those who were low in both anxiety and avoidance. In regard to the association between identity styles and interpersonal competence, it was predicted that there would be: (a) a significant, positive association between information-orientation and interpersonal competence, (b) a significant, positive association between normative-orientation and interpersonal competence, and (c) a significant, negative association between diffuse-orientation and interpersonal competence. Finally, it was predicted that identity styles would mediate the association between attachment styles and interpersonal competence, while an alternative model predicted that attachment styles would mediate the association between identity styles and interpersonal competence.

Sample Descriptive Statistics

To ensure the quality of the data, the reliability, mean, standard deviation, range, skewness, and kurtosis were examined for each scale (see Table 2). Internal consistencies

were acceptable and all values were in a reasonable range with expected means and standard deviations.

Table 2. *Descriptive Statistics (Alphas, Means, Standard Deviations, Range, Skewness, and Kurtosis) for All Aggregate Scales for Whole Sample (N=1,356)*

Variable	Cronbach Alpha	Mean	SD	Range	Skewness	Kurtosis
ISI						
Information	.71	4.02	.64	1 - 5	-.66	.46
Normative	.67	3.70	.68	1 - 5	-.50	.37
Diffuse	.69	3.06	.80	1 - 5	-.01	-.34
AAS				1 - 5		
Avoidance	.79	2.27	.76	1 - 5	.22	-.44
Anxiety	.78	2.73	.80	1 - 5	.04	-.49
ICQ				1 - 5		
Initiation	.81	3.27	.93	1 - 5	-.28	-.32
Negative Assertion	.82	3.80	.86	1 - 5	-.54	-.23
Self-Disclosure	.74	3.70	.79	1 - 5	-.47	-.05
Emotional Support	.83	4.08	.77	1 - 5	-.84	.53
Conflict Management	.77	3.58	.79	1 - 5	-.34	.15

Correlations

Pearson correlations were conducted for the whole sample, and all of the hypothesized associations were at least partially supported (see Table 3). As predicted there was a significant, negative association between avoidance and all five of the interpersonal competence subscales. There was a significant, negative association between anxiety and four of the interpersonal competence subscales. The exception was the emotional support subscale, which was not significantly associated with anxiety. As predicted there was a significant, positive association between information-orientation and all of the interpersonal competence subscales, as well as a significant, positive association between normative-orientation and all of the interpersonal competence subscales. Finally, the diffuse-orientation was significantly, negative associated with two

of the five interpersonal competence subscales: emotional support and conflict management.

Table 3. *Correlations for Whole Sample (N = 1,356)*

	1	2	3	4	5	6	7	8	9	10
1. Information	1									
2. Normative	.49***	1								
3. Diffuse	.09***	.17***	1							
4. Avoidance	.14***	-.07**	.16***	1						
5. Anxiety	-.03	-.05	.20***	.28***	1					
6. Initiation	.15***	.08**	.05	-.25***	-.07**	1				
7. Neg. Assertion	.26***	.12***	-.05	-.32***	-.09***	.48***	1			
8. Self-Disclosure	.28***	.19***	-.05	-.44***	-.07**	.58***	.60***	1		
9. Emot. Support	.36***	.13***	-.13***	-.30***	-.04	.32***	.53***	.66***	1	
10. Conflict Mgt.	.32***	.14***	-.09***	-.25***	-10***	.40***	.47***	.58***	.64***	1

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

Confirmatory Factor Analysis of Interpersonal Competence

Missing data were managed in all SEM models using full information maximum likelihood (FIML). Before testing the hypothesized models, a confirmatory factor analysis was conducted for the latent variable of interpersonal competence. Several indicators of model fit were used. First, we assessed the significance of the $\chi^{2,}$ and a non-significant χ^2 is one indicator of good fit. We also assessed the ratio of the χ^2 to degrees of freedom (CMIN/DF), and it is considered an acceptable fit if the ratio is less than 5 (CMIN/DF < 2 or 3 indicates a good fit) (Tabacknick & Fidell, 2001). Then, we assessed the TLI (Tucker-Lewis Index) and the CFI (Comparative Fit Index). TLI is an indicator of the fit between the hypothesized model to the null (or independence) model, and it is a computation of the ratios of the hypothesized model chi square, null chi square, and the degrees of freedom. The TLI is a good indicator of fit because it is relatively unaffected by sample size (Bollen, 1989). The CFI is a good indicator because it is a non-centrality based index which assesses fit by testing whether the null hypothesis is true ($\chi^2 = 0$) (Bentler, 1990). Researchers suggest (Bentler, 1990; Bollen, 1989) that acceptable fit

values for TLI and CFI are between .90 and .95, and good fit is .95 or greater. Finally, we assessed the root mean square error of approximation (RMSEA). RMSEA is used to assess the fit between the model versus a saturated model. Acceptable fit values for RMSEA < .08 and a good fit value for RMSEA < .05, and it is desired for the RMSEA to have a nonsignificant p value (Byrne, 2001; Browne & Cudeck, 1993).

The measurement model was tested using the full sample (N=1,356). The model fit the data poorly. The significant chi-square (χ^2 (5) = 225.33, p = .001), CMIN/DF ratio (45.07), and RMSEA (.18, p = .001) were all indicators of poor fit. However, the TLI (.85) and CFI (.93) indicated better fit, and the factors loaded as expected. Therefore, modification indices were assessed.

AMOS provides a modification index (M.I.) for covariances that reflect the predicted decrease in the chi-square if any two error terms are allowed to correlate. One arbitrary rule of thumb is to consider correlating paths between two error terms if a modification index exceeds 100 (Byrne, 2001). However, another common method is to correlate the error terms with the largest MI, then see the effect as measured by the chi-square fit index, if it makes substantive sense to do so (Meyers, Gamst, & Guarino, 2006). In any case, only correlations between error terms should be estimated. Correlated error terms signify unique variance between the associated factors (i.e., they measure something in common other than the latent constructs in the model).

In the current analyses, the largest MI was 121.26, which was for e1 (error for initiation) and e4 (error for emotional support). These errors were correlated and significant negative correlation was revealed (r= -35, p=.001). While correlating these

two error terms improved model fit, fit was still poor. Therefore, the next largest MI was assessed. The value of the next largest MI was 24.45, which was for e4 (error for emotional support) and e5 (error for conflict management). These errors were correlated and significant positive correlation was revealed (r=.26, p=.001). It made substantive sense to correlate these error terms, because these variables were the most highly correlated of all of the subscales (see correlations in Table 3). Also, in their creation of the Interpersonal Competence Questionnaire, Buhrmester and colleagues (Buhrmester, 1990; Buhrmester et al., 1988) found that these subscales were significantly associated with one another. Also, the association between these error terms may represent several other shared unknowns (Meyers et al., 2006). For example, they may share a common method of measurement error (e.g., response sets by participants) or their association may be related to another construct unrelated to the model being analyzed.

Allowing these errors to correlate decreased the chi-square by 216 points, and the model fit the data well. The chi-square was still significant (χ^2 (3) = 8.62, p = .04). However, all other fit indicators were acceptable or good. The CMIN/DF (2.87) indicated acceptable fit. The TLI (.99), CFI (.99), and RMSEA (.04, p = .72) all indicated good fit (see Figure 6). See Tables 4 and 5 for a comparison of the fit indices and factor loadings before and after the model was modified.

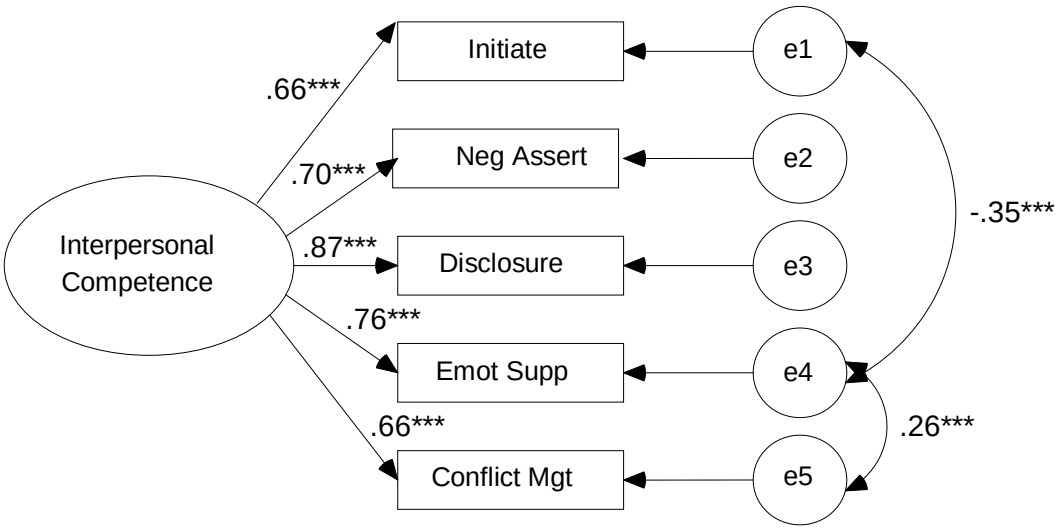

Figure 6. *Measurement Model for the Whole Sample (N=1,356) of the Latent Construct Interpersonal Competence After Modifications*

Table 4. *Fit Indices for Interpersonal Competence Before and After Modifications*

	Model Before Modifications	Model After Modifications
Chi-square	225.33	8.62
p-value	.001	.04
Df	5	3
TLI	.85	.99
CFI	.93	.99
RMSEA	.18	.04
p-value	.001	.72
CMIN/DF	45.07	2.87

Table 5. *Factor Loadings for the Measurement Model of Interpersonal Competence*

	Factor Loadings Before Modifications	Factor Loadings After Modifications
Initiation	.60***	.66***
Negative Assertion	.70***	.70***
Self-Disclosure	.87***	.87***
Emotional Support	.76***	.76***
Conflict Management	.71***	.66***

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

Correlations between the Predictors and Interpersonal Competence

The predictors (i.e., avoidance, anxiety, information-, normative-, and diffuse-orientations) were added to the final CFA model of interpersonal competence, and the correlations between the predictors and the latent construct of interpersonal competence were assessed (see Table 6). As predicted there was a significant, negative association between avoidance and interpersonal competence (r= -.45, p=.001), and there was a significant, negative association between anxiety and interpersonal competence (r= -.09, p=.002). As predicted there was a significant, positive association between information-orientation and interpersonal competence (r=.35, p=.001) as well as a significant, positive association between normative-orientation and interpersonal competence (r=.18, p=.001). The hypothesis that there would be a significant, negative association between diffuse-orientation and interpersonal competence was also supported (r= -.07, p=.03).

Table 6. *Correlations between Predictors and Latent Construct of Interpersonal Competence for Whole Sample (N = 1,356)*

	1	2	3	4	5	6
1. Information	1					
2. Normative	.49***	1				
3. Diffuse	.09***	.17***	1			
4. Avoidance	.14***	-.07**	.16***	1		
5. Anxiety	-.03	-.05	.20***	.28***	1	
6. Interpersonal Competence	.35***	.18***	-.07*	-.45***	-.09**	1

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

Testing of Main Effects Hypotheses: Attachment Styles as Predictors of IC

The next step was to test our main effects hypotheses. First, we tested avoidance and anxiety as predictors of interpersonal competence. The structural model was tested using the full sample (N=1,356) without modifications to the predictors. The model fit the data poorly. The chi-square (χ^2 (12) = 172.62, p = .001), CMIN/DF ratio (14.64), and RMSEA (.10, p = .001) were all indicators of poor fit. However, the TLI (.92) and CFI

(.95) indicated better fit, and the factors loaded as expected. Therefore, modification indices were assessed, and the MI between the observed variables of avoidance and anxiety was 108.98. It made substantive sense to correlate these variables, because they were significantly correlated in our dataset (r=.28, p=.001) and they have also been consistently associated in the literature (Bartholomew, 1990; Bartholomew & Horowitz, 1991).

Allowing avoidance and anxiety to correlate decreased the chi-square by 110.61 points and the model fit the data well. The chi-square was still significant (χ^2 (11) = 62.01, p = .001). However, the CMIN/DF (5.64), TLI (.97), CFI (.99), and RMSEA (.06, p = .15) indicated adequate fit (see Figure 7). See Tables 7 and 8 for a comparison of the fit indices and path coefficients before and after the model was modified.

The association between anxiety and interpersonal competence was not significant; therefore, our hypothesis that there would be a significant, negative association between anxiety and interpersonal competence was not supported. However, our hypothesis that there would be a significant, negative association between avoidance and interpersonal competence was supported (-.48, p=.001). This means that for every one standard deviation increase in avoidance, interpersonal competence decreased by nearly half (-.48) a standard deviation. The squared multiple correlations provide information about how much variance the predictors account for in the outcome variable. In this analysis the estimate was .205, which means avoidance and anxiety accounted for 20.5% of the variance in interpersonal competence.

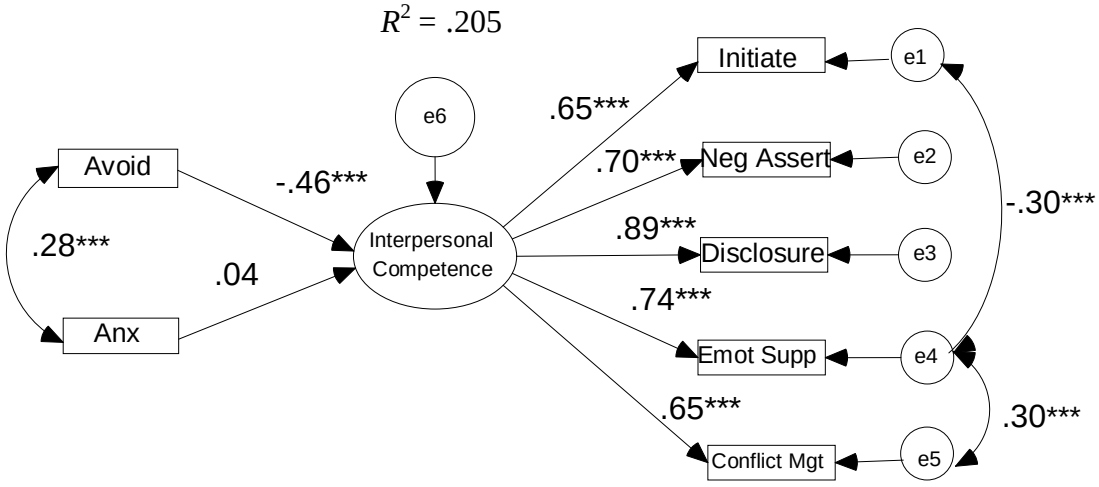

Figure 7. *Structural Model of Avoidance and Anxiety as Predictors of Interpersonal Competence After Modifications with Standardized Coefficients Presented*

Table 7. *Fit Indices for Anxiety and Avoidance as Predictors of Interpersonal Competence Before and After Modifications were Made*

	Model Before Modifications	Model After Modifications
Chi-square	175.62	62.01
p-value	.001	.001
Df	12	11
TLI	.92	.97
CFI	.95	.99
RMSEA	.10	.06
p-value	.001	.15
CMIN/DF	14.64	5.64

Table 8. *Path Coefficients for Anxiety and Avoidance as Predictors of Interpersonal Competence Before and After Modifications were Made*

	Path Coefficients Before Modifications	Path Coefficients After Modifications
Avoidance	-.46***	-.46***
Anxiety	.04	.04

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

Testing of Interaction Effect Hypothesis

The next step in the analyses was to test our interaction hypothesis. It was predicted that the interaction between anxiety and avoidance would make a unique, significant contribution to competence after controlling for the main effects of anxiety

and avoidance. The first step in testing for an interaction effect in SEM is fitting the model with only the main effects variables and assessing fit. Then, the interaction term is added to the model and fit is reassessed. Finally, the path from the interaction term to the outcome variable is constrained to zero. If the unconstrained model provides better fit than the constrained model, then it implies that the interaction is a significant predictor of the outcome after controlling for the main effects of those variables. Kline and Dunn (2000) suggest that all multiplicative interaction terms be created from centered variables in order to reduce collinearity between the main effect variables and their interaction terms. However, other researchers suggest that variables do not need to be centered before creating interaction terms. Therefore, we conducted two analyses.

In the first analysis, the anxiety and avoidance variables were centered by subtracting the mean from each value before using it to create the interaction term (avoidance*anxiety). Since we had already fit the model using only the main effects of avoidance and anxiety and assessed model fit (see Figure 7, Table 7 and Table 8), we added the interaction term (i.e., avoidance*anxiety) to the model. Avoidance and anxiety continued to be significantly correlated (r=.28, p=.001). There was a small, significant correlation between anxiety and the interaction term (avoidance*anxiety) (r=.08, p=.006), while the correlation between avoidance and the interaction term was non-significant (r=-.01, p=.70). The measurement model was tested using the full sample (N=1,356) using the modifications from the main effects model. The model fit the data well. The chi-square was significant (χ^2 (15) = 66.45, p = .001); however, all other fit indicators were acceptable or good. The CMIN/DF (4.43), TLI (.97), CFI (.99), and RMSEA (.05, p =

.46) were all indicators of good fit (see Figure 8). The squared multiple correlations estimate was .213, which means that anxiety, avoidance, and the interaction between avoidance and anxiety accounted for 21.3% of the variance in interpersonal competence. Therefore, the interaction of avoidance and anxiety added an additional 0.8% of variance unaccounted for by the main effects of avoidance and anxiety.

In the second analysis, the anxiety and avoidance variables were not centered. The measurement model was tested using the full sample (N=1,356) using the modifications from the main effects model (see Figure 9). All fit statistics were exactly the same as the centered data. However, the path coefficients were substantially different. The path coefficients for the non-centered data were highly inflated and difficult to interpret in comparison to the path coefficients for the centered data, which were significantly more consistent with the path coefficients found in the main effects model. For a comparison of the fit indices and path coefficients with variables centered and without variables centered see Tables 9 and 10.

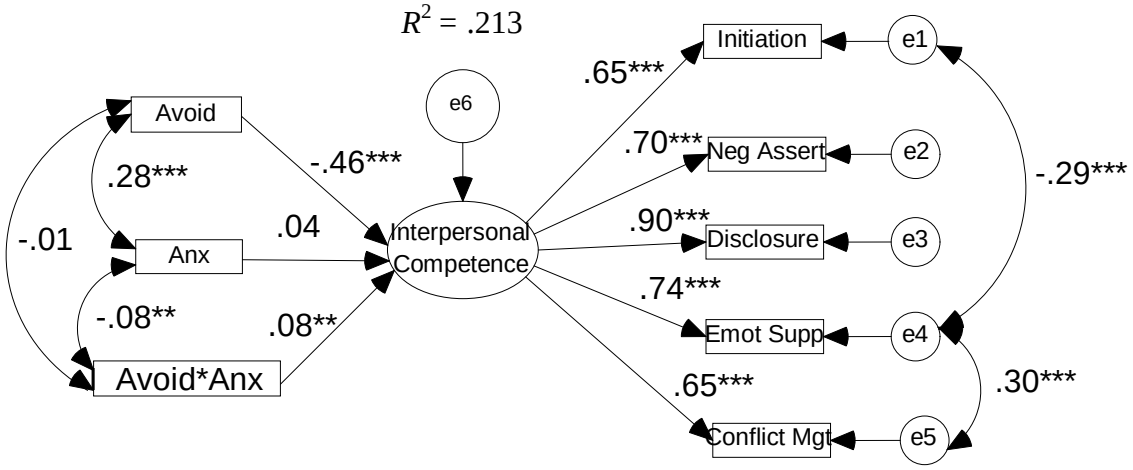

Figure 8. *Structural Model of Interaction of Avoidance and Anxiety as a Predictor of Interpersonal Competence with Standardized Coefficients Presented (Variables Centered)*

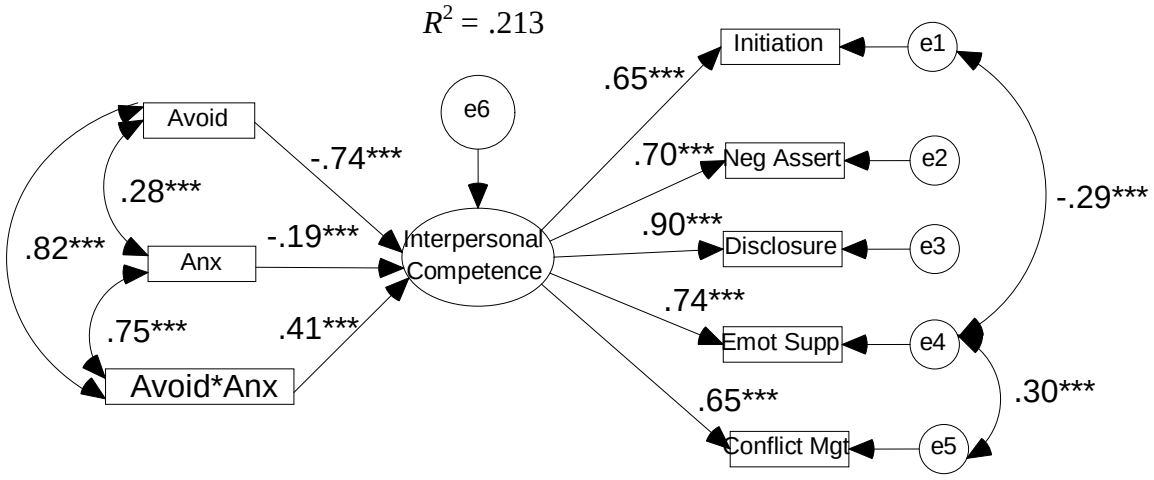

Figure 9. *Structural Model of Interaction of Avoidance and Anxiety as a Predictor of Interpersonal Competence with Standardized Coefficients Presented (Variables not Centered)*

Table 9. *Comparison of Fit Indices for the Interaction of Avoidance and Anxiety With and Without Variables Centered*

	Model With Centered Variables	Model Without Variables Centered
Chi-square	66.45	66.45
p-value	.001	.001
Df	15	15
TLI	.97	.97
CFI	.99	.99
RMSEA	.05	.05
p-value	.46	.46
CMIN/DF	4.43	4.43

Table 10. *Comparison of Path Coefficients for the Interaction of Avoidance and Anxiety With and Without Variables Centered*

	Path Coefficients Variables Centered	Path Coefficients Without Variables Centered
Avoidance	-.46***	-.74***
Anxiety	.04	-.19**
Avoidance*Anxiety	.08**	.41***

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

Once the models were fit, we assessed the effects of the interaction in the model by evaluating the interaction effect size (IES). IES an indicator of the magnitude of an

interaction effect, which is the effect of adding an interaction to the model. In SEM, IES corresponds to the chi-square, or goodness of fit. The better the model fit, the smaller the chi-square. Therefore, IES is the degree to which the chi-square is reduced after adding an interaction term to the model, thereby creating better model fit. In order to determine if one model provided a significantly better explanation of the data, the fit indices of the unconstrained and constrained models were compared (Meyers et al., 2006). The difference between the unconstrained model (χ^2 =66.45; *df* = 15) and constrained model (χ^2 = 76.52; *df* = 16) was a chi-square of 10.07 (*df*=1), which was above the chi-square critical value of 3.84 ($p < .05$). Therefore, the difference between chi-squares was large enough to be statistically significant, which indicated that our hypothesis that the interaction between anxiety and avoidance would make a unique, significant contribution to competence after controlling for the main effects of anxiety and avoidance was supported. For a comparison of the fit statistics between the unconstrained and constrained model see Table 11.

Table 11. *Comparison of Fit Indices Between the Unconstrained and Constrained Models of the Interaction Model of Avoidance*Anxiety*

	Unconstrained Model	Constrained Model
Chi-square	66.45	76.52
p-value	.001	.001
Df	15	16
TLI	.97	.97
CFI	.99	.98
RMSEA	.05	.05
p-value	.46	.33
CMIN/DF	4.43	4.78

Interpretation of interaction effects. Since the interaction was significant, additional analyses were required in order to interpret how the interaction between

anxiety and avoidance impacted interpersonal competence. Therefore, the interaction effects of anxiety and avoidance on interpersonal competence were examined using the methods outlined by Jaccard, Turrisi, and Wan (1990) using a two-way interaction table. See Table 12 for the estimated values.

In Table 12, the slopes are the unstandardized coefficients for the paths in the model with the estimated interaction term. The high and low values of the moderators were calculated using the means and standard deviations of avoidance and anxiety. The slope was calculated with the following formula Slope:b@X =bi Modified Variable + (bProduct Term * XValue of Moderator). The standard error of the slope was calculated using the following formula: Standard Error of Slope b @X = (bM odified Variable + (XValue of Moderator) * bProduct Term) + (2 * X * bM VbPT). Finally, the T-value was calculated using the following formula: T-value = b @X / S.E. of b @X i.

The hypothesis that low levels of both anxiety and avoidance would be most conducive to interpersonal competence was supported. In the first set of four rows in Table 12, anxiety is treated as the moderator of avoidance in the prediction of interpersonal competence. The high and low values for anxiety are 1 and 2 standard deviations above and below its centered mean (i.e., zero). The largest slope in the first four rows for anxiety is 2 standard deviations below the mean. With scores approaching and exceeding the mean, the slope for avoidance grows smaller with each standard deviation increment; however, it remains significantly negative at each test point (see the t-values in the column at the far right in Table 12).

In the bottom four rows of Table 12, avoidance is treated as the moderator of anxiety in the prediction of interpersonal competence. The findings show that at scores 1 and 2 standard deviations below the mean of avoidance, the association between anxiety and interpersonal competence were not significant (critical ratios below 1.95), but when avoidance scores were above the mean by 1 or 2 standard deviations, participants' interpersonal competence actually benefited from higher anxiety scores.

Table 12. *Moderator Effects of Anxiety and Avoidance on Interpersonal Competence (with centered data) Two-way Interaction Interpretation Table with Nonstandardized Coefficients Presented*

Predicting Interpersonal Competence						Standard error of slope				t-value
Left is Moderator Right is moderated		Slope of Modified Variable	Slope of Product Term	hi & lo value for Mod-erator	Slope: ib@X	Var(bi) Var of Slope of Modified Variable	jVar(b) Var of Slope of Product Term	i jCov (b ,b) Covariance of Slopes	Standard Error	b@X S.E.
Anx	Avoid	-0.36895	0.07900	-1.61	-0.4961	.00060477	.00062321	-.00003522	0.0483074	-10.27
Anx	Avoid	-0.36895	0.07900	-.80696	-0.4327	.00060477	.00062321	-.00003522	0.0326717	-13.24
Anx	Avoid	-0.36895	0.07900	.80696	-0.3052	.00060477	.00062321	-.00003522	0.0308829	-9.883
Anx	Avoid	-0.36895	0.07900	1.61	-0.2418	.00060477	.00062321	-.00003522	0.0458997	-5.267
Avoid	Anx	0.03706	0.07900	-1.28	-0.064	.00041794	.00062321	.00004081	0.0365313	-1.754
Avoid	Anx	0.03706	0.07900	-.76285	-0.023	.00041794	.00062321	.00004081	0.026802	-0.866
Avoid	Anx	0.03706	0.07900	.76285	0.0973	.00041794	.00062321	.00004081	0.0290323	3.3523
Avoid	Anx	0.03706	0.07900	1.526	0.1576	.00041794	.00062321	.00004081	0.0446514	3.5299

Slope b @X = bi M odified V ariab le + (bProdu ct Term * XValue of Moderator)
Standard Error of Slope b @X = (bM odified Variable + (XV alue of Moderato r) * bProdu ct Term) + (2 * X * bM VbPT)
T-value = b @X / S.E. of b @X i

Testing of Main Effects Hypotheses: Identity Styles as Predictors of IC

Next we tested the three identity styles (i.e., information-, normative-, and diffuse-orientation) as predictors of interpersonal competence. The measurement model was tested using the full sample (N=1,356) without modifications to the predictors. The model fit the data poorly. The chi-square (χ^2 (18) = 540.17, p = .001), CMIN/DF ratio

(30.01), TLI (.77), CFI (.86), and RMSEA (.15, p = .001) were all indicators of poor fit. Therefore, we assessed the modification indices, and the MI between the observed variables of information- and normative-orientation was 327.69. It made substantive sense to correlate these variables, because they were significantly correlated in our dataset (r=.49, p=.001) and they have also been consistently associated in the literature (Berzonsky, 1990).

Allowing these errors to correlate decreased the chi-square by 375 points and the model fit the data well. The chi-square was still significant (χ^2 (17) = 165.03, p = .001) and CMIN/DF (9.71) was still large. However, the TLI (.93), CFI (.96), and RMSEA (.08, p = .09) indicated adequate fit (see Figure 10). See Tables 13 and 14 for a comparison of the fit indices and path coefficients before and after the model was modified.

Two of our hypotheses were supported. There was a significant, positive association between information-orientation and interpersonal competence (.36, p=.001), and there was a significant, negative association between diffuse-orientation and interpersonal competence (-.10, p=.001). The association between normative-orientation and interpersonal competence was not significant. The squared multiple correlations estimate was .146, which means that identity styles accounted for 14.6% of the variance in interpersonal competence.

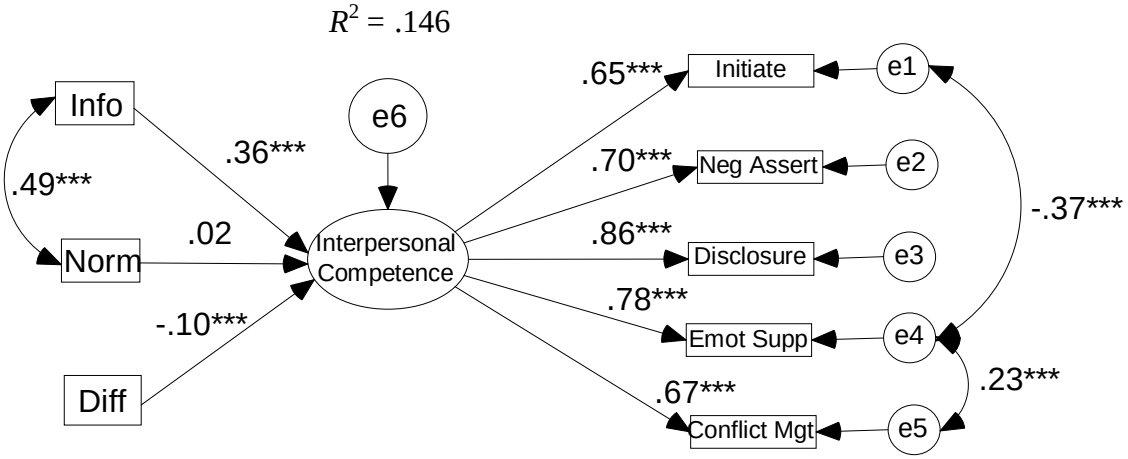

Figure 10. *Structural Model of Information-, Normative-, and Diffuse-Orientations as Predictors of Interpersonal Competence. After Modifications with Standardized Coefficients Presented*

Table 13. *Fit Indices for Information-, Normative-, and Diffuse-Orientations as Predictors of Interpersonal Competence Before and After Modifications were Made*

	Model Before Modifications	Model After Modifications
Chi-square	540.17	165.03
p-value	.001	.001
Df	18	17
TLI	.77	.93
CFI	.86	.96
RMSEA	.15	.08
p-value	.001	.09
CMIN/DF	30.01	9.71

Table 14. *Path Coefficients for Information-, Normative-, and Diffuse-Orientations as Predictors of Interpersonal Competence Before and After Modifications were Made*

	Path Coefficients Before Modifications	Path Coefficients After Modifications
Information	.36***	.36***
Normative	.02	.02
Diffuse	-.10***	-.10***

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

Testing the Hypothesized Mediation Model

Next, we tested our mediation hypotheses. In order to test for mediation, several steps are necessary (Holmbeck, 1997). First the direct effect must be established (A→C)

(Holmbeck, 1997). Assuming adequate fit, then the fit of the overall model is tested (A→B→C), and path coefficients are examined for significance. In the final step, the mediational effect is tested by evaluating the fit of the overall model under two conditions: (a) when the path from the predictor to the outcome (A→C) is constrained to zero and (b) when the path is not constrained to zero. "If there is a mediational effect, the addition of the A → C path to the constrained model should not improve the fit" (Holmbeck, 1997, p. 602).

Since the direct effect of the model had already been established (attachment styles → interpersonal competence), the mediators were added to the model (i.e., information-, normative-, and diffuse orientations) and the overall fit of the model was assessed. The chi-square was significant (χ^2 (29) = 245.77, p = .001) and CMIN/DF (8.48) was large. However, the TLI (.90), CFI (.95), and RMSEA (.07, p = .001) indicated adequate fit (see Figure 11). So, next we assessed the path coefficients.

The path coefficient from the interaction term (avoidance*anxiety) to interpersonal competence did not change in weight or significance (.08, p=.006) when the mediators were added to the model. The path coefficient from anxiety to interpersonal competence increased slightly in weight and significance when the mediators were added to the model (.05, p=.05). However, the path coefficient from avoidance to interpersonal competence decreased in weight when the mediators were added to the model (path decreased from -.46, p < .001 to -.41, p = .001), suggesting partial mediation by identity styles. In the model, the path from information-orientation to interpersonal competence (.29, p=. 001) was significant, while the paths from normative-orientation to interpersonal

competence (.02, p=.541) and from diffuse-orientation to interpersonal competence (-.04, p=.157) were non-significant. By definition, therefore, mediation of the attachment constructs by the normative and diffuse identity styles was ruled out in this model. See Table 15 for a comparison of path coefficients for avoidance and anxiety before and after identity styles were added to the model.

In order to further test for mediation, the paths from avoidance, anxiety, and the interaction term (avoidance*anxiety) to interpersonal competence were constrained to zero. The $\Delta\chi^2$ test showed that the unconstrained model (χ^2 = 245.77; df = 29) fit significantly better than the constrained model (χ^2 = 479.41; df = 32) (see Table 16). Therefore, although results did not support full mediation (critical χ^2 = 7.82; $\Delta\chi^2$ = 250.38, df = 3), evidence of partial mediation was found because the path from avoidance to interpersonal competence decreased in magnitude when identity styles were added to the model. Because the path from information-orientation to interpersonal competence was the only one significant among the style constructs, the association between avoidance and interpersonal competence was partially mediated only by the informational style. The squared multiple correlation estimate was .298, which means that this meditational model accounted for 29.8% of the variance in interpersonal competence.

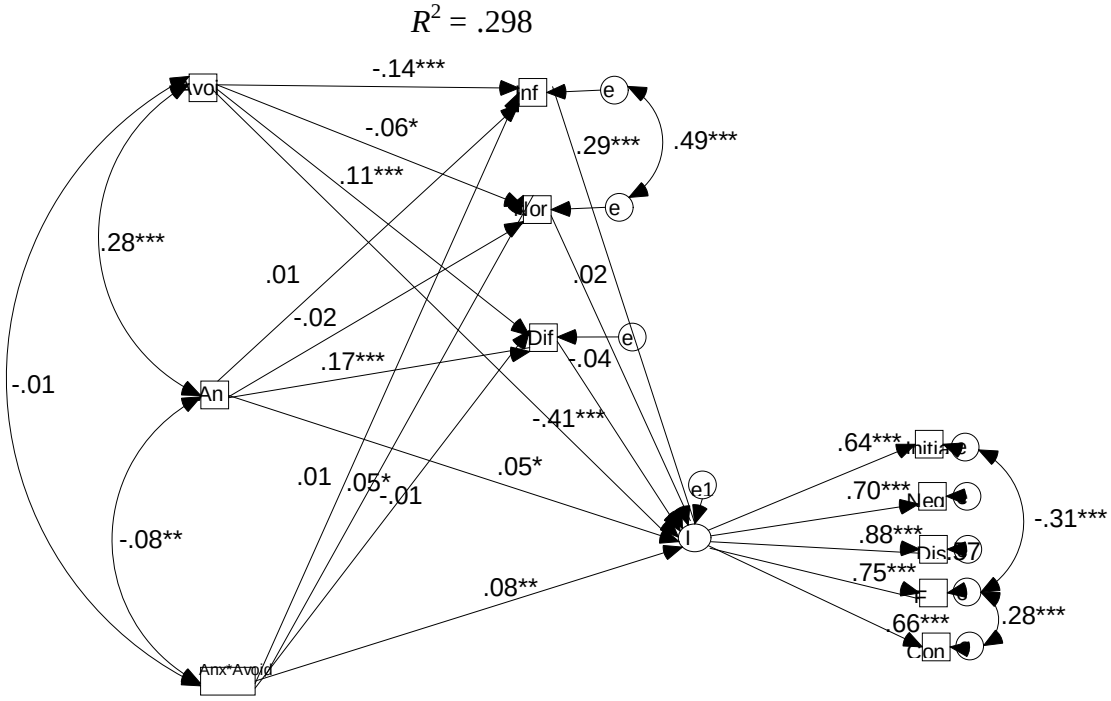

Figure 11. *Structural Model of Mediation: Attachment Styles as Predictor and Identity Styles as Mediator of Interpersonal Competence with Standardized Coefficients Presented*

Table 15. *Comparison of the Path Coefficients for Avoidance and Anxiety Before and After Identity Styles were Added to the Model*

	Before Identity Styles Added to Model	After Identity Styles Added to Model
Avoidance	-.46***	-.41***
Anxiety	.04	.05*
Avoidance*Anxiety	.08**	.08**

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

Table 16. *Comparison of Fit Indices for the Constrained Versus the Unconstrained Model for the Hypothesized Mediation*

	Unconstrained Model	Constrained Model
Chi-square	245.77	479.41
p-value	.001	.001
Df	29	32
TLI	.90	.82
CFI	.95	.89
RMSEA	.07	.10
p-value	.001	.001
CMIN/DF	8.48	14.98

Although the effect of the normative style on interpersonal competence was not significant, because the path between the interaction term (avoidance*anxiety) and normative-orientation was significant, additional analyses were undertaken in order to interpret the association between these two variables. The interaction effects of anxiety and avoidance were examined using the methods outlined by Jaccard, Turrisi, and Wan (1990) using a two-way interaction table. See Table 17 for the estimated values.

In the first set of four rows in Table 17, anxiety was treated as the moderator of avoidance in the prediction of normative-orientation. The high and low values for anxiety were 1 and 2 standard deviations above and below its centered mean (i.e., zero). The largest slope for avoidance in the first four rows was seen when anxiety was 2 standard deviations below its mean. The slope was negative indicating that the association between avoidance scores and normative styles was most negative at the lowest levels of anxiety. In terms of the attachment construct in general, then, the most normative scores were reported by the most secure adolescents (high normative style linked to low anxiety and low avoidance). With anxiety scores approaching and exceeding the mean, the slope for avoidance grew smaller with each standard deviation increment until it became non-significant at levels of anxiety well above its mean (see the t-values in the column at the far right in Table 17).

In the bottom four rows of Table 17, avoidance was treated as the moderator of anxiety in the prediction of normative-orientation. The findings replicate those in the previous paragraph showing that the strongest association between anxiety and normative-orientation was found at the lowest levels of avoidance, and that, with

avoidance scores 1 and 2 standard deviations above the mean, the association between anxiety and normative style was not significant (critical ratios below 1.95). Again this indicates a link between a greater sense of security and the normative style.

Table 17. *Association between the Interaction of Avoidance*Anxiety and Normative-Orientation (Two-way Interaction Interpretation Table) with Nonstandardized Coefficients Presented*

Estimates of Moderated Slopes @ Diff Levels of Moderator						Standard error of slope				t-value
Moderator=V1 Moderated=V2 V1	V2	b of V2	b of V1*V2	V1 Values	b of V2 @ V1	Var of slope of V2	Var of slope of V1*V2	Cov of slopess V2 & V1*V2	Standard Error	bi@X / S.E.
Anx	Avoid	-.056	.058	-1.6000	-0.1488	.00064824	.00086461	-.00000831	0.053742	-2.77
		-.056	.058	-0.8000	-0.1024	.00064824	.00086461	-.00000831	0.034855	-2.94
		-.056	.058	0.8000	-0.0096	.00064824	.00086461	-.00000831	0.034472	-0.28
		-.056	.058	1.6000	0.0368	.00064824	.00086461	-.00000831	0.053245	0.69
Avoid	Anx	-.021	.058	-1.5200	-0.109	.00058252	.00086461	.00005331	0.049174	-2.22
		-.021	.058	-0.7600	-0.0651	.00058252	.00086461	.00005331	0.031637	-2.06
		-.021	.058	0.7600	0.0231	.00058252	.00086461	.00005331	0.034102	0.68
		-.021	.058	1.5200	0.0672	.00058252	.00086461	.00005331	0.052366	1.28

Slope b@X = bi M odified V ariab le + (bProdu ct Term * XValue of Moderator)
Standard Error of Slope b @X = (bM odified Variable + ((XV alue of Moderato r) * bProdu ct Term) + (2 * X * bM VbPT)
T-value = b @X / S.E. of b @X i

Testing the Alternative Mediation Model

Because the data were not longitudinal, and no causal argument can justifiably be applied to the ordering of the variables in the previous mediation test, an alternative mediation model was tested that reversed the order of mediation. Rather than identity style mediating attachment constructs, the reverse order was examined. Since direct effect of the model had already been established (identity styles → interpersonal competence), the mediators were added to the model (i.e., avoidance, anxiety, and their interaction) and the overall fit of the model was assessed. The chi-square was significant

(χ^2 (28) = 201.23, p = .001) and CMIN/DF (7.19) was large. However, the TLI (.92), CFI (.96), and RMSEA (.07, p = .001) indicated adequate fit (see Figure 12).

Next the path coefficients were assessed. Only two paths were open to mediation in this model, those for the information and diffuse orientations (because they were the only ones significant in their direct effects). For the information style, the path decreased from .38, p < .001 to .26, p < .001 when the mediators were added to the model, suggesting partial mediation through the avoidance construct, because that was the only attachment construct significantly linked to interpersonal competence in Figure 12. For the diffuse-orientation, the path to interpersonal competence decreased in weight and significance (path decreased from -.13, p < .001 to -.04 p = .35) when the mediators were added to the model (suggesting full mediation, again by the avoidance construct). See Tables 18 and 19 for a comparison of path coefficients and fit indices for information-, normative-, and diffuse-orientations before and after attachment styles were added to the model.

Evidence for full mediation was supported for the diffuse-orientation to interpersonal competence path because it went from significant to non-significant with the addition of the attachment constructs; therefore there was no need to constrain this path to zero because mediation had already been demonstrated. In order to complete the test for mediation, the path from information-orientation to interpersonal competence was constrained to zero. The $\Delta\chi^2$ test showed that the unconstrained model (χ^2 = 201.23; df = 28) fit significantly better than the constrained model (χ^2 = 295.78; df = 29) (see Table 19). Therefore, results did not support full mediation for this path (critical χ^2 = 3.84; $\Delta\chi^2$

=94.55, *df* = 1). However, evidence of partial mediation was found because the path from information-orientation to interpersonal competence decreased in magnitude when attachment styles were added to the model. The squared multiple correlations estimate was .293, which means that the alternative mediation model accounted for 29.3% of the variance in interpersonal competence.

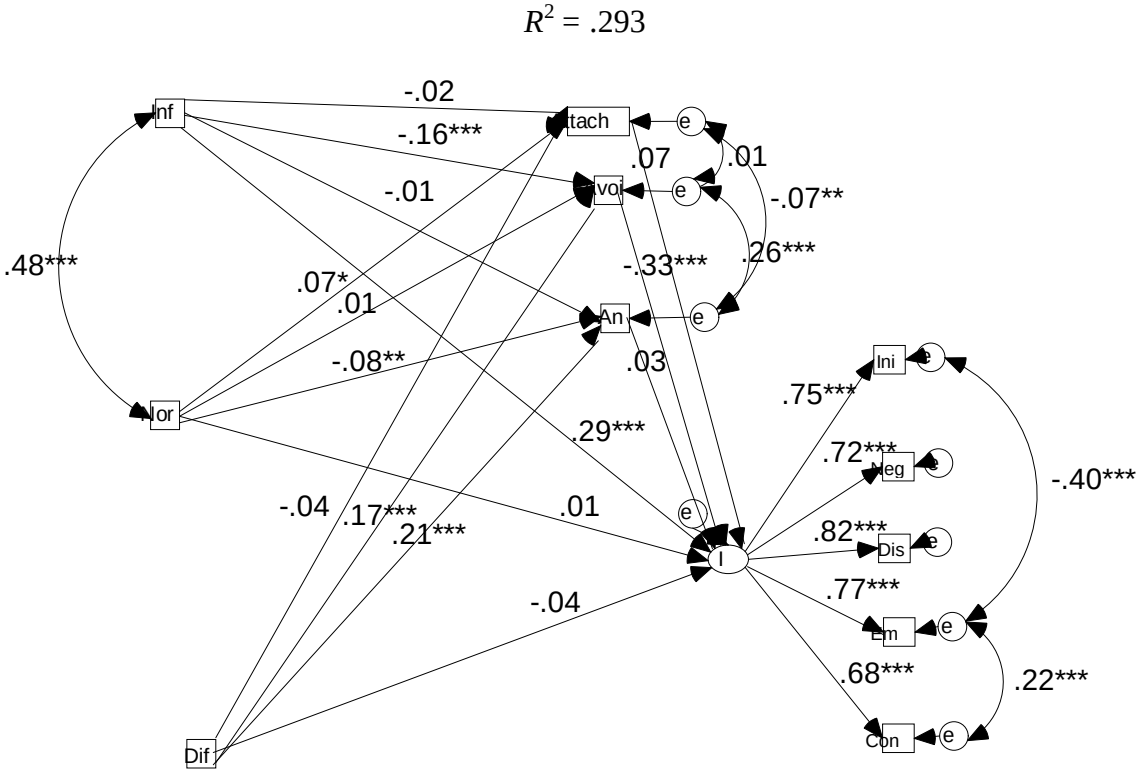

Figure 12. *Structural Model of Alternate Mediation Model: Identity Styles as Predictor and Attachment Styles as Mediator of Interpersonal Competence with Standardized Coefficients Presented*

Table 18. *Comparison of the Path Coefficients for Information-, Normative-, and Diffuse-Orientations Before and After Attachment Styles were Added to the Model*

	Before Attachment Styles Added to Model	After Attachment Styles Added to Model
Information-Orientation	.36***	.29***
Normative-Orientation	.02	.01
Diffuse-Orientation	-.10***	-.04

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

Table 19. *Comparison of Fit Indices for the Constrained Versus the Unconstrained Model for the Alternate Mediation Model*

	Unconstrained Model	Constrained Model
Chi-square	201.23	295.78
p-value	.001	.001
Df	28	29
TLI	.92	.88
CFI	.96	.94
RMSEA	.07	.08
p-value	.001	.001
CMIN/DF	8.15	10.20

Again, the association between normative-orientation and the interaction term (avoidance*anxiety) was significant, and additional analyses were undertaken in order to interpret this association. These post hoc tests were out of the ordinary because rather than the interaction term serving as a predictor, it was being analyzed as the outcome variable. In other words, the typical meaning of moderator and moderated variable did not hold in these tests. Therefore, the goal of these tests was to examine simple associations ignoring the standard causal order. In the first set of four rows in Table 20, the association between the normative style and avoidance was calculated at different levels of anxiety. These tests indicated that none of these slopes were significant (i.e., all four critical ratios were below 1.95, although the one for the lowest level of anxiety closely approached significance at 1.92).

In the bottom four rows of Table 20, the association between the normative style and anxiety was examined at varying levels of avoidance. The findings showed that at low levels of avoidance, there was a significant negative association between anxiety and normative-orientation (seen in Figure 12, as the direct path from anxiety to normative orientation at -.08, $p < .01$). This association was strongest at the lowest

levels of avoidance but became progressively weaker until, at 1 or 2 standard deviations above the mean of avoidance the association between anxiety and normative-orientation became non-significant. These post hoc tests suggest that the non-significant association between normative orientation and avoidance (.01, p = *n.s.*) was not qualified when predicting the attachment constructs.

Table 20. *Association between the Normative-Orientation and the Interaction of Avoidance*Anxiety (Two-way Interaction Interpretation Table) with Nonstandardized Coefficients Presented*

Estimates of Moderated Slopes @ Diff Levels of Moderator						Standard error of slope				t-value
Moderator=V1 Moderated=V2 V1	V2	b of V2	b of V1*V2	V1 Values	b of V2 @ V1	Var of slope of V2	Var of slope of V1*V2	Cov of slopess V2 & V1*V2	Standard Error	bi@X S.E.
Anx	Avoid	-.001	.068	-1.6000	-0.1098	.00112818	.0008433	.00000513	0.057189	-1.92
		-.001	.068	-0.8000	-0.0554	.00112818	.0008433	.00000513	0.040739	-1.36
		-.001	.068	0.8000	0.0534	.00112818	.0008433	.00000513	0.04094	1.30
		-.001	.068	1.6000	0.1078	.00112818	.0008433	.00000513	0.057476	1.88
Avoid	Anx	-.091	.068	-1.5200	-0.1944	.00130419	.0008433	-.00007003	0.058868	-3.30
		-.091	.068	-0.7600	-0.1427	.00130419	.0008433	-.00007003	0.043563	-3.28
		-.091	.068	0.7600	-0.0393	.00130419	.0008433	-.00007003	0.041047	-0.96
		-.091	.068	1.5200	0.0124	.00130419	.0008433	-.00007003	0.055133	0.22

Slope b@X = bi M odified V ariab le + (bProdu ct Term * XValue of Moderator)
Standard Error of Slope b @X = (bM odified Variable + (XV alue of Moderato r) * bProdu ct Term) + (2 * X * bM VbPT)
T-value = b @X / S.E. of b @X i

Comparison of the Mediation Models

In order to determine which model provided a better explanation of the data, the fit indices of the two mediation models were compared. The difference between the original model (245.77; df = 29) and the alternative model (χ^2 = 201.23; df = 28) was a chi-square of 44.54 (df=1), which was above the chi-square critical value of 3.84 (p < .05). Therefore, the difference between chi-squares was large enough to be statistically

significant, indicating that the alternative model fit the data significantly better than the original hypothesized model (see Table 21).

Table 21. *Comparison of Fit Indices for the Original Mediation Model Versus the Alternative Mediation Model*

	Original Model	Alternative Model
Chi-square	245.77	201.23
p-value	.001	.001
Df	29	28
TLI	.90	.92
CFI	.95	.96
RMSEA	.07	.07
p-value	.001	.001
CMIN/DF	8.48	8.15

Exploration of Differences Based on Sex, Ethnicity, and Relationship Variables

Based on the results of the mediation analyses, the alternative model provided a significantly better fit of the data than the model originally hypothesized. Therefore, analyses were conducted to determine if the alternative mediation model was invariant (i.e., equivalent) across groups. Multi-group tests were conducted based on sex, ethnicity and relationship status. Group differences were assessed in two phases. In the first phase, the models were fit for each group separately (e.g., females and males) and path coefficients were allowed to load freely. Then, the constrained model was fit (i.e., all paths in the models were constrained to be equal). The free and constrained models were then compared by subtracting the smaller chi-square from the larger chi-square yielding a $\Delta \chi 2$. If the $\Delta \chi 2$ was greater than the chi-square critical value it indicated a significant difference between groups, and we then moved on to the second phase whereby we determined which specific paths were significantly different by group by comparing the magnitudes and significance of the path coefficients by group.

Differences based on sex. The unconstrained models were fit for females (*N*=1,090) and males (*N*=238). Then, the constrained model was fit, and the free and constrained models were compared. The difference between the unconstrained (357.35; *df* =62) and the constrained models (407.16; *df*=80) was a chi-square of 49.18 (*df*=18), which was above the chi-square critical value of 28,87 ($p < .05$). Therefore, the difference between chi-squares was large enough to be statistically significant, indicating at least one path coefficient was different based on gender.

In order to determine where these differences lie we examined the path coefficients for males and females to see if they were significantly different in magnitude (Meyers et al., 2006), and we found that information-orientation was significantly higher for males (.38, *p*=.001) than females (.22, p=.001). Therefore, the path from information-orientation to interpersonal competence was constrained to be equal across groups. The difference between the original model (357.35; *df* = 62) and the model with the constrained path (χ^2 = 431.85; *df* = 64) was a chi-square of 74.50 (*df*=2), which was above the chi-square critical value of 5.99 ($p < .05$). Therefore, the difference between chi-squares was large enough to be statistically significant, indicating that information-orientation was significantly higher for males than females. For a comparison of path coefficients for males and females and for a comparison of the fit indices for the unconstrained versus the constrained models see Tables 22 and 23.

Table 22. *Fit Indices for Constrained and Unconstrained Models for Females and Males*

	Unconstrained Model	Constrained Model
Chi-square	357.35	407.16
p-value	.001	.001
Df	62	80
TLI	.90	.91
CFI	.93	.92
RMSEA	.06	.06
p-value	.003	.04
CMIN/DF	5.76	5.09

Table 23. *Path Coefficients for Females and Males*

	Path Coefficients For Males	Path Coefficients For Females	Sig. Dif.
Avoidance	-.41***	-.39***	N/A
Anxiety	.05	.02	N/A
Information-Orientation	.38***	.22***	Yes
Normative-Orientation	-.06	.04	N/A
Diffuse-Orientation	-.01	-.02	N/A

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

Differences based on ethnicity. The unconstrained models were fit for African-Americans (*N*=486) and Caucasians (*N*=870). Then, the constrained model was fit, and the free and constrained models were compared. The difference between the unconstrained (316.61; *df* =62) and the constrained models (343.41; *df*=80) was a chi-square of 26.80 (*df*=18), which was not above the chi-square critical value of 28.87 ($p < .05$). Therefore, the difference between chi-squares was not large enough to be statistically significant. For a comparison of path coefficients for African-Americans and Caucasians and for a comparison of the fit indices for the unconstrained versus the constrained models see Tables 24 and 25.

Table 24. *Fit Indices for Constrained and Unconstrained Model for African-Americans and Caucasians*

	Unconstrained Model	Constrained Model
Chi-square	316.61	343.41
p-value	.001	.001
Df	62	80
TLI	.90	.92
CFI	.93	.93
RMSEA	.06	.05
p-value	.03	.35
CMIN/DF	5.11	4.29

Table 25. *Path Coefficients for African-Americans and Caucasians.*

	Path Coefficients For African-Am	Path Coefficients For Caucasian	Sig. Dif.
Avoidance	-.35***	-.42***	N/A
Anxiety	.02	.05	N/A
Information-Orientation	.26***	.22***	N/A
Normative-Orientation	.10	.01	N/A
Diffuse-Orientation	-.02	-.03	N/A

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

Differences based on grade level. The unconstrained models were fit for 9th graders (N=463), 10th graders (N=385), 11th graders (N=316), and 12th graders (N=190). Then, the constrained model was fit, and the free and constrained models were compared. The difference between the unconstrained (421.55; df =136) and the constrained models (489.87; df=190) was a chi-square of 68.32 (df=54), which was not above the chi-square critical value of 72.15 ($p < .05$). Therefore, the difference between chi-squares was not large enough to be statistically significant. For a comparison of path coefficients by grade level and for a comparison of the fit indices for the unconstrained versus the constrained models see Tables 26 and 27.

Table 26. *Fit Indices for Constrained and Unconstrained Model by Grade Level*

	Unconstrained Model	Constrained Model
Chi-square	421.55	489.87
p-value	.001	.001
Df	136	190
TLI	.91	.93
CFI	.93	.93
RMSEA	.04	.03
p-value	.44	.38
CMIN/DF	3.10	2.58

Table 27. *Path Coefficients by Grade Level*

	9th Grade	10th Grade	11th Grade	12th Grade	Sig. Dif.
Avoidance	-.39***	-.43***	-.38***	-.27***	N/A
Anxiety	.07	.07	.03	-.09	N/A
Information	.26***	.25***	.29***	.24***	N/A
Normative	.05	-.02	-.02	.10	N/A
Diffuse	-.04	.01	-.02	-.11	N/A

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

Differences based on dating experience. The unconstrained models were fit for adolescents with dating experience that had lasted at least one month (*N*=1,146) and for adolescents without dating experience that had lasted at least one month (*N*=203). Then, the constrained model was fit, and the free and constrained models were compared. The difference between the unconstrained (345.78; *df* =62) and the constrained models (367.05; *df*=80) was a chi-square of 21.27 (*df*=18), which was not above the chi-square critical value of 28.87 ($p < .05$). Therefore, the difference between chi-squares was not large enough to be statistically significant. For a comparison of path coefficients for adolescents with dating experience and adolescents without dating experience and for a comparison of the fit indices for the unconstrained versus the constrained models see Tables 28 and 29.

Table 28. *Fit Indices for Constrained and Unconstrained Models for Participants with and without Dating Experience Over 1 Month*

	Unconstrained Model	Constrained Model
Chi-square	345.78	367.05
p-value	.001	.001
Df	62	80
TLI	.90	.92
CFI	.93	.93
RMSEA	.06	.05
p-value	.02	.30
CMIN/DF	5.42	4.59

Table 29. *Path Coefficients for Participants with and without Dating Experience Over 1 Month*

	With Dating Experience > 1 Month	Without Dating Experience > 1 Month	Sig. Dif.
Avoidance	-.29***	-.38***	N/A
Anxiety	.01	.04	N/A
Information-Orientation	.31***	.25***	N/A
Normative-Orientation	.15*	.01	N/A
Diffuse-Orientation	.02	-.03	N/A

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

Differences based on dating status. The unconstrained models were fit for adolescents who were currently dating (*N*=743) and adolescents who were not currently dating (*N*=605). Then, the constrained model was fit, and the free and constrained models were compared. The difference between the unconstrained (351.41; *df* =62) and the constrained model (378.41; *df*=80) was a chi-square of 27.00 (*df*=18), which was not above the chi-square critical value of 28.87 ($p < .05$). Therefore, the difference between chi-squares was not large enough to be statistically significant. For a comparison of path coefficients for daters versus non-daters and for a comparison of the fit indices for the unconstrained versus the constrained models see Tables 30 and 31.

Table 30. *Fit Indices for Constrained and Unconstrained Models for Participants Currently Dating Versus Those Not Currently Dating*

	Unconstrained Model	Constrained Model
Chi-square	351.41	380.41
p-value	.001	.001
Df	62	80
TLI	.89	.91
CFI	.93	.92
RMSEA	.06	.05
p-value	.007	.19
CMIN/DF	5.67	4.76

Table 31. *Path Coefficients for Participants Currently Dating Versus Those Not Currently Dating*

	Path Coefficients Currently Dating	Path Coefficients Not Currently Dating	Sig. Dif.
Avoidance	-.35***	-.35***	N/A
Anxiety	.03	.05	N/A
Information-Orientation	.25***	.27***	N/A
Normative-Orientation	.06	-.02	N/A
Diffuse-Orientation	-.03	-.04	N/A

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

V. DISCUSSION

Since interpersonal competence is such a significant predictor of a variety of important outcomes for adolescents (e.g., academic achievement, social behavior, mental health outcomes, success in friendships and romantic relationships) (Aronen & Kurkela, 1998; Buhrmester, 1990; Hoffmann, Powlishta, & White, 2004), the central goal of the current study was to investigate individual differences in interpersonal competence during adolescence. The current study chose to focus on the developmental factors of attachment style and identity style as predictors of interpersonal competence. It also explored two mediation models. The first model examined identity style as a mediator of the association between attachment style and interpersonal competence, while the alternative model examined attachment style as a mediator of the association between identity style and interpersonal competence. Finally, we discuss limitations of the current study and suggestions for future directions.

Attachment and Interpersonal Competence

While previous research has examined the association between romantic relationship attachment style and variables associated with interpersonal competence (Anders & Tucker, 2000; Miller, 1996), the current study was the first examination of the direct association between romantic relationship attachment style and interpersonal

competence and the first study to do so with a sample of high school-aged adolescents. There was mixed support for the hypothesis that anxiety would be significantly, negatively associated with interpersonal competence. The bivariate correlations found a significant, negative association between anxiety and four of the five interpersonal competence subscales (i.e., initiation, negative assertion, self-disclosure, and conflict management), and the correlation between anxiety and the latent variable of interpersonal competence was significant and negative (r= -.09, p=.002).

However, in the main effects structural equation model the association between anxiety and interpersonal competence was not significant when the impact of avoidance on interpersonal competence was taken into account. In order to understand this finding, it is important to remember that high anxiety maps onto a negative model of self, which is defined as a preoccupation with seeking closeness, love, and approval from others (Bartholomew, 1990; Hazan & Shaver, 1987). Since anxious adolescents are preoccupied with seeking out closeness with others, it is not surprising that they would seek to initiate social activities and therefore have experience at practicing other social skills (i.e., negative assertion, conflict management, emotional support, and self-disclosure). However, more research is necessary to understand if the ways in which anxious adolescents interact with their peers are more dysfunctional than secure adolescents (e.g., attempting to make themselves to indispensible others, disclosing too much personal information). Also, this finding may imply that when avoidance and anxiety are in the same model that the effects of anxiety are mediated through avoidance, but again more research is necessary to further interpret these results.

The findings supported our hypothesis that there would be a significant, negative association between the avoidant style and interpersonal competence, which suggests that the avoidant style is more detrimental to adolescent interpersonal competence than previously revealed in the literature. High avoidance maps onto a negative model of other, which is defined as a discomfort with close emotional relationships, an important need to feel independent, and preference to not depend on others (Feeney & Noller, 1996). Therefore, it would theoretically follow that individuals who use an avoidant style could lack the trust in others necessary to initiate social activities or disclose personal information. These findings are also consistent with previous research that has found that when avoidant individuals find themselves in relationships, they are less willing to work at their relationships and address problems in constructive ways (i.e., conflict management, negative assertion) or provide support to their partners (i.e., emotional support) (Hindy, Schwartz, & Brodsky, 1989).

The results of the interaction model were consistent with romantic relationship attachment theory (Bartholomew, 1990; Bartholomew & Horowitz, 1990). When attachment anxiety was low, the highest interpersonal competence was seen when avoidance was also low. Therefore, adolescents who had secure models of self and other were the most interpersonally competent. Another interesting pattern also emerged. Among adolescents with high avoidance scores, interpersonal competence was better among those with higher anxiety scores. This finding suggests another theoretically meaningful interpretation. Avoidance is associated with a tendency not to trust others, to avoid closeness, to be less interested in maintaining relationships, and to dismiss the

value of others in one's life. People who are high on avoidance and low on anxiety have been identified as "dismissive" in the research literature on romantic attachment (Bartholomew, 1990; Bartholomew & Horowitz, 1990). Adolescents high in avoidance and high in anxiety, however, have been defined as more fearful as they approach relationships. While these "fearful" individuals may not be a lot more interpersonally competent than "dismissive" individuals, they may develop some skills because their anxiety about themselves forces them to attend to relationships, even if they do not fully trust them.

Identity Styles and Interpersonal Competence

Next, we investigated identity style as a predictor of interpersonal competence. Two of the hypotheses were fully supported. A diffuse-orientation was a negative predictor of interpersonal competence, while information-orientation was a positive predictor of interpersonal competence across all analyses. These findings suggest that, controlling for the impact of the other two identity styles, adolescents who are actively exploring their environments in order to make decisions and problem-solve (high information-orientation) are more interpersonally competent than adolescents who score low on information-orientation. The findings also suggest that, controlling for the impact of the other two identity styles, adolescents who procrastinate and avoid problem-solving and decision-making until circumstances dictate their actions (high diffuse-orientation) are less interpersonally competent than adolescents who score low on diffuse-orientation.

The bivariate correlations found a significant, positive association between normative-orientation and all of the interpersonal competence subscales, and the

correlation between normative-orientation and the latent construct interpersonal competence was significant and positive (r=.18, p=.001). However, in the structural equation model when the other two identity styles were added to the main effects model the association between normative-orientation and interpersonal competence was not significant.

This means that the association between normative-orientation and interpersonal competence was not significant after controlling for the other two styles. It was hypothesized that since the normative-oriented style concentrates on the expectations of significant others while problem solving and making decisions that individuals with higher normative orientations would be attuned to social standards and therefore more interpersonally competent. However, it appears that possessing a higher normative-orientation does not help adolescents' interpersonal competence, but it does not harm it either.

It is also important to note that the association between information- and normative-orientation was higher in our sample (r=.49, p=.001) than is typically found in the literature on identity styles which typically focuses on older, college-aged samples. For example, Berzonsky, Branje, and Meeus (2007) found a significantly smaller correlation (r=.21, p=.01) in a sample of college undergraduates. Therefore, the correlation found in the current sample is an interesting finding. Developmentally, this finding suggests that adolescents may still be turning to parents and other authority figures for information on social norms and standards, which means that, unlike college undergraduates, high school aged adolescents may blend a normative style with other

styles and it is these styles (i.e., information or diffuse) that matter more for interpersonal competence.

This finding is particularly interesting when examined in conjunction with the association found between the normative style and the interaction between the two attachment styles (avoidance*anxiety) in the mediation models. The association between these variables revealed that the strongest association between anxiety and normative-orientation was found at the lowest levels of avoidance. This finding implies that security may be most easily experienced among adolescents who turn to significant others for decision making, which also implies that they have significant others to turn to.

One final unexpected finding was that in the current sample males scored higher on information-orientation than females. This is an unusual finding, because other studies that have found sex differences on information-orientation have found that females scored significantly higher than males (Berzonsky, 1990; Berzonsky & Kuk, 2000). However, it is important to note that our sample was primarily female with males only representing twenty percent of our sample. All participants in the current study self-selected into a Family and Consumer Science (FCS) course on relationship dynamics. One possible interpretation of this finding is that adolescent males who self-select into a FCS course on relationship dynamics are more information-oriented than the typical adolescent male, so perhaps this is why males were more information-oriented than the females in our sample.

Mediation Models and Interpersonal Competence

In the current study, two mediation models were examined. Our original, hypothesized mediation model was based on the theoretical propositions of Bowlby (1969) and Erikson (1950). Bowlby (1969) asserted that if children's needs are met reliably by their caregivers, they develop secure models of self and other. This idea is strikingly similar to Erikson's (1950) proposition that children who develop a sense of trust in their caregivers are more capable of exploring their environment. Putting Erikson's (1968) and Bowlby's (1969) ideas together, we hypothesized that a more secure style would be associated with high information-orientation which would be associated with better interpersonal competence. This hypothesized model was proposed assuming that attachment as Bowlby defined it (and trust as Erikson defined it) precedes identity exploration.

However, this study also examined an alternative mediation model that reverses this assumption in that it assumes that identity exploration precedes intimacy (i.e., romantic relationship attachment as social psychologists define it). This model was supported by Erikson's (1950) fifth and sixth stages of development (i.e., identity versus identity diffusion and intimacy versus isolation) as the theoretical basis. Erikson (1950) saw the development of identity and intimacy as independent, yet interrelated, processes. In college-age samples, research has shown that identity development is a predictor of the establishment of meaningful, intimate relationships with others (Dyk & Adams, 1990), and studies have also shown that romantic relationship attachment style is significantly associated with individuals' capacity for intimacy (Mayseless & Scharf, 2007).

Based on the results of the mediation analyses, the alternative model provided a significantly better fit of the data. The effect for information-orientation to interpersonal competence was partially mediated while the effect of diffuse-orientation on interpersonal competence was fully mediated. Only the path from avoidance to interpersonal competence was significant, which indicates that the associations between information- and diffuse-orientations to interpersonal competence are mediated by avoidance. The findings suggest that a high information-orientation promotes openness to information and experiences, which in turn influences one's comfort and ability to trust others (i.e., low avoidance), and this openness and willingness to trust others predicts higher levels of interpersonal competence. However, a high diffuse-orientation promotes procrastination, an avoidance of problem solving, and lack of exploration, which in turn makes one less comfortable with intimate relationships (i.e., high avoidance), and this lack of trust in others predicts lowers levels of interpersonal competence. Therefore, the findings of this study lend greater support to the alternative model and therefore support Erikson's (1950) conceptualization of identity preceding or co-developing with intimacy, and intimacy's association with romantic relationship attachment in the literature (Mayseless & Scharf, 2007; Reis, 2006).

Limitations

There were several limitations in the current investigation. The current study only consisted of cross-sectional data. Adolescents were only surveyed at one point in time, which makes it impossible to evaluate change and the direction of effects. While structural equation modeling did allow us to test ordering assumptions, the results are

simply correlational, and therefore causality cannot be established. Also, since the data were cross-sectional our analyses do not fit the criteria of true mediation; therefore, we can only attest to the indirect effects of the associations among the variables. Therefore, longitudinal research is necessary in order to establish the directional assumptions presented in the study.

Another limitation in the current investigation was that it lacked sufficient power to conduct analyses among all represented ethic groups. Future studies would benefit from attempting to recruit more diverse populations and investigating if the associations among identity, attachment, and interpersonal competence differ cross-culturally. Also, the current sample was eighty percent female, and the literature has noted that identity and intimacy are more likely to co-develop in females, which has implications for how the findings of the current study may be interpreted. Future studies would benefit from examining the association between identity and romantic relationship attachment in more gender balanced samples.

Conclusions and Future Directions

The current study contributes to the literature in several ways. It is important to remember that romantic relationship attachment theory was developed in order to gain a better understanding how individuals' schemas and expectations impact their perceptions and interpretations of their relationships (Feeney & Noller, 1996; Shaver & Mikulincer, 2006). In the current study, it was found that an avoidant attachment style is important in understanding adolescent development, particularly as it pertains to their development of interpersonal competence. Working models were termed "working" because they are not

fixed but remain open to modification when one encounters new information or has relationships that contradict or challenge one's existing premise (Mikulincer & Shaver, 2005; Zeifman & Hazan, 2000). However, if avoidant adolescents are avoiding closeness it makes sense that they would also be avoiding opportunities to change their working models of other, which could impact their subsequent development. This is particularly important because extensive research has found that patterns developed in early adolescent dating relationships impact later romantic relationship patterns (Connolly & Goldberg, 1999; Kan & Cares, 1999).

While the studies by Berzonsky and colleagues (Berzonsky & Kuk, 2000; Berzonsky, 1999) did find associations between identity style and variables related to interpersonal competence (i.e., cognitions, adjustment to college), this study was the first to investigate the direct association between identity styles and interpersonal competence, and the first to do so in a sample of adolescents. The current study found that exploration is crucial to adolescents' interpersonal competence, and our findings suggest that a willingness to explore one's environment enables adolescents to create a somewhat coherent, revisable sense of self that lends itself well to trying new things and having more social experiences, whereas a lack of exploration impedes not only identity development leading to a rigid (normative) or fragmented (diffuse) sense of self, but also poorer interpersonal competence. If identity is as Berzonsky puts it "constructed by a means of social interaction," it follows that identity exploration (or the lack thereof) is important in terms of how competent adolescents' are in their interpersonal relationships.

Future research would benefit from attempting to provide longitudinal data of these developmental processes. While the research presented herein lends support to Erikson's (1950) model of identity preceding intimacy in order to predict greater interpersonal competence, with only cross-sectional data it is impossible to establish a true meditational relationship. Also, while the association between these variables has been supported theoretically, empirical research in this area is relatively new, and therefore the measurements used in the current investigation may not be capturing the full extent of the associations between the variables. Therefore, it would be worthwhile to use alternative measures in the study of the association between identity and attachment, particularly interview or behavior-coding methods that may help us to better understand how these developmental processes relate to adolescent interpersonal competence.

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APPENDIX A

Informed Consent

INFORMATION AND PARENTAL CONSENT/MINOR ASSENT LETTER
For the "Healthy Couples, Healthy Children: Targeting Youth" Evaluation Project

During the upcoming months, the Family and Consumer Science class in which your child is registered will present a relationship skills curriculum called "Relationship Smarts Plus." Its presentation is supported in part by the Children's Trust Fund of Alabama. The US Department of Health and Human Services, Administration for Children and Families has also provided support to Dr. Jennifer Kerpelman, Dr. Francesca Adler-Baeder, and Dr. Joe Pittman from the Human Development and Family Studies Department at Auburn University to evaluate and enhance the curriculum. Their goal is to learn how well the program teaches high school-aged children positive skills for forming and maintaining healthy close relationships. With each year of this multi-year project, evaluation results will be used to improve the curriculum. All students will provide the information for these evaluations on pre- and post-program questionnaires. Your child will not be compensated for providing this information beyond being the recipient of the program. Teachers will assist with any questions your child doesn't understand. Your child does not have to answer any question s/he does not want to and may discontinue the questionnaire at any time, without penalty. You may withdraw any data that has been collected about your son or daughter, as long as that data is identifiable. Participation in this study will not take extra school time for your child. All activities will be part of the regular Family and Consumer Science class in which he/she is enrolled.

This project will yield the best and most carefully evaluated relationship skills curriculum for high school students in the United States. We hope to present our findings in professional presentations and publications. We need your permission to utilize your child's questionnaires for these professional reports. Each child's information will be private, confidential, and will not be shared with anyone unless legally required. Your child's name will not appear on any questionnaires. Instead, he/she will be assigned a code number. Dr. Kerpelman will ensure that the list linking that number to your child is locked in a secure location separate from your child's questionnaires and accessible only to the senior evaluation team. No children's names will be included in any report. Your decision whether or not to participate will not jeopardize your nor your child's future relations with Auburn University or the Department of Human Development and Family Studies.

To assess long term effects of this curriculum, we will recontact some children to complete brief follow-up surveys and, in a random subset of cases, "booster" sessions on the curriculum content. If you are willing, we also request that you provide your child's name, e-mail address, telephone number and mailing address. Providing this information is voluntary and your child may refuse to do so without penalty. The contact information provided will be secure (locked in a secure office cabinet) and, along with your child's survey answers, will be strictly confidential.

If you have questions, Dr. Kerpelman (334-844-4149) will gladly answer them. A copy of this form is yours to keep.

For more information regarding your rights as a research participant you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334) 844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT TO PREMIT THE EVALUATION TEAM TO USE YOUR CHILD'S QUESTIONNAIRE ANSWERS FOR THE PURPOSES OF THEIR PROFESSIONAL REPORTS. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO LET US USE YOUR CHILD'S ANSWERS (SIGNATURE OF STUDENT PARTICIPANT ALSO IS REQUIRED).

_____		_____	
Parent/Guardian Signature	Date	Investigator's Signature	Date
		_____	
		Co-Investigator's Signature	Date
_____		_____	
Student Participant's Signature	Date	Co-Investigator's Signature	Date

APPENDIX B

Recruitment Email

Dear [teacher's name],

You are being contacted because you are a Family and Consumer Science (FCS) teacher in the state of Alabama, and we wanted to inform you about an opportunity to participate in an innovative, federally funded project that will allow you to incorporate a new curriculum called "Relationship Smarts" into your high school FCS courses.

The Relationship Smarts (RS) curriculum is a research-based, 13-lesson program that incorporates hands-on activities to teach teens the skills and knowledge necessary for maintaining healthy relationships. In general, the lessons cover self-understanding, important aspects of dating relationships, emotions and close relationships, how to recognize and end abusive relationships, communication skills, and skills for maintaining long lasting relationships and marriages.

If you choose to participate, you will receive:

- A free copy of the RS curriculum [sold commercially for over $250]
- A free 2-day training for using the RS curriculum
- $100 for additional supplies
- $100 personal stipend for assisting with the distribution and collection of evaluation materials
- Ongoing support from our project team

We are currently recruiting teachers to participate in the project. Participating teachers will be required to attend a 2-day training and implement the curriculum during the subsequent semester.

If you are interested in participating or have any questions, please reply to paulkal@auburn.edu. Thanks for your time, and we look forward to hearing from you soon!

Sincerely,

Amber Paulk, M.S.
Project Manager
Healthy Couples, Healthy Children: Targeting Youth Project
Department of Human Development and Family Studies
Auburn University
(334) 844-3253
paulkal@auburn.edu

APPENDIX C

MEASURES USED IN STUDY

Demographics

Please indicate your answer by checking or circling the choice that fits you best.

1. Age: _____

2. Sex: (A) Male (B) Female

3. Race/Ethnicity (Check all that apply):

(A) Black/African American
(B) White/Caucasian
(C) Hispanic/Latino
(D) Native American
(E) Asian American
(F) Other: _____ (Please specify)

4. Education - what grade are you currently attending in school?

(A) 9th grade (Freshman)
(B) 10th grade (Sophomore)
(C) 11th grade (Junior)
(D) 12th grade (Senior)
(E) Other _____

5. How many brothers and sisters do you have? Include any step or half brothers and sisters, <u>but do not</u> count yourself.

(A) 0 (D) 3
(B) 1 (E) 4
(C) 2 (F) 5 or more

6. Do you have any children of your own? (A) Yes (B) No

7. Do you live with:

(A) *Both* of your original (biological or adoptive) parents
(B) An original (biological or adoptive) parent *and* a stepparent
(C) A single parent
(D) Other _____

8. Did your original (biological or adoptive) parents ever divorce?

(A) Yes (B) No (If NO, go to question 9)

*If YES:

8a. How old were you when they divorced? _____ Years

8b. Did your mother remarry? (A) Yes (B) No

8b1. If yes, how old were you when she remarried? _____ Years

8c. Did your father remarry? (A) Yes (B) No

8c1. If yes, how old were you when he remarried? _____ Years

8d. Have either of your parents experienced a 2nd divorce? (A) Yes (B) No

9. How much schooling do your parents have? (For each parent, circle the number that shows the highest level of education each has obtained so far.)

a.	Father/Father-Figure	b.	Mother/Mother-Figure
(0)	I do not have a father (figure)	(0)	I do not have a mother (figure)
(1)	Less than High School	(1)	Less than High School
(2)	High school graduate	(2)	High school graduate
(3)	Trade/Vocational School	(3)	Trade/Vocational School
(4)	Some College	(4)	Some College
(5)	Community College Graduate	(5)	Community College Graduate
(6)	College Graduate	(6)	College Graduate
(7)	Masters Degree	(7)	Masters Degree
(8)	Doctor/Lawyer/Other Doctorate	(8)	Doctor/Lawyer/Other Doctorate

10. Does your father (father-figure) work for pay?

(A) Yes, Full-time (B) Yes, Part-time (C) No (D) Not Applicable

11. Does your mother (mother-figure) work for pay?

(A) Yes, Full-time (B) Yes, Part-time (C) No (D) Not Applicable

12. Do you follow a specific religion or spiritual belief system? (A) Yes (B) No

12a. If yes, please write the name of the religion/demonination in which you participate (for example, Lutheran, Catholic, Jewish, Baptist, 7th Day Adventist, etc.)

_____

13. How often do you attend religious services? (Please circle your answer.)

(1.)I do not attend religious services
(2.)More than once a week
(3.)Once a week
(4.)About twice a month
(5.)About once a month
(6.)Less than once a month

14. Are you currently dating or going out with someone? (A) Yes (B) No

14a. If yes, how long (in months) have you been dating or going out?

_____months

15. Think back over your experience with dating or "going out". How many dating partners have you had more than one date with?

(Circle the number of partners you have dated)

1 2 3 4 5 6 7 8 9 10 More than 10

16. Have you dated or "gone out" with one partner while also dating or "going out" with another?

(A) Yes (B) No

17. What types of grades do you usually make in your academic classes?

    (1.) All A's
    (2.) Mostly B's
    (3.) Mostly C's
    (4.) Mostly D's or less

18. How tall are you? _____feet and _____ inches

19. How much do you weigh? _____ pounds

20. Please write the number of hours you spend in each of the following activities in a typical week.

    20a._____ Hours watching t.v., movies, or playing video games?

    20b._____ Hours in vigorous play or sports?

    20c._____ Hours studying for school?

    20d._____ Hours in exercise (not including the above time in sports)

    20e._____ Hours talking on the phone or other devices to friends

    20f._____ Hours "just hanging out" with friends

Identity Style Inventory (ISI)

Berzonsky, M. D. (1992). Identity style and coping strategies. *Journal of Personality, 60*, 771-778.

Directions: Please indicate how much you agree or disagree with each of the following questions by circling the number at the right of each item that matches your level of agreement.

5= strongly agree to 1 = strongly disagree

1. Regarding religious beliefs, I know basically what I believe and don't believe.
2. I've spent a great deal of time thinking seriously about what I should do with my life.
3. I've more-or-less always operated according to the values with which I was brought up.
4. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.
5. I know what I want to do with my future.
6. It doesn't pay to worry about values in advance; I decide things as they happen.
7. I'm not sure what I believe about religion.
8. I have always had purpose in my life; I was brought up to know what to strive for.
9. I'm not sure which values I really hold.
10. I'm not sure what I want to do in the future.
11. Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.
12. I have a definite set of values that I use in order to make personal decisions.
13. I think it's better to have a firm set of beliefs than to be open-minded.
14. When I try to make a decision, I try to wait as long as possible in order to see what will happen.
15. When I have a personal problem, I try to analyze the situation in order to understand it.
16. I think it's better to have fixed values, than to consider alternative value systems.
17. I try not to think about or deal with problems as long as I can.
18. I try to avoid personal situations that will require me to think a lot, and deal with them on my own.
19. Once I know the correct way to handle a problem, I prefer to stick with it.
20. When I have to make a decision, I like to spend a lot of time thinking about my options.
21. I like to have the responsibility for handling problems in my life that require me to think on my own.
22. Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.
23. When making important decisions, I like to have as much information as possible.
24. When I know a situation is going to cause me stress, I try to avoid it.

Experiences in Close Relationships Scale (ECRS)

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measure of adult attachment: An integrative overview. In J. A. Simpson and W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guildford Press.

Directions: The following statements concern how you feel when you are in a romantic relationship. Think about ALL such relationships you have had, not just a current one. If you have never had a relationship that you would consider "romantic", please answer the questions for how you expect you would feel if you were in such a relationship.

5= strongly agree to 1 = strongly disagree

1. I prefer not to show a partner how I feel deep down.
2. I am very comfortable being close to romantic partners.
3. I worry that romantic partners won't care about me as much as I care about them.
4. I get uncomfortable when a romantic partner wants to be very close.
5. I worry a fair amount about losing my partner.
6. I often wish that my partners' feelings for me were as strong as my feelings for him/her.
7. I want to get close to my romantic partner, but I keep pulling back.
8. I am nervous when romantic partners get too close to me.
9. I worry about being alone.
10. My desire to be very close sometimes scares people away.
11. I try to avoid getting too close to my partner.
12. I need a lot of reassurance that I am loved by my partner.
13. I prefer not to be too close to romantic partners.
14. I find that my romantic partners don't want to get as close as I would like.
15. I usually discuss my problems and concerns with my partners.
16. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
17. It helps to turn to my romantic partner in times of need.
18. I resent it when my partner spends time away from me.

Interpersonal Competence Questionnaire (ICQ)

Buhrmester, D., Furman, W., & Wittenberg, M. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology, l 55*, 991-1008.

Directions: The next few items describe social situations that sometimes put people "on the spot". Please indicate how comfortably you believe you do (or would) handle these situations.

5= I'm very good at this, very comfortable to 1= I'm poor at this, very uncomfortable

1. Asking or suggesting to someone new that you get together and do something, for example, go out together.
2. Telling a close companion you don't like a certain way s/he has been treating you.
3. Confiding in a new friend/date and letting him/her see your softer, more sensitive side.
4. Being able to patiently and sensitively listen to a close companion "let off steam" about outside problems he/she is going through.
5. Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.
6. Finding and suggesting things to do with new people who you find interesting and attractive.
7. Standing up for your rights when a close companion is neglecting you or being inconsiderate.
8. Letting a new companion get to know the "real" you.
9. Helping a close companion get the heart of a problem he/she is experiencing.
10. Being able to put begrudging (resentful) feelings aside when having a fight with a close companion.
11. Introducing yourself to someone you might like to get to know or date.
12. Confronting your close companion when s/he has broken a promise.
13. Telling a close companion about the things that secretly make you anxious or afraid.
14. Being a good and sensitive listener with a close companion who is upset.
15. When having a conflict with a close companion, really listening to his/her complaints and not trying to "read" his/her mind.
16. Calling on the phone a new date/acquaintance to set up a time to get together and do something.
17. Telling a close companion s/he has done something to hurt your feelings.
18. Telling a close companion how much you appreciate and care for him/her.
19. Being able to say and do things to support a close companion when he/she is feeling down.
20. Being able to take a close companion's perspective in a fight and really understand his/her point.

21. Going to parties or gatherings where you don't know people well in order to start up new relationships.
22. Telling a date/acquaintance s/he has done something that made you angry.
23. Knowing how to move a conversation with a date/acquaintance beyond superficial talk in order to really get to know each other.
24. When a close companion needs help and support, being able to give advice in ways that are received well.
25. When angry with a close companion, being able to accept that s/he has a valid point of view even if you don't agree with that view.

APPENDIX D

SUMMARY OF FACTOR ANALYSES FOR QUESTIONNAIRE ITEMS

Identity Style Inventory (ISI) (Berzonsky, 1992)

5-pt Likert scale from 1 = Not at all like me to 5 = Very much like me

Information Oriented Style (For all items, $\alpha = .63$; EFA = 4 factors; For 6 items, $\alpha = .65$; EFA = 1 factor; $r_{(10\ w\ 6\ item\ scores)} = .785$ (62% var)

2. I've spent a great deal of time thinking seriously about what I should do with my life.
6. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.
25. When I have a personal problem, I try to analyze the situation in order to understand it.
33. When I have to make a decision, I like to spend a lot of time thinking about my options.
35. I like to have the responsibility for handling problems in my life that require me to think on my own.
37. When making important decisions, I like to have as much information as possible.

Normative Oriented Style (For all items, $\alpha = .69$; EFA = 3 factors; For 6 items, $\alpha = .75$; EFA shows 1 factor, $r_{(10\ w\ 6\ item\ scores)} = .928$ (86% var)

4. I've more-or-less always operated according to the values with which I was brought up.
10. I have always had purpose in my life; I was brought up to know what to strive for.
19. Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.
23. I think it's better to have a firm set of beliefs than to be open-minded.
28. I think it's better to have fixed values, than to consider alternative value systems.
32. Once I know the correct way to handle a problem, I prefer to stick with it.

Diffuse Oriented Style (For all items, $\alpha = .80$; EFA = 2 factors; For 6 items, $\alpha = .74$; EFA = 2 factors, $r_{(10\ w\ 6\ item\ scores)} = .936$ (.88% var)

8. It doesn't pay to worry about values in advance; I decide things as they happen.
24. When I try to make a decision, I try to wait as long as possible in order to see what will happen.
29. I try not to think about or deal with problems as long as I can.
31. I try to avoid personal situations that will require me to think a lot, and deal with them on my own.
36. Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.
38. When I know a situation is going to cause me stress, I try to avoid it.

Experiences in Close Relationships Scale (ECRS) (Brennan et al., 1998)

5-pt Likert scale from 1 = Strongly Disagree to 5 = Strongly Agree

Avoidance (For all items, α=.928; EFA = 3 factors; For 9 items, α=.894; EFA=1 factor; $r_{(9\ w\ 18\ item\ scores)}$ =.965 (93% var).
1. I prefer not to show a partner how I feel deep down..
3. I am very comfortable being close to romantic partners.
7. I get uncomfortable when a romantic partner wants to be very close.
11. I want to get close to my romantic partner, but I keep pulling back.
13. I am nervous when romantic partners get too close to me.
17. I try to avoid getting too close to my partner.
23. I prefer not to be too close to romantic partners.
27. I usually discuss my problems and concerns with my partners.
33. It helps to turn to my romantic partner in times of need.

Anxiety (For all items, α=.910; EFA = 3 factors; For 9 items, α=.860; EFA=2 factors; $r_{(9\ w\ 18\ item\ scores)}$=.962 (93% var).
6. I worry that romantic partners won't care about me as much as I care about them.
8. I worry a fair amount about losing my partner.
10. I often wish that my partners' feelings for me were as strong as my feelings for him/her.
14. I worry about being alone.
16. My desire to be very close sometimes scares people away.
18. I need a lot of reassurance that I am loved by my partner.
26. I find that my romantic partners don't want to get as close as I would like.
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
36. I resent it when my partner spends time away from me.

Interpersonal Competence Questionnaire (ICQ) (Buhrmester, 1990)

5-pt Likert scale from 1 = Poor at This to 5 = Excellent at This

Initiation (For all items, α=.810; EFA = 2 Factors; For 5 items, α = 784; EFA = 1 factor ; $r_{(5\ w\ 8\ item\ scores)}$ = .928 (86% var)
1. Asking or suggesting to someone new that you get together and do something, for example, go out together.
6. Finding and suggesting things to do with new people who you find interesting and attractive.
11. Introducing yourself to someone you might like to get to know or date.
16. Calling on the phone a new date/acquaintance to set up a time to get together and do something.
21. Going to parties or gatherings where you don't know people well in order to start up new relationships.

Negative Assertion (For all items, α=.823; EFA = 2 Factors; For 5 items, α = .792; EFA = 1 factor; $r_{(5\ w\ 8\ item\ scores)}$ =.965 (93% var).
2. Telling a close companion you don't like a certain way s/he has been treating you.
7. Standing up for your rights when a close companion is neglecting you or being inconsiderate.
12. Confronting your close companion when s/he has broken a promise.
17. Telling a close companion s/he has done something to hurt your feelings.
22. Telling a date/acquaintance s/he has done something that made you angry.

Self-Disclosure (For all items, α=.831; EFA = 2 Factors; For 5 items, α = .794; EFA = 1 factor; $r_{(5\ w\ 8\ item\ scores)}$ = . .936 (.88% var)
3. Confiding in a new friend/date and letting him/her see your softer, more sensitive side.
8. Letting a new companion get to know the "real" you.
13. Telling a close companion about the things that secretly make you anxious or afraid.
18. Telling a close companion how much you appreciate and care for him/her.
23. Knowing how to move a conversation with a date/acquaintance beyond superficial talk in order to really get to know each other.

Emotional Support (For all items, α=.770; EFA = 2 Factors; For 5 items, α = .723; EFA = 1 factor; $r_{(5\ w\ 8\ item\ scores)}$ = .928 (86% var)

4. Being able to patiently and sensitively listen to a close companion "let off steam" about outside problems he/she is going through.
9. Helping a close companion get the heart of a problem he/she is experiencing.
14. Being a good and sensitive listener with a close companion who is upset.
19. Being able to say and do things to support a close companion when he/she is feeling down.
24. When a close companion needs help and support, being able to give advice in ways that are received well.

Conflict Management (For all items, α=.790; EFA = 2 Factors; For 5 items, α = .742; EFA = 1 factor; $r_{(5\ w\ 8\ item\ scores)}$ = .920 (85% var)
5. Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.
10. Being able to put begrudging (resentful) feelings aside when having a fight with a close companion.
15. When having a conflict with a close companion, really listening to his/her complaints and not trying to "read" his/her mind.
20. Being able to take a close companion's perspective in a fight and really understand his/her point.
25. When angry with a close companion, being able to accept that s/he has a valid point of view even if you don't agree with that view.