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ADULT ROMANTIC ATTACHMENT STYLE, GLOBAL SELF-ESTEEM,  
AND SPECIFIC SELF-VIEWS AS PREDICTORS OF FEEDBACK  
PREFERENCE IN POTENTIAL ROMANTIC RELATIONSHIPS

by

Crystal Chia-Sheng Lin

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY  
Logan, Utah

2006

## ABSTRACT

Adult Romantic Attachment Style, Global Self-Esteem, and Specific  
Self-Views as Predictors of Feedback Preference  
in Potential Romantic Relationships

by

Crystal Chia-Sheng Lin, Doctorate of Philosophy

Utah State University, 2006

Major Professors: Dr. Renee Galliher; Dr. Tamara Ferguson  
Department: Psychology

This study examined how adult romantic attachment (anxiety and avoidance dimensions), global self-esteem, and social and academic self-views relate to one another and how well they predict preference for a specific feedback type (enhancing, verifying, or no feedback) from a potential romantic partner in times of distress. It also investigated the relation between the type of feedback one receives and attraction to the partner who gives that type of feedback. Multiple regression analyses supported some predicted relations between romantic attachment and feedback preference. Neither global self-esteem nor social and academic self-views predicted preference for a particular feedback type, nor did social self-views moderate the relation between attachment and feedback preference. Although global self-esteem was found to moderate the relation between attachment style and feedback preference, the moderation effects were not in the

predicted directions. However, academic self-views were found to moderate the relation between attachment and feedback preference. In addition, anxious and avoidant attachment related negatively to global self-esteem, social self-views, and academic self-view. Global self-esteem related positively to both social and academic self-views. Receiving one's preferred feedback predicted attraction to the potential romantic partner who gave that type of feedback. Limitations of the study and direction for future research are discussed.

(221 pages)

DEDICATION

To my family: Mother, Father, Daniel, Brendon, Grandmother (“Ah-Ma”)

and

my loving Herman who has shown and continues to show me what love is.

## ACKNOWLEDGMENTS

This project could not have been completed without great contribution from my committee members. I would like to thank each one of them for their valuable input during all phases of the project. First of all, I express immense gratitude to Dr. Ferguson. Given my struggles with writing and statistical analyses, this project could not have been completed without her countless reviews of my drafts and valuable input from the beginning to the end. I would also like to thank Dr. Tschanz for giving me the opportunity for data collection in his classes and his particularly insightful feedback, which was always provided with a smile. I thank Dr. Berry for patiently answering my endless statistical questions and Dr. Seiter for providing some important resources and feedback at the beginning of the project. I would like to give a special recognition to Dr. Kerstin Schroder for her help with the statistical analysis phase of the study. Her enthusiasm as a researcher and teacher was greatly appreciated. Finally, I am grateful to Dr. Galliher for her dedication as a committee chair. Like Dr. Tschanz, her tireless feedback was never provided without an encouraging smile. My appreciation for her support is immeasurable. I would like to thank my family and friends for their support. Their words of encouragement and wisdom were greatly appreciated when they were most needed. I give special thanks to my friend Benicia, who never lets me forget how much I have accomplished. This achievement is not an individual but a collective one. The pride that my family and friends feel for me resonates loud and clear.

Crystal Chia-Sheng Lin

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## CHAPTER I

### PROBLEM STATEMENT

What type of feedback do people prefer to receive about themselves from their relationship partners, is this preference related to one's romantic attachment style, global self-esteem, or specific self-views, and how does feedback preference affect initial attraction to potential dating partners? Self-verification theory suggests that individuals prefer feedback from others about themselves that is consistent with their own views of themselves (Swann, 1990). Self-enhancement theory, on the other hand, suggests that people prefer positive information about themselves (Swann). Major theories of social behavior assume that a dominant goal of most people is to seek a uniformly positive concept of themselves (e.g., Jones, 1973; Shrauger, 1975; Swann), and this goal should be apparent across all settings and types of relationships. At the same time, self-verification originates from the desire for predictability and control—central factors for relational security (Swann)—which is an important characteristic of interpersonal attachments.

The research literature contains conflicting results regarding the effects of either self-verification or self-enhancement on various types of relationships (e.g., roommates and dating partners). Most of the previous studies have examined the relationships among self-enhancement, self-verification, and different indices of relationship quality or attraction, such as intimacy, satisfaction, commitment, desire for continued interaction, or desire for a relationship with the partner. Generally, this body of research suggests that either or both type of feedback affects scores on these indices. Few studies have

investigated individuals' actual *preference* for either self-enhancing or self-verifying feedback and how this preference affects various indices of relational desire. Based on a review of extant literature, very little is known about feedback preference in relationships that have the *potential* to become more serious romantic relationships (hereinafter labeled *potential romantic relationships*). The main purpose of this dissertation was to examine (a) how individual differences in adult romantic attachment style, global self-esteem, and specific self-views predict the preference for self-enhancing, self-verifying, or "neither" type of feedback; and (b) how initial attraction to potential romantic partners is related to individuals' preference for self-enhancing, self-verifying, or "neither" type of feedback. Additional interests in this study included examining various relations among the predictors (e.g., relation between romantic attachment and global self-esteem).

Feedback preference was conceptualized as a form of affect regulation in this study, which refers to the ways that people manage their emotions (particularly in situations that are distressing or threatening to their self-image). Conceptualizing feedback preference in terms of affect regulation is important because affect regulation is known to be integrally related to adult attachment styles (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1973; Feeney, 1998; Mikulincer, Florian, & Tolmacz, 1990). The author of this dissertation is aware of only a few studies on attachment style and the preference for either self-enhancing or self-verifying feedback, operationalized as greater relationship satisfaction and less relationship conflict among those who received illusory positive regard from romantic partners. These studies conducted by Murray and her colleagues (Murray, Holmes, & Griffin, 1996b, 2000) found that all individuals,

regardless of their models of self and others (attachment styles), desired positive evaluations by their romantic partners and that receiving such type of evaluation and regard was related to greater relationship satisfaction. However, despite their preference for positive esteem, those with a negative view of themselves subsequently doubted their partners and had a negative view of the partner and the relationship. Contrary to self-verification theory, it was found that those whose partners had a more realistic view of them or those who understood their partners better were actually less satisfied and had more conflict. The samples recruited by Murray and colleagues were married and dating couples and did not include strangers or acquaintances who were potential dating partners. Although only two studies have examined the relation between attachment style and the preference for either enhancing or verifying feedback, more research has been done on the relations between romantic attachment style and other affect regulatory behaviors, such as communication, support-receiving/giving, and coping behaviors (e.g., Mikulincer, 1998; Simpson, Rholes, & Nelligan, 1992). The inference being tested in this dissertation is that feedback preference is simply an additional strategy by which people can regulate affect and should, therefore, differ in predictable ways as a function of adult attachment styles.

The relation between feedback preference and attachment style in potential romantic relationships may be moderated both by global self-esteem and by the specific self-views a person has regarding the domains in which s/he is receiving feedback. Global self-esteem is the general way that people feel about themselves; specific self-views refer to the way people appraise those particular abilities, talents, or attributes that

are at issue in the feedback received (Brown, 1998; Brown, Dutton, & Cook, 2001). Of the many specific self-views that can be studied (e.g., academic, social, athletic, artistic), the specific self-views of interest in this dissertation, and to which the feedback given pertains, are each individual's academic and social competencies. These two types of specific self-views were chosen because they are highly relevant to a college population and also because the literature points to a relation of these two specific self-views with social and achievement-related stressors and one's romantic attachment style (Bringle & Bagby, 1992; Ognibene & Collins, 1998).

Although the recipient's global self-esteem may relate to the type of feedback they prefer to receive from relationship partners (cf. Moreland & Sweeney, 1984; Swann, Griffin, Predmore, & Gaines, 1987; Swann, Wenzlaff, Krull, & Pelham, 1992), a recent study found that global self-esteem alone is insufficient to explain preferences for either positive or negative feedback, suggesting that specific self-views may also influence the preference for either self-enhancing or self-verifying feedback. Bernichon, Cook, and Brown (2003) found a self-verifying effect in those with high self-esteem but not in those with low self-esteem. Specifically, people with high global self-esteem and positive specific self-views seek positive feedback, whereas high global self-esteem individuals who hold negative specific self-views seek negative feedback, hence, exhibiting a self-verifying effect. On the other hand, low self-esteem individuals with positive self-views do not seem to have a preference for either positive or negative feedback, but low self-esteem individuals with negative specific self-views seek positive feedback, thus, showing more of a self-enhancing effect. Given that past research has found relations



between the main predictor of feedback preference in this study—romantic attachment style—and global self-esteem (e.g., Collins & Read, 1990; Feeney & Noller, 1990) and between romantic attachment style and social and academic self-views (Bringle & Bagby, 1992), global self-esteem and specific self-views were hypothesized to be potential moderators of the relation between attachment style and feedback preference.

The general problem addressed in this study was two-fold. First, do adult romantic attachment style, global self-esteem, and specific self-views predict feedback preference? Related to the first question, do global self-esteem and specific self-views moderate the relation between romantic attachment style and feedback preference? Second, how does feedback preference affect initial romantic attraction among individuals of different attachment styles and who differ in their global self-esteem and/or specific self-views? The major independent variables are adult romantic attachment style, global self-esteem, and specific self-views. The criterion variables are feedback preference and attraction to potential romantic partners.

The decision to conduct a study on feedback preference among potential dating partners is based primarily on the fact that few studies on self-enhancing and self-verifying feedback have been done with this population (only two were found in the literature and neither included attachment style; Katz & Beach, 2000; Morling & Epstein, 1997). Although some studies have found that dating partners prefer self-enhancing feedback (Murray, Holmes, & Griffin, 1996a, 1996b; Swann, De La Ronde, & Hixon, 1994), it is not known whether this is also true for those who are not yet dating but may potentially be romantically attracted to each other. Another reason is the interest in

studying how the variables in this proposed study (i.e., attachment style, self-esteem, specific self-views) influence feedback preference and *initial* attraction. For example, in establishing a romantic relationship, do one's attachment style and/or global self-esteem relate to one's preference for a specific type of feedback from potential dating partner and, in turn, how does the type of feedback received influence attraction to that person? Many factors influence initial attraction, including warmth, kindness, desirable personality, and reciprocal liking (Sprecher, 1998). However, to date, little is known about the relation between specific types of evaluative/communication/affect regulatory styles (enhancing or verifying) and initial romantic attraction.

A total of 374 college men and women completed Fraley, Waller, and Brennan's (2000) dimensional measure of adult romantic attachment style (the Experiences in Close Relationships Questionnaire-Revised; ECR-R). Global self-esteem was measured using Rosenberg's (1965) Self-Esteem Scale. Participants' academic and social self-concepts were measured using a modified trait version of the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991). These two areas of specific self-views were also the domains on which the feedback preference of participants was solicited, using scenario-based assessments of preference for verifying, enhancing, or "neither" type of feedback when interacting with a potential dating partner. A modified Reaction to Feedback measure (Katz & Beach, 2000) was completed to assess attraction to potential dating partners.

Not only will findings from this study add to the literature on feedback preference and initial romantic attraction, they will be useful for individual, couples, and even family

and group therapies in teaching clients how to better communicate with their potential or current partners, taking into account some of the most important factors of an individual's personality: their attachment style, global self-esteem, and specific self-views.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Overview of Theories of Self-Enhancement and Self-Verification

Prior to the 1950s, major theories of social behavior assumed that a dominant goal of most people was to seek a uniformly positive concept of themselves (cf. Jones, 1973; Shrauger, 1975; Swann, 1990). The desire to think well of the self and hear positive feedback about the self has become known in the literature as “self-enhancement.” The development of ideas regarding self-enhancement cannot be attributed to a single theorist, but can be traced back to personality theories, such as those of Horney or Allport (Swann). In the 1950s, however, social psychologists began to recognize another predominant human motive, such that no matter how negative or positive, people want to *confirm* their self-views as a means of exerting control over their worlds, and making their futures more predictable (Swann, 1983, 1987). Individuals confirm their views of the self by receiving feedback about the self that is consistent with (i.e., that verifies) the prefeedback self-view. Hence, people should seek positive, but not illusory, feedback for their positive self-views, and negative feedback for their negative self-views. This has become known as “self-verification,” a phenomenon derived from self-consistency theory (e.g., Lecky, 1945).

Feedback preference was conceptualized as a form of affect regulation in this dissertation research, which refers to the ways that people manage their emotions

(particularly in situations that are distressing or threatening to their self-image).

Specifically, self-enhancement or seeking positive information about oneself may be a way for a person to attenuate negative affect or reinforce positive affect (Jones, 1973).

Self-verification, on the other hand, may be a way for individuals to obtain information that strengthens their own views. Whether one's affect is positive or negative, receiving verifying information may be reassuring and lead to the feelings of security associated with being known and perhaps accepted for the way one truly is (Swann, 1990). Affect regulated by self-enhancing feedback may be more situation-related; receiving positive feedback may be effective in altering the mood, but the effect may be temporary. Self-verifying feedback may be less effective in reducing a particular negative affect in the short term. Hence, in this case, self-verification serves less to regulate affect in the traditional sense, but relates more closely to behavior that leads to a sense of control and predictability.

#### *What Types of Feedback Do People Prefer?*

Limited research exists regarding the type of feedback people prefer, but what has been published about these preferences is summarized in Table 1. Table 1 indicates that studies on the preference for verifying or enhancing feedback have been conducted in different types of relationships (i.e., same-sex strangers and roommates; marital, dating, and potential romantic partners; and psychologically abusive relationships). In these studies, researchers typically operationalized the type of feedback people preferred receiving as the extent to which the receiver rated himself or herself as (a) attracted to the person giving the feedback or (b) satisfied with that relationship. Other examples of

Table 1

*Studies on Feedback Preference by Type of Relationship*

Feedback preference	Type of relationship				
	Nonromantic relationships: Same-sex strangers/ roommates	Marital relationships	Dating relationships	Potential romantic relationships	Psychologically abusive relationships
Enhancing feedback	Condon & Crano (1988) <sup>1</sup>	Murray et al. (1996a) <sup>4</sup> Murray et al. (2000) <sup>4,9</sup> Sacco & Phares (2001) <sup>4</sup>	Swann et al. (1994) <sup>5</sup> Murray et al. (1996a) <sup>4</sup> Murray et al. (1996b) <sup>4,9</sup> Murray et al. (2000) <sup>4,9</sup>	Morling & Epstein (1997) <sup>1,7</sup>	Katz, Arias, & Beach (2000) <sup>5,8</sup>
Verifying feedback	Swann, Pelham, & Krull (1989) <sup>2</sup> Katz & Joiner (2002) <sup>3</sup>	Burke & Stets (1999) <sup>6,10</sup> Katz, Anderson, & Beach (1997) <sup>4,5</sup> Katz & Beach (1997) <sup>4</sup> Murray, Holmes, Bellavia, Griffin, & Dolderman (2002) <sup>4,9</sup> Swann et al. (1994) <sup>5</sup> Swann, Hixon, & De La Ronde (1992) <sup>6</sup>	Katz & Joiner (2002) <sup>3</sup> Murray, Holmes, et al. (2002) <sup>4,9</sup>	Morling & Epstein (1997) <sup>1,7</sup>	Swann, Wenzlaff, et al. (1992) <sup>8</sup>
No feedback ("neither")					
Both types of feedback		Katz, Beach, & Anderson (1996) <sup>4</sup>	Katz et al. (1997) <sup>4,5</sup>	Katz & Beach (2000) <sup>1</sup> Morling & Epstein (1997) <sup>1,7</sup>	

*Note.* Footnotes refer to the attraction index used in the study. <sup>1</sup>Attraction; <sup>2</sup>Preference for interaction with enhancing or verifying partners; <sup>3</sup>Other-esteem (view of others); <sup>4</sup>Relationship satisfaction; <sup>5</sup>Intimacy; <sup>6</sup>Commitment; <sup>7</sup>Desire to have romantic relationship with potential partner; <sup>8</sup>Stability (having few or no thoughts of ending relationship); <sup>9</sup>Less relationship conflict; <sup>10</sup>Emotional attachment.

measures of feedback preference are the perceived accuracy of feedback, level of commitment to the relationship, and intimacy. Summarized in the table are those studies that reported support for a preference to receive enhancing feedback, verifying feedback, no feedback (neither type of feedback), or both types of feedback. To be classified as having found support, the study needed to have reported statistically significant results or acceptable effects sizes, as defined by the authors.

To briefly summarize, Table 1 shows the following:

1. *Nonromantic relationships: Same-sex strangers/roommates*, one supported enhancing effects and two studies found support for verification effects.

2. *Marital relationships*, three studies found support for enhancing effects, six supported verification effects, and one found independent effects of enhancement and verification.

3. *Dating relationships*, four studies supported enhancing effects, two found support for verification effects, and one found both enhancing and verification effects.

4. *Potential romantic relationships*, one study found an enhancing effect, another part of the same study found a verification effect, and another study found both effects.

5. *Psychologically abusive relationships*, one study found enhancing effects, and another study suggested that women in psychologically abusive relationships would prefer verifying feedback.

Overall, at least based on the findings made available in these published articles, the general conclusion is that there is no clear association between feedback preference and attraction, commitment, or relationship satisfaction in the various types of relationships. Based on the results of these studies, it is thus clear that further research is needed to study preference for different types of feedback and how such preference relates to partner attraction. Because it appears that type of relationship is not a determining factor in feedback preference, individual variables may be more influential instead. Adult romantic attachment style, global self-esteem, and specific self-views are the variables examined in this dissertation. One of the larger gaps in this research, as seen in Table 1, is the dearth of studies examining feedback preference in relationships that are in the process of becoming established (i.e., potential romantic relationships).

#### Adult Romantic Attachment Styles

Adult romantic attachment style is hypothesized to be an important independent predictor of feedback preference. One of the earliest and most well-known conceptualizations of adult attachment is the classification of adult attachment into three different styles: secure, avoidant, and anxious-ambivalent (Hazan & Shaver, 1987), which was derived from Bowlby's (1973) theory of infant attachment and Ainsworth and her colleagues' (1978) three major categories of infant attachment to caregivers. Attachment styles reflect internal working models or mental representations of the relationship between the self and significant others that are developed as a result of repeated interactions with caregivers early in life. Individuals develop a sense of self that is either worthy or unworthy of care from significant others and of significant others as



either responsive or unresponsive to their needs (Ainsworth et al.; Bartholomew & Horowitz, 1991; Bowlby). The internal working models are posited to carry forward into later relationships, such that adult intimate, significant relationships can be characterized by attachment styles as well.

Attachment style among adults has traditionally been measured using interviews and self-reports, and these styles were originally conceived in terms of three *categories* (e.g., Hazan & Shaver, 1987) and later in terms of *dimensions* that could be combined to form adult attachment style categories (e.g., Bartholomew & Horowitz, 1991; Collins & Read, 1990; Simpson et al., 1992). Hazan and Shaver originally characterized the *secure* adult attachment as an interdependent relationship, involving comfort with, closeness to, and trust of the partner's love. Partners in these relationships accept and support each other, despite their partner's faults. Adults exhibiting an *anxious-ambivalent* attachment style show strong desires for intimacy, yet feelings of insecurity about the partner's responses, love addiction, obsession, desire for reciprocation and union, emotional highs and lows, extreme sexual attraction, as well as jealousy, passionate love, and fears of rejection and abandonment. The *avoidant* adult attachment category is characterized by distrust of the other's intentions, preference for distance, fear of intimacy, reluctance to depend on others, and difficulty attaching to others.

More recently, various studies (e.g., Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley et al., 2000) supported the need to differentiate Hazan and Shaver's "avoidant adult attachment style" into two categories—dismissing-avoidant and fearful-avoidant. The need to differentiate two types of avoidant attachment is based on

the results of various studies showing a lack of consistency in the characteristics of the avoidant type and factor analyses showing four, as opposed to three, distinct attachment styles (e.g., Bartholomew & Horowitz; Crittenden, 1988; Main & Solomon, 1990). That is, some individuals in the avoidant type reported both anxiety and avoidance, whereas others reported only avoidant behavior and not anxiety (e.g., Bartholomew & Horowitz). Moreover, individuals who display the fearful-avoidant attachment style are highly dependent on others for the validation of their self-worth, but they avoid intimacy to prevent the pain of potential rejection. Individuals manifesting a dismissing-avoidant attachment are similar to securely attached people in certain ways (e.g., both have positive self-concepts), but are also similar to individuals with a fearful-avoidant attachment style, in that they avoid closeness with others because of negative expectations of rejection. They also value independence and deny the value of close relationships (e.g., Bartholomew & Horowitz; Kobak & Sceery, 1988).

One of the models (cf. Brennan et al., 1998) that differentiate avoidant attachment into dismissing and fearful avoidant proposes that two dimensions capture adult attachment, namely, *anxiety* (fear of abandonment and rejection) and *avoidance* (discomfort with closeness and dependency). The four different attachment style categories result from different combinations of high and low scores on each dimension, with secure, anxious-ambivalent (also known as preoccupied), dismissing-avoidant, and

fearful-avoidant being operationalized as anxiety/avoidance scores that are low/low, high/low, low/high, and high/high, respectively.<sup>1</sup>

Another model also has two dimensions, models of the self and others, resulting in four categories of attachment styles as well. Combination of positive models of the self and others categorizes the secure type. These individuals see others and themselves as being generally well-intentioned, reliable, supportive, and trustworthy. A negative model of the self and positive model of others create the preoccupied (anxious-ambivalent) type (Griffin & Barthomew, 1994; Simpson et al., 1992). However, others have conceptualized persons with this attachment style as seeing others and themselves as ambivalent, unreliable, and untrustworthy (Collins & Read, 1990). A positive model of the self but negative model of others characterize the dismissing type. Those with negative models of both the self and others fall in the fearful type. Both of the avoidant types have negative views of others (Griffin & Barthomew).

Internal working models of attachment are posited to develop early in life and have been shown to be stable and long-lasting. They are hypothesized to affect various outcomes, such as romantic relationships, through two main mechanisms. First, they may have a direct influence on relationship outcomes by guiding one's social perception, affect regulation, and interpersonal behavior. Second, they may have an indirect effect by influencing the type of partners that one chooses (Bowlby, 1980; Collins, Cooper, Albino, & Allard, 2002; Stroufe & Fleeson, 1986). For example, studies have found that

---

<sup>1</sup> The terms anxious-ambivalent, fearful-avoidant, and dismissing-avoidant will be used when the more recent approaches to adult attachment styles actually guided the research reviewed. The term avoidant attachment will be used to refer to Hazan and Shaver's original conceptualization of this form of attachment when research was guided by this framework.

those with the secure attachment style tend to partner with those who are secure as well, and those who are avoidant have the tendency to be in relationships with the anxious type (Collins & Read, 1990). Collins and her colleagues (2002) found support for this in a 6-year longitudinal study of adolescents followed into adulthood. Individual attachment styles in adolescence were related to relationship outcomes 6 years later via individuals' unique ways of thinking and behaving and also via their choice of relationship partners whose personality contributed to the outcomes of the relationship in predicted ways. Similarly, Kobak and Sceery (1988) proposed that, because attachment style results from childhood experiences in regulating the stress resulting from separation from the caregiver, it can be generalized to the ways in which adults would be expected to regulate stressful situations involving attachment figures. These authors reported support for this view, including their findings that older adolescents differing in attachment styles showed differences in peer relationships, familial support, distress, and loneliness.

#### *Attachment Styles and Feedback Preference*

Only two studies were found that addressed the association between attachment constructs and romantic partner attraction, giving implications for feedback preference (Murray et al., 1996b; Murray, Holmes, Griffin, Bellavia, & Rose, 2001). Specifically, this research examined the relation between models of self and others and relationship satisfaction, suggesting that internal working models of self and others may impact relationship outcomes by guiding social perception, affect regulation, and interpersonal behavior. Those with more positive models of the self tended to have more positive models of relationship partners (Murray et al., 1996b; Murray, Holmes, et al., 2001).

These individuals have a sense that they are worthy of being loved by their partners, which, in turn, makes their partners more attractive. This reciprocal pattern may result in greater relationship satisfaction and optimism about the relationship. On the other hand, those with negative models of the self also have more negative models of their partners, and having such perceptions of their partners relates to being less satisfied and optimistic about their relationships. Self-doubt or having a negative model of oneself interferes with the ability to accept positive regard from and see the positive side in partners. Even though these individuals may desire positive regard from partners, they doubt their partners' acceptance. Having a positive perception of oneself and one's partner and feeling loved and idealized (enhanced) either on specific traits or globally in both dating and marital relationships predicts better relationship outcomes. The studies also found that being understood (verified) did not predict more positive relationship outcomes. In fact, it appeared that those who understood their partners better and whose partners understood them better were less happy over time. This was seen in individuals with positive self-models, as well as those with negative self-models. (These studies did not classify attachment into the four categories; Murray et al., 1996b, Murray, Holmes, et al., 2001.)

Due to the limited research available examining associations between attachment and feedback preference specifically, studies on attachment and other indicators of affect regulation were reviewed. Because attachment style is considered a style of affect regulation (Bowlby, 1973), it has been studied in relation to individuals' expression of emotion, support giving and receiving, and problem-solving behaviors during stressful

situations (e.g., Kobak & Sceery, 1988; Mikulincer, Horesh, Eilati, & Kotler, 1999; Simpson et al., 1992). The present study posits that attachment style-related ways of regulating stress are also the basis for predicting what type of feedback people will prefer to receive from potential romantic partners.

Bowlby (1969, 1973) argued that attachment style is a style of stress (affect) regulation, as the attachment system is most activated under stressful conditions, and it differentially predicts the experience and expression of affect among individuals. For example, secure individuals experience and express a full range of emotions, especially positive emotions, but are not intensely focused on them. Those with the dismissing or fearful style tend to express less affect; however, the fearful type also tends to experience more negative affect and to focus intensely on emotions, while the dismissing type tends to minimize emotions. The tendency for the preoccupied type to experience and express more emotions, particularly negative emotions, and focus intensely on them has been observed but has not consistently been supported (cf. Rholes, Simpson, & Orina, 1999; Searle & Meara, 1999). Secure and dismissing individuals also experience more affect directed towards self-enhancement, such as feelings of positive self-esteem, pride, and strength, but the latter also reported less affect directed toward contact and union with others. The fearful type reported the least affect on both self-enhancement and contact with others. Preoccupied individuals reported affect directed toward contact with others, but did not report significantly less affect on self-enhancement than the secure and dismissing types. Overall, having a positive model of the self seems to relate to more affect directed towards self-enhancement, and having a positive model of others seems to

relate to more affect directed toward contact with others (Schreiber, 2000; Searle & Meara).

Table 2 summarizes published studies examining associations among attachment style, support giving/receiving, and problem-solving behaviors. Securely attached individuals are more likely to seek and provide support in times of distress, to openly communicate, and effectively resolve conflicts with their partners. Their behaviors during such times are theoretically traced back to responsive care-giving that resulted in greater trust that they can rely on significant others in coping with stress (e.g., Ainsworth et al., 1978). Anxious-ambivalent attachment develops from inconsistent care-giving, theoretically resulting in fear of abandonment and the coping behavior of clinging to attachment figures (Ainsworth et al., 1978). Findings regarding anxious-ambivalent attachment and coping during stressful situations show that these individuals tend to use an “obliging” style, that of focusing on the partner, worrying, and failing to express negative emotions. For these individuals, discussions about the relationship during stressful times are viewed as maladaptive, as it leads to negative partner perceptions and negative repercussions for the relationship. Fearful-avoidant persons employed interpersonal distancing and emotion-focused coping in dealing with stressful situations. Dismissing-avoidant individuals were also interpersonally distancing, as well as cognitively and emotionally distancing. Overall, it appears that fearful-avoidant and dismissing-avoidant persons are less likely to seek support from partners than secure and anxious-ambivalent ones. It has been suggested that one’s tendency to seek support is related to having a positive model of others (Ognibene & Collins, 1998), which is

Table 2

*Behaviors Exhibited During Stressing Situations as a Function of Attachment Style*

Attachment style	Behaviors observed	Study
Secure	Securely attached women sought support from dating partners as stress level increased. Secure men gave more support as their partners' anxiety increased.	Simpson et al. (1992)
	Employed talking with their partners in coping with violation of trust.	Mikulincer (1998)
	Employed reasoning, negotiating, "integrating" or "compromising" styles of conflict resolution.	Pistole (1989)
	Saw partners and relationships more positively after having a major discussion.	Simpson, Rholes, & Philips (1996)
Anxious-ambivalent	Demanded absolute love from partners in times of stress	Simpson et al. (1992)
	Less likely to express negative affect, such as anger, when partners were in distress.	Rholes et al. (1999)
	Prone to worrying in coping with violation of trust.	Mikulincer (1998)
	In coping with academic and social stressors, used confrontive coping and escape-avoidance coping (e.g., emotion-focused coping)	Ognibene & Collins (1998)
	Used "obliging" style, that of focusing on the partner	Pistole (1989)
	Viewed partners and relationships less positively and felt much anger and hostility towards partners after attempts to resolve a problem by having a discussion.	Simpson et al. (1996)
Fearful-avoidant	Had negative view of relationship and partner. Used distancing method to cope.	Murray, Rose, Bellavia, Holmes, & Kusche (2002)
	Employed interpersonal distancing (less support-receiving and confrontive coping) and escape-avoidance coping (emotion-focused coping).	Ognibene & Collins (1998)
	Had negative view of relationship and partner. Used distancing method to cope.	Murry, Rose, et al. (2002)
Dismissing-avoidant	Employed interpersonal distancing (less support-receiving and confrontive coping).	Ognibene & Collins (1998)
	Preferred less cognitive and socially supportive emotion regulation behaviors from partners	Myers (1999)
	Uncomfortable giving emotional support to others and felt less obliged to do so. Viewed those who needed their support as being psychologically weak and immature.	Phillips, Simpson, Lanigan, & Rholes (1995)

*(table continues)*



Attachment style	Behaviors observed	Study
Avoidant <sup>a</sup>	Avoidant women sought less support with increasing anxiety and avoidant men less inclined to give support with increasing stress in partner. Tend to “shut out” others when distressed and also avoid others who were stressed.	Simpson et al. (1992)
	Avoidant women were angrier if received less rather than more support from partners, implying they desired support even when though also have fear of not receiving it.	Rholes et al. (1999)
	Engaged in escape and some worrying in coping with violation of trust.	Mikulincer (1998)

<sup>a</sup> These studies did not subcategorize avoidant attachment into fearful and dismissing avoidance.

corroborated by the findings that the avoidant types tend to use distancing as opposed to support-seeking methods in response to stress. Murray, Rose, et al. (2002), however, found that model of other (either positive or negative) was unrelated to support-seeking behavior, but having a negative model of self (i.e., fearful-avoidant, preoccupied) is related to the lack of support-seeking behavior.

This dissertation assessing the relation between attachment and feedback preference is primarily exploratory and predictions will be based on the review of the related literature examining attachment, affect regulation, and support seeking/giving. The following are brief summaries of the four types of adult romantic attachment and hypotheses of how each relates to feedback preference.

*Secure attachment.* Secure attachment measured dimensionally is defined as having a positive model of the self and other (Griffin & Barthomew, 1994; Simpson et al., 1992) and also having low scores on both anxiety and avoidance (Brennan et al., 1998). Individuals with this type of attachment style are comfortable with, trust, accept, and support their partners (Hazan & Shaver, 1987). They do not have a strong sense of

rejection and tend to employ talking with partners in times of distress (e.g., Simpson et al.; Mikulincer, 1998; Pistole, 1989). They experience more affect directed toward self-enhancement, such as feelings of positive self-esteem, pride, and strength and less affect toward distancing from others (Searle & Meara, 1999; Schreiber, 2000). Based on these findings, it is predicted that individuals with this type of attachment style would most likely be accepting of both enhancing and verifying feedback, as they enjoy receiving positive regard from partners, but also have the emotional and cognitive resources to manage negative feedback or unpleasant interactions.

*Anxious-ambivalent attachment.* This type of attachment style measured dimensionally is comprised of a negative model of self, a positive model of others (Griffin & Barthomew, 1994; Simpson et al., 1992), high scores on anxiety, and low scores on avoidance (Brennan et al., 1998). Individuals of this attachment type have a strong desire for intimacy as well as fear of abandonment (Hazan & Shaver, 1987). They have strong affect directed toward contact with others (Searle & Meara, 1999; Schreiber, 2000). In times of stress, they demand absolute love from partners and tend to avoid talking to resolve problems. Based on these characteristics, it is predicted that these individuals would most likely desire enhancing feedback from partners.

*Fearful-avoidant attachment.* Fearful avoidant individuals have negative models of both self and others (Griffin & Barthomew, 1994; Simpson et al., 1992) and high scores on both anxiety and avoidance (Brennan et al., 1998). These individuals are highly dependent on others for the validation of their self-worth, but they avoid intimacy to prevent the pain of potential rejection (Bartholomew & Horowitz, 1991). They fear

rejection from partners and employ distancing as a coping tool (Ognibene & Collins, 1998). Of the four attachment styles, individuals with this type of attachment style reported the least affect on both self-enhancement and contact with others (Searle & Meara, 1999; Schreiber, 2000). Based on these findings, it is predicted that given a choice, individuals with this style of attachment would most likely wish to receive enhancing feedback from romantic partners, although they may also exhibit avoidance tendencies and not seek feedback.

*Dismissing-avoidant attachment.* Finally, this type of attachment style in dimensional terms is characterized by a positive model of the self and a negative model of others (Griffin & Barthomew, 1994; Simpson et al., 1992), and also by having low scores on anxiety, but high scores on avoidance (Brennan et al., 1998). These individuals fear intimacy, do not trust easily or like to depend on partners, and prefer distance from partners (Bartholomew & Horowitz, 1991). As with secure individuals, they also experience more affect directed towards self-enhancement; however, they express little affect directed toward contact with others (Searle & Meara, 1999; Schreiber, 2000). Their enhancement derives from the self and not from contact with others. Based on these traits, it is predicted that these individuals would probably report no desire to receive any feedback from romantic partners.

### Self-Esteem and Feedback Preference

In addition to adult romantic attachment style, other variables may predict preference for the type of feedback received from potential romantic partners. Global self-esteem, the extent to which one possesses a view of the self that is generally positive

or generally negative, has been identified as an important factor in predicting feedback preference (e.g., Brown et al., 2001; Murray et al., 2000; Swann, 1983, 1987). In the current study, global self-esteem was examined as a moderator of the relation between attachment style and feedback preference. In this section, findings regarding feedback preference are examined in relationship to global self-esteem.

Simple self-enhancement theory predicts that people would prefer enhancing feedback, regardless of their global self-esteem (Shrauger, 1975). Thus, all people, whether they have high or low global self-esteem, would prefer positive feedback about the self. In contrast, self-verification theory would predict a preference for feedback that is most closely aligned with one's own self-views, such that people with high global self-esteem would prefer positive feedback regarding the self, whereas those with low global self-esteem would prefer more negative feedback (Swann, 1983, 1987).

The relation between high self-esteem and feedback preference may be more straightforward than the relation between low global self-esteem and feedback preference. High global self-esteem individuals could actually prefer either enhancing or verifying feedback because either would match their positive self-views. Hence, for these individuals, enhancing and verifying feedback is both positive, and it may be impossible to separate the two. The relation between low global self-esteem and feedback preference, on the other hand, is much more complex, and self-enhancement versus self-verification theories make contradictory predictions about the type of feedback preferred by low global self-esteem individuals. They may either seek negative feedback that is closer to their self-perception or they may especially desire enhancement of self-view and

seek positive feedback from others (Moreland & Sweeney, 1984; Swann et al., 1987).

Studying low global self-esteem persons will provide the opportunity to disentangle these two types of information.

Extant research does not provide a definitive conclusion on how global self-esteem predicts feedback preference. For example, in a series of studies on self-esteem and relationship/partner perception and interaction, Murray and her colleagues (e.g., Murray, Holmes, MacDonald, & Ellsworth, 1998; Murray, Rose, et al., 2002) found that high self-esteem individuals tended to be less sensitive to rejection and reported increased positive regard and closeness toward their partners in times of difficulty and self-doubt. In fact, they used their relationship and partner as a source of self-enhancement, which suggests that these individuals may seek enhancing feedback from romantic partners. On the other hand, lower fear of rejection predicts acceptance of verifying feedback or feedback that is more closely related to self-doubts as well. Low self-esteem individuals, in contrast, tended to be sensitive to rejection, derogate their partner, reduce closeness, and see signs of relationship problems during periods of self-doubt. They did not use their partners and relationships to self-enhance, but, instead, became less certain of their relationships in times of stress. This pattern suggests that these individuals may not seek enhancing feedback from romantic partners and may instead be using their perceptions of their partners and relationships either to verify their negative views of themselves or alienate themselves and not seek any interaction with them. High self-esteem persons do not see negativities in the relationship as signs that the relationship or their partners' love for them is waning, whereas low self-esteem people see signs of rejection where none

exists. This fear of rejection stems from a chronic need for acceptance, which may translate into a desire for enhancing responses from partners. However, even when they desire and receive positive regard from their partners, their fear of rejection leads them to question their partners' positive regard and acceptance (Murray et al., 2000; Murray, Bellavia, Feeney, Holmes, & Rose, 2001). This approach-avoidance behavior may indicate the desire for self-enhancement, yet at the same time fear of interaction with partners. Therefore, it is not clear whether enhancing or verifying interaction is desired, and perhaps they just may not wish to have any response/communication with partners in times of stress.

Table 3 summarizes findings regarding the relation between self-esteem and feedback preference in relationships. As seen in Table 3, there is no overwhelming support for the prediction that high or low global self-esteem leads to a differential preference for enhancing as opposed to verifying feedback. This lack of consistent support for the prediction that *global* self-esteem has an influence on individuals' preference for either enhancing or verifying feedback has led some researchers to ask whether *specific* views of the self are more closely related to feedback preference.

#### Specific Self-Views, Global Self-Esteem, and Feedback Preference

Specific self-views refer to the way people appraise their particular abilities, attributes, and talents (Brown et al., 2001). Specific self-views regarding the domain in which feedback is given have been identified as important predictors of feedback

Table 3

*Feedback Preference as a Function of Global Self-Esteem*

Feedback preference	Global self-esteem	
	High self-esteem	Low self-esteem
Enhancing feedback	Cast & Burke (2002) <sup>10</sup> Moreland & Sweeney (1984) <sup>1</sup> Murray et al. (2000) <sup>1,3</sup> Murray et al. (1998) <sup>8</sup> Sacco & Phares (2001) <sup>3</sup> Swann et al. (1987) <sup>2</sup>	Cast & Burke (2002) <sup>10</sup> Moreland & Sweeney (1984) <sup>1</sup> Murray et al. (2000) <sup>1,3</sup> Sacco & Phares (2001) <sup>3</sup> Swann et al. (1987) <sup>2</sup>
Verifying feedback	Cast & Burke (2002) <sup>5,6</sup> Swann et al. (1987) <sup>4</sup>	Cast & Burke (2002) <sup>5,6</sup> Murray et al. (1998) <sup>9</sup> Swann et al. (1987) <sup>4</sup>
“Neither” type of feedback (no feedback)		Murray, Bellavia, et al. (2001) <sup>7</sup> Murray et al. (2000) <sup>7</sup> Murray, Rose, et al., (2002) <sup>7</sup>

Note. <sup>1</sup> Preference for positive rather than negative evaluation. <sup>2</sup> Positive feedback led to more positive mood state than negative feedback. <sup>3</sup> Enhancing feedback led to more relationship satisfaction. <sup>4</sup> Verifying feedback was perceived to be more accurate than enhancing feedback. <sup>5</sup> More verification of (positive) identities led to higher self-esteem; less verification led to lower self-esteem and produced stress; those with higher self-esteem needed less self-verification (of positive identities) than those with lower self-esteem. <sup>6</sup> More verification of (positive) identity led to lower divorce or separation rates. <sup>7</sup> Lower self-esteem, more likely to derogate partner and distance self from partner; less likely to be satisfied with relationship. <sup>8</sup> React to self-doubt by becoming more convinced of partner acceptance. <sup>9</sup> React to self-doubt by becoming less convinced of partner acceptance. <sup>10</sup> Although the term verification was used in this study, verification meant enhancement in this case because only positive identities were verified; verifying was enhancing as well.

preference (Bernichon et al., 2003). Along with global self-esteem, specific self-views are hypothesized to be a moderating variable between adult romantic attachment style and feedback preference. Two types of specific self-views, social and academic, were

selected for the current study due to their relevance to college students, the population from which this sample was drawn. No studies specifically investigating high and low social or academic self-views as predictors of preference for either enhancing or verifying feedback were found in the literature. However, one study was found that examined how *both* global self-esteem and specific self-views related to positive and negative feedback preference (Bernichon et al.). Therefore, the relation between social or academic self-views and feedback preference will be hypothesized based on the work of Bernichon and colleagues and findings from literature examining associations between global self-esteem and feedback preference.

Bernichon and colleagues (2003) reported that global self-esteem interacted with specific self-views to guide people's responses to positive and negative feedback. This study examined the specific self-views of social competency, creativity, and physical fitness, and found that high global self-esteem persons with positive specific self-views sought out positive feedback and preferred interaction with someone who appraised them positively. High self-esteem individuals with negative specific self-views, on the other hand, sought negative feedback and preferred to interact with someone who evaluated them negatively. Hence, high self-esteem individuals showed a tendency for self-verification. Low self-esteem persons, on the other hand, did not exhibit self-verifying effects in that those with positive specific self-views did not have a preference for either type of feedback or evaluators who appraised them positively or negatively. Those with negative specific self-views sought positive feedback and preferred evaluators who evaluated them positively, therefore showing more of a self-enhancing effect for the



latter. In addition, low self-esteem individuals felt worse about themselves after receiving negative feedback than after receiving positive feedback, whereas the type of feedback did not affect the way high self-esteem persons felt about themselves (Bernichon et al.). The primary conclusion from this study, then, is that it appears that high self-esteem individuals tend to self-verify more than low self-esteem people. High global self-esteem will likely lead to the preference for self-verifying feedback, regardless of specific self-views. In the case of a high self-esteem person with a positive specific self-view, both verifying and enhancing feedback would be positive. On the other hand, having low global self-esteem and negative specific self-views will lead to the preference for self-enhancing feedback, whereas individuals with the combination of low self-esteem and positive specific self-views would enjoy receiving positive or enhancing feedback but would also find less positive feedback to be acceptable as well.

The discussion above suggests that global self-esteem and specific self-views are independent and uncorrelated, and therefore, would interact to moderate the relation between attachment style and feedback preference, especially because global self-esteem has been found to influence people's emotional reactions to evaluative feedback and specific self-views have been found to influence cognitive reactions (Brown & Dutton, 1995; Dutton & Brown, 1997). It is conceivable that a person who has high global self-esteem may not think highly of him or herself in a particular domain (e.g., socially or academically). On the other hand, someone who does not have a high global self-esteem may have one specific domain of functioning in which he or she feels particularly competent. However, research findings do suggest that global self-esteem and specific

self-views are, in fact, highly correlated and may not interact with each other to moderate the relation between attachment style and feedback preference. For example, Heatherton and Polivy (1991) found a positive correlation between global self-esteem as measured by the Rosenberg self-esteem measure and social and performance (academic) self-esteem ( $r = .58$  and  $.57$  for social and performance self-esteem, respectively). Thus, the current study assumed that global self-esteem, social self-views, and academic self-views are highly correlated but conceptually distinct constructs. The relations between global self-esteem and feedback preference and between specific self-views and feedback preference were examined independently in this dissertation.

#### Romantic Attachment Style, Global Self-Esteem, and Specific Self-Views

The relations between romantic attachment style and global self-esteem and between romantic attachment style and specific self-views were also of interest in this dissertation as global self-esteem and specific self-views were hypothesized to be moderators of the relation between attachment style and feedback preference and as attachment style has been suggested to be a causal factor in many aspects of self-evaluation, including global and social self-esteem (Bylsma, Cozzarelli, & Sumer, 1997; Cassidy, 1988).

Studies have consistently found secure attachment to be related to higher self-esteem and anxious-ambivalent attachment to be related to a negative view of the self (e.g., Collins & Read, 1990; Feeney & Noller, 1990; Meyers, 1998). A dismissing-avoidant attachment style is related to higher self-esteem (sometimes indistinguishable

from that of secure attachment persons), and fearful-avoidant attachment is related to low self-esteem (Bartholomew & Horowitz, 1991; Brennan & Morris, 1997; Man & Hamid, 1998). The source of high self-esteem is hypothesized to be different for secure and dismissing-avoidant individuals. For the former, high self-esteem is thought to be due to self-liking, based on internalized positive regard from others, whereas for the latter, it is believed to be due to self-competence based on skills and abilities (Brennan & Morris). The positive self-concepts that avoidant persons possess also differ from those that secure persons possess in that they are less balanced, integrated, and coherent, indicating that such high self-esteem may not be authentic but a defense against all negative memories and affects (Mikulincer, 1995).

Individuals' social and academic competence has also been found to relate to attachment style. For example, Bringle and Bagby (1992) found that persons with an avoidant attachment style (not differentiating between fearful and dismissing avoidant) reported lower social self-esteem (compared to both secure and anxious-ambivalent persons), but their academic self-esteem is similar to that of securely attached individuals. Anxious attachment style was related to lower performance (work-related), but not social, self-esteem, compared to both secure and avoidant attachment styles. These findings were postulated to be the result of a compensatory effort in that those with an avoidant attachment style compensate for their lack of social self-esteem by working hard to achieve esteem in the performance area, and those with an anxious attachment style compensate for their deficit in performance self-esteem by emphasizing social relationships.

In summary, extant research suggests that global self-esteem is higher in secure and dismissing-avoidant persons and lower in anxious-ambivalent and fearful-avoidant persons. Specific performance self-esteem is higher in secure and avoidant persons and lower in anxious-ambivalent persons. Social self-esteem is higher for secure and anxious-ambivalent individuals and lower for avoidant persons.

Global Self-Esteem and Specific Self-Views  
as Moderators of the Relation Between  
Attachment and Feedback Preference

Based on the review of literature on attachment, global self-esteem, and specific self-views (social and academic), it was hypothesized that one's global self-esteem and specific self-views would moderate the relation between attachment and feedback preference. A moderator is defined as a variable that influences the relation of two variables. In other words, the nature of the relation between two variables (A and C) depends on the level of a third variable (B). It can be thought of as an interaction such that variables A and B interact with each other to influence variable C (Garson, n.d.).

Global self-esteem and specific self-views were hypothesized to moderate the relation between one's attachment style and preferred feedback type. Those with the dismissing-avoidant attachment style, for example, have been shown by past research to have higher global self-esteem, and they are predicted to report higher preferences for no ("neither") feedback. However, dismissing-avoidant individuals who report lower global self-esteem may express different feedback preferences. Specifically, having lower

esteem of the self may lead them to desire feedback, perhaps enhancing feedback. In this case, having high or low global self-esteem differently impacts the association between attachment style and feedback preference.

Similarly, in terms of social and academic self-views, each may impact the relation between attachment style and feedback preference. Past research has found individuals who score highly on the avoidant dimension to have higher academic self-views, positing that individuals with avoidant attachment representations rely more heavily on academic and performance self-evaluations and successes in order to compensate for perceived deficits in the social domain. In contrast, individuals with anxious attachment representations are posited to rely more heavily on social contexts in deriving their overall sense of self. Based on these findings, social self-views might be expected to serve as a more powerful moderator of the anxious attachment style, while academic self-views would be expected to more strongly moderate avoidant attachment representations.

#### Feedback Preference and Attraction

Proponents of verification/consistency theories have argued that receiving verifying feedback leads to partner attraction, relationship stability, marital satisfaction, and other positive outcomes (e.g., Swann et al., 1989), whereas advocates of enhancement theories have suggested that receiving enhancing feedback leads to those positive results (e.g., Morling & Epstein, 1997). Although studies have examined the relation between different types of feedback and partner attraction, no studies have investigated the relation between receiving one's *preferred* feedback and partner

attraction, especially in a romantic relationship that has not yet been formed. Receiving one's preferred feedback from potential partners should lead to greater attraction than receiving a type of feedback that one does not prefer.

### Research Questions and Hypotheses

Based on the review of literature in the previous sections, the purpose of this section is to systematically outline the research questions and hypotheses of the present dissertation. Due to the discussions of romantic attachment in categorical terms in the literature, categorical terms are also used in this dissertation to discuss romantic attachment. However, the hypotheses made here regarding attachment styles and the research questions are tested dimensionally and described dimensionally, as well as categorically, in the results section. This is because a continuous measure of attachment style was used in this dissertation. Attachment categories are captured by interactions with different combinations of anxious and avoidant attachment scores.

#### *Primary Questions*

1. *What is the relation between adult romantic attachment style and feedback preference?* To the best of this dissertation author's knowledge, only two studies (Murray et al., 1996b; Murray, Holmes, et al., 2001) have examined the relation between adult attachment style and feedback preference, which is of central interest in the research proposed for the dissertation. However, based on findings on attachment style and affect-regulatory/support-seeking/communication behaviors during stressful situations in the literature, predictions regarding associations between attachment style and feedback

preference can be made. Based on the literature, one would predict that individuals with a secure attachment style (low anxious attachment and low avoidant attachment scores) would report higher preferences for verifying feedback; those with the dismissing-avoidant attachment style (low anxious attachment, high avoidant attachment) should report a higher preference for neither verifying nor enhancing feedback (the “neither” type of feedback); and those with either fearful-avoidant (high anxious attachment and high avoidant attachment) or anxious-ambivalent attachments style (high anxious attachment, low avoidant attachment) would have a high preference for enhancing feedback.

2. *Does global self-esteem moderate the relation between romantic attachment and feedback preference?* It was hypothesized that global self-esteem would moderate the relation between attachment and feedback preference. In other words, global self-esteem and attachment would interact specifically in the following ways. Scores on the anxious dimension and global self-esteem were expected to interact, such that the predicted positive association between anxious attachment and preference for enhancing feedback and the negative association between anxious attachment and preference for verifying feedback might not be observed (or might not be as strong) in individuals with high global self-esteem. Additionally, two-way interactions between scores on the avoidant dimension and global self-esteem were predicted, such that low global self-esteem might moderate the predicted positive relationship between avoidant attachment and preference for “neither” feedback. Although individuals with high scores on avoidant attachment are generally hypothesized to prefer no feedback from others, low global self-

esteem might render these individuals more open to enhancing feedback in an effort to bolster their negative self-views. Finally, three-way interactions among anxious attachment, avoidant attachment, and self-esteem might capture specific patterns of association related to the four-category conceptualization of attachment style.

Specifically, high anxious attachment, high or low avoidant attachment (i.e., fearful-avoidant, anxious-ambivalent), and low global self-esteem would predict the strongest preference for enhancing feedback. Low anxious attachment, low avoidant attachment, and high global self-esteem (i.e., securely attached individuals with high global self-esteem) would predict the strongest preference for verifying feedback. Those with low anxious attachment, high avoidant attachment (i.e., dismissing-avoidant), and high global self-esteem would exhibit the strongest preference for no feedback.

*3. Do social self-views moderate the relation between romantic attachment and feedback preference?* Social self-views were predicted to moderate the relation between attachment and feedback preference. Two- and three-way interactions among anxious attachment, avoidant attachment, and social self-views were predicted in the same manner as predicted for global self-esteem. Predicted bivariate relationships among anxious attachment, avoidant attachment, and feedback preference were hypothesized to be strengthened or attenuated by individual differences in social self-views. However, because social self-views are theoretically expected to be more salient for individuals with high anxious attachment scores (anxious ambivalent or fearful-avoidant), the moderating effects of social self-views are expected to be stronger among those individuals. Thus, two-way interactions between the anxious dimension and social self-



views and three-way interactions that define anxious-ambivalent and fearful-avoidant individuals (high anxious-low avoidance and high anxious-high avoidance, respectively) were expected to yield the strongest associations with feedback preference in social contexts, particularly for the enhancing type that is posited to be associated with the anxious attachment dimension.

4. *Do academic self-views moderate the relation between romantic attachment and feedback preference?* Academic self-views were also predicted to be a moderator in the relation between attachment style and feedback preference in much the same manner as described for global self-esteem and social self-views. However, previous research suggests that academic self-views would be more salient among people who report avoidant attachment representations; they are posited to develop and accentuate academic- or performance-related competencies in an effort to compensate for difficulties or discomfort in the social arena. Thus, two-way interactions between avoidant attachment and academic self-views and three-way interactions that define the avoidant attachment styles (high avoidant and high anxious attachment or high avoidant and low anxious attachment) would be expected to predict the strongest feedback preference in academic contexts, particularly for the “neither” type, which is posited to be more closely associated with avoidant attachment styles.

5. *What is the relation between feedback preference and attraction to partner?*

Feedback preference should correlate positively with partner attraction.

#### *Secondary Questions*

1. *What is the relation between adult romantic attachment style and global self-*

*esteem?* Because of the previously described theoretical and empirical links between attachment styles and views of self and others, persons with secure attachment and those with dismissing-avoidant attachment (low anxious attachment) should have high global self-esteem, and fearful-avoidant and anxious-ambivalent persons (high anxious attachment) should have low global self-esteem.

2. *What is the relation between adult romantic attachment style and specific self-views (social and academic)?* Anxious-ambivalent and secure individuals (low avoidant attachment) should have higher social self-views, and fearful-avoidant and dismissing-avoidant individuals (high avoidant attachment) should have lower social self-views. Secure, dismissing-avoidant (low anxious attachment), and fearful-dismissing persons (especially the former two) may have higher academic self-views and anxious-ambivalent persons (high anxious attachment) lower academic self-views.

3. *What is the relation between global self-esteem and feedback preference?* People with higher global self-esteem could prefer verifying feedback, whereas those with lower global self-esteem would most likely prefer enhancing feedback.

4. *What is the relation between specific self-views (social, academic) and feedback preference?* Due to the lack of research in this area, it is difficult to predict how having higher or lower self-views in specific domains (i.e., social and academic) would predict a preference for enhancing, verifying, or no feedback. This analysis will be an exploratory one, and the hypothesis made is based on suggestions from the literature examining associations between global self-esteem and feedback preference. High self-views, whether social or academic, will predict the preference for verifying feedback, and

low self-views will predict the preference for enhancing feedback. Having high self-views may also predict stronger preference for “neither” feedback.

5. *What is the relation between global self-esteem and specific self-views?* A significant positive relation between global self-esteem and social and academic self-views was predicted. In other words, having high global self-esteem would predict high social or academic self-views, and having low global self-esteem would predict low social or academic self-views.

## CHAPTER III

### METHOD

#### Participants

As summarized in Table 4, a total of 374 undergraduate students (47% males, 53% females) participated in the study, in return for extra credit in their classes. Their ages ranged from 18 to 57 years ( $M = 21$ ,  $SD = 4$ ). Nearly 50% of the participants were freshman, 34% were sophomores, and only 5% were seniors. The racial make-up of the sample was as follows: 92.7% Non-Hispanic White, 3% Asian, 1.9% Hispanic, .8% Black, 1.1% biracial/multiracial, and the rest were "other" (.5%). Of the participants, 85% reported their religious affiliation as The Church of Jesus Christ of Latter-day Saints (LDS), which could raise questions regarding the generalizability of the findings to other college populations in the U.S.<sup>2</sup> Comparisons will be made between the results of this study and previous studies on attachment style, self-esteem, and feedback preference to ascertain the extent to which results based on a primarily LDS sample replicate prior results.

One of the questions on the demographic form asked about the level of dedication to their major of choice. This was to assess how important academics were to the participants and how much negative events related to academics might be stressful to them. The majority of the participants (86%) were either somewhat or very dedicated

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<sup>2</sup> No published studies were found that compared the scores of LDS to non-LDS participants on the variables of interest in this study. There are studies that report no statistically meaningful differences between the two groups on other psychologically relevant variables (e.g., overt conflict style and externalizing disorders; Buehler, Krishnakumar, & Stone, 1998; attitudes on gender equality in the workplace; Hartman & Hartman, 1983)

Table 4

*Participant Demographics*

Variable	Percent
<i>N</i> = 374 (176 male, 198 female)	
Age: <i>M</i> = 21 ( <i>SD</i> = 4)	
Min. = 18	
Max. = 57	
Race	
Non-Hispanic White	92.7
Hispanic	1.9
African-American	.8
Asian/Pacific Islander	3.0
Bi/multiracial	1.1
Other	.5
College level	
Freshman	50.0
Sophomore	34.0
Junior	11.0
Senior	5.0
Religion	
The Church of Jesus Christ of Latter-day Saints	85.0
Other	15.0

to their declared or intended major, with 14% reporting little dedication. This indicates that most participants were serious about their college education and would most likely find negative events related to their academics to be stressful.

### Study Design

The study involved a correlational design that investigated the relation between attachment style and the type of feedback that individuals preferred to receive from potential romantic partners, and how these preferences were related to one's attraction to

potential dating partners. Participants' global self-esteem and specific self-views were examined as potential moderators of the relation between attachment style and feedback preference.

### Procedures

The research study, dates, and appointment times were announced in introductory psychology classes. Several options were available, and participants could participate at any one of the various scheduled times for extra credit. Confidentiality was ensured as the measures were identified by number, and participants' identifying information did not appear on any of the measures. Upon arrival at a session, participants signed an Informed Consent form (Appendix A) and completed a demographics form. They then completed the Feedback Preference Form, with the Reaction to Feedback Measure incorporated, Experience in Close Relationships–Revised, Rosenberg Self-Esteem Scales, and Self-concept Measure questionnaires. Copies of all measures can be found in Appendix B. Finally, the participants were debriefed (Appendix C). The participants averaged 30 minutes to complete the study.

### Measures

The measures administered to participants were self-report in nature. Most of these measures have been widely used, and their psychometric integrity has been documented in previous research. Other measures were developed by the researcher and were modeled upon extant measures that assessed similar constructs of interest.

The psychometric properties of each measure are summarized below, based on findings of previous studies.

#### *Demographic Form*

The demographic form consisted of standard demographic information, such as gender, age, ethnicity, religion, and educational status, and also information relevant to the study, including college major, dedication to major, and relationship status.

Participants were assured that this information would be used for the purpose of the present study only.

#### *Experiences in Close Relationships Questionnaire—Revised*

Several adult attachment measures have been developed since the first one created by Hazan and Shaver (1987). Attachment is conceptualized as a categorical variable in some of these measures and as a dimensional construct in others. In this study, the dimensional approach to measuring attachment was adopted, which represented categories of attachment in terms of interactions between the dimensions of anxiety and avoidance.

The dimensional measure known as the Experiences in Close Relationships Questionnaire-Revised (ECR-R) was chosen for inclusion in this study (Fraley et al., 2000). The ECR-R is a 36-item self-report measure of adult attachment that represents each of the avoidance and anxiety dimensions in terms of 18 items. The items are rated on a 7-point Likert scale (1 = disagree strongly, 4 = neutral/mixed, 7 = agree strongly),

with higher scores indicating higher levels of anxiety and avoidance. Positively worded items are reverse-scored.

The dimensions of anxiety and avoidance are created by averaging the ratings of the 18 items for each scale, thus yielding anxiety (or avoidance) scores with minimum and maximum values of 1 and 7, respectively. Based on guidelines provided by Shaver and Fraley (2002; Baird, 2002; Muderrisoglu, 1999), participants' mean dimensional ratings of anxiety and avoidance can then be used to classify each participant into one of the four attachment categories.

Although both categorical and dimensional approaches to representing attachment could yield useful information, the dimensional approach was used in the present study. This decision was based on several considerations. There is evidence showing that the categorical approach does not capture some important individual differences, and questions have been raised regarding the arbitrary nature of the cut-off values needed to create categories and regarding the existence of true attachment typologies (e.g., Brennan et al., 1998; Collins & Read, 1990; Fraley & Waller, 1998; Muderrisoglu, 1999; Peluso, 2002).

The original ECR was the result of a factor analysis of 323 items representing 60 constructs taken from numerous attachment measures. The 60 constructs or subscales were highly correlated, indicating the existence of common underlying dimensions. The 323 items were reduced to 36 items measuring the two factors of anxiety and avoidance. A cluster analysis then resulted in four clusters that corresponded to the four attachment styles of secure, anxious-ambivalent, fearful-avoidant, and dismissing-avoidant (Brennan



et al., 1998). The two dimensions of anxiety and avoidance can be found in the study done by Ainsworth and her colleagues (1978) and nearly every adult attachment measure published to date. The avoidance scale of the ECR was found to correlate highly with other scales measuring avoidance and discomfort with closeness, and the anxiety scale correlated highly with other scales measuring anxiety and preoccupation with attachment and fear of rejection (Brennan et al.).

The ECR-R was developed using an item response theory analysis of the original 323 items from the ECR, and it shared 20 items with the original ECR. The ECR-R is reported to be able to increase measurement precision by 50%–100% without increasing the total number of items in the original ECR. The validity of the ECR-R is supported by the validity of the ECR (Fraley et al., 2000). Internal consistency reliability for the ECR-R anxiety and avoidance scales has been reported to be high, ranging from .91 to .95 (Baird, 2002; Fraley et al., 2000; Sibley & Liu, 2004; Venza, 2002). Short-term temporal stability over a 6-week period has also found to be high (86% shared variance over time; Sibley & Liu).

#### *Rosenberg Self-Esteem Scale*

The Rosenberg Self-esteem scale (RSE; Rosenberg, 1965) was used to assess participants' global self-esteem. This 10-item, pencil-and-paper self-report measure of global self-esteem is commonly used, having appeared in more than 300 published studies in the last 10 years. For each item, participants circled one of the four choices (4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree) on a 4-point Likert scale. Five items were worded in the positive direction, and five items were worded in the

negative direction. After reverse scoring the negatively worded items, a sum score is created, with minimum and maximum values of 10 and 40, respectively. Higher scores reflect more positive self-evaluations.

Demo (1985) found that the Rosenberg is the most widely used measure of global self-esteem and one of the two measures that performed the best in factor analysis among eight measures of self-esteem, including projective measures, interviews, self-report, and peer ratings. The internal consistency reliability has been reported to range from .84 to .93 (Bagley & Mallick, 2001; Bylsma et al., 1997; Griffin & Bartholomew, 1994; Rosenberg, 1965; Salyers et al., 2001), and test-retest reliability is .82 and .80 across a 1- and 2-week period, respectively (Fleming & Courtney, 1984; Salyers et al.). Many test developers and researchers have compared the Rosenberg Self-Esteem measure with the psychometric properties of other self-esteem measures and also with other constructs, such as depression, anxiety, general self-regard, and social confidence, and have found evidence of convergent and construct validity (Bagley & Mallick; Byrne, 1996). Wylie's (1989) review of the measure also concluded that it has good reliability and construct validity.

### *Specific Self-Views Measure*

There are numerous measures of social and academic competencies. However, many of the social measures assess one's social skills rather than one's own views of oneself in social situations, including social skills, ease in social settings, perception of how one may be perceived by others in social situations, and so forth. Most of the academic measures were created for precollege level students and are not suitable for

measuring college students' perceptions of their own academic competency. Many of the measures are also patented and require purchase from the publishers. Measures that are available for use free of charge were reviewed. Some of the social concept measures reviewed for this dissertation included the Self-Efficacy Scale (Sherer et al., 1982), Social Self-Esteem Inventory (Lawson, Marshall, & McGrath, 1979), and the short form of the Texas Social Behavior Inventory (Helmreich & Stapp, 1974). Some of the measures of academic self-concept reviewed included the Word Rating List (Payne & Farquhar, 1962), Academic Self-Concept Scale (Reynolds, Ramirez, Margrino, & Allen, 1980), and Self Description Questionnaire III (Marsh & O'Neill, 1984). The State Self-Esteem Scale is a measure of both social and performance self-esteem (Heatherton & Polivy, 1991).

The specific self-views measure used in this dissertation was developed by the author of the dissertation. There are a wide variety of self-concept measures that could have been used as models to develop a trait measure of students' social and academic self-views (cf. Byrne, 1996). After a review of the existing measures (the ones mentioned above, in addition to others, e.g., Byrne; Fleming & Watts, 1980; Michael, Denny, & Knapp-Lee, 1984; Wiemann, 1977), the author chose to use the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) as a model for developing trait measures of social and academic self-views for college students that would be appropriate for this dissertation. The SSES was chosen, because this measure had the best variety of items pertaining to both social and academic self-views, and it also included a subscale

regarding appearance with items that could serve as filler items. No other measure with sufficient focus on the two relevant self-views (social and academic) was found.

The SSES measures self-views at the “state” level, that is, its intent is to examine people’s self-perceptions as they vary across context, mood, and time period. All of the items were re-worded to ensure their depiction of trait as opposed to state self-views, because of the interest in the current study in measuring students’ global and stable self-perceptions in the social and academic realms. Traits are more enduring characteristics that should exhibit little variation in different situations. High correlations between trait and state measures are not uncommon, however, because individuals tend to respond to items worded as “states” as though they are worded as “traits,” unless there are strong situational cues present that promote a state perspective (e.g., having question items that ask about one’s physiological state or about a specific memory, using hypothetical scenarios that clearly describe the situation, or using words such as “right now”; Robinson & Clore, 2002). In addition to these changes, the author reworded the seven academic items to better fit college students by adding “college” or “college classes.”

The author’s first draft of the Specific Self-View measure (trait measure) and the original SSES (state measure) were administered to 28 college students in a pilot study. The two measures were given in a counterbalanced format so that some participants completed the original SSES first, whereas others completed the author’s revised version first. This first draft was an attempt to make the SSES more trait-like. Comparisons were made between the SSES and the author’s draft. Pearson’s  $r$  between the two measures was .69, indicating that the two measures were similar. Correlations between the SSES

and the author's draft at the subscale level (i.e., social, performance, and appearance) ranged from .62 to .72. Cronbach's alpha for the SSES was .59 and for the author's revised version was .58, which again indicated that both were similar.

Because of the high correlation between the SSES and the author's revised draft, a second draft was created that consisted of the instructions and the items rewritten to further make the measure more trait-like. As an example, one way of conveying that the items were measuring traits rather than states was by adding the word "generally." The SSES and the second draft were administered to 22 college students in a second pilot study. The order of the presentation was again counterbalanced so that some participants completed the SSES first, whereas others completed the author's draft first. Pearson's correlation between the SSES and the second version of the measure was .78, which was even higher than the correlation in the first pilot test. Pearson's correlation between state and trait social self-views, state and trait academic self-views, and state and trait appearance self-views ranged from .50 to .91. The high correlation between the two measures may perhaps be explained by the tendency for people to respond to state measures as trait measures as mentioned above. Cronbach's alpha for the SSES was .70, and the alpha for the author's trait version was .80, indicating higher reliability for the trait version.

The second version was used in the dissertation because its internal consistency ( $\alpha = .80$ ) was higher than that of the first version ( $\alpha = .58$ ) and because the author believed that the instructions and the items were better worded to measure trait self-

views. Because no demographic information was obtained during the pilot studies, gender differences and relationship status differences were not examined.

The final version of the self-view measure used in the study consisted of 20 items, involving three subscales: appearance, social, and performance self-concepts. The appearance items were included to serve as filler items. Participants rated each item on a 5-point Likert scale, ranging from 1 (not at all typical of me) to 5 (extremely typical of me). Thirteen of the items were reverse-scored. Subscales were scored by adding up the scores for the individual items making up each subscale and dividing it by the number of items. Hence, the range of possible scores would be from 1 to 5.

#### *Feedback Preference Form*

Participants read four hypothetical scenarios depicting two stressful academic and two stressful social experiences. The orders in which the four scenarios were presented and the feedback choices presented within a scenario were completely counterbalanced. Including scenarios representing stressful academic and social events served two purposes. The first is that distressing events are more likely to elicit support seeking and giving, as attachment style is most evident in times of distress (e.g., Ainsworth et al., 1978; Simpson et al., 1992). The second purpose of using such scenarios is that they are events with which the participants (college students) would be able to identify. That is, they are areas that are central to their self-views at this phase in their lives and are more likely to be perceived as relevant and realistic.

Because no measures were found that were suitable for the purpose of this study, this measure was developed by the researcher based on a review of previous studies of

feedback preference or coping styles that employed hypothetical scenarios involving social or academic settings. The measure was pilot-tested several times on college students and revised to improve clarity of the scenarios and definitions of the three feedback types. The scenarios were similar to some of those used by others but were worded more suitably for this study (e.g., Katz & Beach, 2000; Morling & Epstein, 1997; Ognibene & Collins, 1998).

The measure was administered to 25 college students orally in the first pilot study, and questions and comments were encouraged throughout the sessions. It was a “qualitative” type of pilot study that did not include reliability analysis. The feedback garnered through the pilot study pertained mainly to the instructions and definitions of the three feedback types, such as using the words “overly positive” to describe enhancing feedback and using “need” versus “important” in describing their desire for a certain feedback type. Some participants were given two versions (one with the word “need” and the other with “important”) and asked to compare the two. Participants reported that the two were similar and the differences were not essential. For the most part, they did not have questions or comments regarding the measure and stated that they understood the measure well. However, there were some respondents who reported that the scenarios were vague and asked for more details regarding the hypothetical situations and the potential romantic partner. Based on the feedback received, the measure was revised by adding information to the scenarios. For example, in the revised version, participants were to pretend they had known this potential romantic partner as a classmate for one

semester. The measure was again administered orally to 66 college students. Participants had fewer questions on the second draft, and this was the one used in data collection.

For each scenario, participants ranked their preference for the three types of feedback (enhancing, verifying, or a preference for “neither” enhancing nor verifying feedback) they would like to hear from a potential romantic partner, with 1 being the response that would be most important for them to hear. Below is a replica of a question and its associated rating scale.

Considering the three types of feedback, what kind of feedback about your academic competency would be important for your to hear from this person? Put the number 1 (most important for you to hear from this person), 2 (in between), and 3 (least important for you to hear from this person) next to each type of feedback:

\_\_\_ verifying (similar to your own views, whether it’s positive or negative)

\_\_\_ neither (it wasn’t important for you to get any feedback, so you didn’t solicit any)

\_\_\_ enhancing (positive, whether it’s similar to your own views or not)

For each of the feedback types ranked number 1, participants were asked to rate on a 7-point Likert scale the degree of certainty for their ranking of the feedback as the first choice (see below).



Look at the choice that you ranked #1 above. Please rate how important it is for you to get that kind of feedback from this classmate in this situation (circle one number).

1      2      3      4      5      6      7

Scores for each of the feedback types were then derived, with the following example clarifying the scoring procedure used. If a person ranked enhancing feedback as their number 1 choice in the first social scenario and rated their degree of certainty for choosing this type of feedback as their first choice with a 6, then the enhancing score for this scenario was 6, and both their verifying and “neither” scores were zero. If the same person ranked verifying feedback as their number 1 choice for the second social scenario and rated a 4 on their degree of certainty for this choice, the person’s verifying score was 4, whereas their enhancing and “neither” scores were zero. Scores for each feedback type in both social scenarios were added to derive a single score for each feedback type. Hence, in this example, the person’s enhancing score for the social scenarios was 6, their verifying score 4, and their “neither” score zero. The same scoring procedures were used for the two academic scenarios. For each type of scenario, the minimum score would be zero and the maximum score would be 14 for each feedback type. Scores for the social and academic scenarios were analyzed separately.

#### *Reaction to Feedback Measure*

The Reaction to Feedback Measure (adapted from Katz & Beach, 2000) was incorporated into the Feedback Preference Form and used to assess participants’

attraction to the potential romantic partners. This measure consisted of five questions. Participants rated their responses for each question on a 7-point Likert scale with numbers: 1 being “not at all,” 4 being “somewhat,” and 7 being “very.” An overall attraction score was derived by averaging the five ratings, making the minimum and maximum attraction score 1 and 7, respectively. This measure was completed for each feedback type in order to assess the relation between participants’ degree of preference for each feedback type and attraction to partner. This measure was included in the pilot testing each time, but no changes were made, as participants did not have questions or comments regarding these items.

## CHAPTER IV

### RESULTS

This chapter is divided into two parts. The first part titled “Preparatory Steps for the Main Data Analysis” presents the variables in the study, the necessary transformations made of the relevant variables, general descriptive data (e.g., means and standard deviations) and how they compared to findings from past studies, reliability of the various measures used in the study, power analysis, established guidelines for statistical significance and effect size, the method of analysis used, and assumptions of multiple regression analysis that were tested to determine whether the use of this analytic method was appropriate. The second part of the chapter presents the results of the primary research questions. Results of the secondary research questions can be found in Appendix E.

#### Preparatory Steps for the Main Data Analyses

##### *Predictor and Criterion Variables*

The major predictor variables in this study were the scores representing anxious attachment, avoidant attachment, global self-esteem, specific self-views (social and academic), and the scores for the 2-way and higher-order interaction terms involving the cross-products of the scores for the predictors, for example, the cross-products of the scores for anxious attachment and avoidant attachment. The main outcome (criterion) variables were the scores representing the preference for the three types of feedback (enhancing, verifying, and “neither”) in two contexts (academic and social) and the

ratings of attraction to the romantic partner who gave a specific feedback type (enhancing, verifying, or “neither”). The reader should note that for a small subset of the analyses, the scores for the three feedback preference type were treated as predictor variables and the partner attraction scores constituted the outcome variable. Similarly, to answer the secondary research questions, it was necessary to treat the scores for some of the variables that were primarily conceptualized as predictor variables (e.g., global self-esteem) as outcome variables.

To avoid analytic problems associated with multicollinearity, the predictors were first centered and z-scored, and the transformed variables were used to create interaction terms (Aiken & West, 1991). The scores for the transformed variables were used only for analyses involving interaction terms. Untransformed variables were used for analyses with no interaction terms. Because the data were transformed (already standardized), unstandardized coefficients or *B*-values, instead of standardized coefficients (Betas), were used for interpretation (Aiken & West). Due to the presence of cases with outliers, some of the analyses were conducted with and without the cases with the outliers to find the model of best fit.

### *Descriptive Statistics*

Table 5 summarizes descriptive statistics for each variable before any relevant transformation took place. These descriptive statistics were examined to determine whether the largely LDS sample used in this dissertation scored comparably to previous samples representing more heterogeneous groups. The descriptive statistics are additionally useful in generally characterizing the nature of the sample’s attachment

Table 5

*Means and Standard Deviations for Predictor and Criterion Variables*

Variables	<i>N</i>	Mean	Minimum observed	Possible	Maximum observed	Possible	<i>SD</i>
Anxious attachment	373	3.23	1.00	1	7.00	7	1.10
Avoidant attachment	373	2.92	1.00	1	5.89	7	1.04
Global self-esteem	374	31.12	10.00	10	40.00	40	5.26
Social self-view	372	3.36	1.00	1	5.00	5	.88
Academic self-view	372	3.33	1.14	1	5.00	5	.81
Attraction to partner who gave enhancing feedback in social contexts	374	5.31	1.60	1	7.00	7	.90
Attraction to partner who gave verifying feedback in social contexts	374	4.83	1.40	1	7.00	7	1.04
Attraction to partner who gave "neither" feedback in social contexts	374	3.87	1.00	1	6.20	7	.99
Attraction to partner who gave enhancing feedback in academic contexts	373	5.45	1.30	1	7.00	7	.86
Attraction to partner who gave verifying feedback in academic contexts	373	4.57	1.20	1	7.00	7	.99
Attraction to partner who gave "neither" feedback in academic contexts	372	3.62	1.00	1	7.00	7	1.08
Preference for enhancing feedback in social contexts	356	5.39	.00	0	14.00	14	4.25
Preference for verifying feedback in social contexts	356	3.92	.00	0	14.00	14	3.82
Preference for "neither" feedback in social contexts	356	1.04	.00	0	11.00	14	2.32
Preference for enhancing feedback in academic contexts	356	7.19	.00	0	14.00	14	4.33
Preference for verifying feedback in academic contexts	356	2.60	.00	0	14.00	14	3.51
Preference for "Neither" feedback in academic contexts	356	.62	.00	0	11.00	14	1.90
Valid <i>N</i> (listwise)	343						

orientations, global self-esteem, specific self-views, and feedback preferences. Inspection of the results in Table 5, when compared to results of past studies, indicated that the means and standard deviations in the present sample were comparable (e.g., Baird, 2002; Cheng & Furham, 2003; Venza, 2002). Based on the means, standard deviations, and range of possible scores, it seems reasonable to describe this sample as being relatively low in anxious and avoidant attachment, having high rather than low global self-esteem, and reporting moderately high social and academic self-views.

As seen from the table, in the social context enhancing feedback was the most preferred feedback type, followed by the verifying and finally the “neither” type. A repeated measures ANOVA showed that the differences among the three feedback types were statistically significant,  $F(2, 710) = 95.23, p < .001$ . Simple contrasts indicated that preference for enhancing feedback was statistically significantly higher than preference for verifying feedback,  $F = 13.86, p < .001$ , and preference for “neither” feedback,  $F = 219.36, p < .001$ . The preference for the verifying feedback was also statistically significantly greater than the preference for the “neither” feedback,  $F = 123.15, p < .001$ . Results of the repeated measures ANOVA examining preferences for feedback in the academic context were similar,  $F(2, 710) = 241.48, p < .001$ . The preference for enhancing feedback was significantly greater than the preference for either verifying,  $F = 137.61, p < .001$ , or “neither” feedback,  $F = 535.44, p < .001$ . The preference for verifying feedback was also greater than the preference for “neither” feedback in the academic context,  $F = 80.78, p < .001$ . Thus, enhancing feedback was the most preferred, regardless of the context in which the feedback was given. There was, however, a great

deal of variability for the enhancing feedback type, as seen from the large standard deviations. Although enhancing feedback was the most preferred feedback type, some of the individuals who preferred this type of feedback had a very high preference for it (high score ratings), whereas the scores of many participants were more moderate.

Given the findings described above, it was not surprising that the attraction to partner scores showed the greatest attraction (highest mean) for partners who gave the enhancing feedback type, followed by partners who gave the verifying feedback and then those who gave the “neither” feedback type. In the social context, a repeated measures ANOVA assessing attraction to partners who gave the three types of feedback was statistically significant,  $F(2, 746) = 261.58, p < .001$ . Simple contrasts showed that differences between scores for attraction to partners who gave enhancing feedback and partners who gave verifying feedback,  $F = 55.79$ , between scores for attraction to partners who gave enhancing feedback and “neither” feedback,  $F = 544.69$ , and between scores for attraction to partners who gave verifying feedback and “neither” feedback,  $F = 206.20$ , were all statistically significant at the  $p < .001$  level. This was also true for the academic context,  $F(2, 742) = 392.34, p < .001$ . Attraction to partners who gave enhancing feedback was statistically significantly greater than attraction to partners who gave either verifying,  $F = 181.44$ , or “neither” type of feedback,  $F = 798.26$ . Attraction to partners who gave verifying feedback was also significantly greater than attraction to partners who gave “neither” type of feedback,  $F = 207.73$  (all  $p$ -values  $< .001$ ). It appears that feedback preference and attraction to partners who gave the preferred type of

feedback followed similar patterns, regardless of the context in which the feedback was given.

### *Reliability*

Cronbach's alpha was calculated for scores derived from established measures and the final versions of the various instruments that the author created to estimate the internal consistency (interitem reliability) of the items contributing to each scale.

Cronbach's alpha indicates how well the items "fit together" as a homogenous set of items measuring one construct. As a general rule, Cronbach's alpha that is  $\geq .90$  is considered to be quite high, .80-.89 to be moderate, and  $< .80$  to be low. However, if the measure is exploratory, less stringent criteria are used. Exploratory measures with Cronbach's alpha coefficients exceeding .70 are considered to have adequate interitem reliability (Howell, 2001, 2002; Kotrlik & Williams, 2003; Neill, 2004; Robinson, Shaver, & Wrightsman, 1991).

Cronbach's alphas for the two established measures used in this study were excellent. Alpha was calculated for each of the two scales of the ECR-R, resulting in an alpha of .91 and .93 for the anxious attachment and avoidant attachment scales, respectively. Both indicated high interitem reliability. Cronbach's alpha for the Rosenberg self-esteem measure was .97, which is high and comparable to those reported in the literature (e.g., Rosenberg, 1965; Sibley & Liu, 2004).

Measures designed specifically for this study were the Specific Self-views measure and the Feedback Preference Form. Cronbach's alpha for the 7-item social subscale of the Specific self-views measure was .89, and Cronbach's alpha for the 7-item



academic subscale was .88, indicating moderate to high interitem reliability for each subscale. Because this measure of trait self-views was modified from an existing measure of state self-views, no comparison with previous literature could be made. Cronbach's alpha for the partner attraction ratings for the three feedback types in the social context provided in the Feedback Preference Form ranged from .89-.91, and Cronbach's alpha for partner attraction for the three feedback types in the academic context ranged from .90-.93, indicating high reliability. Ratings offered in response to the Feedback Preference Form could also be assessed for the reliability of participants' preference scores calculated separately as a function of the social versus academic context and taking into account both the type of preference and context. Nine Cronbach's alphas were calculated as presented in Table 6. Three were meant to assess reliability of each type of feedback (i.e., the preference for enhancing feedback across both the social and academic contexts, the preference for verifying feedback across both contexts, and the preference for "neither" type of feedback across both contexts) and were based on four items assessing feedback preference across the two contexts. Six reflected the reliability of feedback types in each context separately and were based on two items assessing preference scores for only the two scenarios for the academic and social contexts, respectively.

Overall, it appears that the most consistent responses were provided for preference for enhancing feedback, and the responses provided for the other two types of feedback were less consistent or most likely dependent upon each scenario. Although Cronbach's alphas were quite low, preferences for the different types of feedback were maintained in the study, as they served as important outcome variables. The low

Table 6

*Cronbach's Alphas for Feedback Preference in Social and Academic Contexts*

Feedback preference	Cronbach's alpha
Preference for enhancing feedback in social and academic contexts	.45
Preference for verifying feedback in social and academic contexts	.41
Preference for "neither" feedback in social and academic contexts	.27
Preference for enhancing feedback in social contexts	.34
Preference for verifying feedback in social contexts	.21
Preference for "neither" feedback in social contexts	.26
Preference for enhancing feedback in academic contexts	.49
Preference for verifying feedback in academic contexts	.31
Preference for "neither" feedback in academic contexts	.40

reliabilities in these important measures were due partly to the small number of items.

The low reliabilities, unfortunately, may have explained the lack of expected relations (both statistical significance and moderate to high effect sizes) between the various predictors and outcome criteria as reported in later sections. This measure has not been used previously in other studies as it was created for this study. Therefore, no comparisons could be made with other samples.

*Power/Sample Size Analyses*

Power in multiple regression is the ability to find a significant effect of an independent variable on the dependent variable when the null hypothesis is false, that is, when the correlation between the independent variable and dependent variable is not zero. The power of a study is determined by its sample size, alpha level, and effect size. Following the general rule provided in the social science literature for power analysis, alpha was set at .05, power at .80, and a medium effect size ( $f^2$ ) of .15 was used (Cohen, 1988). For the number of predictors ranging from 1 to 7 in this study, the sample size

required to detect a medium effect size calculated using G Power Version 2.0 ranged from 55 to 103 (Erdfelder, Faul, & Buchner, 1992). Calculations executed after the data had been collected for this study's sample size, which ranged from 353 to 372, depending upon the predictor(s) involved, and including the number of predictors specified above, yielded power estimates ranging from .98 to .99. Although guidelines regarding sample size requirements relative to the number of predictors vary (Green, 1991; Stevens, 2002; Tabachnick & Fidell, 1996), this analysis suggests that the sample size in this study was sufficient to obtain a power high enough to correctly reject the null hypothesis or to find an effect when an actual effect existed.

#### *Statistical Significance and Effect Size*

Statistical significance was established at  $p < .05$  (Stevens, 2002). The confidence intervals for  $B$ , and  $r$ , and  $R^2$  set at 95% (1.96 standard score) also are presented in the results. Following the recommendation of the American Psychological Association task force, effect size was included, in addition to statistical significance, because it is an indicator of practical meaningfulness (Fan, 2001; Kotrlik & Williams, 2003). Decisions about whether or not hypotheses were supported were based on established criteria for both statistical significance and effect size (i.e.,  $p < .05$  or moderate effect size).

There are multiple alternatives to estimate the size of effects in regression analysis, including Pearson's  $r$  (some prefer to report semipartial or part correlations, whereas others report the partial correlations), squared semipartial (part) correlations, Betas,  $R^2$ , adjusted  $R^2$ , and  $f^2$  (e.g., Cohen, 1988; Jaccard & Turrisi, 2003). Based on Cohen's (1988) recommendations, the adjusted  $R^2$ , rather than the  $R^2$ , was used in this

study. The magnitude of an effect based on adjusted  $R^2$  was judged to be small, medium, and large, respectively, for values of  $\leq .12$ ,  $.13-.25$ , and  $\geq .26$  (Cohen, 1988). Partial correlations for the individual predictors were used to assess the effect of each predictor as they equal the  $r$  calculated per Cohen's (1988) formula ( $r = \sqrt{[t^2/(t^2 + df)]}$ ). Cohen's guidelines for interpreting the effect size represented by correlation coefficients (partial) are as follows:  $r \leq .24$ ,  $.25-.37$ , and  $>.37$  to be small, medium, and large, respectively. In terms of zero-order correlations, Cohen's guidelines are as follows:  $r \leq .29$  = small,  $.30-.49$  = moderate, and  $\geq .5$  = large. These guidelines were used in examining the correlation matrix for the predictor and criterion variables.

### *Statistical Analyses*

Answers to the research questions and tests of the hypotheses were assessed using a series of complex multiple regression analyses. The scores for the predictor variables were standardized where appropriate (centered and z-scored) prior to regression analyses (Aiken & West, 1991). For those analyses that involved multiple interactions, all the lower terms were always included in the analysis. For research questions involving anxious and avoidant attachment, two analyses were run for each question. In one of the analyses, anxious attachment was entered first, avoidant attachment second, and the interaction term third. In the other analysis, avoidant attachment was entered in the first block, followed by anxious attachment in the second block, and the interaction term in the third block. The purpose of this hierarchical regression procedure was to assess the unique effects of anxious and avoidant attachment separately. For other research questions involving the attachment variables and a potential moderator (e.g., global self-

esteem), the attachment variables were not entered separately. Instead, they were entered with the main predictors and the moderating variable in the first block, followed by the two-way and three-way interactions terms in succeeding blocks.

Preliminary multiple regression analyses were performed to determine whether the demographic variables of gender and relationship status (not dating, dating casually, dating seriously, engaged, married) interacted with the predictor variables in predicting feedback preference. First, in order to assess for differential gender effects, interactions between gender and the various predictors were created to assess gender differences. Because sex is a categorical variable, a dummy variable was first created by coding males 1 and females 0. Females in this case were the reference group. Interaction terms were created by multiplying the continuous independent variable, such as anxious attachment, with the dummy variables.

Similar procedures were utilized to assess for interactions between relationship status and the primary predictor variables. Fifteen percent of the participants in this dissertation were married, 3% were engaged, 20% were in a serious relationship, 24% were dating casually, and the rest (38%) were not involved in a romantic relationship. This study included individuals of all relationship statuses because they were asked, using hypothetical scenarios, to imagine being interested in potential romantic relationships. Therefore, it was hypothesized that one's relationship status would not affect the outcome of the study. However, if group differences were found, relationship status may be analyzed as a covariate or the various groups would be analyzed separately and compared on the various research questions. Because relationship status was a

categorical variable as well, dummy variables were also created, with one category being the reference group coded 0 and the rest coded 1. The dummy variables were multiplied with the various continuous predictors to form interaction terms. Comparison was then made between the dummy variables coded 1 and the reference group that was coded 0 on the relation between the independent variable and dependent variable of interest. For example, if “married” was the reference group and the independent variable was anxious attachment, the *p*-values and effect sizes would indicate the difference between being “married” and all of the other relationship status categories collapsed (i.e., not dating, casually dating, seriously dating, and engaged) in the relation between anxious attachment and the feedback preference outcome. Similarly, another relationship status could be used as the reference group (dummy variable coded 0) and be compared with the other relationship status categories that were dummy coded 1. Separate analyses were conducted with each relationship status category as the reference group.

For both gender and relationship status, interaction terms were created between the dummy coded demographic variables and each of the primary predictor variables (anxious attachment, avoidant attachment, global self-esteem, academic self view, and social self view). In separate regression equations predicting each of the six feedback preference variables from each of the demographic dummy coded variables, the dummy coded demographic variables, the five predictor variables, and all of the two-way interactions between the demographic variable and the independent variables were entered in to the equation. Due to the large number of separate multiple regression analyses conducted to assess interactions with gender and relationship status, a

Bonferroni correction was used to decrease the chance of a Type I error. Thus, the standard alpha of .05 was divided by the number of analysis. For example, in testing gender differences, .05 was divided by 6 (the number of feedback preference outcomes), and the resulting alpha of .008 was used to determine statistical significance. Based on this more conservative alpha, the assessment of gender and relationship status effects showed that neither interacted in a systematic manner with the primary variables of interest in predicting feedback preference. Although sporadic two-way interactions were observed between gender or relationship status and the primary study variables, there was no recognizable pattern of interaction and effect sizes associated with the effects were so minimal that they did not justify controlling for gender or relationship status in the analyses of the research questions.

Figure 1 presents all the variables used in the analyses conducted to answer the primary and secondary research questions posed in this study, including the criterion variables, the main predictors, and the interaction variables. Feedback preference types were the main criterion variables in the study. Partner attraction was the criterion in the bivariate regressions examining associations between feedback preference and attraction to partner who gave the preferred type of feedback.

#### *Testing the Assumptions of Linear Regression Analysis*

Before conducting a linear regression analysis, it is necessary to test the assumptions to ascertain the extent to which this statistical approach's assumptions are met in one's specific data set. If assumptions are violated, one needs to examine whether certain procedures (e.g., transforming the variables) reduce the problems or choose a

Criterion variables	
1. Preference for enhancing feedback in social context 2. Preference for verifying feedback in social context 3. Preference for neither feedback in social context 4. Preference for enhancing feedback in academic context 5. Preference for verifying feedback in academic context 6. Preference for neither feedback in academic context 7. Attraction to partner who gave social enhancing feedback 8. Attraction to partner who gave social verifying feedback 9. Attraction to partner who gave social neither feedback 10. Attraction to partner who gave academic enhancing feedback 11. Attraction to partner who gave academic verifying feedback 12. Attraction to partner who gave academic neither feedback	
Main predictor variables	
1. Anxious attachment 2. Avoidant attachment 3. Global self-esteem 4. Social self-view 5. Academic self-view	
Interaction variables	
<u>Two-way interactions</u> 1. Anxious attachment x avoidant attachment 2. Global self-esteem x social self-view 3. Global self-esteem x academic self-view 4. Global self-esteem x anxious attachment 5. Global self-esteem x avoidant attachment 6. Social self-views x anxious attachment 7. Social self-views x avoidant attachment 8. Academic self-views x anxious attachment 9. Academic self-views x avoidant attachment	<u>Three-way interactions</u> 1. Anxious attachment x avoidant attachment x global self-esteem 2. Anxious attachment x avoidance attachment x social self-view 3. Anxious attachment x avoidant attachment x academic self-view

Figure 1. List of variables used in research analyses.

different approach to analyze the data. The relevant assumptions examined regarding the scores for the predictor and outcomes variables, as well as the interaction terms, included:

- Minimal missing values
- Absence of univariate and multivariate outliers
- Test of normality



- Test of homoscedasticity
- Test of linearity
- Test of multicollinearity

Results pertaining to each assumption examined are presented briefly in Table 7.

This table delineates each assumption that was tested, the criteria used to evaluate whether or how the data deviated from each assumption, the steps taken to prepare the data for final analyses, and cautions regarding the interpretation of the final set of regression analyses. Greater details regarding the approach adopted to assess the validity of each assumption are presented in an extensive narrative in Appendix D.

Although there were several violations of the assumptions of multiple regression in these data, Tabachnick and Fidell (1996) asserted that most data do commonly violate one or more of these assumptions; fortunately, multiple regression is statistically robust to violations of these assumptions, although cautions are warranted in interpreting the results. Where feasible, their recommendations for accommodating the violation of assumptions were adhered to in the final analyses.

### Main Analyses Pertaining to Primary Hypotheses

#### *Examining the Bivariate Correlations*

One of the first tasks in linear regression analysis is to examine the bivariate correlations among the variables. Some of the correlations were found to be statistically significant at the .01 level and others at the .05 level (see correlation matrix, Table 8). Because statistical significance is heavily influenced by large sample sizes, several bivariate relationships were statistically significant, even when the correlation

Table 7

*Data Screening: Assumptions Examined, Criteria Used, Results, and Decisions Made Prior to Final Analyses*

Assumption examined	Method/criteria used	Resultant effect or transformation	Caution regarding interpretation of final analysis
Missing data	Data Inspection	List wise deletion of cases with missing data for each analysis, resulting in different <i>N</i> for each analysis, ranging from 353 to 372	Had little effect on results, as missing data were not related to systematic bias
Univariate outliers	<ol style="list-style-type: none"> <li>1. Z-scores &gt; 3.29 indicate outliers</li> <li>2. Graphical inspection (histograms, stem-and-leaf plots, boxplots)</li> </ol>	Outliers identified for 70 and 42 cases of “neither” feedback preference in the social and academic contexts, respectively. Final analyses were conducted, once including and once excluding outliers	Little effect on results, as results of both analyses (with and without outliers) were similar
Multivariate outliers	<ol style="list-style-type: none"> <li>1. Scatterplots</li> <li>2. Standardized residuals &gt; 3.3 indicate outliers</li> <li>3. Mahalanobis’s distance: <math>p &lt; .001</math> indicates outliers</li> <li>4. Cook’s distance &gt;1 and <math>4/(N - K - 1)</math> indicates outliers</li> </ol>	Seven outliers detected for preference for “neither” feedback in both the social and academic contexts. Analyses conducted with and without outliers	Little effect on results, as results of both analyses (with and without outliers) were similar
Normality	<ol style="list-style-type: none"> <li>1. Inspection of graphs (P-P plots, simple residual plots, histograms of residuals)</li> <li>2. Kurtosis should be 0. Kurtosis more than twice its SE indicates non-normality</li> <li>3. Skewness should be 0. Skewness more than twice its SE indicates non-normality</li> <li>4. Examination of data. Any variable with more than 40% of the cases with one score and not a wide range of scores is skewed</li> </ol>	<p>Many variables had kurtosis and skewness values that were twice their <i>SE</i>, indicating non-normality</p> <ul style="list-style-type: none"> <li>- 40% of verifying feedback in social context and 58% of verifying feedback in academic context had a score of 0</li> <li>- 80% of neither feedback in social context and 88% of neither feedback in academic context had a score of 0</li> </ul> <p>No changes were made as multiple regression remains robust when this assumption is violated</p>	Multiple regression remains robust when this assumption is violated

*(table continues)*

Assumption examined	Method/criteria used	Resultant effect or transformation	Caution regarding interpretation of final analysis
Homoscedasticity	<ol style="list-style-type: none"> <li>1. Inspection of residual plots. Should be random, nonlinear in pattern</li> <li>2. Presence of multivariate outliers</li> </ol>	<p>Presence of nonrandom patterns of residual plots and outliers.</p> <p>Assumption not met, but no changes were made as multiple regression remains valid</p>	Multiple regression remains valid despite violation of this assumption
Linearity	<ol style="list-style-type: none"> <li>1. Inspection of partial regression and simple residual plots</li> <li>3. <i>SD</i> of criterion variables &gt; residuals indicates nonlinearity</li> <li>4. SPSS curve estimation</li> </ol>	The relation between anxious attachment and global self-esteem was the only curvilinear relationship found. Analyses conducted twice, once examining this variable in its curvilinear and once in its linear form	Multiple regression appropriate for linear models. Hypothesis for question on relation between attachment and global self-esteem was supported when data were scored linearly and nonlinearly
Multicollinearity	<ol style="list-style-type: none"> <li>1. Tolerance value should be close to 1; if &lt; .20 indicates multicollinearity</li> <li>2. VIF should be &lt; 4</li> <li>3. Eigenvalues close to 0 indicate multicollinearity</li> <li>4. Condition index close to 15 indicates possible multicollinearity; close to 3 indicates serious multicollinearity, especially when at least two variance proportions are over .50</li> <li>5. <i>F</i>-test for the entire model is statistically significant, but none of the <i>t</i> tests for the regression coefficients are statistically significant, indicating multicollinearity</li> </ol>	Potential multicollinearity problem between anxious and avoidant attachment scores	No action taken, but interpretation of the results involving these two predictor variables will place less emphasis on the regression coefficients and more emphasis on overall fit of the model

Table 8

*Correlation Matrix*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Anxious attachment	1																
2 Avoidant attachment	.51**	1															
3 Global self-esteem	-.57**	-.32**	1														
4 Social self-view	-.58**	-.38**	.53**	1													
5 Academic self-view	-.27**	-.12*	.40**	.26**	1												
6 Partner attraction (enhancing feedback, social context)	.08	-.07	-.02	-.07	-.07	1											
7 Partner attraction (verifying feedback, social context)	-.010	-.11*	.07	.12*	.08	.21**	1										
8 Partner attraction ("neither" feedback, social context)	-.11*	-.00	.10*	.07	.03	.22**	.18**	1									
9 Partner attraction (enhancing feedback, academic context)	.05	-.05	.05	-.02	.03	.54**	.16**	.19**	1								
10 Partner attraction (verifying feedback, academic context)	-.05	-.12*	.11*	.16**	.09	.18**	.61**	.18**	.07	1							
11 Partner attraction ("neither" feedback, academic context)	-.08	.04	.16**	.06	.10	.20**	.21**	.56**	.18**	.25**	1						
12 Enhancing feedback, social context	.13*	.04	.00	-.10	-.04	.52**	-.30**	-.08	.29**	-.15**	-.03	1					
13 Verifying feedback, social context	-.06	-.07	-.03	.03	.02	-.30**	.45**	-.10	-.15**	.21**	-.03	-.70**	1				
14 "Neither" feedback, social context	-.07	.05	.05	.03	-.00	-.26**	-.15**	.25**	-.12*	-.05	.03	-.37**	-.23**	1			
15 Enhancing feedback, academic context	.08	.07	-.06	-.12*	-.10	.25**	-.14**	.04	.49**	-.31**	-.05	.30**	-.16**	-.08	1		
16 Verifying feedback, academic context	-.08	-.07	.03	.09	.09	-.13*	.21**	-.06	-.29**	.41**	-.10	-.22**	.25**	-.02	-.77**	1	
17 "Neither" feedback, academic context	.01	-.04	.06	-.01	-.04	-.11*	-.03	.05	-.28**	-.07	.21**	-.05	-.04	.15**	-.38**	-.09	1

\* Correlation is significant at the .05 level (2-tailed).

\*\* Correlation is significant at the .01 level (2-tailed).

coefficients were small. For example, the correlation between global self-esteem and attraction to partner who gave the “neither” type of feedback in the academic context was only .16, but it was statistically significant at the .01 level. However, as established, only variables with correlations that are greater than .80 would be combined to reduce multicollinearity. No correlations were greater than .80.

Although statistical significance gives important information, effect size may be a more meaningful measure of the usefulness of a data. Pearson's  $r$  is a measure of effect size in bivariate correlations. In this dissertation, at least moderate correlations were predicted between the following variables: the attachment dimensions and global self-esteem, attachment dimensions and specific self-views (both social and academic), attachment dimensions and the preference for each of the three feedback types in both the social and academic contexts, and feedback preference and partner attraction. The following variables were predicted to be correlated as well, but to a lesser extent: global self-esteem and the feedback preference variables, specific self-views and the feedback preference variables, and global self-esteem and specific self-views.

Results indicated that some of the variables were highly correlated ( $r > .50$ ; Cohen, 1988). Unexpectedly, anxious attachment was positively highly correlated with avoidant attachment. Less surprisingly, global self-esteem was highly correlated with anxious attachment and with social self-views. High correlations were also found for partner attraction between the social and academic contexts for all three feedback types. Preference for enhancing feedback in the social context and attraction to partner who gave that type of feedback in the same context were highly correlated. As expected,

preference for enhancing and verifying feedback in social contexts were negatively correlated with each other, as were preference for enhancing and verifying feedback in academic contexts.

Other variables were found to correlate at a moderate level ( $r = .31-.49$ ; Cohen, 1988), such as avoidant attachment and global self-esteem and avoidant attachment and social self-views. Global self-esteem and academic self-views were also moderately correlated. Generally, preference for a feedback type was moderately correlated with attraction to partners who gave the feedback. Not surprisingly, preference for enhancing and “neither” feedback were negatively correlated with each other in both social and academic contexts.

In multiple regression, the predictors should ideally correlate highly with the outcome variable, but should be minimally correlated with each other. For example, some predictors that should ideally be independent, such as anxious and avoidant attachment dimensions, were found to be highly or moderately correlated. When there is high intercorrelation among the predictors, multicollinearity may be an issue in the analysis, and the predictors may not predict the outcome variable as well as they should, or the relation between each predictor and the criterion variable may not be clear. Based on further assessment of multicollinearity, it was found that this was not a serious problem (see Appendix D for more information). In addition, some bivariate relations that were predicted to be at least moderately correlated, such as anxious attachment and feedback preference, were not found to be correlated to a moderate degree.

### *Suppressor Effects*

The presence of suppressor effect needs to be examined in multiple regression analyses. A suppressor is a predictor that improves the relation between another predictor and the criterion variable. A suppressor variable is likely when a predictor, which by itself has no relation or a weak relation (near zero correlation) with the criterion variable, increases the overall  $R^2$  when added to a model due to its correlation with the other predictors. It may artificially inflate relationships. In other words, a suppressor effect is present when the relation between a predictor and a criterion variable becomes statistically significant when controlling for other predictors. An indicator of a suppressor effect is that the beta weight and the zero-order correlations have different signs or when the partial correlations (or betas) are larger than the zero-order correlation (Pearson's  $r$ ; Tabachnick & Fidell, 1996).<sup>3</sup>

Examination of the correlation matrix indicates that suppressor effects may be a concern in this study because of the high correlation between the anxious attachment and avoidant attachment scores, and between anxious attachment and social self-view scores. This means that a relation between anxious attachment or avoidant attachment and an outcome variable, for example, may be influenced by the other variable and not indicate a true relation. When presenting results of the main analyses, care was taken to note

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<sup>3</sup> There are three types of suppressor effects. One is called classical suppression, in which case the presence of a predictor ( $X_2$ ) will increase  $R^2$ , even though it is not correlated with the criterion variable ( $Y$ ). In this case, the  $X_2$  suppresses some of what would otherwise be error variance in  $X_1$ . There is some kind of error in  $X_1$  that is not correlated with  $Y$ , but is correlated with  $X_2$ . By including  $X_2$ , one suppresses (accounts for) this error, and leaves  $X_1$  as an improved predictor of  $Y$ . A second type is called net suppression where  $X_2$  is positively correlated with  $Y$ , but has a negative regression coefficient. Another type is called cooperative suppression. This is the case where the two predictors are negatively correlated with each other, but both are positively correlated with  $Y$ . This is also the case where each variable will account for more of the variance in  $Y$  when it is in an equation with the other than it will when it is presented alone.

true relation. When presenting results of the main analyses, care was taken to note whether suppressor effects seem to exist and to explain their nature and implications for tests of hypotheses.

### *Research Questions and Hypotheses*

Significant main and interaction(s) effects ( $p < .05$ ) are reported in table and adjusted  $R^2$ ,  $F$ , unstandardized regression coefficients ( $B$ ), confidence intervals ( $CI$ s) of  $B$ , and partial correlations regarding the effect(s) needed to assess a particular hypothesis. In analyses in which variables were entered into the models in multiple steps, results from the final models including all predictors are presented in the tables. In cases where the effects were very different in the first block, in which they were entered alone, relative to the subsequent blocks, in which the interaction terms were included, these differences are noted in text.

For each specific hypothesis, the narrative section provides further relevant, statistical information needed to evaluate the validity of the hypothesis, including information regarding the effect size for the model as indexed by adjusted  $R^2$ , comments regarding whether that estimate of effect size supported the conclusion that the hypothesis was supported, and observations regarding whether other aspects of the data (e.g., outliers, multicollinearity, or suppressor effects) might have masked the ability to support the hypothesis. In the narrative section, it is noted when a more complex approach to testing the hypothesis at issue was needed (e.g., testing a two-way interaction controlling for the presence of other effects) and what the results revealed. In all cases in which the hypothesis was confirmed (based on statistically significant and effect size



criteria) and involved a two-way or higher-order interaction effect, whether the form of the interaction was as expected was also evaluated. This objective was accomplished by graphing the relevant interaction and comparing its form to the precise expectations, as per Aiken and West's recommendations.

#### *Relation Between Adult Romantic Attachment and Feedback Preference*

Six hierarchical multiple linear regression analyses were conducted to assess predictors of the six scores for participants' preference for a given type of feedback (enhancing, verifying, or neither enhancing nor verifying) in a given context (academic or social). The scores for anxious and avoidant attachment dimensions were entered into each regression first, with the score representing the interaction of anxious and avoidant attachments entered second. This approach was used to ascertain whether adding the scores for the interaction term result in a model that would better fit the data. Table 9 presents the results for all hypotheses tested regarding attachment style in relation to feedback preference, including the hypothesis (expected effects included), the adjusted  $R^2$ ,  $F$ ,  $B$  and  $CI$  of  $B$ , partial  $r$ , and whether the hypothesis was supported.

*Attachment and preference for enhancing feedback in social contexts.* It was hypothesized that there would be a significant main effect of anxious attachment (anxious attachment would correlate highly and positively with the preference for enhancing feedback in the social context). The results indicated that although the relation between the scores for anxious attachment and preference for enhancing feedback in the social context was statistically significant,  $t(351) = 2.52, p = .01$ , the partial correlation was

Table 9

*Summary of Results on the Relation Between Attachment Dimensions and Feedback Preference*

Feedback preference	Hypotheses	Adj. $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious attachment, avoidant attachment, interaction	Partial $r$ for anxious attachment, avoidant attachment, interaction	Hypothesis supported?
Enhancing feedback in social contexts	Positive main effect of anxious attachment	.011	2.30	.66** (.14 to 1.17)	.13	Yes
				-.18 (-.69 to .33)	-.04	
				-.07 (-.50 to .36)	-.02	
Verifying feedback in social contexts	Interaction effect (low anxious and low avoidant attachment)	-.003	.67	-.10 (-.56 to .37)	-.05	No
				-.23 (-.69 to .24)	-.02	
				-.04 (-.43 to .35)	-.01	
"Neither" feedback in social contexts	Interaction effect (low anxious attachment and high avoidant attachment)	.006	1.74	-.30* (-.58 to -.01)	-.11	No
				.25 (-.03 to .53)	.09	
				-.06 (-.29 to .18)	-.03	
Enhancing feedback in academic contexts	Positive main effect of anxious attachment	.002	1.25	.27 (-.26 to .79)	.04	No
				.19 (-.33 to .70)	.05	
				.22 (-.23 to .66)	.05	
Verifying feedback in academic contexts	Interaction effect (low anxious attachment and low avoidant attachment)	-.001	.90	-.23 (-.66 to .19)	-.03	No
				-.12 (-.54 to .30)	-.06	
				-.05 (-.40 to .32)	-.01	
"Neither" feedback in academic contexts	Interaction effect (low anxious attachment and high avoidant attachment)	-.003	.61	.06 (-.17 to .29)	.03	No
				-.10 (-.32 to .13)	-.05	
				-.11 (-.30 to .09)	-.06	

Note. Table presents results of final model with all variables included.

$N = 354$ .

\* $p < .05$ ; \*\* $p < .01$ .

only .13 and the proportion of variance accounted for by the model was very small (adjusted  $R^2 = .01$ ). Participants' avoidant attachment scores did not contribute significantly to the model in either the first or second step, and adding the interaction between anxious attachment and avoidant attachment scores in the second step did not result in a significant  $R^2$  change. As predicted, it appears from the significance level that the attachment dimension of anxiety was a better predictor of preference for enhancing feedback from potential romantic partners in the social context than the attachment dimension of avoidance. Due to the small effect size, however, support for the hypothesis that those with higher scores on anxious attachment (i.e., anxious-ambivalent, fearful-avoidant) would report stronger preferences for enhancing feedback in the social context was minimal.

It appears that suppressor effects may be present in this analysis. The beta weight and the zero-order correlation for avoidant attachment have different signs in the preference for enhancing feedback in the social context. The former is negative and the latter is positive. Thus, the relation between avoidant attachment dimension and preference for enhancing feedback in the social context was that the higher the avoidant attachment scores, the higher the preference for this feedback type when the anxious attachment scores were not controlled for. However, when anxious attachment scores were held constant, the relation between avoidant attachment and preference for enhancing feedback in social contexts was negative. However, because the relations had neither statistical significance nor moderate effect sizes, regardless of whether anxious

attachment was held constant or not, the presence of suppressor effects was not of great consequence.

*Attachment and preference for verifying feedback in social contexts.* An interaction of anxious attachment by avoidant attachment was hypothesized, such that low anxious and low avoidant attachment scores were expected to predict this type of feedback. The scores for anxious attachment, avoidant attachment, and the interaction between the two explained a minute portion of the variance of the scores representing the preference for verifying feedback in the social context (adjusted  $R^2 = -.003$ ), which was statistically nonsignificant. There were no statistically significant main or interaction effects, nor were the effect sizes at least moderate in size. The hypothesis that an interaction effect would be observed in the form of low anxious and low avoidant attachments (secure attachment style) was, therefore, not supported.

*Attachment and preference for "neither" in social contexts.* An interaction in the form of low anxious attachment and high avoidant attachment scores was predicted, such that those who characterize a dismissing avoidant attachment style would report higher preference for this feedback type. Because there was evidence of some cases of outliers in the scores representing participants' preference for this type of feedback in the social contexts, the analysis was conducted with and without the scores that were considered to be outliers. Results were similar, and adjusted  $R^2$  was very small in both models. The model that included the scores that were considered to be outliers is presented in Table 9.

With scores for anxious and avoidant attachment entered in to the model, scores for anxious attachment were significantly negatively associated with preference for

“neither” feedback,  $t = -2.06$ ,  $p = .04$ , and avoidant attachment scores were weakly and nonsignificantly positively associated,  $t = 1.78$ ,  $p = .08$ . The overall  $R^2$  (.008) was not significant,  $F(2, 353) = 2.50$ ,  $p = .08$ . Adding the interaction term did not result in an improved  $R^2$ , and the model remained nonsignificant. As in the case with the preference for enhancing feedback, anxious attachment appeared to be the better predictor of preference for “neither” feedback, although the proportion of variance accounted for was nonsignificant. None of the effects were at least moderate in size. The hypothesis that those with high avoidant attachment and low anxious attachment (dismissing-avoidance) would report the strongest preference for this feedback type was not strongly supported; the main effect of anxious attachment suggests that those with lower anxious attachment scores (both the secure and dismissing-avoidant types) may report stronger preferences for this feedback type, but the variance accounted for was small and nonsignificant.

*Attachment and preference for enhancing feedback in academic contexts.* The hypothesis for the preference for enhancing feedback in the academic contexts was similar to the one made for enhancing feedback in the social contexts. Anxious attachment scores were hypothesized to be a positive predictor of preference for enhancing feedback. The hypothesis was not supported, as anxious attachment was not a statistically significant predictor of the preference for this type of feedback. All main and interaction effects were nonsignificant and small in size, and the total adjusted  $R^2$  was very small (.002) and nonsignificant.

*Attachment and preference for verifying feedback in academic contexts.* As was the case with the preference for verifying feedback in the social contexts, the hypothesis

was that a significant interaction effect would be observed, such that low anxious attachment and low avoidant attachment (secure attachment style) predict greater preference for verifying feedback. Cases of outlying scores were also detected for this feedback type; therefore, the analysis was run twice, once with the outlying scores and again without those scores. Because the  $R^2$  and the Beta weights for the models with and without the cases of outliers were very similar ( $R^2$  for the model without the cases of outliers was .009, and  $R^2$  for the model with the cases of outliers was .008, and neither one was statistically significant, nor at least moderate in effect size), the model with the cases of outlying scores was retained.

The hypothesis that those with low anxious and low avoidant attachment (i.e., secure attachment type) would have a high preference for this type of feedback was not supported as no statistically significant interaction effect was found, nor was the effect at least moderate in size. There were also no statistically significant main effects, nor were the effects for these predictors at least moderate in size.

*Attachment and preference for "neither" feedback in academic contexts.* It was hypothesized that an interaction effect would be found, such that low anxious attachment and high avoidant attachment scores would predict higher preferences for "neither" feedback. Cases with outlying scores were also found for the preference for the "neither" type of feedback in the academic context. Two separate analyses were conducted: cases with the outliers included and cases with the five outlying scores excluded. For the analysis without the cases of outliers,  $R^2$  was .007, which was statistically nonsignificant. Similarly, for the analysis with the cases of outliers included,  $R^2$  was .005, which was also

statistically nonsignificant. Due to the lack of statistically significant findings and moderate effect sizes, the hypothesis that the interaction between anxious and avoidant attachment (i.e., dismissing-avoidant attachment) would predict the preference for this type of feedback was not supported.

*Global Self-Esteem as a Moderator in the Relation Between Attachment Style and Feedback Preference*

Six multiple regression analyses were conducted. Anxious attachment, avoidant attachment, and global self-esteem were first entered into the first block, followed by the two-way interaction terms of anxious attachment x avoidant attachment, anxious attachment x global self-esteem, and avoidant attachment x global self-esteem in the second block. The three-way interaction term of anxious attachment x avoidant attachment x global self-esteem was entered into the third block. The outcome variables were the three feedback types (enhancing, verifying, and “neither”) in the two different contexts (social and academic). Table 10 presents the results of the final models with all variables entered.

*Enhancing feedback in social contexts.* It was hypothesized that there would be a two-way interaction effect in which high anxious attachment and low global self-esteem predicted stronger preference for enhancing feedback in the social contexts. Avoidant attachment could be either high or low. Only the main effect for anxious attachment reached statistical significance,  $t(347) = 3.04, p = .003$ . The effect, however, was small in size, partial  $r = .16$ . Total adjusted  $R^2$  was .01, which was statistically nonsignificant and small in effect size. Thus, while anxious attachment was the best predictor of preference

Table 10

*Summary of Results of Global Self-Esteem as a Moderator of the Relation Between Attachment Dimensions and Feedback Preference*

Feedback preference	Hypotheses	Adj. $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious att., avoidant att., global self-esteem, anxious att. x avoidant att., anxious att. x global self-esteem, Avoidant att. x global self-esteem, anxious att. x avoidant att. x global self-esteem	Partial $r$ for anxious att., avoidant att., global self-esteem, anxious att. x avoidant att., anxious att. x global self-esteem, avoidant att. x global self-esteem, anxious att. x avoidant att. x global self-esteem	Hypotheses supported?
Enhancing feedback in social contexts	interaction effect (high anxious attachment x low global self-esteem)	.011	1.55	.92 (.33 to 1.52)**	.16	No
				-.19 (-.76 to .37)	-.04	
				.48 (-.09 to 1.06)	.09	
				.04 (-.51 to .59)	.01	
				.24 (-.25 to .74)	.05	
				-.04 (-.62 to .55)	-.01	
Verifying feedback in social contexts	interaction effect (low anxious attachment x low avoidant attachment x high global self-esteem)	.002	1.10	-.08 (-.53 to .36)	-.02	No
				-.30 (-.84 to .24)	-.06	
				-.16 (-.67 to .35)	-.03	
				-.39 (-.91 to .13)	-.08	
				-.11 (-.61 to .38)	-.02	
				-.41 (-.85 to .04)	-.09	
"Neither" feedback in social contexts	interaction effect (low anxious attachment x high avoidant attachment x high global self-esteem)	.009	1.46	.16 (-.37 to .69)	.03	No
				.17 (-.23 to .56)	.04	
				-.31 (-.63 to .02)	-.10	
				.18 (-.13 to .49)	.06	
				.07 (-.24 to .39)	.02	
				-.22 (-.52 to .08)	-.08	
	.15 (-.13 to .42)	.06				
	-.35 (-.67 to -.03)*	-.11				
	-.11 (-.35 to .13)	-.05				

(table continues)



Feedback preference	Hypotheses	Adj. $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious att., avoidant att., global self-esteem, anxious att. x avoidant att., anxious att. x global self-esteem, Avoidant att. x global self-esteem, anxious att. x avoidant att. x global self-esteem	Partial $r$ for anxious att., avoidant att., global self-esteem, anxious att. x avoidant att., anxious att. x global self-esteem, avoidant att. x global self-esteem, anxious att. x avoidant att. x global self-esteem	Hypotheses supported?
Enhancing feedback in academic contexts	interaction effect (high anxious attachment x low global self-esteem)	.011	1.57	.31 (-.30 to .91)	.05	No
				.18 (-.39 to .76)	.03	
				-.06 (-.65 to .53)	-.01	
				.62 (.05 to 1.18)*	.12	
				.26 (-.25 to .76)	.05	
				.57 (-.02 to 1.17)	.10	
Verifying feedback in academic contexts	Interaction (low anxious attachment x low avoidant attachment x high global self-esteem)	.002	1.12	-.31 (-.80 to .19)	-.07	No
				-.02 (-.49 to .45)	-.00	
				-.19 (-.67 to .29)	-.04	
				-.23 (-.69 to .23)	-.05	
				-.17 (-.58 to .24)	-.04	
				-.27 (-.75 to .22)	-.06	
"Neither" feedback in academic contexts	interaction effect (low anxious attachment x high avoidant attachment x global self-esteem)	.01	1.53	.10 (-.17 to .36)	.04	No
				-.23 (-.48 to .02)	-.10	
				.28 (.02 to .53)*	.11	
				-.24 (-.48 to .01)	-.10	
				-.04 (-.26 to .18)	-.02	
				-.16 (-.42 to .10)	-.07	
				-.24 (-.43 to -.04)*	-.13	

Note. Table presents results of final model with all variables included.

$N = 354$ .

\*  $p < .05$ ; \*\*  $p < .01$ .

for enhancing feedback type in social contexts, as expected, it was not a powerful effect and global self-esteem was not a moderator of this relation. The hypothesis was, therefore, not supported.

*Verifying feedback in social contexts.* An interaction effect of low anxious attachment and low avoidant attachment was hypothesized, with the possibility that the effect might be stronger for those with high global self-esteem. In other words, securely attached people were expected to report the highest preference for verifying feedback and those with high global self-esteem might report even higher preferences. No statistically significant effects were found, nor were the effects at least moderate in size. None of the three predictors, or any interaction effects, predicted the preference for this feedback type. The hypothesis that an interaction of low anxious x low avoidant attachment (defining the secure type) x high global self-esteem would predict this type of feedback was not supported.

*"Neither" feedback in social contexts.* It was hypothesized that there would be an interaction effect of low anxious attachment x high avoidant attachment (defining the dismissing-avoidant type). A three-way interaction might also be observed as dismissing-avoidant individuals with higher global self-esteem might feel even less need for feedback from others. Results indicated a statistically significant effect of avoidant attachment x global self-esteem,  $t(347) = -2.15, p = .03$ , although the proportion of variance accounted for in the final model was not statistically significant. Further analysis of this two-way interaction found that when avoidant attachment was high and global self-esteem was low, the preference for this type of feedback appeared to be the highest.

when avoidant attachment was low and global self-esteem was low, the preference for this type of feedback was the lowest. See Figure 2. The effect size was not at least moderate, and no other statistically significant effects were found. The hypothesis was not supported.

*Enhancing feedback in academic contexts.* It was hypothesized that there would be an interaction effect between high anxious attachment and low global self-esteem, such that those individuals would report the strongest preference for enhancing feedback in the academic contexts. Only the two-way interaction between anxious and avoidant attachment was statistically significant,  $t(374) = 2.15, p = .03$ , indicating that when anxious attachment and avoidant attachment were both high (fearful-avoidant attachment style), the preference for this type of feedback was the highest. When anxious attachment

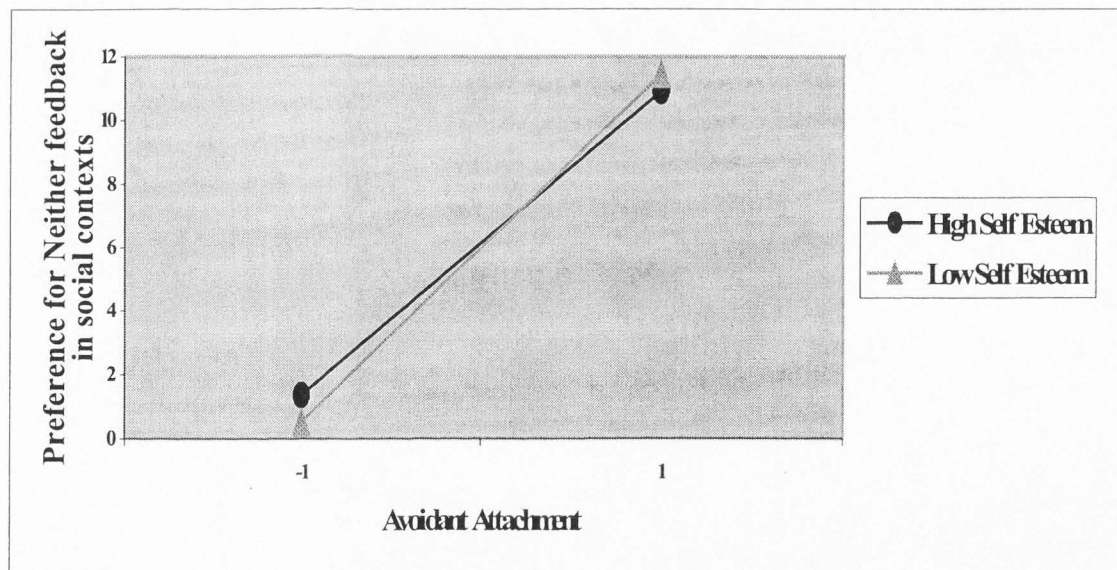
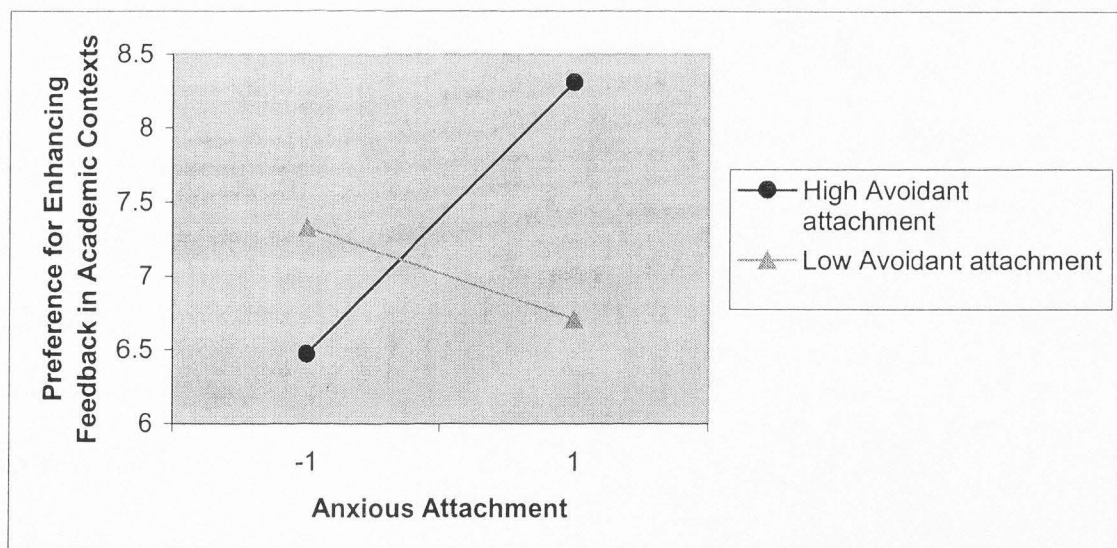


Figure 2. Interaction between avoidant attachment and global self-esteem in predicting the preference for “neither” feedback in social contexts.

was high but avoidant attachment was low (anxious-ambivalent attachment style) or when anxious attachment was low but avoidant attachment was high (dismissing-avoidant attachment style), the preference for this type of feedback was low. See Figure 3. This interaction was not at least moderate in size. Interestingly, this interaction effect, which was not found in the analysis of the relation between attachment and feedback preference, was found in this analysis involving global self-esteem, indicating that perhaps global self-esteem may have an indirect effect on the relation among all of these predictors, even though global self-esteem did not have a direct relation with the outcome variable. The hypothesis was not supported as global self-esteem was not found to be a moderator.

*Verifying feedback in academic contexts.* It was hypothesized that there would be an interaction effect of low anxious attachment x low avoidant attachment, with a



*Figure 3.* Interaction between anxious attachment and avoidant attachment in predicting preference for enhancing feedback in academic contexts.

possible three-way interaction hypothesized with global self-esteem (similar to expectations in social contexts). Results showed that no relations were statistically significant or at least moderate in effect size. Hence, the hypothesis was not supported.

*“Neither” feedback in academic contexts.* It was hypothesized that there would be an interaction effect of low anxious attachment x high avoidant attachment, with the possibility of a three-way interaction with global self-esteem (as with predictions in the social context). In the final model, global self-esteem was found to be a statistically significant positive predictor of the preference for this feedback type,  $t(347) = 2.14, p = .03$ , such that the higher one’s global self-esteem, the higher the preference for this type of feedback. A statistically significant three-way interaction effect was also found,  $t(347) = -2.38, p = .02$ . Although the  $R^2$  increment (.016) from step 2 to step 3 was significant,  $F$  change  $(1, 347) = 5.67, p = .02$ , the proportion of variance accounted for by the entire model remained small, adjusted  $R^2 = .01$ . Further analysis of the interaction revealed that the preference for this type of feedback was the highest when global self-esteem was high, anxious attachment was high, and avoidant attachment was low (anxious-ambivalent attachment). The preference for this type of feedback was the lowest when global self-esteem and anxious attachment were low, and avoidant attachment was high (dismissing-avoidant attachment). See Figures 4 and 5. The pattern of interaction was not consistent with predictions, as those with avoidant attachment patterns (high avoidance scores) and high global self-esteem were expected to have the strongest preference for this type of feedback. Instead, those with anxious-ambivalent attachment patterns and high global self-esteem demonstrated the greatest preference for “neither” feedback.

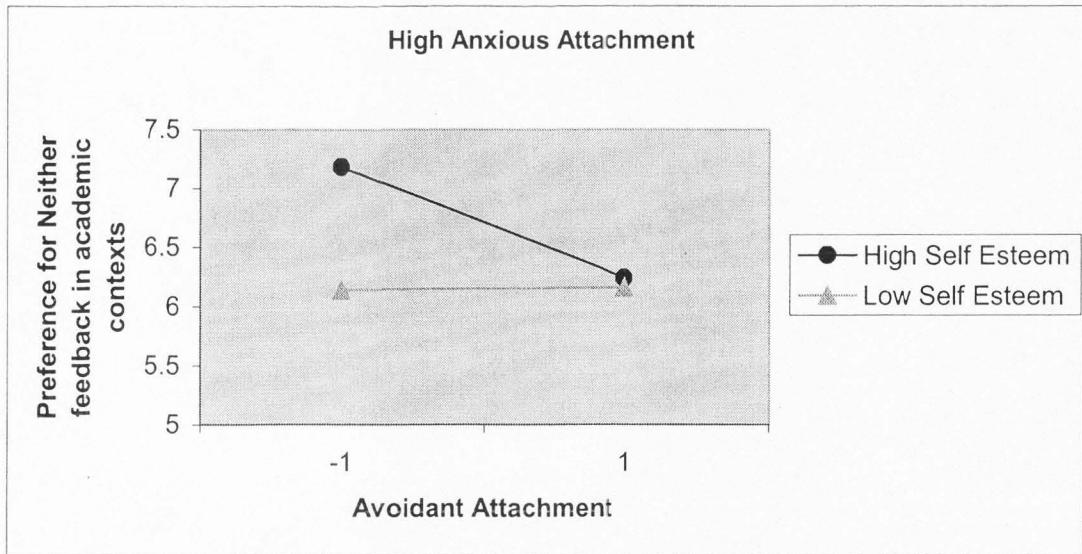


Figure 4. Interaction between anxious attachment, avoidant attachment, and global self-esteem in predicting the preference for "neither" feedback in academic contexts (high anxious attachment).

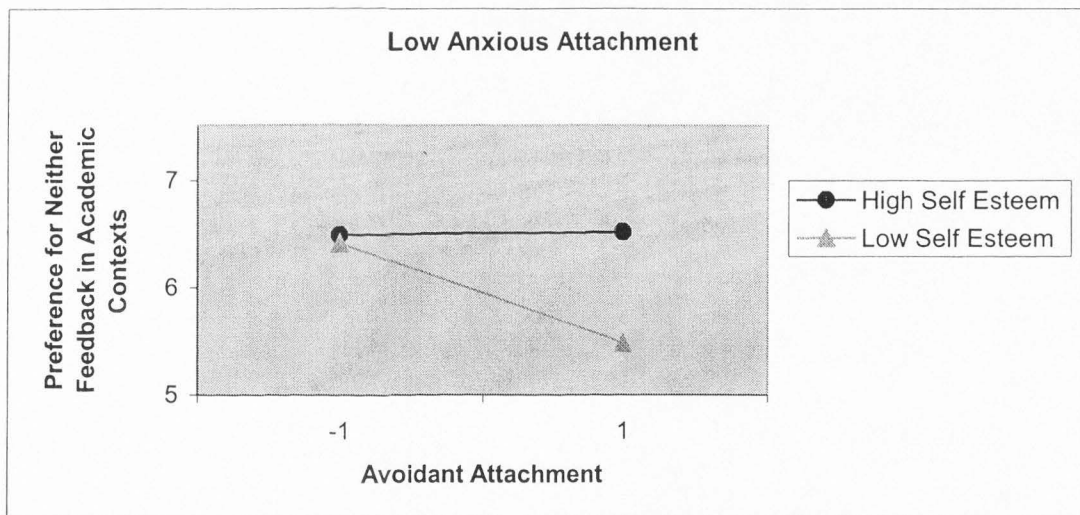


Figure 5. Interaction between anxious attachment, avoidant attachment, and global self-esteem in predicting the preference for "neither" feedback in academic contexts (low anxious attachment).

*Social Self-Views as a Moderator in the Relation Between Attachment Style and Feedback Preference*

Three multiple regression analyses were conducted, one for each of the three feedback types in the social contexts. The predictors were anxious attachment, avoidant attachment, and social self-views, which were entered into the first block. The two-way interaction terms of anxious attachment x avoidant attachment, anxious attachment x social self-views, and avoidant attachment x social self-views were entered into the second block. The three-way interaction term of anxious attachment x avoidant attachment x social self-views was entered into the final block. The criterion variables were the three feedback types in the social context. Table 11 presents the results of this research question.

*Enhancing feedback in social contexts.* It was hypothesized that those with high anxious attachment and low social self-views would most prefer this type of feedback. Results indicated the absence of statistical significance and moderate effect sizes. Total adjusted  $R^2$  was .005. The hypothesis was not supported.

*Verifying feedback in social contexts.* It was hypothesized that a combination of low anxious attachment and low avoidant attachment would prefer this feedback type, with a possibility of a three-way interaction with social self-views. There were no significant effects or moderate effect sizes in this analysis. Total adjusted  $R^2$  was also minute, -.006. The hypothesis was not supported.

Table 11

*Summary of Results of Social Self-Views as a Moderator of the Relation Between Attachment Dimensions and Feedback Preference*

Feedback preference	Hypotheses	Adj. $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious att., avoidant att., social self-views, anxious att. x avoidant att., anxious att. x social self-views, avoidant att. x social self-views, anxious att. x avoidant att. x social self-views	Partial $r$ for anxious att., avoidant att., social self-views, anxious att. x avoidant att., anxious att. x social self-views, avoidant att. x social self-views, anxious att. x avoidant att. x social self-views	Hypotheses supported?
Enhancing feedback in social contexts	interaction effect (high anxious attachment x low social self-views)	.005	1.26	.46 (-.13 to 1.06)	.08	No
				-.30 (-.86 to .26)	-.06	
				-.14 (-.70 to .43)	-.03	
				-.08 (-.61 to .45)	-.02	
				.28 (-.25 to .80)	.06	
				-.19 (-.75 to .37)	-.04	
Verifying feedback in social contexts	interaction effect (low anxious attachment x low avoidant attachment x high social self-views)	-.006	.71	-.24 (-.65 to .17)	-.06	No
				-.09 (-.63 to .45)	-.02	
				-.22 (-.73 to .29)	-.05	
				-.01 (-.52 to .50)	-.00	
				-.10 (-.58 to .38)	-.02	
				-.40 (-.88 to .07)	-.09	
"Neither" feedback in social contexts	interaction effect (low anxious attachment x high avoidant attachment x high social self-views)	-.004	.81	.20 (-.31 to .71)	.04	No
				.03 (-.34 to .40)	.01	
				-.28 (-.61 to .05)	-.09	
				.30 (-.02 to .61)	.10	
				-.03 (-.34 to .28)	-.01	
				-.03 (-.32 to .26)	-.01	
-.00 (-.29 to .28)	-.00					
				.04 (-.27 to .35)	.01	
				.08 (-.14 to .31)	.04	

Note. Table presents results of final model with all variables included.  $N = 352$ .



*“Neither” feedback in social contexts.* An interaction of low anxious attachment and high avoidant attachment was predicted, with a possibility of a three-way interaction with social self-views. No statistically significant or moderate-size effects were found. Total adjusted  $R^2$  was -.004. The hypothesis was not supported.

*Academic Self-views as a Moderator in the Relation Between Attachment Style and Feedback Preference*

Three multiple regression analyses were conducted, one for each of the three feedback types in the academic context. The predictors were anxious attachment, avoidant attachment, and academic self-views, which were entered into the first block. The two-way interaction terms of anxious attachment x avoidant attachment, anxious attachment x academic self-views, and avoidant attachment x academic self-views were entered into the second block. The three-way interaction term of anxious attachment x avoidant attachment x academic self-views was entered into the final block. The criterion variables were the three feedback types in the academic context. Table 12 presents the results of this analysis.

*Enhancing feedback in academic contexts.* It was hypothesized that individuals with high anxious attachment and low academic self-views would prefer this feedback type. Adjusted  $R^2$  was .04 for the final model. The  $R^2$  increment for adding the two-way interactions into the model was statistically significant,  $R^2$  change = .03,  $F(3, 346) = 3.16$ ,  $p = .03$ , as was the  $R^2$  increment for adding the three-way interaction,  $R^2$  change = .02,  $F(1, 345) = 6.88$ ,  $p = .01$ . In the final model, a statistically significant two-way interaction between anxious attachment and academic self-view was found,  $t(345) = 2.14$ ,  $p = .03$ , although the effect size was small. Probing the interaction showed that those with

Table 12

*Summary of Results of Academic Self-Views as Moderator of Relation Between Attachment Dimensions and Feedback Preference*

Feedback preference	Hypotheses	Adj. $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious att., avoidant att., academic self-views, anxious att. x avoidant att., anxious att. x academic self-views, avoidant att. x academic self-views, anxious att. x avoidant att. x academic self-views	Partial r for anxious att., avoidant att., academic self-views, anxious att. x avoidant att., anxious att. x academic self-views, avoidant att. x academic self-views, anxious att. x avoidant att. x academic self-views	Hypotheses supported?
Enhancing feedback in academic contexts	interaction effect (high anxious attachment x low academic self-views)	.04	3.12	.22 (-.32 to .75)	.04	No
				.01 (-.53 to .55)	.00	
				-.10 (-.60 to .41)	-.02	
				.27 (-.21 to .75)	.06	
				.53 (.04 to 1.03)*	.11	
				.24 (-.27 to .74)	.05	
-.55 (-.97 to -.14)**	-.14					
Verifying feedback in academic contexts	interaction effect (low anxious attachment x low avoidant attachment x high academic self-views)	.03	2.46	-.17 (-.61 to .27)	-.04	Yes
				-.02 (-.46 to .42)	-.01	
				.10 (-.31 to .51)	.03	
				-.15 (-.53 to .25)	-.04	
				-.25 (-.65 to .15)	-.07	
				-.34 (-.75 to .07)	-.09	
.38 (.04 to .72)*	.12					
"Neither" feedback in academic contexts	interaction effect (low anxious attachment x high avoidant attachment x high academic self-views)	.01	1.47	-.00 (-.24 to .23)	-.00	No
				-.07 (-.30 to .17)	-.03	
				-.09 (-.31 to .13)	-.04	
				-.04 (-.25 to .17)	-.02	
				-.29 (-.50 to -.07)**	-.14	
				.26 (.04 to .48)*	.12	
-.00 (-.18 to .18)	.00					

Note. Table presents results of final model with all variables included.

$N = 352$ .

\*  $p < .05$ ; \*\* $p < .01$ .

high anxious attachment and high academic self-view scores had the highest preference for this feedback type; those with low anxious attachment but high academic self-view scores had the lowest preference for this feedback. See Figure 6.

Although small in effect size, a statistically significant three-way interaction effect was also found,  $t(345) = -2.62, p = .01$ . Probing the three-way interaction revealed that those with low anxious attachment, low avoidant attachment, and low academic self-view scores appeared to have the highest preference for enhancing feedback. Those with low anxious and low avoidant attachment but high academic self-view scores had the lowest preference for this type of feedback. See Figures 7 and 8. Even though moderation effects were found, and those high in anxious attachment were found to prefer this feedback type, the hypothesis was not supported, due to the lack of interaction(s) in the predicted direction.

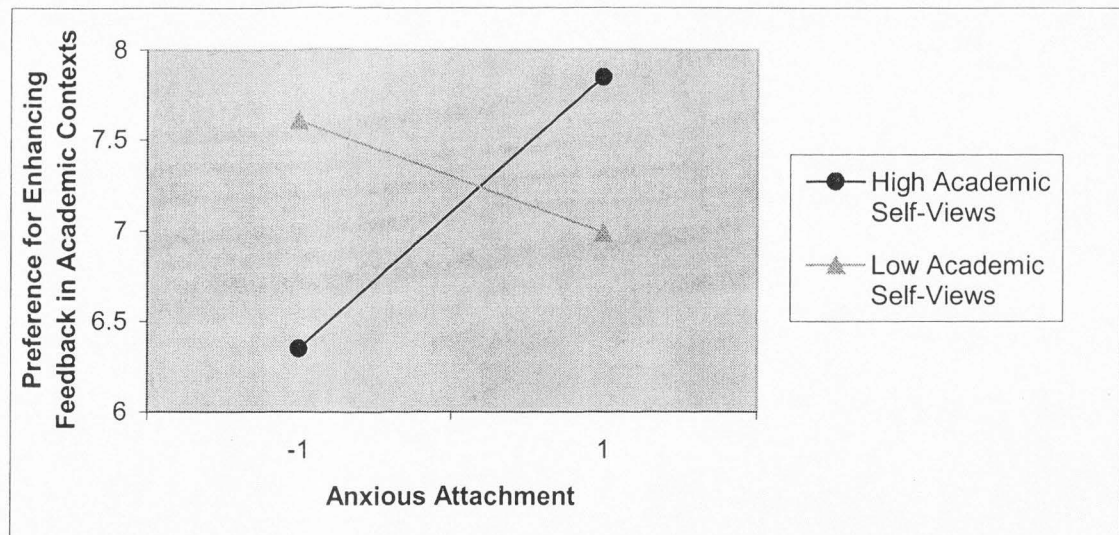
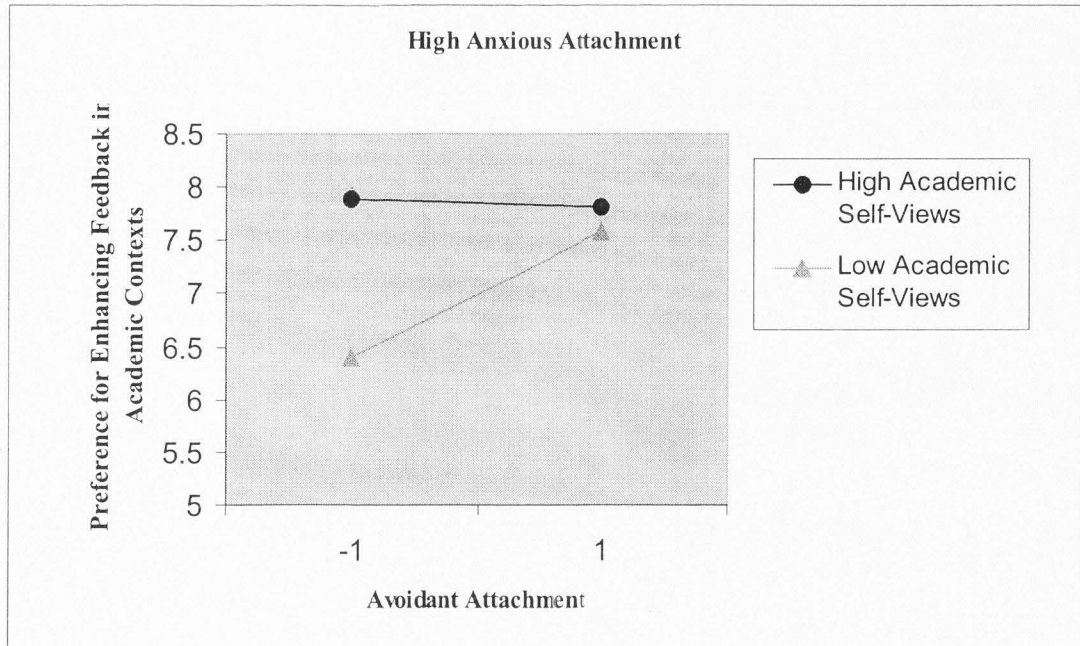
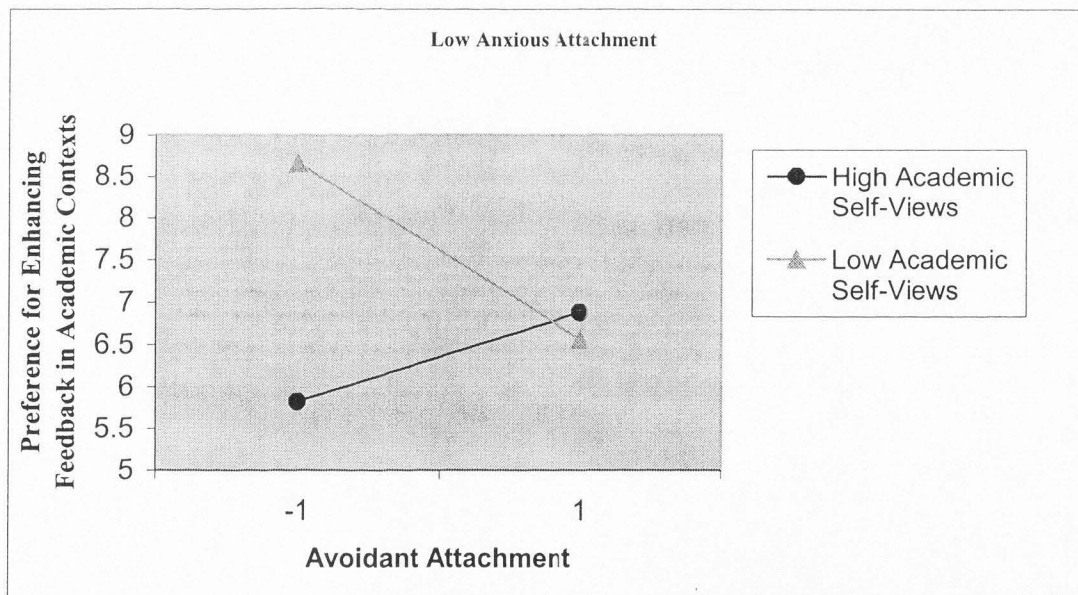


Figure 6. Interaction between anxious attachment and academic self-views in predicting preference for enhancing feedback in academic contexts.



*Figure 7.* Interaction between anxious attachment, avoidant attachment, and academic self-views in predicting preference for enhancing feedback in academic contexts (high anxious attachment).



*Figure 8.* Interaction between anxious attachment, avoidant attachment, and academic self-views in predicting preference for enhancing feedback in academic contexts (low anxious attachment).

*Verifying feedback in academic contexts.* It was hypothesized that low anxious attachment and low avoidant attachment would predict the strongest preference for this feedback type, with a possible three-way interaction predicted with academic self-views. The  $R^2$  increment for the three-way interaction was statistically significant,  $R^2$  change = .01,  $F(1, 345) = 4.80, p = .03$ , as was the final model with all variables included,  $F(7, 345) = 2.46, p = .02$ . A statistically significant three-way interaction was found,  $t(345) = 2.19, p = .03$ , although the partial correlation was only .12, indicating a small effect size. Probing the three-way interaction revealed that those with low anxious and low avoidant attachment and high academic self-view scores appeared to have the highest preference for this type of feedback, and those with low anxious and low avoidant attachment and low academic self-view scores appeared to have the lowest preference for this feedback type. See Figures 9 and 10. This is exactly the opposite of the findings for the preference for enhancing feedback in the academic context. The hypothesis was supported due to the finding of secure attachment predicting this feedback type and the moderation effect found.

*“Neither” feedback in academic contexts.* It was hypothesized that a moderation effect would be found, particularly the combination of low anxious attachment and high avoidant attachment would predict preference for this feedback type, with a possible three-way interaction with academic self-views. The  $R^2$  increment when the two-way interactions were added in the second step was statistically significant,  $R^2$  change = .03,  $F(3, 346) = 3.12, p = .03$ , but the total proportion of variance accounted for in the second step was small and non-significant (Adjusted  $R^2 = .01$ ). Adding the three-way interaction

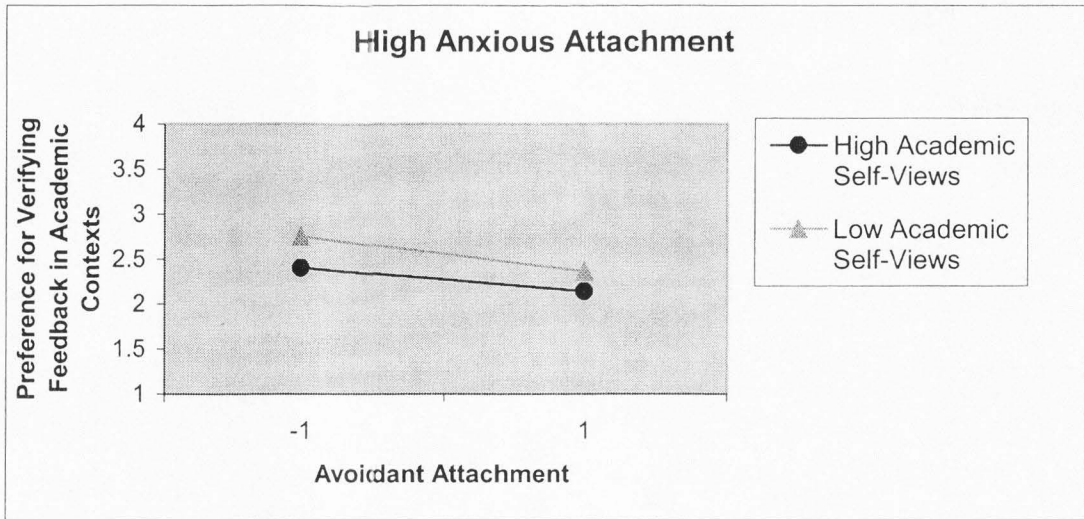


Figure 9. Interaction between anxious attachment, avoidant attachment, and academic self-views in preference for verifying feedback in academic contexts (high anxious attachment).

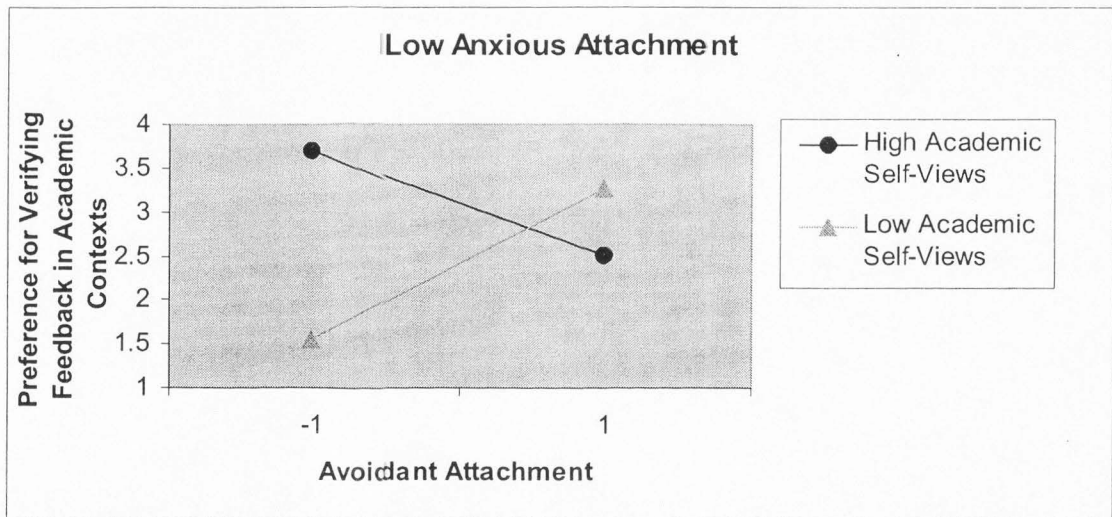


Figure 10. Interaction between Anxious Attachment, Avoidant Attachment, and Academic Self-Views in Preference for Verifying Feedback in Academic Contexts (Low Anxious Attachment).

in the third step did not account for any additional variance. The only statistically significant effects were the two-way interactions between anxious attachment and academic self-views and between avoidant attachment and academic self-views. Probing of the interaction between anxious attachment and academic self-views found that those with high anxious attachment and low academic self-view scores reported the highest preference for “neither” feedback, and those with high anxious attachment and high academic self-view scores reported the lowest preference for this feedback type. See Figure 11. Further analysis of the two-way interaction between avoidant attachment and academic self-views showed that those with low avoidant attachment and low academic self-view scores most preferred this type of feedback, and those with high avoidant attachment but low academic self-view scores least preferred this feedback type. See

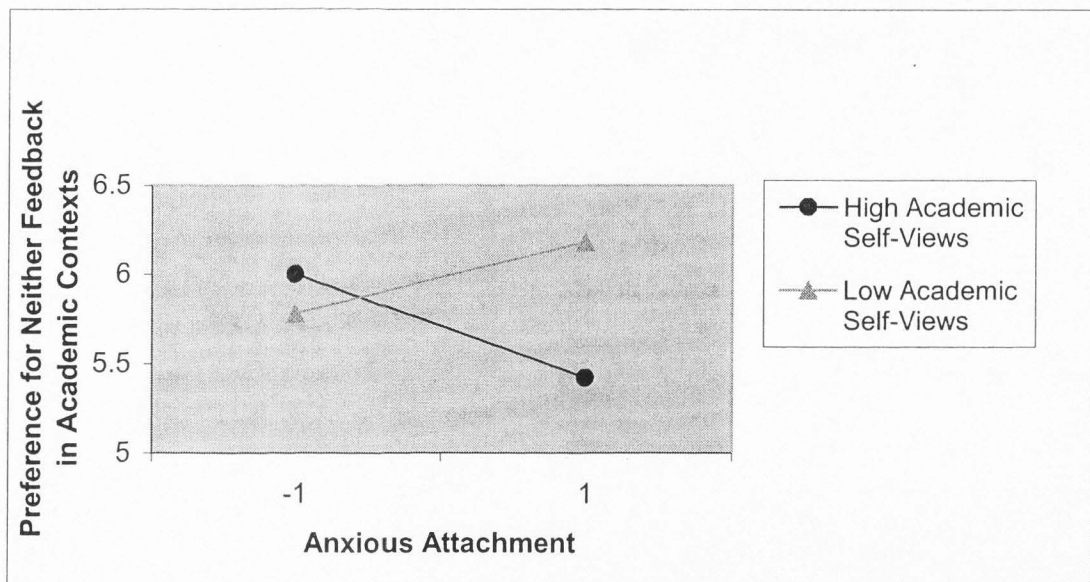


Figure 11. Interaction between anxious attachment and academic self-views in predicting preference for “neither” feedback in academic contexts.

Figure 12. None of the findings were at least moderate in size, and total adjusted  $R^2$  for the final model was merely .009. These findings are inconsistent with past research, which suggested that those with the dismissing-avoidant attachment style would have the strongest preference for this feedback type.

*Relations Between Feedback Preference and Partner Attraction*

Six simple linear regression analyses were conducted examining associations between feedback preference and attraction to partners who gave that type of feedback. Table 13 presents the results of these analyses. It was hypothesized that participants would report greater attraction to potential romantic partners who gave a preferred feedback type. That is, there would be a statistically significant positive relation between partner attraction and feedback preference. This should be true for all three types of

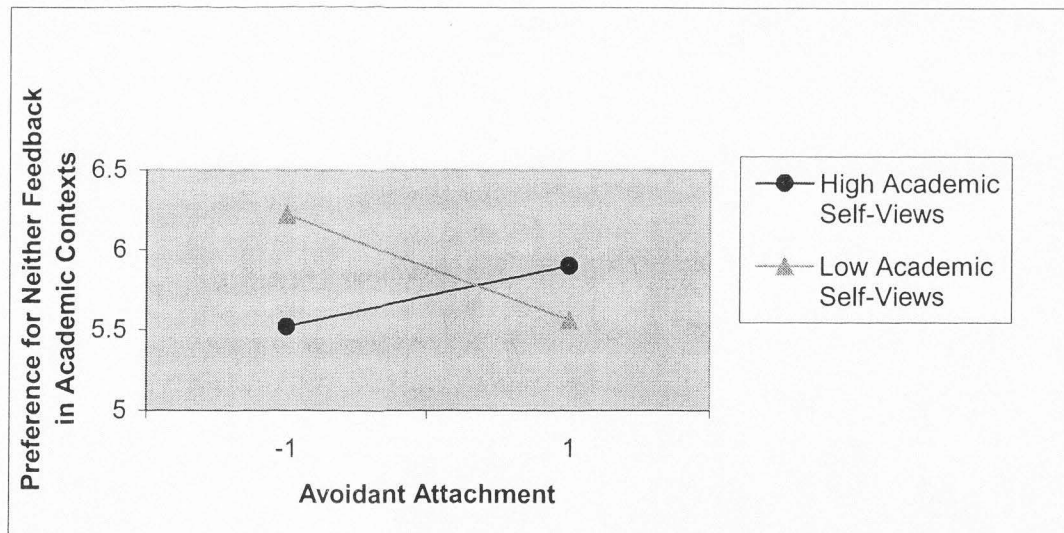


Figure 12. Interaction between avoidant attachment and academic self-views in predicting “neither” feedback in academic contexts.



feedback given in both the social and academic contexts. The predictors were the preference for a particular feedback type (enhancing, verifying, and “neither” in social and academic contexts), and the criterion variables were attraction to partners who gave that particular feedback type. Results showed that the hypothesis was supported for all feedback types, although support for the association between attraction and the preference for “neither” type of feedback in both the social and academic contexts is qualified by smaller effect sizes. As seen from the table, although all  $R^2$ 's were statistically significant, the effect sizes for the “neither” type of feedback in both the social and academic contexts were minimal, compared to the  $R^2$ 's for enhancing and verifying feedback. In all cases, the higher the preference for each feedback type, the more attracted one was to the partner who provided that type of feedback.

Table 13

*Summary of Results on the Relation Between Feedback Preference and Partner Attraction*

Feedback preference	Hypotheses	Adjusted $R^2$	$F$	Unstandardized coefficient and confidence intervals	Standardized Coefficients, Partial $r$	Hypotheses supported?
Enhancing feedback in social contexts	positive correlation	.27***	129.67***	.11 (.09 to .13)	.52	Yes
Verifying feedback in social contexts	positive correlation	.20***	90.65***	.12 (.10 to .15)	.45	Yes
“Neither” feedback in social contexts	positive correlation	.06***	24.02***	.11 (.06 to .15)	.25	Yes
Enhancing feedback in academic contexts	positive correlation	.24***	113.11***	.10 (.08 to .12)	.49	Yes
Verifying feedback in academic contexts	positive correlation	.17***	71.13***	.11 (.09 to .14)	.41	Yes
“Neither” feedback in academic contexts	positive correlation	.04***	16.25***	.12 (.06 to .17)	.21	Yes

$N = 355$ .

\*\*\* $p < .001$ .

## CHAPTER V

### DISCUSSION

This study examined how well individuals' attachment style, global self-esteem, and social and academic self-views predicted their preference for the type of feedback received from a potential romantic partner in stressful situations. Specifically, it was hypothesized that attachment style would be a strong predictor of feedback preference, but this relation could be moderated by one's global self-esteem, and/or specific self-views. The relation between receiving one's preferred feedback and attraction to the partner who gave the feedback was also investigated. In addition, relations among the variables (both predictor and outcome variables) were also of interest as they were intended to replicate past research and were examined as secondary research questions. Although hypotheses were generated regarding the relations among the variables, this was primarily an exploratory study because it was the first study investigating the relations between many of the variables and certainly the first that examined all of the variables mentioned above simultaneously. The following chapter discusses the results, implications, and limitations of this study and suggestions for future research.

Before discussing the findings, some issues must be mentioned. First, few statistically significant findings were found, and among those that were found to be statistically significant, few were at least moderate in effect size. Hence, one must take caution in interpreting the results that had minimal effect sizes. However, inspection of the findings revealed a consistent relation between anxious attachment and the preference for enhancing feedback in the social context. Despite the small number of statistically

significant findings and moderate-large effect sizes overall, such a pattern suggests a meaningful relation between the two variables.

Due to the statistically nonsignificant interactions between anxious and avoidant attachment in many cases, discussions of attachment categories and comparisons with past research on attachment categories are speculative. For example, if a main effect of low avoidant attachment was found, one cannot be certain whether this represents a secure or an anxious-ambivalent attachment style. Although both types of individuals would report low scores on the avoidant attachment dimension, they are very different overall in the way they relate to and interact with others. The matter becomes even more complex when an additional variable, such as global self-esteem or social self-views, is involved. For example, although, theoretically, a person with low avoidant attachment and low global self-esteem is someone with an anxious-ambivalent attachment style, one can not be certain of this as this could be a secure individual with low global self-esteem. In this case, an anxious-ambivalent person with low global self-esteem would be very different from a secure one with low global self-esteem.

An additional issue is that although individuals with different attachment styles were hypothesized to vary their feedback preference based on their global self-esteem and specific self-views, the reader must keep in mind that such interaction effects would manifest themselves very differently in people with different attachment styles. For example, high global self-esteem reported by an anxious-ambivalent person would theoretically be very different from that reported by a secure person, in that the former would likely be more fragile and defensive. This probable qualitative difference, despite

similar quantitative scores, renders interpretation of interaction effects difficult. Given the strong theoretical link between anxious attachment style and negative self-views, the assessment of global self-esteem as a moderator becomes somewhat problematic. Specifically, an interaction effect in which individuals with high scores on anxious attachment and high scores on global self-esteem report the highest preference for a particular feedback type describes a type of person who is theoretically inconsistent (anxious attachment implies a negative view of the self). These theoretical issues will be addressed throughout the discussion and their impacts on interpretation of effects will be noted.

Furthermore, a note of warning was issued by Ainsworth (1991) against applying traditional attachment theory to adult romantic attachment, as the latter is much more complex. For example, romantic attachment may have different meanings for different social, ethnic, or racial groups (Reese, Keiffer, & Briggs, 2002). Because the majority of the participants (85%) in this dissertation were affiliated with The Church of Jesus Christ of Latter-day Saints, whose norm is getting married at an early age, the findings may not be generalizable to other college students. Although scores on the attachment and global self-esteem measures were comparable to those reported in the literature, providing support for similarities between this population and populations used in other studies, caution should, nevertheless, be taken when interpreting the results.

#### Feedback Preference and Partner Attraction

It was found that participants as a whole (irrespective of attachment style, global self-esteem, specific self-views, or either social or academic contexts) preferred to

receive the enhancing feedback type the most, followed by the verifying and “neither” feedback types, respectively. Ratings of partner attraction correlated with feedback preference, with the highest ratings of attraction given to partners who gave the enhancing feedback, followed by those who gave the verifying feedback, and finally by those who gave the “neither” type of feedback. This was seen for partner attraction in both the social and academic contexts. Hence, the higher the preference for a feedback type, the more attracted one is to the partner who gave that type of feedback. These findings make intuitive sense.

Several factors may explain why enhancing feedback was the most preferred type of feedback in this study, including the type of reactions measured, availability of cognitive resources, how much individuals care about the issue at hand, credibility of the evaluation, and the type or stage of relationship, all of which will be discussed in this section.

The preference for either verifying or enhancing feedback may depend on the type of reactions measured. Research on cognitive reactions to performance evaluations supports self-consistency (similar to verification) theory, whereas research on affective reactions supports self-enhancing theory (Moreland & Sweeney, 1984). Swann and his colleagues (1992) also distinguished between two types of systems associated with decision making, that is, an affective system that is adept at rapid decision making but whose effects fade rapidly, and a cognitive system that is more proficient at reflective processes and whose effects are more dominant in the long run in decision making. Swann et al. (1987) proposed that verification is primarily a cognitive process, whereas

enhancement is mainly an affective one. It may be that the affective process is more prominent in initial romantic attraction and associated more with the variables examined in this study (i.e., attachment, global self-esteem, specific self-views) than the cognitive process, which may explain why participants strongly preferred the enhancing feedback type in this study.

The availability of cognitive resources (i.e., the ability to perform complex cognitive processing) affects one's tendency to either self-enhance or self-verify and may also explain why enhancing feedback was so strongly preferred. For example, when rushed and lacking adequate time to do more in-depth cognitive processes, people tend to self-enhance, but they tend to self-verify when they have enough cognitive resources to engage in the more complex cognitive processing that self-verification requires (Swann, 1990). Swann suggested that when it comes to making important decisions, such as choosing a romantic partner, people tend to take their time and use their cognitive resources effectively, thus, choosing verifying partners. This may explain why those in marital or longer-term relationships tend to self-verify and why people tend to choose enhancing partners in laboratory studies and studies of initial attraction. Self-verification is more cognitively costly than self-enhancement in the short-run; therefore, people may choose self-enhancement whenever possible, such as when choosing the more short-term dating partners, as mentioned above (Swann, 1990; Swann et al., 1994). Hence, participants' cognitive processing may be compromised by the nature of the study (e.g., lacking adequate time, stressful situations involved, study of initial attraction), which may explain the preference for enhancing feedback.

In addition, feedback preference also depends on how much individuals care about the issue at hand. Self-enhancement is more likely observed when people care more deeply about an issue (Jones, 1973). In this dissertation study, social and academic situations and potential romantic relationships are all issues that are important to most college students, which may also explain why enhancing feedback was the most preferred.

Furthermore, credibility of the evaluation may also influence feedback-seeking preference. Studies have shown that having evaluators who are credible, intelligent, and knowledgeable would lead to more self-verifying behavior, and having evaluators who are the opposite would lead to more self-enhancing striving (Swann, 1990), which may explain why people in dating relationships tend to self-enhance, whereas those in marital or longer-term relationships tend to self-verify (Swann et al., 1994). Potential romantic partners may not be perceived to be as credible and knowledgeable as a partner whom one has been dating or married to for a period of time. In this dissertation, feedback preference was sought from relatively unknown potential romantic partners who may not be perceived as being credible, which may explain the strong preference for enhancing feedback.

The type or stage of relationship may also be a determining factor in the preference for enhancing feedback. Past research suggests that couples in marital relationships tend to verify, whereas couples in dating relationships tend to enhance (Swann et al., 1994). Receiving enhancing feedback from a potential romantic partner may indicate attraction and interest more than receiving verifying or no feedback. The



participants in this dissertation were asked to imagine interacting with potential dating partners, individuals who are more similar to dating than marital partners, which may explain the preference for enhancing feedback.

Finally, because feedback preference was hypothesized to be an affect regulatory behavior, receiving feedback that is positive but not necessarily accurate in stressful situations from individuals who do not know one well and who may become romantic partners at a later time may have more of a reassuring effect, at least in the short-run, than receiving feedback that is more aligned with one's own views. Verifying feedback may be threatening to a potential romantic relationship that has not yet been formed. Perhaps being reassured by positive, but not necessarily confirming feedback, is what a person needs in stressful situations, at least initially. However, if the feedback does not fit with self-views, some individuals may eventually desire feedback that is less discrepant with their views.

### Predictors of Feedback Preference

#### *Adult Romantic Attachment as Main Predictor of Feedback Preference*

Although most of the participants in this study chose enhancing feedback as the most preferred type of feedback from potential romantic partners in stressful situations, there were also some who preferred verifying or no feedback at all. Differential preference of feedback as a form of affect regulation was hypothesized to be predicted by one's romantic attachment style. Few significant patterns of association emerged between romantic attachment and feedback preference. The anxious attachment dimension was

significantly positively associated with preference for enhancing feedback and negatively associated with preference for “neither” feedback in social contexts. No statistically significant effects were found in the preference for verifying feedback in either social or academic contexts. Results showed that the verifying feedback was moderately preferred by participants, but this preference could not be predicted by the attachment dimensions of anxiety and avoidance. In addition, no attachment variables predicted feedback preference in academic contexts, and avoidant attachment did not emerge as a significant predictor in any of the regression analyses.

*Enhancing feedback in social contexts.* The hypothesis that higher anxious attachment would predict preference for enhancing feedback in social contexts was supported. This finding is consistent with the literature, which suggests that individuals with the anxious-ambivalent and fearful-avoidant attachment styles would prefer enhancing feedback. Anxious-ambivalent individuals’ tendency to worry in dealing with relationship problems suggests that they especially need reassurance about themselves and their abilities to solve problems and interact with people and would, therefore, prefer to receive enhancing feedback from partners (Ognibene & Collins, 1998). Anxious-ambivalent individuals may also organize their self-structure by using simple affective criterion, such as whether the information makes them feel good or bad, which would also suggest the preference for enhancing feedback (Mikulincer, 1995). A strong fear of rejection may explain anxious-ambivalent and fearful-avoidant individuals’ need for potential partners’ approval, and anything that is less than positive may be threatening to their self-image. Their dependency; fear of rejection, abandonment, and loss of social

identity (Hazan & Shaver, 1987; Mikulincer et al., 1990); and continuous need to seek support from attachment figure(s) all suggest that these people may be more attracted to potential partners who give them enhancing feedback as opposed to partners who provide more verifying feedback. Similar to those with the anxious-ambivalent attachment style, those with the fearful-avoidant type also are highly dependent on others for the validation of their self-worth and fear rejection from partners, which may explain their preference for enhancing feedback found in this study (Bartholomew & Horowitz, 1991; Ognibene & Collins, 1998).

*“Neither” feedback in social contexts.* Anxious attachment was found to be negatively related to preference for no (“neither”) feedback in social contexts, suggesting that both the secure and dismissing-avoidant attachment types with lower anxious attachment may be more likely to prefer this type of feedback than the anxious-ambivalent and fearful-avoidant types with higher anxious attachment. This finding is also supported by previous studies. In coping with the violation of trust, avoidant individuals tend to engage in escape and to some extent worrying (Mikulincer, 1998; Ognibene & Collins, 1998). In coping with academic and social stressors, both dismissing and fearful persons employed interpersonal distancing (i.e., less support-seeking and confrontive coping; Ognibene & Collins). A study on attachment and lifestyle (behavioral tendency in coping) found that those with the dismissing-avoidant attachment style have a pessimistic view of life and others, lack confidence about being able to rely on others, prefer to avoid attention from others, and may overemphasize their ability to cope in times of stress (Peluso, 2002). They prefer less cognitive and socially

supportive emotion regulation behaviors from their partners than individuals with the secure or any of the other insecure attachment styles (Myers, 1999).

Ironically, avoidant individuals' avoidant tendencies are more prominent in times of stress, and they are more likely to seek help from others when they are not in distress. Interestingly, at lower levels of stress, avoidant women sought out more support from their partners and avoidant men gave more support to their partners, compared to secure men and women. As stress level increased, however, the women sought less support, and the men provided less support. This may be due to the fact that the desire for proximity is greater than the fear of intimacy in conditions of low stress, but as stress level increases, the fear of intimacy among avoidant individuals increases to override the desire for proximity. Therefore, during times of lower stress, avoidant people "overcompensate" to satisfy their proximity needs (Simpson et al., 1992).

The results also suggested that those with the secure attachment style, with lower anxious attachment, may also have stronger preference for no feedback in stressful social contexts. This finding is somewhat surprising as the literature provides ample support for secure individuals' tendency to seek and provide support, having a positive model of others, and lack of fear of rejection (Griffin & Barthomew, 1994; Hazan & Shaver, 1987; Mikulincer, 1998; Pistole, 1989; Simpson et al., 1992). Perhaps having low anxious attachment generalizes to having less anxiety in these types of situations, especially as they were hypothesized to have higher social self-views, and less need to rely on others for support and validation. However, as mentioned at the beginning of this chapter,

caution in interpretation must be taken due to the small effect sizes, as well as the lack of an interaction effect, making it difficult to discuss attachment in categorical terms.

Neither anxious nor avoidant attachment predicted the preference for verifying feedback. The hypothesis that low anxious and low avoidant attachment (secure individuals) would predict a preference for verifying feedback was not supported. The lack of preference for verifying feedback may be due to the type of hypothetical relationship studied and the situations in which feedback was received. Perhaps when interacting with a romantic potential in stressful situations where one's self-image is at stake, individuals would rather receive either positive feedback or no feedback at all. They do not expect to receive feedback that is more aligned with their own self-views as they do not expect an acquaintance to know them well enough to give such feedback or to cross social boundaries by providing feedback that is not positive and reassuring. Thus, these reasons may obscure direct associations between attachment and feedback preference.

The two attachment dimensions did not independently predict feedback preference in academic contexts. This may be due to the lack of believability of the academic scenarios, the little importance participants placed on receiving feedback from a source they did not know well and may not trust to receive feedback from in that particular context, or that attachment is more closely related to one's social rather than academic self-views and is elicited more in stressful social situations.

*Global Self-Esteem and Specific Self-Views as Additional Predictors of Feedback Preference*

Results from this study showed that neither global self-esteem nor specific self-views predicted feedback preference in either social or academic contexts. Previous studies have found conflicting results regarding the relation between global self-esteem and feedback, such that some have found support for enhancing effects among low self-esteem individuals (e.g., Moreland & Sweeney, 1984), others have posited verifying effects for low self-esteem individuals (e.g., Swann, Wenzlaff, et al., 1992), and others predict enhancing effects among those with high self-esteem (Jones, 1973).

One of the findings from this study regarding feedback preference was that enhancing feedback was the most preferred, regardless of participants' characteristics, such as attachment and global self-esteem. This finding supports previous studies, which found enhancement preference to be prevalent among all individuals, regardless of their self-esteem. For example, Swann and colleagues (1987) found enhancing information to lead to attraction to the information source, regardless of the self-esteem of the person receiving the feedback. Moreland and Sweeney's (1984) study of students' self-expectancies and reactions to evaluations of personal performance also found the participants to prefer positive over negative performance evaluations, regardless of their self-expectancies. Although both high and low self-esteem people engage in self-enhancement in close relationships (Schultz & Tice, 1997), they differ in the self-enhancing strategies used. Specifically, high self-esteem persons self-enhance by downward comparison or emphasizing the qualities they have that are superior to their partners' because high self-esteem people sometimes have a more positive view of

themselves than they do of their partners. On the other hand, low self-esteem persons self-enhance by associating with and glorifying their partners and basking in reflected glory because these individuals have a more positive view of their partners than they do of themselves. Thus, for high self-esteem people, it is "He is good and I am even better, so I am great." For low self-esteem people, it is "He is wonderful and he adores me, so I am good" (Schutz & Tice, p. 271). It appears that all individuals, regardless of self-esteem, would engage in self-enhancement in relationships, although perhaps in different ways: high self-esteem persons by ways of downward comparison and low self-esteem persons by basking in reflected glory.

In addition, past studies have found that the personal attributes that are being evaluated may be a better predictor of feedback preference than global self-esteem. In one study (Swann et al., 1989), individuals sought positive or enhancing feedback (which, in this case, was verifying as well) regarding their positive attributes and negative or more verifying feedback regarding their negative attributes, regardless of their global self-esteem. Hence, even low self-esteem individuals, who Swann and colleagues suggested would usually seek verifying or more negative feedback, would also seek enhancing feedback regarding their positive attributes, and high self-esteem individuals, who would typically seek positive or enhancing (which in this case is also verifying) feedback, might also seek verifying feedback regarding their negative attributes. However, results from this dissertation indicated that specific self-views also were not good predictors of feedback preference. Past studies found that people are more likely to seek verification of strongly held and important self-views (Pelham, 1991). This

dissertation did not examine the importance of self-views, which may serve as a moderator in the relation between self-views and feedback preference.

*Global Self-Esteem as a Moderator of the Relation Between Attachment Style and Feedback Preference*

Global self-esteem was tested as a moderator of the relation between attachment and feedback preference as both individuals of secure and insecure attachment styles were hypothesized to vary their feedback preference based on their level of global self-esteem. As in the regression analyses examining simple associations between attachment and feedback preference, statistically significant results were found only in the preference for enhancing and “neither” feedback and global self-esteem emerged as a moderator only in the preference for “neither” feedback.

*Enhancing feedback.* Although the proportion of variance accounted for was very small, results suggested that those with high anxious attachment (i.e., anxious-ambivalent and fearful-dismissing individuals) would most prefer this type of feedback in social contexts, regardless of the level of their global self-esteem. In the academic contexts, however, a significant interaction effect between anxious and avoidant attachment suggested that the fearful-avoidant type most preferred enhancing feedback in academic contexts, and dismissing-avoidant least preferred this type of feedback. Global self-esteem was also not found to be a moderator in this case. Attachment appeared to override whatever impact global self-esteem may have in influencing feedback preference.

Integrating the findings across analyses suggests that the fearful-avoidant type may prefer enhancing feedback in both stressful social and academic settings, whereas



the anxious-ambivalent type preferred it only in the social setting. Fearful-avoidant individuals appeared to have the strongest need to be validated positively, regardless of the specific domain in which feedback was given. Individuals with the anxious-ambivalent attachment style may care for positive feedback only in social setting and less so in academic setting because they are theorized to have high social self-views and may wish to uphold this view of themselves by receiving validation from others. Because their academic self-views are theoretically not as salient as their social self-views, it may not be as important to receive positive feedback regarding this. In addition, such positive feedback regarding their academic performance/attributes may not be as believable to them as positive feedback regarding their social performance/attribute. As predicted, the dismissing-avoidant type did not demonstrate a strong preference for enhancing feedback in either setting.

*“Neither” feedback.* In the preference for “neither” feedback in social contexts, results suggested that both avoidant attachment and global self-esteem may play roles in influencing the preference for this feedback type. Results suggested that, generally, those with higher avoidant attachment scores reported stronger preference for “neither” feedback. However, unexpectedly, among those with higher avoidant attachment, those with low global self-esteem reported the strongest preference for “neither” feedback. In addition, among those with lower avoidant attachment, those with lower global self-esteem reported the least preference for “neither” feedback.

Individuals with lower global self-esteem who were also highly avoidant would not care to receive any kind of feedback from potential romantic partners in stressful

social situations, perhaps because of their negative model of others (Bartholomew, 1990), fear of receiving potentially negative feedback from them, use of distancing and escape methods of coping (Murray, Rose, et al., 2002), or their simply not caring about others' viewpoints (Phillips et al., 1995). On the other hand, individuals with low global self-esteem but were not avoidant were the least likely to desire no feedback, perhaps due to their strong need for validation and acceptance, fear of rejection, and wish to associate with others and hear others' viewpoints (Hazan & Shaver, 1987).

In the academic contexts, results, although small in effect size, suggested that the higher one's global self-esteem, the higher the preference for no feedback. Furthermore, the preference for no feedback was the highest among anxious-ambivalent individuals (high anxious attachment, low avoidant attachment) with high global self-esteem and lowest among dismissing-avoidant (low anxious attachment, high avoidant attachment) individuals with low global self-esteem. This is an interesting finding as anxious-ambivalent people have consistently been found to report lower global self-esteem in the literature and would typically prefer to receive feedback, especially positive feedback. However, it appears that those with high global self-esteem may not wish to receive any feedback in academic contexts. This finding raises questions about potential qualitative differences in the high global self-esteem reported by individuals of differing attachment styles and also about the theoretical meaning of high global self-esteem reported by individuals with anxious-ambivalent attachment style. Specifically, as with the high global self-esteem reported by individuals with dismissing avoidant attachment style, which has been found to be more of a false sense of positive self-image (e.g., Brennan &

Morris, 1997; Hamernik, 1996; Mikulincer, 1995), the high global self-esteem reported by individuals with anxious ambivalent attachment style may also be a more fragile, defensive sense of self than the stable positive self regard reported by individuals with secure attachment style. Despite their overall reported high esteem of the self, the negative model of the self implied by an anxious attachment representation may, nevertheless, lead to an expectation of receiving negative feedback from others. Hence, not seeking feedback may be a way for them to preserve their likely fragile positive self-regard. Similarly, those who are dismissingly-avoidant in their attachment have been found in previous research to report high global self-esteem (although their high level of global self-esteem is conceptualized to be very different from that of secure individuals). However, when their global self-esteem is low and they are less certain of themselves (given that they have been found by previous studies to have high academic self-views, and the academic domain may be very important to these individuals), their need for information from others regarding their academics in stressful academic situations may be greater.

*Specific Self-Views as Moderator of the Relation Between Attachment Style and Feedback Preference*

Specific self-views were also tested as potential moderators of the relation between attachment and feedback preference as the feedback preference of both individuals of secure and insecure attachment styles were hypothesized to vary based on their specific self-views. Neither attachment nor social self-views were found to be statistically significant independent predictors of the preference for any of the three

feedback types in the social contexts. Further, the previously reported associations between anxious attachment and feedback preference disappeared when social self-view was entered into the model. This may perhaps be due to the strong statistical and theoretical relationship between anxious attachment and social self-views. The relation between high anxious attachment and the preference for enhancing feedback, for example, may partly be explained by having low social self-views associated with high anxious attachment and, therefore, desiring more positive feedback. The lack of support for the hypothesis that social self-views would be more salient for those high on anxious attachment (lack of interaction effects) may be partly due to the high theoretical and statistical association between social self-views and anxious attachment.

In the academic contexts, several statistically significant interactions emerged among attachment dimensions and academic self-views. First, academic self-views did appear to interact with attachment or moderate the relation between attachment and the preference for enhancing feedback. A two-way interaction shows that those with high anxious attachment and high academic self-view scores appeared to have the highest preference for this feedback type, and those with low anxious attachment but high academic self-views scores appeared to have the lowest. Those with high anxious attachment and academic self-views may desire to have validation from others of their positive self-views. Those whose anxious attachment was low but whose academic self-views were high did not wish to receive enhancing feedback as they did not need to seek recognition from others for their high academic self-views. Additionally, a three-way interaction, taking into account avoidant attachment as well, suggests that low anxious

attachment, low avoidant, and low academic self-views (secure individuals with low academic self-views) had the highest preference for enhancing feedback, and secure individuals with high academic self-views had the lowest preference for this feedback type. Secure individuals are theorized to expect supportive, reassuring behaviors from others when they lack confidence. Thus, secure individuals with less strong academic self-concepts may rely on others to bolster their self-views. In contrast, the stable, genuine positive self-regard of secure individuals with strong academic self-concepts may result in less need to rely on others to maintain that positive self-view.

Significant interaction effects were also observed in predicting preference for verifying feedback. Those with low anxious and low avoidant attachment (secure) and high academic self-view scores appeared to have the highest preference for verifying feedback in academic contexts, and those with low anxious and low avoidant attachment (secure) and low academic self-view scores appeared to have the lowest preference for this feedback type, which are exactly the opposite of the findings for the preference for enhancing feedback in the academic context. Again, it suggests that secure individuals who lack confidence in the domain of academics may trust others to provide enhancing, supportive feedback, and they are willing to accept that feedback, believe it, and use it to bolster their sense of self in that domain. Secure individuals with strong academic self-views are confident that others will respect and acknowledge that strength. Their positive expectations from others, in combination with their stable, positive sense of self may render them open to verifying feedback from others.

Finally, those with high anxious attachment and low academic self-view scores reported the highest preference for “neither” type of feedback, and those with high anxious attachment and high academic self-view scores reported the lowest preference for this feedback type. Thus, among those high in anxious attachment, having the view that one is doing not well academically decreased one’s need or desire to receive any kind of feedback, perhaps due to fear of potential rejection. On the other hand, having the view that one is doing well academically increased one’s wish to receive feedback from others, possibly due to a desire to be recognized and validated. Additionally, having low anxious attachment as well as low academic self-views predicted the preference for this feedback type. Hence, it appeared that even among those who are not anxious in attachment, having low academic self-views would decrease one’s need to receive feedback from others. Even though these participants were not anxious in their attachment, they could perhaps be avoidant, which may explain the decrease desire to receive feedback. Further analysis of the two-way interaction between avoidant attachment and academic self-views showed that those with low avoidant attachment and low academic self-view scores most preferred “neither” feedback; these individuals may find enhancing feedback to be too farfetched and verifying feedback to be too difficult to accept. Again, it appears that even when one’s avoidant attachment was not high, having low academic self-views would predict the preference for no feedback. In contrast, individuals with low avoidant attachment and high academic self-view scores least preferred this feedback type; perhaps this group experiences a strong desire to receive feedback because they wish others to acknowledge or validate their positive and, perhaps,

less stable positive self-views. Although moderation effects were found, these findings are inconsistent with past studies, which suggest that those who are highly avoidant and perhaps with high academic self-views (i.e., dismissing-avoidant type) would most prefer this type of feedback, and is, in fact, the opposite of the hypothesis. In other words, the findings do not support the hypothesis that academic self-views would be more salient among those who are highly avoidant in their attachment orientation, particularly the dismissing-avoidant type. Although the betas associated with these interaction effects were statistically significant, the proportion of the variance in preference for “neither” feedback accounted for by the overall model was minimal and nonsignificant. Caution should be taken against overinterpreting these theoretically inconsistent findings.

One issue concerning the moderation by specific self-views was that social self-views were hypothesized to interact more strongly with anxious attachment, and academic self-views were hypothesized to interact more strongly with avoidant attachment, as the social self-views have been found by past research to be more salient for the anxious-ambivalent type and academic self-views to be more salient for the avoidant type(s). These hypotheses were not supported, as social self-views were not found to interact with either anxious or avoidant attachment in predicting feedback preference. Although interactions between academic self-views and avoidant attachment were found in predicting verifying and “neither” feedback types in the academic contexts, neither finding was as predicted. As mentioned in an earlier section, social self-views may be more closely related to anxious attachment both statistically and theoretically; hence, the lack of significant findings in either variable. As for academic self-views,

anxious attachment appeared to be a stronger predictor than avoidant attachment statistically, perhaps masking any relations between avoidant attachment and academic self-views.

### Relations Between Predictors of Feedback Preference

#### *Adult Romantic Attachment and Global Self-Esteem*

Anxious attachment and avoidant attachment were expected to relate to global self-esteem as they were hypothesized to tap into the latent construct of the “model of self” in the attachment literature (Griffin & Bartholomew, 1994). Self-esteem was hypothesized to relate to internalized models of the self in a positive way, but not models of others; hence, those with a positive model of self (i.e., secure, dismissing) would report higher global self-esteem, and those with a negative model of self (i.e., fearful, anxious-ambivalent) lower global self-esteem (Bartholomew & Horowitz, 1991; Bylsma et al., 1997). Results from this study supported past research as those with lower anxious attachment (i.e., secure, dismissing-avoidant) were found to have higher global self-esteem than those with higher anxious attachment (i.e., anxious-ambivalent and fearful-avoidant). In addition, global self-esteem was found to be the highest among those with low anxious and low avoidant attachment (secure), and it was the lowest among those with high anxious and high avoidant attachment (fearful-avoidant).

#### *Adult Romantic Attachment and Specific Self-Views in Social and Academic Contexts*

Findings from this study partially supported previous studies that found positive models of the self (secure, dismissing-avoidant) to relate to higher self-ratings of



competence in various areas (one's self-views in various domains) and negative models (anxious-ambivalent, fearful-avoidant) to relate to lower self-competence (Bylsma et al., 1997). Specifically, in this sample lower anxious *and* lower avoidant attachment related to higher social self-views, while past studies found only those with lower avoidant attachment (i.e., secure, anxious-ambivalent) to report higher social self-views. The statistically significant findings of both attachment dimensions in this study may be explained by the likelihood that when one has a higher view of oneself socially, one may be less anxious in relating to others. Similarly, having a positive view of oneself in the social domain may also translate to having less avoidant tendencies interpersonally. In addition, differences in attachment measurement (dimensional versus categorical) may explain the different findings between this study and past ones. Because a significant interaction between anxious attachment and avoidant attachment was not found, interpretation in terms of attachment categories is not clear. Low scores on the anxious attachment dimensions could represent either secure attachment or dismissing-avoidant attachment. Similarly, low scores on the avoidant dimension could represent either secure or anxious-ambivalent individuals. The combination of main effects for the anxious and avoidant dimensions suggests that secure individuals (low on both dimensions) would report the most positive social self-views, which *is* consistent with theoretical expectations and past research. However, because social self-views were hypothesized to also be more salient among those high on anxious attachment, particularly the anxious-ambivalent type, the finding that those with lower anxious attachment had higher social self-views did not support this part of the hypothesis.

With regard to academic self-views, lower anxious attachment (characterizing secure and dismissing-avoidant styles) was found to relate to higher academic self-views, and no relation was observed between avoidant attachment and academic self-views. It appears that having more confidence or less anxiety in interpersonal attachment also relates to having a high view of oneself academically, perhaps because the social and academic domains impact each other during the college years. This also differs slightly from past studies, which found that secure and avoidant individuals tend to have higher academic self-views than anxious-ambivalent individuals (Bringle & Bagby, 1992). Because this particular study did not differentiate between fearful and dismissing-avoidant attachment, it is likely that the avoidant group in this study included both types of avoidant attachment. The hypothesis that academic self-views would be more salient among those with high avoidant attachment, particularly the dismissing-avoidant type, was partially supported due to the lack of support for the fearful-avoidant attachment type. Again, differences in findings between this study and previous studies may be due to measurement differences.

*Global Self-Esteem and Specific Self-Views  
in the Social and Academic Contexts*

Replicating past research (Fleming & Courtney, 1984; Heatherton & Polivy, 1991; Lorr & Wunderlich, 1986), global self-esteem was found to relate positively to social and academic self-views. The relation between specific self-view and global self-esteem is likely reciprocal. One's self-view in specific domains may contribute to one's

global self-esteem or one's global esteem of the self may influence one's self-view in various domains.

#### Implications, Limitations, and Directions for Future Research

The study makes a contribution to the attachment, self-enhancement/self-verification, and romantic attraction literatures in a number of ways. First, enhancing feedback was found to be the strongest preferred feedback type by individuals in stressful situations involving potential romantic others. Second, although not all findings were consistent with hypotheses and effect sizes were generally small, attachment and feedback preference were found to relate to each other in some predicted ways. Because both were hypothesized to be affect regulatory behaviors, attachment was thought to predict the type of feedback individuals would seek from significant others, particularly in stressful situations. Additionally, the study replicated past research on the relations between attachment and global self-esteem, attachment and specific self-views, and global self-esteem and specific self-views.

Findings from the study may be applicable to both individual and couples therapy. Understanding attachment style and how it interacts with global self-esteem and specific self-views may lead to greater understanding of interaction with potential or current romantic partners in the types of feedback one seeks from these significant others. For example, an individual with the anxious-ambivalent attachment style and low global self-esteem may seek enhancing feedback from a potential or current romantic partner and react negatively to verifying types of feedback. This expectation for enhancement and unresponsiveness to realistic, less positive feedback may alienate potential partners and

make relationships more superficial in the long-run. Another implication from the findings is that a person who gives verifying feedback at the onset of a romantic relationship or before it has been established may potentially threaten the relationship.

There were prominent limitations in the measures that were created for this study. First, Cronbach's alpha was not calculated for the pilot tests of the feedback preference measure to determine internal consistency. Although the feedback preference measure was pilot-tested and revised several times to ensure clarity, it may be that participants were uncertain about the definitions of the three feedback types or the scenarios. It was not apparent whether the participants understood the measures well or if they did not care to ask questions when questions arose. Participants' participation was likely due to the desire to obtain extra credits points for their classes. This possible reluctance in participation, in addition to the length of the measures, could have interfered with concentration and understanding, resulting in response sets or response biases. All efforts were put forth to make the feedback preference measure more interesting. However, to ensure clarity and understanding, instructions and definitions of the three feedback types were repeated throughout the measure. This could have had the contrary effect of making the measure appear more tedious and less interesting.

Also, the low Cronbach's alphas for the feedback preference measure could have been due to participants responding to the items based on the specifics of each scenario and not on their general preference for a specific feedback type from potential romantic partners. In other words, if they were given other scenarios related to social and academic situations, their feedback preference may be very different. Cronbach's alphas

are higher for measures with many items than for those with fewer items, and this measure has few items. The low reliability of this measure may be partially responsible for the lack of support for the study hypotheses. It was difficult to ensure that scenarios were similar in terms of the stress level they depicted. Similarly, it was difficult to determine the stress level they elicited in participants as some participants could have deemed a particular scenario to be extremely stressful, while others could have deemed it to not be very stressful. Verbal feedback obtained on the level of stress during the pilot testing indicated that the participants were able to identify with the situations the scenarios depicted and did, indeed, find them to be quite stressful. However, a manipulation check measuring stress level was not included in the Feedback Preference Form of this study. Future research employing similar measures needs to create more scenarios and test for the level of stress they create.

Additionally, the high correlation between the created version of the specific self-views measure and the original SESS indicated that the two continued to be similar after revisions. The author of this dissertation failed to measure temporal stability to assess whether the created measure was truly measuring trait and not state self-views.

There are many other limitations in using self-report measures. Social desirability effect (the tendency to present oneself in a positive manner to others) is one such limitation, especially in a culture such as the one where the data collection took place where positive social appearance seems to be important. The global self-esteem and specific self-view measures may especially be susceptible to this phenomenon. Another limitation is misunderstanding of the items in a measure. As mentioned, whether or not

participants clearly understood the feedback preference measure is unknown. Because the participants were forced to rank the three feedback types in order of preference, several people did not rank as instructed. Those cases were not scored, resulting in missing data. Boredom, the desire to complete the measures quickly, or an inability to pick a choice that was the *most* preferred may be some of the reasons for such occurrence. Moderacy response bias (the tendency to use the midpoint as often as possible) may also be present (Robinson et al., 1991). Finally, pencil-and-paper measures of a construct often differ from actual behavior. Experimental, longitudinal, and observational designs may be more effective in studying the topics in this study, an approach that future studies may wish to take.

One area of concern was having those who were already in a relationship imagine not being in a relationship and having interest in potential romantic partners. Very few, small relationship status differences were detected across feedback preferences. It was impossible to ascertain whether the lack of differences among the relationship statuses was due to an actual lack of differences or to the measures not being sensitive enough to detect such differences. Future studies may wish to further examine differences among relationship types or simply focus on individuals in one type of relationship. In addition, some sporadic two-way interactions involving gender were found. The number and magnitude of the effects was not large enough to warrant controlling for gender in the analyses. However, future research on attachment and feedback preference may wish to examine gender differences.

Many studies of adult romantic attachment utilized both categorical and continuous measures of attachment in order to help classify individuals into different attachment groups. Others that used continuous measures had different ways of scoring to classify attachment styles, such as using the mean or median to discriminate higher and lower scores on anxious attachment and avoidant attachment to derive four different attachment categories (e.g., Peluso, 2002). Again, the categorization of continuous attachment scores into attachment categories is arbitrary and not recommended. This dissertation used only a continuous measure and was not able to classify individuals into attachment groups. Because of this, it was difficult to discuss findings in terms of attachment categories, and discussions of categories were speculative but necessary in order to make comparisons with previous research. However, cautions must be taken in making these comparisons.

Several factors may explain feedback preference and were not tested in the model. Instead of merely examining attachment style, global self-esteem, or specific self-view in feedback preference, future studies may wish to include other factors, such as one's belief in the acceptance of a partner, for example, which may be more influential than global self-esteem in determining feedback preference. A study found that both high and low global self-esteem individuals turned to their relationship for self-affirmation when an unconditionally accepting person was primed, but when a conditionally accepting person was primed, both types of individuals (high and low global self-esteem) expressed anxious attachment in relying on their partner to reduce self-doubt. Low global self-esteem people's tendency to turn to their partners less in times of stress (self-doubt) than

high global self-esteem people may be due to a frequent accessibility of rejection and a conditionally accepting partner (Murray et al., 2000; Murray, Bellavia et al., 2001).

Finally, because the percentage of those participants having a religion other than LDS was small, individuals of different religious affiliations were not analyzed separately. Similarly, the percentage of participants who did not fall in the group of non-Hispanic White was also small and not analyzed separately. Although past studies have examined the relation between the variables of interest and gender (e.g., Filippides, 2004; Rholes et al., 1999; Simpson et al., 1992), fewer studies have investigated socioeconomic status and race/ethnicity (e.g., Sawyerr, Strauss, & Yan, 2005; Stets & Harrod, 2004). Future research may wish to examine attachment styles and feedback preference using more ethnically and culturally diverse samples.



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APPENDICES

Appendix A:  
Consent Form

Informed Consent: Adult Romantic Attachment Style, Global Self-esteem, Specific Self-views, and Feedback Preference in Potential Romantic Relationships

**Introduction/Purpose:** You have been asked to take part in a research study conducted by the Department of Psychology to find out more about how people act when they meet someone they might like to get to know better. It is an ethical principle that the participants in a study be informed of the purpose and benefits of the project, the research methods to be used, the potential risks or hazards of participation, and the right to ask for further information at any time during the research procedures. Your choice to participate is a voluntary one, and you are free to withdraw from the research project at any time without consequence.

**Procedures:** If you agree to be in this study, you will be asked to fill out some questionnaires. The entire research session will take approximately 60 minutes.

**Risks:** There are no known risks to being in the study.

**Confidentiality:** Information related to you will be treated in strict confidence to the extent provided by law. Your identity will be coded and will not be associated with any published results. Your code number and identity will be kept in a locked file of the principal investigator, and only the investigator, her advisors, and her research assistants will have access to the data.

**Benefits:** There are no direct benefits to you for being in the study. Your instructor has agreed to offer you extra credit in the class if you participate. However, if you agree to participate, and then decide that you no longer wish to continue, your instructor will provide you with alternative means of earning extra credit.

**IRB Approval Statement:** The Institutional Review Board (IRB) for the protection of

human subjects at Utah State University has reviewed and approved this research project.

**Explanation and offer to answer questions:** If you have additional questions about this study or your rights, or if any problems arise, you may contact Crystal Lin at 797-6322, clin@hotmail.com, or Dr. Tamara Ferguson at 797-3272, tjferguson@cc.usu.edu. Your participation in this study is voluntary and you may discontinue your participation at any time without consequence. If you do not wish to participate, please return all materials to the researcher. If you are willing to participate, then it indicates that you have read and understood this consent form.

This form is yours to keep. Please remember to take it with you when you leave.

Investigator Statement

I certify that the research study has been explained to the participant by me or my research assistant, and that the participant understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised, have been answered.

Tamara Ferguson, Ph.D.  
Principal Investigator

Crystal Lin, B.A.  
Student Researcher

Appendix B:  
Measures

Gender: Male Female (circle one)

Age in years: \_\_\_\_\_ Your self-described ethnicity: \_\_\_\_\_

Your self-described religious affiliation (if no affiliation, put none): \_\_\_\_\_

Circle how many years of education your mother has had:

7    8    9    10    11    12    13    14    15    16    17    18  
(or more)

Circle how many years of education your father has had:

7    8    9    10    11    12    13    14    15    16    17    18  
(or more)

Your educational status: Freshman    Sophomore    Junior    Senior (circle one)

Declared Major (if declared): \_\_\_\_\_ Intended Major (if not yet declared): \_\_\_\_\_

*How dedicated you are to your major (circle one number):*

\_\_\_\_\_

1                      2                      3                      4                      5

Not at all dedicated                      Somewhat dedicated                      Very dedicated

a) Are you in a marital relationship at the present time?    Y    N ( circle one)

*If yes, how many years (e.g., less than 1 year, 1 year, 2 years) have you been in this marital relationship?* \_\_\_\_\_

b) Are you engaged to be married at the present time?                      Y    N  
(circle one)

*If yes, how long have you been engaged (in months)?* \_\_\_\_\_

c) Are you in a serious dating relationship at the present time?                      Y    N  
(circle one)

*If yes, how many years (e.g., less than 1 year, 1 year, 2 years) have you been in this serious dating relationship?* \_\_\_\_\_

d) ONLY IF you said NO to a) and b) and c): Are you dating someone casually at the present time?                      Y    N  
(circle one)



\*\*\* Item order on forms given to participants was randomized. The items are organized in this document according to the anxiety (first 18 items) and avoidance (second 18 items) scales they are meant to represent.

Experiences in Close Relationships Questionnaire—Revised (ECR-R)

The following statements concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

---

1	2	3	4	5	6	7
Disagree			Neutral/Mixed			Agree
Strongly						Strongly

- \_\_\_\_\_ 1. I'm afraid that I will lose my partner's love.
- \_\_\_\_\_ 2. I often worry that my partner will not want to stay with me.
- \_\_\_\_\_ 3. I often worry that my partner doesn't really love me.
- \_\_\_\_\_ 4. I worry that romantic partners won't care about me as much as I care about them.
- \_\_\_\_\_ 5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
- \_\_\_\_\_ 6. I worry a lot about my relationships.
- \_\_\_\_\_ 7. When my partner is out of sight, I worry that he or she might become interested in someone else.
- \_\_\_\_\_ 8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
- \_\_\_\_\_ 9. I rarely worry about my partner leaving me.
- \_\_\_\_\_ 10. My romantic partner makes me doubt myself.

- \_\_\_\_\_ 11. I do not often worry about being abandoned.
  - \_\_\_\_\_ 12. I find that my partner(s) don't want to get as close as I would like.
  - \_\_\_\_\_ 13. Sometimes romantic partners change their feelings about me for no apparent reason.
  - \_\_\_\_\_ 14. My desire to be very close sometimes scares people away.
  - \_\_\_\_\_ 15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
  - \_\_\_\_\_ 16. It makes me mad that I don't get the affection and support I need from my partner.
  - \_\_\_\_\_ 17. I worry that I won't measure up to other people.
  - \_\_\_\_\_ 18. My partner only seems to notice me when I'm angry.
- 

- \_\_\_\_\_ 1. I prefer not to show a partner how I feel deep down.
- \_\_\_\_\_ 2. I feel comfortable sharing my private thoughts and feelings with my partner.
- \_\_\_\_\_ 3. I find it difficult to allow myself to depend on romantic partners.
- \_\_\_\_\_ 4. I am very comfortable being close to romantic partners.
- \_\_\_\_\_ 5. I don't feel comfortable opening up to romantic partners.
- \_\_\_\_\_ 6. I prefer not to be too close to romantic partners.
- \_\_\_\_\_ 7. I get uncomfortable when a romantic partner wants to be very close.
- \_\_\_\_\_ 8. I find it relatively easy to get close to my partner.
- \_\_\_\_\_ 9. It's not difficult for me to get close to my partner.
- \_\_\_\_\_ 10. I usually discuss my problems and concerns with my partner.
- \_\_\_\_\_ 11. It helps to turn to my romantic partner in times of need.
- \_\_\_\_\_ 12. I tell my partner just about everything.
- \_\_\_\_\_ 13. I talk things over with my partner.
- \_\_\_\_\_ 14. I am nervous when partners get too close to me.
- \_\_\_\_\_ 15. I feel comfortable depending on romantic partners.
- \_\_\_\_\_ 16. I find it easy to depend on romantic partners.
- \_\_\_\_\_ 17. It's easy for me to be affectionate with my partner.
- \_\_\_\_\_ 18. My partner really understands me and my needs.

## Rosenberg Self-Esteem Measure

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, Circle A. If you disagree, circle D. If you strongly disagree, circle SD.

Strongly agree Agree Disagree StronglyDisagree

- |   |    |   |   |    |
|---|----|---|---|----|
| 1. On the whole, I am satisfied with myself.                                  | SA | A | D | SD |
| 2. At times I think I am no good at all.                                      | SA | A | D | SD |
| 3. I feel that I have a number of good qualities.                             | SA | A | D | SD |
| 4. I am able to do things as well as most other people.                       | SA | A | D | SD |
| 5. I feel I do not have much to be proud of.                                  | SA | A | D | SD |
| 6. I certainly feel useless at times.   | SA | A | D | SD |
| 7. I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD |
| 8. I wish I could have more respect for myself.                               | SA | A | D | SD |
| 9. All in all, I am inclined to feel that I am a failure.                     | SA | A | D | SD |
| 10. I take a positive attitude toward myself.                                 | SA | A | D | SD |

## Specific Self-Views Measure

Rate these statements in terms of how well they describe the kind of person you are generally, i.e., how true they are of you as a person across time. To what extent is each statement typical of the way you generally act or feel across time? There is, of course, no right answer for any statement. Be sure to rate all of the statements, even if you are not certain of the best answer. Rate each statement in terms of how typical the statement is of you, that is, how well each statement describes you.

---

1	2	3	4	5
not at all	a little bit	somewhat	very much	extremely
typical of	typical of	typical of	typical of	typical of
me	me	me	me	me

- \_\_\_ 1. I generally feel confident about my academic abilities in college.
- \_\_\_ 2. I generally worry about whether I am regarded as a success or failure in social situations.
- \_\_\_ 3. I generally feel satisfied with the way my body looks.
- \_\_\_ 4. I generally feel frustrated or rattled about my academic performance in college.
- \_\_\_ 5. I generally feel that I have trouble understanding things that I read in my college classes.
- \_\_\_ 6. I generally feel that others respect and admire me.
- \_\_\_ 7. I am generally dissatisfied with my weight.
- \_\_\_ 8. I generally feel self-conscious in social situations.
- \_\_\_ 9. I generally feel as smart as other college students.
- \_\_\_ 10. I generally feel displeased with myself in social situations.
- \_\_\_ 11. I generally feel good about myself.
- \_\_\_ 12. I am generally pleased with my appearance.

- \_\_\_ 13. I generally worry about what other people think of me in social situations.
- \_\_\_ 14. I generally feel confident that I understand things in my college classes.
- \_\_\_ 15. I generally feel inferior to others in social situations.
- \_\_\_ 16. I generally feel unattractive.
- \_\_\_ 17. I generally feel concerned about the impression I make in social situations.
- \_\_\_ 18. I generally feel that I have less scholastic ability than other college students.
- \_\_\_ 19. I generally feel like I'm not doing well in my college classes.
- \_\_\_ 20. I generally worry about looking foolish in social situations.

The Feedback Preference Measure with the Reaction to Feedback Measure  
Incorporated (this is what a participant would actually receive)

Three Types of Feedback Other People Can Give to You

When we talk to others, they can give us different types of feedback. Described below are three types of feedback that we have labeled “enhancing,” “verifying,” and “neither.” Please read carefully the three types of feedback and be sure to remember these definitions.

**1. Enhancing:** When it comes to interacting with people you could be romantically attracted to and would like to get to know better, it would be important for you to hear the person say things about you that are pretty nice and positive, whether they are similar to your own views or not.

**2. Verifying:** When it comes to interacting with people you could be romantically attracted to and would like to get to know better, it would be important for you to hear the person say things about you that are similar to your own perceptions of yourself. So, however, you see yourself, whether positively or negatively, they see you the same way.

**3. Neither:** When it comes to interacting with people you could be romantically attracted to and would like to get to know better, it just wouldn't be important for you to solicit feedback or ask for anyone's comments in this situation, even if you were romantically attracted to them. So you basically wouldn't ask for feedback in this situation, and you wouldn't get their perceptions of you.

Now that you are familiar with the three types of feedback, we'd like you to imagine yourself in some relatively stressful situations.

There always is one other person besides yourself in each situation. This is a person to whom you *could be* attracted. With the words “could be,” we simply mean that the potential exists that you might, at some point, feel attracted to the person. Imagine that the person you could be attracted to is a *different* person in each situation.

Important: If you are currently in a relationship (dating, engaged, or married), please simply imagine that you are *not* in that relationship. That is, turn back the hands of time and approach these situations as though you are currently not involved in a relationship. For each of the scenarios below, please rank order the 3 types of feedback with the number 1 being the feedback that you think is *most* important for you to receive from the person and number 3 being the feedback that you think is *least* important for you to receive from the person.

Remember: You are interacting with a *different* person in each situation!

1. Imagine a classmate of yours whom you have gotten to know for almost a semester in doing some class projects. The two of you have gotten to know each other pretty well. This is a person you *could be* romantically attracted to and *could* like to get to know better. While you're sitting next to the person, you happen to open a letter that you just received from the university. After reading the letter, you comment to the person that you were *not* accepted into the major of your choice.

Please answer the following questions by imagining that you actually received **enhancing** feedback from this person in this situation about your academic competency. That is, the person in this situation said things to you and about your academic competency that were positive, whether they are similar to your own views or not.

Please use the scale below to answer each of the questions. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the feedback above and the ratings you made above. Imagine instead that you received **verifying** feedback. That is, the person in this situation said things to you about your academic competency that were similar to your own views, whether they were positive or negative.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the person and the ratings you made above. Imagine instead that you received what we'd described as "**neither**" kind of feedback. That is, it just wasn't very



important for you to hear the person say anything about their perceptions of your academic competency, so you did not solicit any comments from them and didn't get their perceptions of your academic competency.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Considering the three types of feedback, what kind of feedback about your academic competency would be important for you to hear from this person? Put the numbers 1 (most important for you to hear this from this person), 2 (in between), and 3 (least important for you to hear this from this person) next to each type of feedback:

- \_\_\_\_\_ enhancing (positive, whether it's similar to your own views or not)
- \_\_\_\_\_ verifying (similar to your own views, whether it's positive or negative)
- \_\_\_\_\_ neither (it wasn't important for you to get any feedback, so you didn't solicit any)

Look at the choice that you ranked #1 above. Please rate how important it is for you to get that kind of feedback from *this* classmate in this situation. (*circle one number*)

---

1	2	3	4	5	6	7
---	---	---	---	---	---	---

somewhat  
important

moderately  
important

extremely  
important

2. Imagine a different classmate of yours whom you have gotten to know for almost a semester in doing some class projects. The two of you have gotten to know each other pretty well. This is a person you *could* be romantically attracted to and *could* like to get to know better. You have just given a presentation in class that you were sure didn't turn out well. You were extremely nervous and stuttered, blushed, and forgot what to say at some points. You finish the presentation and, when finished, you sit down next to the classmate, since this is where you were seated before the presentation began.

Please answer the following questions by imagining that you actually received **verifying** feedback from this person in this situation. That is, the person in this situation said things to you about your academic competency that were similar to your own views, whether they were positive or negative.

Please use the scale below to answer each of the questions. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the feedback above and the ratings you made above. Imagine instead that the person in this situation gave you the **"neither"** kind feedback. That is, it just wasn't very important for you to hear the person say anything about their perceptions of your academic competency, so you did not solicit any comments from them and didn't get their perceptions of your academic competency.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the person and the ratings you made above. Imagine instead that the person in this situation gave you **enhancing** feedback. That is, the person in this situation said things to you and about your academic competency that were positive, whether they are similar to your own views or not.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_ 1. How attracted are you to this person?  
 \_\_\_\_ 2. How likely would you be to tell this person more about yourself?  
 \_\_\_\_ 3. How interested are you in getting to know more about this person?  
 \_\_\_\_ 4. How much do you like this classmate as a person?  
 \_\_\_\_ 5. How much would you want to date this person?

What kind of feedback about your academic competency would be important for you to hear from this person? Put the numbers 1 (most important for you to hear from this person), 2 (in between), and 3 (least important for you to hear from this person) next to each type of feedback:

- \_\_\_\_ verifying (similar to your own views, whether it's positive or negative)  
 \_\_\_\_ neither (it wasn't important for you to get any feedback, so you didn't solicit any)  
 \_\_\_\_ enhancing (positive, whether it's similar to your own views or not)

Look at the choice that you ranked #1 above. Please rate how important it is for you to get that kind of feedback from *this* classmate in this situation. (*circle one number*)

---

1	2	3	4	5	6	7
somewhat			moderately			extremely
important			important			important

3. Imagine a different classmate of yours whom you have gotten to know for almost a semester in doing some class projects. The two of you have gotten to know each other pretty well. This is a person you *could* be romantically attracted to and *could* like to get to know better. One day you and your roommate had a disagreement, and things did not turn out well. You and your classmate were working on a class project at the time and they witnessed the whole thing.

Please answer the following questions by imagining that you actually received **enhancing** feedback from this person in this situation. That is, the person in this situation said things to you and about your academic competency that were positive, whether they are similar to your own views or not.

Please use the scale below to answer each of the questions. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the feedback above and the ratings you made above. Imagine instead that the person in this situation gave you the **"neither"** kind of feedback. That is, it just wasn't very important for you to hear the person say anything about their perceptions of your academic competency, so you did not solicit any comments from them and didn't get their perceptions of your academic competency.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the person and the ratings you made above. Imagine instead that the person in this situation gave you **verifying** feedback. That is, the person in this situation said things to you about your academic competency that were similar to your own views, whether they were positive or negative.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

What kind of feedback about your social competency would be important for you to hear from this person? Put the numbers 1 (most important for you to hear from this person), 2 (in between), and 3 (least important for you to hear from this person) next to each type of feedback:

- \_\_\_\_\_ neither (it wasn't important for you to get any feedback, so you didn't solicit any)
- \_\_\_\_\_ enhancing (positive, whether it's similar to your own views or not)

\_\_\_\_\_ verifying (similar to your own views, whether it's positive or negative)

Look at the choice that you ranked #1 above. Please rate how important it is for you to get that kind of feedback from *this* classmate in this situation. (*circle one number*)

1	2	3	4	5	6	7
somewhat		moderately			extremely	
important		important			important	

4. You are at a party where you don't know most of the people. A different classmate of yours whom you have gotten to know for almost a semester in doing some class projects happens to be at the party. The two of you have gotten to know each other pretty well. This is a person you *could* be romantically attracted to and *could* like to get to know better. During the party, you happen to say something very embarrassing, and you wish you could just disappear. Your classmate is standing next to you at the time.

Please answer the following questions by imagining that you actually received **verifying** feedback from this person in this situation. That is, the person in this situation said things to you about your academic competency that were similar to your own views, whether they were positive or negative.

Please use the scale below to answer each of the questions. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

1	2	3	4	5	6	7
not at all		somewhat			very	

\_\_\_\_\_ 1. How attracted are you to this person?

\_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?

\_\_\_\_\_ 3. How interested are you in getting to know more about this person?

\_\_\_\_\_ 4. How much do you like this classmate as a person?

\_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the feedback above and the ratings you made above. Imagine instead that the person in this situation gave you **enhancing** feedback. That is, the person in this situation said things to you and about your academic competency that were positive, whether they are similar to your own views or not.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2, 3, 4, 5, 6, or 7).

1	2	3	4	5	6	7
not at all			somewhat			very

\_\_\_\_\_ 1. How attracted are you to this person?

\_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?

\_\_\_\_\_ 3. How interested are you in getting to know more about this person?

\_\_\_\_\_ 4. How much do you like this classmate as a person?

\_\_\_\_\_ 5. How much would you want to date this person?

Now, let's forget the person and the ratings you made above. Imagine instead that the person in this situation gave you the **"neither"** kind of feedback. That is, it just wasn't very important for you to hear the person say anything about their perceptions of your academic competency, so you did not solicit any comments from them and didn't get their perceptions of your academic competency.

Please use the scale below to answer each of the questions that follow. In each of the blank spaces next to a question, you fill in a number from the scale (i.e., the number 1, 2,



3, 4, 5, 6, or 7).

---

1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

What kind of feedback about your social competency would be important for you to hear from the person? Put the numbers 1 (most important for you to hear from this person), 2 (in between), and 3 (least important for you to hear from this person) next to each type of feedback:

- \_\_\_\_\_ enhancing (positive, whether it's similar to your own views or not)
- \_\_\_\_\_ neither (it wasn't important for you to get any feedback, so you didn't solicit any)
- \_\_\_\_\_ verifying (similar to your own views, whether it's positive or negative)

Look at the choice that you ranked #1 above. Please rate how *strongly* you would like to hear that kind of feedback from *this* classmate in this situation. (*circle one number*)

---

1	2	3	4	5	6	7
somewhat			moderately		extremely	
important			important		important	

## Reactions to Feedback Measure

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1	2	3	4	5	6	7
not at all			somewhat			very

- \_\_\_\_\_ 1. How attracted are you to this person?
- \_\_\_\_\_ 2. How likely would you be to tell this person more about yourself?
- \_\_\_\_\_ 3. How interested are you in getting to know more about this person?
- \_\_\_\_\_ 4. How much do you like this classmate as a person?
- \_\_\_\_\_ 5. How much would you want to date this person?

Appendix C:  
Debrief Form

## Debriefing Information

8/21/03

In any study conducted, the researchers try to “debrief” people who have been in the study. Debriefing means to tell participants what the study was about and to let the participants clarify any questions they have. The purpose of this document is to provide you with that information.

You have just participated on a study conducted regarding the type of information people share with each other when they are potentially interested in dating someone. The purpose of the study is to find out whether *what* people communicate is related to their romantic attachment style, their self-esteem, and views of their academic and social competence. Three types of shared information were studied. One is called the “enhancing type,” which means that the information communicated is extremely positive and maybe even inaccurate information. The second one is called the “verifying type,” which means that the information shared is probably more accurate, but could contain some negative feedback. The third type was neither enhancing nor verifying, i.e., this feedback was neither extremely positive nor necessarily accurate. We looked at the kind of feedback you preferred to receive from another in relationship to the kinds of romantic relationships you prefer, your self-esteem, and your specific views of your competence in the domains of academic performance and social interaction. Of course, we don’t yet know whether any of our predictions were supported, since not all of the data have been collected yet. There are still many more people who will be participating in the study.

**Because the study is not done yet, it is extremely important that you do not share any of this information or experience with anyone, as this will affect the outcome of the study. We trust that you wish the results to be accurate, and so we’d ask that you not talk to anyone about what you did in the study.**

Your participation in this research is highly valuable and will contribute to scientific knowledge in the area of interpersonal relationships. We thank you very much for your participation. If you have any more questions regarding the study, or the results of the study, please feel free to contact Crystal Lin at 797-6322.

Sincerely,

Crystal Lin

Appendix D:  
Testing the Assumptions of Multiple Regression

## Testing the Assumptions of Multiple Regression

### *Missing data*

Eight percent of the total cases were missing data (31 out of 374). Inspection of the completed paper-and-pencil instruments revealed that the missing data seemed to be unintentional and randomly distributed across type of participant. Based on the author's observation as the primary researcher involved in the data collection process, the missing data were not related to the content of the measures, but to an oversight on the part of the participants when completing the measures. The measures were printed back-to-back, which made it easy to miss a page. One of the participants, for example, missed an entire page. Other participants missed a few questions, which could have been due to the repetitive nature of the questions leading them to overlook the items.

To accommodate the missing values, the conservative approach of eliminating cases listwise (as opposed to pairwise) was adopted. Other common but more liberal approaches in dealing with missing data include using prior knowledge to estimate missing values or using the mean of the variable to replace the missing cases (Tabachnick & Fidell, 1996). The resulting sample size ranged from 353 to 372, depending on the analysis.

### *Outliers and Influential Data Points*

The data were first inspected for the scores on each measure to ascertain whether any of the cases represented *univariate* outliers. Any case that has a large standardized score on one or more variables ( $z$ -score  $\geq 3.29$ ,  $p < .001$ ; Tabachnick & Fidell, 1996) can be considered a potential univariate outlier. Graphs, including boxplots, leaf-and-stem

plots, and histograms were additionally generated to detect cases that could be considered outliers. The box of a box plot contains 50% of the data, and the ends of the whiskers indicate the highest and lowest data values. Scores that lie outside of the box and whiskers of boxplots are considered outliers. Stem-and-leaf plots and histograms are alternative ways of displaying the same information, although it may be more difficult to detect the specific number of cases of outliers using visual inspection of these types of graphs. For most of the variables, only one or two outliers were found, if any. For example, only one outlier each was found for anxious attachment and avoidant attachment. In both cases, the outlier score was much higher than the bulk of the scores.

For other variables, however, more outliers were identified. For attraction to partners who gave enhancing feedback in the social context, 13 scores were identified as outliers, and for attraction to partners who gave verifying feedback in the social context, 10 cases were identified. For attraction to partners who gave enhancing feedback in the academic context, 11 scores were identified. Ten cases were identified for attraction to partner who gave verifying feedback in the academic context. Only one case was identified for partner attraction to those who gave the neither type of feedback in both the social and academic contexts. The reason why there were more outliers for partner attraction to those who gave the enhancing and verifying feedback types and not as many for partner attraction to those who gave the neither type was because most people reported moderate amount of attraction to the former two types of partners and those who did not really stood out as being different. On the other hand, not as many people reported moderate attraction to partners who gave the neither type of feedback (there was



a greater range); hence, those who reported less attraction or a great deal of attraction did not stand out as much, as there were many people who reported attraction at the extreme ends of the scale.

For the variables of preference for enhancing or verifying feedback types in both the social and academic contexts, there were few or no cases that were identified as being outliers. For preference for neither type of feedback, 70 cases were identified as being outliers in the social context, and 42 cases were identified as being outliers in the academic context. Because most of the scores for these two variables were 0, outliers or extreme scores in these cases were defined as those scores that were greater than 1. In other words, most of the participants did not have a high preference for the “neither” type of feedback in either context; those who did express preference for this type of feedback were few in number and were considered outliers. The fact that more outliers were detected for the “neither” preference was actually not inconsistent with theoretical expectations. A small minority of cases should have preferred “neither” type of feedback, yet the 0-1 scoring of this index meant that any score that was much greater than 0 would have been deemed an outlier. Although small in number, it was considered appropriate to analyze the data involving the two variables assessing preference for “neither” feedback twice to ascertain the extent to which the results changed as a function of the inclusion of outliers. In one iteration, the cases that would qualify as outliers were excluded from the analyses. In a second iteration, these cases were retained in the analyses. For the remaining variables, few scores that would qualify as outliers were identified. In each

instance, there were only one or two cases that met the outlier criteria, and these cases were retained in the analyses.

The data were then inspected to ascertain whether any of the cases represented multivariate outliers. A multivariate outlier is generally defined as cases with unusual combinations of scores, with univariate standardized scores that may or may not be within the expected range (Tabachnick & Fidell, 1996). Histograms, Mahalanobis distance, Cook's distance, and standardized residuals are good ways of detecting cases of multivariate outliers (Tabachnick & Fidell, 1996).<sup>4</sup>

Scatterplots show the relationship or correlation (positive, negative, or little relationship) between two variables. For a positive relationship between two variables, one should see a linear or diagonal trend going from the bottom left hand corner to the upper right hand corner of a graph of the x-y axes. For a negative relationship, one should see a linear trend going from the upper left hand corner down to the lower right hand corner. For two variables with little or no relationship, one would see no pattern or linearity of dots representing cases. When either positive or negative relationships between variables are observed, any data points lying far outside of the diagonal pattern could be considered outliers. It is difficult to assess the exact number of cases that are outliers by visual inspection of the graphs, so using scatterplots alone would be insufficient in detecting multivariate outliers.

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<sup>4</sup> In addition to consulting statistical textbooks regarding outliers, there were several websites containing course notes for graduate level statistics course that were consulted: <http://www.med.monash.edu.au/psych/research/rda/Outliers.htm>; BBN Corporation, 1997; <http://www.uwm.edu/~edari/methstat/regress.htm>; JnF Specialties, LLC.

Other ways of detecting multivariate outliers include assessing distance (discrepancy), leverage, and influence. Distance assesses outliers in the dependent variable. It measures the extent to which a case is in line with the other cases by examining residuals. In this study, standardized residuals were examined, and cases with residuals that were greater than 3.3 were considered outliers (Tabachnick & Fidell, 1983; see Table D1). Leverage, measured by Mahalanobis distance, indicates how far the case is from the center of all cases for the independent variables. A conservative criterion is Mahalanobis distance at  $p < .001$ . Influence, measured by Cook's distance, is a product of

Table D1

*Standardized Residuals*

Variable	Standardized residuals	Outliers?
Anxious and avoidant attachment (attachment) and preference for enhancing feedback in social contexts (social enhancing feedback)	-1.55-2.21	No
Attachment and social verifying feedback	-1.15-2.68	No
Attachment and social neither feedback	-.84-4.32	Yes
Attachment and academic enhancing feedback	-1.90-1.66	No
Attachment and academic verifying feedback	-.89-3.32	Yes
Attachment and Academic neither feedback	-.61-5.61	Yes
Global self-esteem, social self-views, and social enhancing feedback	-1.53-2.25	No
Global self-esteem, social self-views, and social verifying feedback	-1.26-2.77	No
Global self-esteem, social self-views, and social neither feedback	-.62-4.25	Yes
Global self-esteem, academic self-views, and academic enhancing feedback	-2.01-2.06	No
Global self-esteem, academic self-views, and academic verifying feedback	-1.33-3.38	Yes
Global self-esteem, academic self-views, and academic neither feedback	-.68-5.56	Yes

leverage and discrepancy that assesses the change in regression coefficients when a case is deleted. Some sources indicate that cases with Cook's Distance greater than 1 are considered outliers (e.g., Weems; <http://www.med.monash.edu.au/psych/research/rda/Outliers.htm>; retrieved on 7/15/04), but others recommend using the  $4/(n-k-1)$  formula, where  $n$  is the number of cases and  $k$  is the number of independent variables (e.g., Garson, retrieved on 7/15/04).

No Cook's values exceeding one were found in the data. However, using the  $4/(n-k-1)$  formula entering all 11 of the independent variables, but not entering the dependent variable (as specified by the formula), 26 cases were found to exceed the .01 cutoff point. These cases were further compared with the cases of univariate outliers identified from the residuals. Some of them were similar to the cases of univariate outliers. Fewer cases that would be considered outliers were found using Mahalanobis distance, most of which were the same as those detected by Cook's distance. In the end, those cases with multivariate outliers were also those with univariate outliers (the variables of the preference for "neither" type of feedback in the both the social and academic contexts), except there were fewer detected as multivariate outliers (approximately seven for each variable).

With large sample sizes, the presence of some cases of outliers is not unusual (Tabachnick & Fidell, 1983). Some common cases were revealed from the analyses of univariate and multivariate outliers. Because some of the variables (both independent and dependent) had few cases of outliers (one or two), no actions were taken to deal with those outliers and, thus, the cases of outliers were included in the final analyses. For other

variables (i.e., the dependent variables of the preference for “neither” feedback type in the social and academic contexts), analyses were conducted with and without the outliers to determine whether eliminating the cases of outliers would have an impact on the outcomes. Another way of dealing with the cases of outliers is to transform the data in order to decrease the number of or the effects of those cases. However, because it was decided that no transformations would be made (the reason for this was due to its effect on linearity, making multiple regression an inappropriate statistical analysis. See the linearity section below), this method in removing the influence of the cases of outliers on the results was not used.

### *Normality*

Normality means that the data can be assumed to derive from a population with a normal distribution and that the scores for the variables and residuals are also normally distributed. A common method for testing this assumption is to examine various plots, such as *P-P* plots, simple residual plots, and histograms of residuals (Tabachnick & Fidell, 1983). *P-P* plots are graphs of the cumulative proportions for the scores of a variable. It is used to determine the extent to which the distribution of a variable matches a given distribution. If the variable matches the test distribution, the points cluster around a straight line. Simple residual plots are plots of standardized residuals against standardized estimates of the scores for the criterion variable. Non-normality is shown when points are not equally above and below the Y-axis 0 line. Histograms of residuals should show the extent to which a distribution is normal in form (Tabachnick & Fidell, 1983).

Inspection of the graphs revealed that the variables that departed from normality were those of feedback preference and many of the interaction variables (e.g., anxiety and avoidance interaction). Creating dummy variables is one way of reducing the problem of non-normality, but, in this case, the dependent variable of feedback preference could not be made into dummy variable due to the use of linear regression. In addition to inspecting the various graphs mentioned above, the kurtosis and skewness of the scores for each variable were computed and examined. Ideally, the values for both kurtosis and skewness would be zero. If a distribution's kurtosis is in the positive direction, it is said to be leptokurtic. If its kurtosis is in the negative direction, it is platykurtic. Leptokurtosis is associated with distributions that are clustered more or "peaked." Platykurtosis is associated with distributions that are less peaked and have longer tails or a "flat" distribution of scores. Kurtosis values more than twice the standard error (SE) indicate non-normal levels of peakedness. Positive values for skewness indicate a long right tail or a positive skew, and negative numbers indicate a long left tail or a negative skew. A skewness value more than twice its SE indicates a departure from symmetry.<sup>5</sup>

The values of kurtosis and skew were examined for the present data for all scores representing the outcome variables and those representing each predictor variable (either as a main effect or as it contributed to an interaction term). Table D2 summarizes these values for each of the variable scores. As seen in the table, the skewness values for the scores of many of the variables were close to zero. However, there were also many

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<sup>5</sup> SE of Skewness can be estimated roughly using the following formula:  $\sqrt{6/N}$ . SE of Kurtosis can be estimated roughly using the following formula:  $\sqrt{24/N}$  (Tabachnick & Fidell, 1996).

skewness values that were greater than 1. Most of these values of skewness were more than twice their SEs, indicating a departure from symmetry. There were also many values of kurtosis that were more than twice the SE, also indicating a departure from normal distribution. Fortunately, multiple regression can still be robust with violations to

Table D2

*Skewness and Kurtosis of Predictor and Criterion Variables*

Variable	Skewness		Kurtosis	
	Statistics	Standard error	Statistics	Standard error
Anxiety	.17	.13	-.42	.25
Avoidance	.36	.13	-.33	.25
Global self-esteem	-.41	.13	.02	.25
Social self-views	-.35	.13	-.44	.25
Academic self-views	-.16	.13	-.58	.25
Social enhancing feedback	.21	.13	-.97	.25
Social verifying feedback	.53	.13	-.68	.25
Social neither feedback	2.26	.13	4.52	.25
Academic enhancing feedback	-.32	.13	-1.08	.25
Academic verifying feedback	1.17	.13	.61	.25
Academic neither feedback	3.40	.13	12.11	.25
Social enhancing attraction	-.93	.13	1.35	.25
Social verifying attraction	-.60	.13	.54	.25
Social neither attraction	-.20	.13	-.21	.25
Academic enhancing attraction	-.96	.13	1.81	.25
Academic verifying attraction	-.57	.13	.68	.25
Academic neither attraction	-.05	.13	-.28	.25
Sex	.13	.13	-.20	.26
Married	1.97	.13	1.89	.25
Engaged	5.59	.13	29.35	.25
Seriously dating	1.52	.13	.31	.25
Casually dating	1.20	.13	-.57	.25
Not dating	.48	.13	-1.78	.25

skewness and kurtosis, especially if the sample size is large, as it was in this study (Norusis, 1999).

Another way of assessing normality is by looking at the range of scores. Any variable with more than 40% of the cases with one score (e.g., there were many cases with scores of 0 for the preference for “neither” feedback, and few cases with scores other than 0) and not a wide range of scores might be too skewed to allow multiple regression analyses to be confidently executed. Using this criterion, the only variables that could be cause for concern were the feedback preference types in both the social and academic contexts, which again is probably due to the 0-1 nature of the scoring of those variables. In particular, 40% and 58% of the participants expressed no preference for verifying feedback in the social and academic contexts, respectively (in other words, a score of 0). A large number of participants expressed no preference for “neither” type of feedback in the social (80%) and academic (88%) contexts (scored 0). This skew in participants’ preferences could call into question the appropriateness of using multiple regression analyses to examine the extent to which the feedback preference scores were related to the other variables of interest. However, the criterion for having no more than 40% of the cases in one level with one score is only a guiding heuristic as opposed to a strict rule, and multiple regression is still the most appropriate statistical analysis due to the design of the study (E. Berry, personal communication, June 25, 2004; Berry, 1993).

*Homoscedasticity (equal variance of errors for all independent variables)*

To meet the assumption of homoscedasticity, one needs to show that the variance of residual error is constant for all values of predictor variables (Tabachnick & Fidell,



1996).<sup>6</sup> Lack of homoscedasticity may mean that some independent variables are skewed while others are not, which is likely the case in this study. One of the methods for detecting whether the data are heteroscedastic (i.e., have unequal variance of errors) is to examine the residual plots. A homoscedastic model will display a cloud of dots, whereas a heteroscedastic one will have a pattern such as a funnel shape, indicating greater error as the dependent variable increases. A heteroscedastic pattern was observed in the current data. Another method is to examine whether there are multivariate outliers, which has already been presented above. Running the regression analyses and the casewise diagnostic of outliers, standardized residuals should be less than 3.3, corresponding to the .001 alpha level. See Table D1. Cases representing outliers were identified, suggesting that this assumption was not met.

Even in the presence of heteroscedasticity or autocorrelation, Ordinary Least Squares (OLS) coefficient estimators remain unbiased, but are no longer the best linear unbiased estimator (BLUE; Berry, 1993). The analysis may not be as powerful, but it is still valid and, thus, evidence for heteroscedasticity is not “fatal” in multiple regression (Tabachnick & Fidell, 1996, p. 80).

### *Linearity and Testing Curvilinear Relationships*

Linearity means that the relation between two variables or between more than two variables can be described using a straight line or is indicated by a diagonal shape formed by individual cases (Tabachnick & Fidell, 1996; Garson, retrieved on 7/15/04).

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<sup>6</sup> In addition to consulting statistical textbooks regarding homoscedasticity and multicollinearity, there were several websites containing course notes for graduate level statistics course that were consulted: <http://www.uwm.edu/~edari/methstat/regress.htm>; Garson.

Nonlinearity is shown when points on a scatterplot form a curve. Examination of various plots may assist in determining linearity. Simple residual plots are plots of standardized residuals against standardized estimates of the scores for the criterion variable, and partial regression plots are plots of the predictor against the criterion variable. Examination of the two types of graphs showed that the relationships between some of the variables were not linear, in particular the ones between the various predictor variable scores and the feedback preference criterion variables scores that were scored as 0 or 1. Scores that involve only 0s or 1s are known to present linearity problems, especially when there are more participants who receive one of these two scores.

Using the criteria outlined in Tabachnick and Fidell (1996), attempts were made to transform the relevant variables (i.e., the feedback preference criterion variables) to improve linearity by creating scores based on the natural log, square root, and square of the pertinent scores. However, none of these attempted transformations improved linearity.

Another way to assess linearity is by examining the standard deviation of the predictor variables. The existence of nonlinear associations among scores for the predictor and outcome variables is generally not a problem when the standard deviation of the outcome variables is greater than the standard deviation of the residuals (<http://www.uwm.edu/~edari/methstat/regress.htm>, retrieved on 7/17/04). Table D3 shows that the data met this criterion.

Table D3

*Standard Deviations of the Dependent Variables and Residuals*

Criterion variables (feedback preference types)	SD (DV, Residual)
Preference of enhancing feedback in social contexts	4.25, .99
Preference for verifying feedback in social contexts	3.82, .99
Preference for "neither" feedback in social contexts	2.32, .99
Preference for enhancing feedback in academic contexts	4.33, .99
Preference for verifying feedback in academic contexts	3.51, .99
Preference for "neither" feedback in academic contexts	1.89, .99

Yet another way to assess the presence of nonlinearity is to use the SPSS Curve Estimation. This method may examine different types of nonlinear relationships. However, the only types of nonlinear relationships that were of interest in this study were bivariate curvilinear (quadratic) relationships. It is conceivable, for example, that a person low on avoidant attachment (e.g., secure) would have a high global self-esteem, as would a person high on avoidant attachment (e.g., dismissing-avoidant), and that people who are more moderate on avoidant attachment would have a lower global self-esteem. This particular method is more specific and preferred over simply examining graphs or the SD of the criterion variables. The following 12 pairs of variables were found to have a statistically significant quadratic model with an effect size that was at least moderate in size:

- anxious attachment and global self-esteem
- anxious attachment and social self-views
- avoidant attachment and social self-views
- global self-esteem and social self-views
- global self-esteem and academic self-views

- preference for enhancing feedback in social contexts and partner attraction in the contexts of social enhancing feedback
- preference for verifying feedback in social contexts and partner attraction in the contexts of social verifying feedback
- enhancing feedback in academic contexts and partner attraction in contexts of academic enhancing feedback
- preference for verifying feedback in academic contexts and partner attraction in contexts of academic verifying feedback
- anxious attachment and avoidant attachment
- anxious and avoidant attachment interaction and global self-esteem
- anxious and avoidant attachment interaction and social self-views

Following the detection of quadratic relationships that were statistically significant and also at least moderate in effect size, a hierarchical regression was then conducted for each pair to determine whether the difference between the linear and the quadratic models was statistically significant and also at least moderate in effect size. In other words, were the  $R^2$  increment and the  $t$  test for the quadratic (squared) term statistically significant and at least a moderate effect size when controlling for the linear effect? Results showed that only the relationship between anxious attachment and global self-esteem was curvilinear, as well as linear in nature. The other pairs did not have a curvilinear relationship that was statistically significantly different from the linear model.

Because interaction between variables was a part of the linear model as dictated by the research hypotheses, it also made sense to test for interaction effects in the

quadratic model. This was done only if the difference between the linear and quadratic models or, in other words, the quadratic model by itself was statistically significant. Because the scores of the two predictors anxious attachment and avoidant attachment showed a quadratic relationship with each other, and because the two were hypothesized to interact to influence the various outcome variables, their relationships with the various outcome variables were further tested for the presence of a quadratic interaction. Results showed that the interactions in the quadratic model were not statistically significant.

Based on this analysis, the only relationship that was deemed to be of concern for nonlinearity was the relationship between anxious attachment and global self-esteem. Because only one nonlinear relation was of concern, the decision was made to not transform any of the relevant variables prior to the final data analysis, and all of the discussions involving the relationship between the predictor variables of anxious attachment and avoidant attachment and the various criterion variables would involve just a linear or a linear interaction model. The discrepant results found using the methods of examining the SD of the criterion variables and the SPSS curve estimation may be explained by the latter being a more sensitive measure of nonlinear relationship.

### *Multicollinearity*

Multicollinearity is present when the scores among the independent or predictor variables are highly correlated (Tabachnick & Fidell, 1996). Multicollinearity among the predictor variables presents various problems in deriving valid regression solutions. For example, it presents difficulties in knowing whether an independent variable that has been estimated to account for little variance in the dependent variable does so because it

is truly unrelated to that variable *or* because it is so highly correlated with other independent variables in the equation that those variables receive the credit for the variance shared with the dependent variable. Although there are varying estimates of how high the correlation among predictor variables needs to be to claim that multicollinearity is a problem, the cutoff value in this study was set at .80, a number often seen in the literature and also in practice (Bryman & Cramer, 1999; Huang, 1970). Even though none of the correlations among the scores for the predictor variables in the present data set were above .80, several of them were statistically significant. See Table 9 (Correlation Matrix).

To further assess for the extent to which multicollinearity could create problems in estimating regression solutions, a series of multiple regression analyses were conducted using the scores for each predictor variable as the criterion variable and regressing those scores on the scores of all of the remaining predictor variables, requesting statistics that are typically used to diagnose multicollinearity. The tolerance value, variance inflation factor (VIF), eigenvalue, and condition index were obtained for each model.

Using accepted guidelines, the tolerance value should be close to 1; a tolerance value of less than .20 indicates that multicollinearity may be a concern (<http://www.uwm.edu/~edari/methstat/regress.htm>, retrieved 7/17/04). None of the tolerance values was less than .20. The tolerance values were all close to or greater than .5. The VIF is another criterion for assessing multicollinearity and should be less than 4

(<http://www.uwm.edu/~edari/methstat/regress.htm>, retrieved 7/17/04). All of the VIFs were less than four and were, in fact, close to 0.

Eigenvalues close to 0 also indicate problems with multicollinearity. There were several eigenvalues that were close to 0, in which case one then examines the condition index (<http://www.uwm.edu/~edari/methstat/regress.htm>, retrieved 7/17/04). A condition index that is over 15 indicates a possible multicollinearity problem, and when it is over 30, there could be a serious multicollinearity problem, especially when at least two variance proportions are over .50 (<http://www.uwm.edu/~edari/methstat/regress.htm>, retrieved 7/17/04). There was no condition index over 30, but there were some that were over 15. Inspection of the variance proportions revealed possible multicollinearity problem between anxious attachment and avoidant attachment, as two of the variance proportions were over .50.

Another indicator of multicollinearity is when the  $F$ -test for the entire model is statistically significant, but none of the  $t$  tests for the regression coefficients are statistically significant (<http://www.csulb.edu/~msaintg/ppa696/696regmx.htm>, retrieved on 7/17/04). This was not seen in any of the analyses.

The potential multicollinearity problems regarding the anxious and avoidant attachment scores can be addressed in various ways, for example, one of the two variables could be removed from the regression model or their scores could be combined to form one variable (Tabachnick & Fidell, 1996). Because the variables of anxious and avoidant attachment were hypothesized to be important independent contributors to the criterion variables of feedback preference and partner attraction, and treating them

independently were essential to being able to address the research questions, no actions were taken to deal with the possible multicollinearity problems. However, this potential problem will be kept in mind in interpreting the results of the analyses.

Interpretation of the results involving these two predictor variables will, namely, place relatively less emphasis on the regression coefficients estimated from the model and more emphasis on the overall fit of the model. With high multicollinearity, prediction of the criterion variable (Y) may still be accurate, but one cannot draw any reliable conclusions from the individual coefficients, and the coefficients may vary widely from sample to sample or when a predictor variable (X) is added or deleted from the model. "Multicollinearity may not be so serious a problem if the purpose of fitting the regression equation is predicting Y in the range of the X variables, rather than truly modeling the linear relationship between X and Y and estimating the values of the individual coefficients" (BBN Corporation, 1997). In this case,  $R^2$  is accurate and may still be high, but the individual coefficients are less reliable. Thus, caution was taken when interpreting the individual coefficient and the specific relation between each predictor and the criterion variable.



Appendix E:  
Results of Secondary Research Questions

## Secondary Research Questions

### *Relation Between Adult Romantic Attachment and Global Self-esteem*

It was hypothesized that there would be a statistically significant main effect of anxious attachment correlating negatively with global self-esteem, as measured by the Rosenberg Self-esteem Scale. The predictors were anxious attachment, avoidant attachment, and the interaction between the two, and the criterion was global self-esteem. The scores for anxious and avoidant attachments were entered into the regression first, with the score representing the interaction between anxious and avoidant attachments entered second. This approach was used to ascertain whether adding the scores for the interaction term result in a model that would better fit the data in this study. Table E1 presents the results of the final model with all three variables included.

Table E1

### *Summary of the Relation Between Attachment Dimensions and Global Self-Esteem*

Predictors	Hypotheses	Adj. $R^2$	F	Unstandardized coefficient, confidence intervals	Partial $r$	Hypotheses supported?
Anxious attachment	Negative main effect of anxious attachment	.33**	62.43***	-2.87*** (-3.38 to -2.37)	-.50	Yes
Avoidant attachment				-.25 (-.76 to .26)	-.05	
Anxious attachment x avoidant attachment interaction				-.59** (-1.02 to -.17)	-.14	

Notes: Table presents results of final model with all variables included.

$N = 372$ .

\*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Zero-order correlations indicated that anxious attachment, avoidant attachment, and the interaction between the two all related negatively to global self-esteem ( $r = -.32, -.36, -.10$ , for anxious attachment, avoidant attachment, and the interaction, respectively). According to the partial correlations and the unstandardized regression weights, each variable also related negatively to global self-esteem when all the other variables were held constant, which meant that the higher one's anxious attachment, the lower one's global self-esteem. The same relation was true for avoidant attachment and global self-esteem.

In the regression model, there was a significant main effect of anxious attachment,  $t(372) = -13.27, p < .001$ . Avoidant attachment was not statistically significant in the model. The two variables together explained 32.2% of the variance in global self-esteem scores. Adding the interaction scores increased the variance explained to 33%, and the  $R^2$  change was statistically significant,  $R^2$  change = .01,  $F$  change (3, 369) = 7.44,  $p = .007$ . The results were consistent with hypotheses, in that higher anxious attachment scores (i.e., individuals fitting an anxious-ambivalent or fearful-avoidant style) were associated with lower global self-esteem; lower anxious attachment scores (i.e., evident in secure and dismissing-avoidant styles) were associated with higher global self-esteem.

There was also a statistically significant negative interaction effect,  $t(369) = -2.73, p = .007$ . Further analysis of the interaction effect found that global self-esteem was the highest among those with low anxious and low avoidant attachment (secure), and it was the lowest among those with high anxious and high avoidant attachment (fearful-avoidant). See Figure E1. These findings were also consistent with past research.

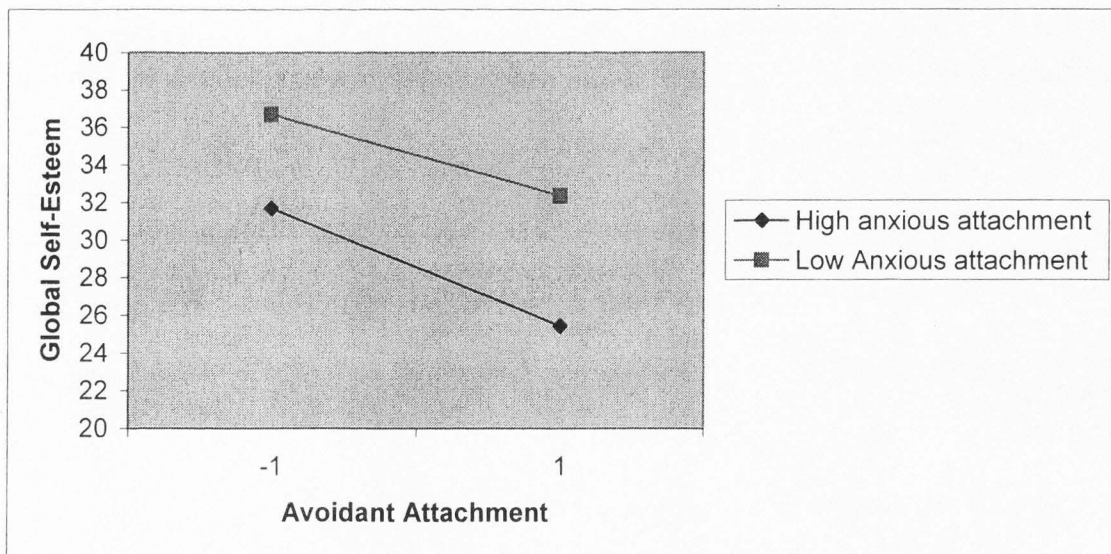


Figure E1. Interaction between Anxious Attachment and Avoidant Attachment in Predicting Global Self-Esteem

Because nonlinear relations were detected between some of the variables, all of the relations were assessed for the presence of quadratic relations to determine whether quadratic models better explained the data than linear ones (see the Linearity section in Appendix D, Testing the Assumptions of Multiple Regression, for more information on linearity). A statistically significant quadratic (curvilinear) model was found for the relation between anxious attachment and global self-esteem (change in  $R^2$  between linear and quadratic model was significant,  $R^2$  change = .05). It appears from Figure E2 that the higher one's anxious attachment, the lower one's global self-esteem, which makes intuitive sense. However, the steady increase in global self-esteem scores with decreasing anxious attachment scores leveled off as the anxious attachment scores reached the lowest level. That is, although those with the lowest anxious attachment scores had

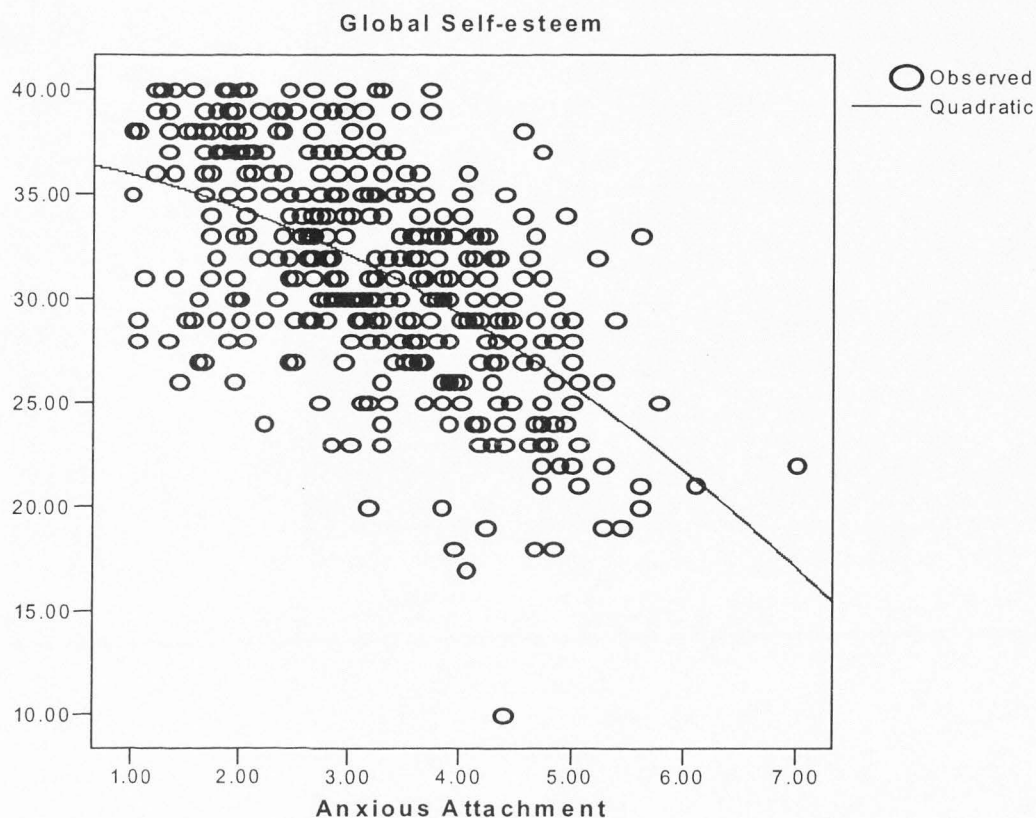


Figure E2. Anxious attachment and global self-esteem.

higher global self-esteem scores than those with a higher anxious attachment, the relationship was more pronounced at the upper end of the anxious attachment scale.

#### *Relation Between Adult Romantic Attachment and Specific Self-views*

Two hierarchical multiple linear regression analyses were conducted, one with social self-view as the criterion variable and the other with academic self-view as the criterion variable. The scores for anxious and avoidant attachments were entered into each regression first, with the score representing the interaction of anxious and avoidant

attachments entered second. This approach was used to ascertain whether adding the scores for the interaction term result in a model that would better fit the data in this study. Table E2 presents the results of the final models with all three variables included.

*Attachment and specific self-view in the social context.* It was hypothesized that there would be a statistically significant main effect of avoidant attachment, which would correlate negatively with specific self-view in the social context. The predictors were anxious attachment, avoidant attachment, and the interaction between the two. The criterion variable was self-view in social contexts.

Results showed that the scores of anxious attachment, avoidant attachment, and the interaction between the two explained 33.7% (adjusted  $R^2$ ) of the variance of social self-view, which was statistically significant at the  $p = .001$  level,  $F(3, 367) = 63.67$ , and large in effect size. Most of the variance of social self-view scores was explained by the anxious attachment scores as the adjusted  $R^2$  for anxious attachment alone was 32.7%, but the adjusted  $R^2$  for avoidant attachment alone was only 14.3%. The scores of anxious attachment and avoidant attachment each significantly and negatively predicted specific self-views in the social context both when other variables were held constant and when the other variables were not held constant. The effect of avoidant attachment, however, was small in size. No statistically significant interaction effect was found, and the effect size was minimal ( $r = -.07$ ). Both anxious attachment,  $t(367) = -10.39$ ,  $p < .001$ , and avoidant attachment,  $t(367) = -2.47$ ,  $p = .014$ , predicted social self-views, although the former appeared to be a better predictor than the latter. Those with high anxious

Table E2

*Attachment Dimensions and Social and Academic Self-Views*

Self-views	Hypotheses	Adjusted $R^2$	$F$	Unstandardized coefficient and confidence intervals for anxious attachment, avoidant attachment, interaction	Partial $r$ for anxious attachment, avoidant attachment, interaction	Hypotheses supported?
Social self-views	Negative main effect of avoidant attachment	.34	63.67 ***	-0.45*** (-.54 to -.37) -.11* (-.19 to -.02) -.05 (-.12 to .02)	-.48 -.13 -.07	Partial support
Academic self-views	Negative main effect of anxious attachment	.07	10.70 ***	-.23*** (-.32 to .13) -.01 (-.08 to .11) -.07 (-.15 to .01)	-.24 -.01 -.08	Partial support

Notes. Table presents results of final model with all variables included.  
 $N = 372$ .

\*  $p < .05$ ; \*\*\*  $p < .001$ .

attachment scores (i.e., fearful-avoidant, anxious ambivalent) had lower social self-view, and those with low anxious attachment scores (i.e., secure, dismissing-avoidant) had higher social self-views. In addition, those with high avoidant attachment (i.e., fearful-avoidant, dismissing-avoidant) had lower social self-views, and those with low avoidant attachment (i.e., secure, anxious-ambivalent) had higher social self-views. The hypothesis was partially supported by the statistically significant negative relation between avoidant attachment and social self-views and the statistically significant negative effect found for anxious attachment as well.

*Attachment and specific self-view in the academic context.* It was hypothesized that there would be a statistically significant main effect of anxious attachment, which would correlate negatively with academic self-views. Those with fearful-avoidant attachment (high anxious and high avoidant attachment) may also have higher academic self-views. The predictors were anxious attachment, avoidant attachment, and the interaction between the two. The criterion was specific self-view in academic contexts.

Although the total variance of academic self-view scores explained by the anxious attachment, avoidant attachment, and the interaction scores was only 7% (small effect size), it was statistically significant,  $F(3, 367) = 10.70, p < .001$ . The anxious attachment scores were the only statistically significant predictor of academic self-view when the scores of the other two predictors were held constant,  $t(367) = -4.80, p < .001$ , and it was also the only one that has a large enough effect size to be considered practically meaningful ( $r = -.24$ ). As predicted, the anxious attachment scores were negatively associated with academic self-view scores. The avoidant attachment scores



were statistically significantly negatively related with the scores of specific self-view in this context when anxious attachment was not in the model,  $t(369) = -2.39, p = .018$ , but the relation disappeared when anxious attachment was added to the model. Issues related to multicollinearity may have masked the effect of avoidant attachment scores when both avoidant and anxious scores were entered in to the model together. In any case, the effect size was minimal in both cases ( $r = -.12$ ), suggesting that individuals' avoidant attachment scores are not strongly related to academic self-view scores. However, the statistical significance of anxious attachment supported the hypothesis that those with lower anxious attachment scores, that is, secure and dismissing-avoidant attachment styles, would have higher academic self-views. Due to the lack of findings for the fearful-avoidant type, the hypothesis was concluded to be partially supported.

#### *Relation Between Global Self-esteem and Feedback Preference*

Six bivariate linear regression analyses were conducted. It was hypothesized that global self esteem would be negatively associated with preference for enhancing feedback and positively associated with preference for verifying or "neither" feedback in both the academic and social contexts. Results showed that there were no statistically significant associations between global self-esteem and any of the three types of feedback in either academic or social contexts. Table E3 presents the results of these analyses.

#### *Relation Between Specific Self-views and Feedback Preference*

Six bivariate linear regression analyses were conducted: three analyses involving

Table E3

*Global Self-Esteem and Feedback Preference*

Feedback preference	Hypotheses	Adjusted $R^2$	$F$	Unstandardized coefficient (confidence intervals)	Standardized coefficients, partial $r$	Hypotheses supported?
Enhancing feedback in social contexts	Negative correlation	-.003	.001	.01 (-.08 to .09)	-.03	No
Verifying feedback in social contexts	Positive correlation	-.002	.22	-.02 (-.09 to .06)	-.03	No
"Neither" feedback in social contexts	Positive correlation	-.001	.78	.02 (-.03 to .07)	.05	No
Enhancing feedback in academic contexts	Negative correlation	.000	1.13	-.05 (-.13 to .04)	-.06	No
Verifying Feedback in academic contexts	Positive correlation	-.002	.22	.02 (-.05 to .09)	.03	No

$N = 356$ .

the relation between social self-views and preference for the three feedback types in the social contexts and three analyses involving the relation between academic self-views and preference for the three feedback types in the academic contexts. It was hypothesized that social self-views would be positively associated with preference for verifying and "neither" feedback and negatively associated with enhancing feedback in the social contexts. The hypothesis for the relation between academic self-views and feedback preference was the same. The analyses found no statistically significant associations between specific self-views and feedback preference in either context. Table E4 presents the results of the analyses.

Table E4

*Specific Self-Views and Feedback Preference*

Feedback preference	Hypotheses	Adjusted $R^2$	$F$	Unstandardized coefficient (confidence intervals)	Partial $r$	Hypotheses supported?
Enhancing feedback in social contexts	Negative relation	.008	3.84	-.50 (-.10 to .00)	-.10	No
Verifying feedback in social contexts	Positive correlation	-.002	.39	.14 (-.31 to .60)	.03	No
"Neither" feedback in social contexts	Positive relation	.002	.41	.09 (-.19 to .36)	.03	No
Enhancing feedback in academic contexts	Negative relation	.007	3.47	-.53 (-1.09 to .03)	-.10	No
Verifying feedback in academic contexts	Positive correlation	.006	3.06	.40 (-.05 to .85)	.09	No
"Neither" feedback in academic contexts	Positive relation	-.001	.61	-.096 (-.34 to .15)	-.04	No

$N = 354$ .

*Relation Between Global Self-Esteem and Specific Self-Views*

Two bivariate linear regression analyses were conducted. Global self-esteem scores were hypothesized to correlate positively with both social and academic self-view scores. As predicted, higher global self-esteem scores were statistically significantly related to higher social self-view scores accounting for 28% of the variance,  $t(370) = 11.95, p < .001$ . Global self-esteem scores were also significantly and positively related to academic self-view scores,  $t(370) = 8.28, p < .001$ . Effect size estimates suggest that

Table E5

*Global Self-Esteem and Social and Academic Self-Views*

Specific self-views	Hypotheses	Adjusted $R^2$	$F$	Unstandardized coefficient and confidence intervals	Standardized coefficients, partial $r$	Hypotheses supported?
Social self-views	Positive relation	.28***	142.68***	.09*** (.07 to .10)	.53	Yes
Academic self-views	Positive relation	.15***	68.58***	.06*** (.05 to .08)	.40	Yes

$N = 371$ .

\*\*\* $p < .001$ .

the associations are compelling and meaningful. Table E5 presents the results of these analyses.

## VITA

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### Research and Presentation

\* Adult romantic attachment style, global self-esteem, and specific self-views as predictors of feedback preference in potential romantic relationships. Utah State University Doctoral Dissertation (2006).

\* Crystal Lin, Kevin Masters, & Edward Heath (2004). *The effects of exercise performance feedback on hostile individuals*. Poster presented at the 84<sup>th</sup> Annual Convention of the Western Psychological Association, Phoenix, Arizona.

\* The effects of performance feedback on exercise, physiological reactivity, and affective state among hostile college students. Utah State University Master's Thesis (2002).