

DOES ATTACHMENT STYLE INFLUENCE INTIMACY FOLLOWING HIGH-  
AND LOW-RISK INTERACTIONS: AN APPLICATION OF THE APIM MODEL

A Thesis

by

JANA ILENE JOSEPH

Submitted to the Office of Graduate Studies of  
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in partial fulfillment of the requirements for the degree of

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Major Subject: Psychology

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## ABSTRACT

Does Attachment Style Influence Intimacy Following High- and Low-Risk Interactions: An Application of the APIM Model. (December 2004)

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This study examined the relation between attachment characteristics and intimacy experienced after one's attachment style is activated. Attachment theory states that when an individual feels threatened by an attachment figure, attachment style is activated and dictates how that individual relates to his or her partner in that situation. This study tests this theory. Data were collected on 110 committed romantic couples from the community. Each individual completed a series of questionnaires, including the Adult Attachment Questionnaire. Couples then engaged in a series of four videotaped interactions in which both partners had an opportunity to discuss times in which their feelings were hurt by someone other than their partner and times in which their feelings were hurt by their partner. These interactions were regarded as low- and high-risk, respectively. The high-risk interaction was specifically targeted to activate attachment style and elicit attachment behaviors. Analyses were conducted using the Actor-Partner Interdependence Model (APIM). This model takes into account the interdependence of observations between partners. As a function of this model, both actor effects (the effect one's own attachment style has on one's own experiences of intimacy) and partner effects (the effect one's own attachment style has on one's

partner's experiences of intimacy) were examined. Intimacy was conceptualized in two different manners: state (post-interaction intimacy) and trait (overall intimacy in the relationship). It was hypothesized that individuals with insecure attachment characteristics would report lower feelings of both state and trait intimacy compared to securely attached individuals. It was also predicted that the partners of individuals with insecure attachment characteristics would report lower state and trait intimacy following the high-risk interaction compared to partners of secure individuals. The results of this study supported these hypotheses. Models testing the effect of the attachment characteristics avoidance, ambivalence, and avoidance-x-ambivalence found a relation between the presence of insecure attachment characteristics and lower levels of both state and trait intimacy. Implications of these results and future directions of study are discussed.

## DEDICATION

This work is dedicated to the members of my family, who serve as both my strength and my inspiration.

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## INTRODUCTION

In any romantic relationship, two constructs emerge as central themes: conflict and intimacy. Both couples and therapists tend to focus on the degree of marital conflict in a relationship and how intimate the partners feel toward each other. Unfortunately, extant literature fails to emphasize equally the roles of both conflict and intimacy. Conflict has frequently been studied to the exclusion of intimacy, even though they hold equally important positions in a relationship.

### *Definitions of Intimacy*

Intimacy has been defined in various ways. One of the best formulations of intimacy comes from a study which asked participants what they thought intimacy meant. Participants generated eight constructs to define intimacy: affection, expressiveness/self-disclosure, sexuality, cohesion/commitment, compatibility, autonomy from others, conflict without arguing, and self-esteem/self-knowledge (Reis & Shaver, 1988). These descriptors articulate subjective dimensions of intimacy.

Why is the study of intimacy important? Research has shown that intimacy is important to both physical and psychological health. Specifically, perceived intimacy is linked to lower levels of depression and loneliness and to healthier responses to stress (Prager & Buhrmester, 1998). Within a couple's relationship, research has shown that one crucial way to achieve the fulfillment of needs is through intimacy (Prager & Buhrmester, 1998). Intimacy is also correlated with marital satisfaction. According to

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This thesis follows the style and format of the *Journal of Social and Personal Relationships*.

Reis (1990), “some of the most common complaints and presenting problems [in marriages] directly reflect failures to achieve or sustain desired levels of intimacy and emotional support in a close relationship” (p. 23). Couples who do not feel intimate are more likely to feel dissatisfied in their relationship. Thus, it becomes important to explore the conditions that contribute to and disrupt feelings of intimacy in order to understand why some couples feel more intimate than others and to develop interventions for helping couples increase feelings of intimacy in their relationship.

### *Models of Intimacy*

Intimacy has long been of interest to researchers, and several different models of intimacy have been proposed. Within these models, there is little consistency across the definitions and conceptualizations of intimacy. Intimacy has been conceptualized in multiple ways including being the result of an interaction, an individual characteristic, or a property of relationships (Lippert & Prager, 2001). Additionally, researchers differ in their perspectives on the origins of intimacy. Is it part of a developmental process, is it achieved solely through self-disclosure, or is it the result of positive, vulnerable interactions (Laurenceau, Barrett, & Pietromonaco, 1998)?

Sullivan (1953) addressed the concept of intimacy in his writings. He believed that intimacy was crucial to the development of persons into social beings. He envisioned intimacy as interactive in that two persons disclose and desire validation from each other (Reis, 1990). In addition, Sullivan suggested that intimacy first gains importance through childhood with same-sex friends. He believed that in adolescence the search for intimacy was then transferred to people of the opposite sex. However,

because of differences in socialization between males and females, it is sometimes difficult for people of the opposite sex to become intimate (Reis & Shaver, 1988).

Erikson (1966) emphasized the importance of intimacy as a characteristic of the individual in his theory proposing eight stages of development. The sixth stage in his theory is “Intimacy versus Isolation,” in which the individual has to decide whether or not to invest in social relationships. This developmental challenge typically takes place during the transition from adolescence to adulthood. In Erikson’s conceptualization, intimacy, though an individual characteristic, occurs when the identities of the two people in a relationship become dependent on each other.

Rogers (1961) also developed a theory of intimacy. In his conceptualization, intimacy is forged through unconditional positive regard on the part of the listening partner. He believed that intimacy is possible in all kinds of relationships, including between lovers, parents and children, and therapists and clients. Unconditional positive regard is linked to intimacy in that people are more likely to disclose personal thoughts and feelings if they feel accepted and supported by their partner (Reis & Shaver, 1988).

Prager (1995) posited that intimacy is based on interactions and has three components. The first component is that partners disclose something private to each other. Then it is necessary for both partners to feel positive about the interaction, their partners, and themselves. Finally, both partners should have more understanding for each other as a result of the interaction. When these three elements are present in an interaction, intimacy is achieved.

Another model of intimacy has been proposed by Reis and Shaver (1988). Their model is also based upon a system of interactions. They argue that intimacy arises from an exchange in which one partner discloses something personal, his or her partner responds in a positive manner, and the original discloser perceives acceptance and validation in the response.

Intimacy has been conceptualized as both an individual process (Erikson) and as a dyadic process (Reis & Shaver). There is some support for the latter premise. In a study by Lippert and Prager (2001), the researchers found high correlations between partner reports of intimacy. They argued that this indicates that intimacy is a characteristic of a couple, and not of an individual. That is, intimacy tends to be mutual and typically is not one-sided (Reis & Shaver, 1988).

Intimacy can also be conceptualized in other ways. The concept of state versus trait intimacy is explored in this study. State intimacy can be defined as the degree of intimacy that an individual feels at one particular point in time as a result of a specific interaction. Trait intimacy is conceptualized as the degree to which an individual feels there is overall intimacy in his or her relationship, across time. Though rarely referred to as “state” or “trait” intimacy, research in the area of intimacy reveals that intimacy has been conceptualized in both of these manners. For instance, in a study conducted by Greeff and Malherbe (2001), the authors examined the relation between marital satisfaction, gender, and intimacy. They measured intimacy through use of the Personal Assessment of Intimacy in Relationships (PAIR; Schaefer & Olson, 1981) and assessed the overall (trait) intimacy in relationships. Conversely, intimacy has been

conceptualized as a state in the literature as well. In the models proposed by Reis and Shaver (1988) and Cordova and Scott (2001), intimacy is conceptualized as the product of one or more specific interactions. This is an example of state intimacy. State intimacy has been assessed using the Interaction Record Form-Intimacy (IRF-I; Prager & Buhrmester, 1998).

Anecdotally, we know that we feel closer to someone when we share something truly personal with that person and they respond in an accepting and understanding manner that makes us feel safe. We also know that intimacy is not this simple. It is not simply the act of “confessing” and being listened to. It also involves other elements such as characteristics of the speaker, type of self-disclosure, and the response of the listener. One characteristic of persons potentially moderating their experience of intimacy and receiving considerable attention in the literature is that of attachment styles.

#### *Attachment Style: Basic Conceptualization*

Formulations regarding adult romantic attachment style stem from research on attachment first conducted by Bowlby (1969, 1973, 1980). Bowlby sought to explain why infants naturally experience strong emotions when separated from caregivers. He proposed that an internal attachment system was responsible for this and that its origins were evolutionarily sound: infants who are attached to caregivers are protected and more likely to survive. These infants then become adults who consequently have children with similar healthy attachment systems. All infants generally crave proximity to their caregivers. However, depending upon how their caregivers respond to the infant’s

attachment behaviors, the infant may not develop or retain a healthy attachment style and might become insecurely attached.

Ainsworth, Blehar, Waters, and Wall (1978) used an experimental manipulation called the “Strange Situation” to elicit attachment behaviors from infants. In this paradigm, infants and their caregivers were brought into a room where the situation alternated between leaving the infant with the caregiver, leaving the infant alone, leaving the infant with a stranger, and bringing the caregiver back into the room. Then the researchers observed how the infant acted toward the caregiver. As a result of this study, Ainsworth et al. defined three attachment styles specific to infants: secure, avoidant, and anxious/ambivalent. In more recent years, the categories have been revised to be: secure, preoccupied, fearful, and dismissing. These four attachment styles are derived from different combinations of views about self and others (Bartholomew, 1990; Bartholomew & Horowitz, 1991).

An individual can have a positive or negative view of the self and a positive or negative view of others. People who are securely attached have a positive view of the self and of others. They are comfortable in their relationships and are loving and simultaneously autonomous. The preoccupied attachment style combines a negative view of the self and a positive view of others. This group is characterized by the need for constant validation by partners because of a sense of personal unworthiness. The third attachment style is fearful, which is indicative of a negative view of the self and a negative view of others. People in this group fear intimacy and close relationships and keep others at a distance to avoid rejection. The last attachment group is dismissing.

Dismissers have a positive view of the self and a negative view of others. This creates a penchant for remaining isolated from others in order to avoid being disappointed (Bartholomew & Horowitz, 1991).

Another way of conceptualizing attachment style has emerged in recent years. A two dimensional approach has received widespread support. In this model, attachment styles are a function of differences on two continuous dimensions of attachment: avoidance and ambivalence (the ambivalence dimension is sometimes referred to in the literature as the anxiety/ambivalence dimension). Individuals who score high on the avoidance dimension develop negative views of others (believing them to be untrustworthy and unavailable when needed) and sometimes positive or negative views of themselves. When highly avoidant individuals are distressed, they tend to withdraw from their partners for fear of feeling unsupported or rejected (Campbell, Simpson, Kashy, & Rholes, 2001). Individuals who score high on the ambivalent dimension of attachment have negative views of themselves and positive, but skeptical, views of others. They have deep-seated fears of being abandoned by their partners (Campbell, Simpson, Kashy, & Rholes, 2001). There are several advantages to conceptualizing attachment in terms of the two dimensions of avoidance and ambivalence. These advantages include that continuous dimensions are probably a more valid manner of conceptualizing attachment and there are more possibilities for the analysis of data when continuous dimensions versus a categorical model are used. This study conceptualizes attachment in the dimensional manner, by using the Adult Attachment Questionnaire

(AAQ; Simpson, Rholes, & Nelligan, 1992) which yields scores on each of the two dimensions avoidance and ambivalence.

Additionally, Bowlby (1988) identified two functions of secure attachment: secure base and safe haven. The secure base function means that the individual is comfortable exploring different experiences and challenges while using the attachment relationship as a base from which to do so. The safe haven function signifies that during times of stress or threat, the attachment partner is sought as a source of comfort and security (Duemmler & Kobak, 2001). These two functions are important to understand when examining attachment in romantic relationships.

Only relatively recently has attachment style been extended to adult romantic relationships. Research on attachment is based upon the premise of “working models.” Working models can be defined as a person’s internal schema developed as a result of memories of attachment experiences, attachment needs, beliefs about self and attachment figures, and strategies implemented to fulfill attachment needs (Bradford, Feeney, & Campbell, 2002). Working models include both abstract and specific representations of attachment figures and relationships (Simpson, Rholes, Oriña, & Grich, 2002).

This view of attachment suggests that early in life infants create working models of attachment associated with their parents and other attachment figures, and then these working models persist and are modified throughout life to include adult romantic relationships. However, such a theoretical view has its limitations. Duemmler and Kobak (2001) argued that attachment is primarily a function of the current relationship.

The rationale behind this argument is that dating relationships are inherently different from the relationship a child has with his or her caregiver. Within a dating relationship, there is always a possibility that the romantic partner will end the relationship. This threat is less common with parents. Hence, there is an intrinsic uncertainty in romantic relationship attachments that does not exist in parent-child relationships.

#### *Relation Between Attachment Style and Self-Disclosure*

Research has also related attachment to self-disclosure patterns. For instance, insecurely attached individuals are likely to limit amounts of self-disclosure because closeness frightens them. At other times, those who are insecurely attached may try to force intimacy prematurely by too much self-disclosure. By contrast, persons who are securely attached tend to engage in normal, healthy degrees of disclosure (Bradford, Feeney, & Campbell, 2002).

Research that has examined disclosure and attachment typically has not looked specifically at disclosure of relationship-oriented topics but, rather, has measured general disclosure. This is an obvious limitation because disclosure of relationship-relevant emotions could be much more difficult than disclosures in normal day-to-day interactions. According to Bradford et al. (2002), “the observed links between attachment dimension and patterns of disclosure highlight the fact that relationship partners strategically regulate the degree to which they disclose, in order to manage their tolerance for vulnerability” (p. 505).

### *Interactions Between Partner Attachment Styles*

There are several different models of how the attachment styles of each partner in a dyad interact with the other. One such model posits that the couple as a whole will function as well as the partner with the healthier attachment style. The rationale is that if a couple is comprised of one individual who is securely attached and the other individual is insecurely attached, the securely attached partner will temporarily elevate the functioning of the insecurely attached partner to his or her higher level (Feeney, 2002). Other models suggest that the couple as a whole will function only as well as the partner with the unhealthier attachment style. The reasoning behind this alternative theory is fundamentally the converse. The lower-functioning partner's attachment style inhibits that of the higher functioning partner. Thus, because one partner's attachment style is unhealthy, the other partner's attachment style is not able to be actualized.

It seems likely that neither theory applies universally to all couples, although both support the premise that attachment styles are interactive. However, there have been few studies that classify attachment based on the dyad. Such research on interactive components of partners' respective attachment styles would appear critical to understanding couple adjustment and partners' experience of intimacy.

### *Factors That Affect Attachment Style*

Although many factors affect attachment style, the relation between any of these factors and attachment style is not straightforward. As much as certain factors influence attachment style, attachment style also influences these factors. In the literature, adult romantic attachment style is related to degree of commitment (Duemmler & Kobak,

2001). Commitment is important to attachment style because “commitment represents an intention to maintain a relationship in the future, whatever its costs or benefits, and despite ups and downs” (Duemmler & Kobak, 2001, p. 403). Accordingly, an individual is more likely to display a secure attachment style if there is a high level of commitment in their relationship. Additionally, time is thought to have a significant effect on attachment security. Although there are obvious exceptions, literature posits the following trends: To the extent that each partner has proven to be reliable, responsive, and consistent over time, the more likely they are to feel secure in their relationship. This security can also be reflected in their attachment styles.

Additionally, attachment style is affected by high threat situations. Certain situations such as those threatening to the security of the relationship can activate one’s attachment style. When the relationship is threatened, the individual can respond in a number of ways. If they possess an insecure attachment style, they might respond in a possessive, hurt, anxious, or dependent manner. On the other hand, if the individual is securely attached, he or she should be more likely to respond with honesty and openness and be more able to express concerns calmly. Anyone may appear to be securely attached if there is little relationship stress, but in high threat situations it is more difficult to disguise or compensate for an insecure attachment style.

#### *Relation Between Attachment Style and Intimacy*

Hazan and Shaver (1987) studied the relation between attachment style and intimacy and found that people with avoidant attachment styles feared intimacy and did not believe that others do things out of sheer goodness. Such a belief is not conducive to

having an intimate relationship. People with anxious attachment styles were eager for intimacy, even if it is forced and does not develop naturally. Secure people were able to forge intimacy in a natural and gradual manner.

### *Statement of the Problem*

Although there has been considerable research on couple conflict, there has been less emphasis on intimacy and its relation to either individual or relationship processes. Intimacy can be conceptualized as the outcome of self-disclosure and empathic responding. However, there are additional factors that influence this process. One such factor is attachment style. Attachment style affects not only how an individual discloses to another, but also how their partner responds to that disclosure. This interaction between attachment style and ability to respond empathically to personal disclosures has been neglected and warrants further investigation. The purpose of this study was to examine the influence of attachment style on intimacy. Specifically, a model was tested in which both actor and partner effects of attachment style on intimacy were greatest following self-disclosures in a high-threat condition.

There are two ways in which this study aims to improve on existing models and past research. The first involves the experimental manipulation of the threat condition. Influences of attachment styles on intimacy should become more evident when the couple is involved in a disagreement or similarly stressful situation (Bradford, Feeney, & Campbell, 2002). In this study, level of threat is manipulated by contrasting conditions in which individuals discuss occasions when their feelings were hurt by someone else outside their relationship versus occasions when they were hurt by their partner.

Second, this study also aims to address previous statistical shortcomings in attachment research. Through more sophisticated statistical analyses – specifically, the Actor-Partner Interdependence Model (APIM; Cook, 1998; Kashy & Kenny, 2000) – analyses will examine both partner and actor effects and their interaction more thoroughly to delineate the role that each partner has in determining their own and the other partner’s experience of intimacy.

### *Hypotheses*

This study examines the relation between romantic attachment style and self-reported levels of state and trait intimacy. Specifically, the study examines the following: Are securely attached individuals more likely than insecurely attached persons to report higher levels of intimacy following high- and low-risk interactions? Are levels of intimacy experienced during interactions influenced equally by their own attachment styles and by their partner’s attachment characteristics?

1. It is predicted that there will be actor effects. Specifically, it is hypothesized that there will be an actor effect for both male and female partners in which higher levels of avoidance and ambivalence (measured as a function of attachment by the AAQ) relate to less state and trait intimacy reported by each partner. The process of expressing wishes directly, a characteristic of persons with secure attachment styles and low avoidance and ambivalence levels, will lead to greater intimacy.

2. It is further predicted that there will be partner effects, such that an individual’s higher levels of avoidance and ambivalence relate to lower levels of intimacy experienced by their partner. This is expected to occur because a securely

attached individual should be more effective at communicating, expressing wishes, and empathic listening. With these skills in place, one could anticipate that any interaction in which at least one partner is communicating effectively will result in greater intimacy felt by either partner.

3. In addition, it is predicted that the effects of insecure attachment will be greater in the high- threat condition relative to the low- threat condition. It is hypothesized that there will be a threat-moderated effect for avoidance, ambivalence, and unhealthy attachment (defined as avoidance-x-ambivalence).

## METHOD

### *Overview of Methodology*

In this study, couples were asked to complete a set of questionnaires and to engage in videotaped interactions. The questionnaires asked respondents to describe both oneself and one's partner and addressed such constructs as relationship satisfaction, emotional intimacy, and empathic listening skills. Couples were then videotaped twice discussing times in which (a) someone other than their partner hurt their feelings, and (b) their partner hurt their feelings. After each videotaped interaction, both participants completed brief measures assessing level of self-disclosure, perceived empathy from the partner, and feelings of intimacy (see Figure 1 for complete methodological procedure).

### *Participants*

The sample consisted of 110 community couples. Community couples were randomly selected from the phone book and invited to participate in a study examining emotion and communication in couples. Additional recruitment procedures included letters mailed to various organizations in the community and inviting prior participants to pass on information regarding the study to eligible acquaintances.

To be eligible to participate, participants were required to be 18 years or older, married or cohabitating for at least six months, and in an opposite-sex relationship.

### *Measures*

Couples were given the option to complete all measures either at the marital studies research lab at Texas A&M University or in their home. Both partners first completed a set of self-report measures independently and the results were not shared

with the other partner. Participants completed the following questionnaires: the Adult Attachment Questionnaire (AAQ; Simpson, Rholes, & Nelligan, 1992), the Emotional Intimacy subscale of the Personal Assessment of Intimacy in Relationships (PAIR; Schaefer & Olson, 1981), and the Measure of Intimate Events (adapted from Prager and Buhrmester's 1998 Interaction Record Form – Intimacy).

The AAQ is a 17-item self-report measure that assesses levels of avoidance and ambivalence in one's relationships. Ambivalence levels reveal the degree to which the individual is preoccupied with the idea of being abandoned and disappointed by a partner. Avoidance levels indicate how much the individual prefers to remain distant and autonomous from a partner (Simpson, Rholes, Oriña, & Grich, 2002). Each item on the AAQ is rated on a 7-point Likert scale ranging from "strongly agree" to "strongly disagree." The AAQ is a standard measure of attachment style frequently used in both clinic and community samples (Bouthillier, Julien, Dube, Belanger, & Hamelin, 2002; Diamond, Clarkin, Levine, Levy, Foelsch, & Yeomans, 1999).

The Emotional Intimacy (EI) subscale of the PAIR was used to evaluate participants' overall feelings of intimacy in their relationship. The EI subscale is comprised of 6 items rated on a 5-point Likert scale. Lower scores indicate greater intimacy in the relationship. The PAIR is frequently used to assess levels of trait intimacy in community couples (Denton, Burleson, Clark, Rodriguez, & Hobbs, 2000; Talmadge & Dabbs, 1990).

After completing these measures, partners then participated in two sets of videotaped interaction tasks. Prior to these interactions (described further below)

participants completed a brief Measure of Hurt Feelings intended to elicit recollection of significant occasions when their feelings were hurt either by their partner or by someone else other than their partner. This measure has three components. Participants were first asked to recall a time in which their feelings were hurt. Next, they were told to write a brief paragraph about this event. Finally, participants rated the event on a scale from 1 to 10, indicating the degree to which their feelings were hurt and the significance of the situation. Participants were encouraged to select a topic ranging in severity of hurt feelings from 5 to 7. The intent was to identify an event sufficiently significant to generate discussion, but not so emotionally charged as to be inherently overwhelming. Participants were informed prior to completing this measure that they would be asked to disclose what they had written to their partner during the interaction task.

Following each videotaped interaction, participants completed a Measure of Intimate Events adapted from Prager and Buhrmester's (1998) Interaction Record Form – Intimacy (IRF-I). The IRF-I is a 17-item measure using a 4-point Likert scale designed to assess partners' feelings of intimacy immediately following an interaction (Lippert & Prager, 2001). The IRF-I was modified slightly for this study so that the speaker (discloser) and listener (responder) disclosed their perceptions of self-disclosure, empathic response, overall affect from the interaction, and emotional intimacy separately.

#### *Procedures for Videotaped Interactions*

After completing the first set of questionnaires, couples were told that they would be videotaped during two sets of interactions with their partner. In the first set of

interactions, each partner was asked to “identify a time when someone else (not your partner) hurt your feelings.” This constituted the “low-threat” condition. Next, both partners completed the Measure of Hurt Feelings (described earlier). One partner (the discloser) was asked by the experimenter to “discuss a time when someone else hurt your feelings,” while the other partner (the responder) was asked to “be involved in the discussion and respond to your partner however you wish.” These instructions are often used for observational research with community couples (Snyder & Abbott, 2002). This interaction was videotaped for exactly 7 minutes, even if the couple did not use the entire 7 minutes for their discussion. After this interaction, each partner completed the Measure of Intimate Events as it related to the preceding discussion.

For the second part of the first set of interactions, the roles of discloser/responder were reversed (the partner who was the discloser in the first discussion became the responder and the responder from the first task became the discloser). The partner who was now the discloser presented his/her topic that he/she wrote about in the Measure of Hurt Feelings. Couples were again videotaped for exactly 7 minutes discussing this second topic.

For the second set of interactions, each partner was asked to “identify a time when your partner hurt your feelings” on the Measure of Hurt Feelings. This constituted the “high-threat” condition. The procedure mirrored that of the first two interactions, except that the topic changed from talking about someone else hurting their feelings to talking about an occasion when their partner hurt their feelings. The partner who first had the role of discloser for the first task was now the responder first during this second

set of interactions. Couples were videotaped exactly 7 minutes for each of the discussions and completed the Measure of Intimate Events following each interaction.

Possible order effects were controlled by alternating the first disclosers in terms of gender. For half of the couples, the male partner went first for the first set of interactions and the female went first on the second set of interactions. For the other half of the couples, these roles were reversed. The “hurt feelings by other” interaction always occurred before the “hurt feelings by partner” interaction, so as to minimize residual effects in terms of highly charged affect that may have resulted from the “hurt feelings by partner” interaction.

### *Analyses*

These data were analyzed using the Actor-Partner Interdependence Model (APIM; Cook, 1998; Kashy & Kenny, 2000). The APIM model improves upon other data analytic strategies used for couple data in several ways. When data are gathered from both members of a dyad, often researchers treat those observations as independent from one another even though they are not independent observations. Romantic partners heavily influence each other’s thoughts, feelings, and behaviors (Campbell & Kashy, 2002). Thus, couple data reflect the interpersonal system and not the individual (Kenny & Cook, 1999). When such observations are correlated and the data are still treated as independent observations, this can result in a bias in  $p$  values (Kenny, 1995). Thus, it is important to treat partners’ data as correlated and not as independent observations.

In multilevel modeling (of which the APIM is a type), the lower level is the individual and the upper level is the couple. The variance associated with each of the

two levels is estimated. In the APIM model, both actor and partner effects are considered. Actor effects are defined as the effect that an individual's independent variable has on his or her own dependent variable. In contrast, partner effects denote the influence that an individual's independent variable has on his or her partner's dependent variable. Partner effects essentially reflect the amount of interdependence between partners in a relationship (Campbell, Simpson, Kashy, & Rholes, 2001). In Figure 2, the male partner's score on the independent variable is denoted as M1 and the female partner's score is denoted as F1. For the dependent variable, the male's score is represented by M2 and the female's score is represented by F2.

In this study, the independent variables include dimensions of attachment style and the dependent variable is the level of intimacy following either a high- or low-risk interaction. Actor effects represent the influence that Partner A's attachment style has on his or her own levels of intimacy. Partner effects, by comparison, involve the influence of Partner A's attachment style on Partner B's reported levels of intimacy and the influence of Partner B's attachment style on Partner A's levels of intimacy (see Figure 3). The APIM model was statistically analyzed using Hierarchical Linear Modeling (HLM) in SPSS.

## RESULTS

The degree of interdependence among observations was first calculated using an intraclass correlation. Twenty-five percent of the variation in scores was accounted for by the couple to which a person was a member in the low-threat condition (intraclass = .248,  $F(107, 108) = 1.658, p < .01$ ). Thirty-eight percent of the variation in scores was accounted for by the couple to which a person was a member in the high-threat condition (intraclass = .380,  $F(107, 108) = 2.224, p < .001$ ). These moderately-sized correlations indicate that there was nonindependence in the data and that individuals' scores within the same couple should not be considered independent from each other. Because of this, the APIM analyses were appropriate to this situation, as they accounted for nonindependence of observations.

Multiple attachment models were tested using the APIM. In the first three models, three different independent variables were tested against the dependent variable of post-interaction (state) intimacy (see Table 1 for results). In the next three models, the same three independent variables as before were tested against a different dependent variable – overall (trait) intimacy in the relationship (see Table 2 for results). The six different models tested were: 1) the effect of avoidance on post-interaction intimacy, 2) the effect of ambivalence on post-interaction intimacy, 3) the effect of unhealthy attachment (defined by the interaction term avoidance-x-ambivalence) on post-interaction intimacy, 4) the effect of avoidance on overall intimacy in the relationship, 5) the effect of ambivalence on overall intimacy in the relationship, and 6) the effect of unhealthy attachment (defined by the interaction term of avoidance-x-ambivalence) on

overall intimacy in the relationship. In each of these analyses, the independent variables were transformed to z-scores and effect coding was used for each of the categorical variables: risk condition and gender.

All six models tested showed a main effect for gender. In the three models in which the dependent variable was post-interaction intimacy, the gender effect was such that women reported higher levels of intimacy compared to men when all other variables in the model were held constant. By contrast, in the three models in which the dependent variable was overall intimacy in the relationship, the gender effect was such that men reported higher levels of intimacy compared to women when all other variables in the model were held constant.

In all of the models tested, there was no main effect for threat condition. This signifies that there were no differences found in reports of intimacy (either state or trait) between high- and low- threat conditions.

*Model 1: The Effect of Avoidance on Post-Interaction Intimacy*

The first model tested the effect that the avoidance dimension of attachment style has on reports of post-interaction intimacy. An actor effect in this model would indicate that an individual's own avoidance level is related to his or her own reports of post-interaction intimacy. In addition to the gender effect that was found, an actor effect for avoidance was also found, signifying that people with high avoidance levels experience less intimacy following discussions of hurt feelings ( $b = -.229$ ,  $t(159) = -2.85$ ,  $p < .01$ ). A partner effect in this model would indicate that an individual's level of post-

interaction intimacy is related to his or her partner's level of avoidance. However, there was no significant partner effect in this model.

*Model 2: The Effect of Ambivalence on Post-Interaction Intimacy*

This model tested the relation between individual levels of ambivalent attachment characteristics and reports of post-interaction intimacy. The actor effect in this model is the effect that an individual's reported level of attachment avoidance has on his or her own level of reported intimacy after the interactions. This actor effect was not found to be significant. However, in addition to the significant gender effect, one of the partner effects did approach significance. In this model, the partner effect is the degree to which a partner's level of avoidance affected by an individual's feelings of intimacy after a discussion of hurt feelings. The effect that partners' levels of ambivalence had on individuals' levels of intimacy approached significance ( $b = -.148$ ,  $t(186) = -1.88$ ,  $p = .06$ ).

*Model 3: The Effect of Avoidance-x-Ambivalence on Post-Interaction Intimacy*

This model examined the relation between levels of unhealthy attachment (defined by the interaction term avoidance-x-ambivalence) and post-interaction reports of intimacy. In this model, the actor effect is defined as the effect that an individual's unhealthy attachment level has on his or her own report of intimacy. This actor effect was found to be significant in this model, indicating that unhealthy attachment characteristics affect intimacy such that higher unhealthy attachment levels indicate less intimacy after the interactions ( $b = -.158$ ,  $t(191) = -2.05$ ,  $p < .05$ ). If present, a partner effect would indicate that an individual's feelings of intimacy would be affected by his

or her partner's unhealthy attachment characteristics. There was no significant partner effect in this model.

*Model 4: The Effect of Avoidance on Overall Intimacy in the Relationship*

In the next three models, the dependent variable was changed to overall intimacy in the relationship. This was done in order to examine the differences between “state and trait” intimacy as a product of attachment characteristics. Whereas the first three models tested “state” intimacy (intimacy reported after a potentially risky discussion), the next three models tested “trait” intimacy (intimacy reported overall in the relationship). Like the first three models, there was also a gender effect in the models testing overall intimacy in the relationship. However, the nature of the gender effect differed in the models testing overall intimacy in the relationship. In these models, the gender effect was such that men reported higher levels of intimacy compared to women.

In the fourth model tested, the relation between avoidance level and overall reported intimacy in the relationship was considered. An actor effect in this model would involve the effect that an individual's own avoidance level would have on his or her own feelings of intimacy in the relationship. In this model, there was a significant actor effect, such that higher levels of one's own avoidance related to lower feelings of overall intimacy in the relationship ( $b = -1.24, t(130) = -4.55, p < .001$ ). No significant partner effect was noted. There was also an interaction (between gender and avoidance) in this model that approached significance ( $b = -.509, t(128) = -1.84, p = .07$ ). In this gender-moderated effect, both men and women report less intimacy with higher levels of avoidance, but men's levels of reported intimacy were more stable across levels of

avoidance than women's; that is, the deleterious effect of avoidance on intimacy was more pronounced for women.

*Model 5: The Effect of Ambivalence on Overall Intimacy in the Relationship*

In this model, the effect of ambivalence levels on overall intimacy in the relationship was considered. An actor effect in this model would signify that an individual's levels of ambivalence affect his or her reported level of overall intimacy in the relationship. There was a significant actor effect in this model, such that a lower level of an individual's ambivalence is related to a higher report of his or her own intimacy ( $b = -1.67$ ,  $t(147) = -6.76$ ,  $p < .001$ ). A partner effect in this model would represent a relation between an individual's reported level of overall intimacy in the relationship and his or her partner's level of ambivalence. There was a significant partner effect in this model, such that a lower level of a partner's ambivalence was related to feelings of greater intimacy in an individual ( $b = -.644$ ,  $t(147) = -2.61$ ,  $p = .01$ ).

*Model 6: The Effect of Avoidance-x-Ambivalence on Overall Intimacy in the Relationship*

This model examined the relation between levels of unhealthy attachment characteristics (defined by an interaction term of avoidance-x-ambivalence) and reports of overall intimacy in the relationship. A significant actor effect in this model would indicate that an individual's level of unhealthy attachment was related to his or her reports of overall intimacy in the relationship. There was a significant actor effect present in this model, indicating that an individual's higher level of unhealthy attachment was related to a lower report of overall intimacy in the relationship ( $b =$

-1.86,  $t(151) = -7.97, p < .001$ ). A partner effect in this model would indicate a relation between the partner's level of unhealthy attachment and an individual's feelings of overall intimacy in the relationship. There was a significant partner effect in this model, such that higher levels of a partner's unhealthy attachment levels were related to an individual's lower reports of intimacy in the relationship ( $b = -.683, t(151) = -2.92, p < .01$ ). In this model, a significant interaction was present between levels of unhealthy attachment and gender ( $b = -.613, t(123) = -2.21, p < .05$ ). Men reported similar levels of intimacy across levels of unhealthy attachment. Women, on the other hand, reported significantly lower levels of intimacy when they were classified as unhealthy in their attachment than when they had healthy attachment characteristics.

## CONCLUSIONS AND DISCUSSION

The results of this study provide evidence regarding a relation between attachment characteristics and feelings of intimacy. In general, results indicate that the relation between attachment and intimacy has the following characteristics: the more insecure and unhealthy the attachment of an individual, the less intimacy that is felt by that individual and by that individual's partner, regardless of how intimacy is conceptualized (state versus trait).

There was considerable support for the specific hypotheses examined in this study. The first hypothesis stated that it is expected to find an actor effect in which an individual's higher levels of avoidance and ambivalence relate to less intimacy reported by an individual. This hypothesis was tested in each of the models analyzed. Strong actor effects ( $p < .01$ ) were found in the models testing the effect of avoidance on "state" intimacy, and the effect of avoidance, ambivalence, and unhealthy attachment (avoidance-x-ambivalence) on "trait" intimacy. A significant, but less strong, actor effect ( $p < .05$ ) was found when examining the effect of unhealthy attachment (avoidance-x-ambivalence) on "state" intimacy.

The second hypothesis predicted the presence of partner effects, such that an individual's higher level of avoidance and ambivalence would relate to lower levels of intimacy experienced by his or her partner. This hypothesis was tested in each of the six models. There was also widespread support for this hypothesis in the data, but only in the models where the dependent variable was overall (trait) intimacy in the relationship. Strong partner effects ( $p < .01$ ) were found when examining the effect that a partner's

levels of ambivalence and unhealthy attachment (avoidance-x-ambivalence) have on the individual's feelings of overall intimacy.

The third hypothesis asserted that threat condition would moderate effects on intimacy. This hypothesis was tested in all three of the models analyzed for post-interaction intimacy. There were no main effects for condition (high-threat or low-threat) in any of the models tested. This signifies that there were no significant differences between reports of intimacy after high- and low-threat. People felt the same amount of intimacy regardless of whether discussing times when their feelings had been hurt by their partner versus by someone else.

There are a few questions that arise as a consequence of the results of this study that deserve discussion. One such question is "What did this study reveal in terms of the effects of attachment characteristics on state and trait intimacy?" In this study, "state intimacy" was operationally defined as the intimacy that each partner reports after being involved in potentially risky discussions. These discussions were termed "potentially risky" because partners were asked to discuss times in which others hurt their feelings; the nature of this task ensures that the individuals would feel vulnerable in their self-disclosure. "Trait intimacy" was operationally defined through the use of the PAIR, which assesses the degree to which each individual feels there is overall intimacy in their relationship. Results showed more significant effects in the models in which the dependent variable was overall trait intimacy in the relationship. These results may indicate that attachment characteristics (such as avoidance and ambivalence) affect the relationship more reliably over the long-term than in immediate interactions.

The issue of gender also arises in this study because, in each model, significant gender effects were found. In the first three models, when the independent variable was state intimacy, the gender effects were such that women reported more intimacy than men. In the second set of models, in which the dependent variable was trait intimacy, the gender effects were such that men reported higher levels of intimacy than women. One possible explanation comes from research regarding sentiment override (first proposed by Weiss, 1980). Research conducted in this area has found that men and women weigh the importance of immediate and long-term experiences differently. Carels and Baucom (1999) found that women's positive or negative feelings after a discussion were highly associated with the qualities of their partners during that discussion. On the other hand, men's positive or negative feelings after a discussion were more highly associated with the overall qualities of their relationships on the whole, and not the characteristics of the discussion. The findings from this study support these earlier findings. Men seem to base their judgments on, and be more affected by, the presence or absence of characteristics overall in the relationship (i.e. trait intimacy). Conversely, women base their judgments on and are more affected by immediate situational factors (i.e. state intimacy).

Perhaps one lesson learned from this study is that it is not just these individual situations which drive dissatisfaction in the relationship or feelings of disconnection. It is instead, especially for men, the entire *gestalt* of the relationship, fostered by attachment characteristics, which deserves recognition and attention. It might be most helpful for interventions with women to be based on the pattern of unfulfilling

discussions, instead of the overall atmosphere of the relationship. However, the majority of the significant findings in this study are related to intimacy levels felt overall in the relationship.

There are other clinical implications of these findings as well. Attachment style is considered to be relatively stable over the lifespan, but working models of attachment can be modified through positive attachment experiences (an individual feeling that an attachment figure has been consistently responsive to his or her needs) (Simpson, Rholes, & Phillips, 1996). Hence, teaching a partner how to be responsive to the needs of an insecurely attached individual can have positive, lasting effects on the individual and the relationship.

Another possible clinical implication that the results of this study suggest involves using specific interventions for different attachment characteristics. The results of this study indicate that individuals with avoidant and generally unhealthy attachment characteristics report less intimacy directly after a potentially risky discussion. Other studies have found that during these discussions avoidant individuals cut themselves off from their emotions, believe that their own efforts to increase intimacy will be unrewarded by their partners, and are less warm and supportive during conflicts as a result (Crittenden & Ainsworth, 1989; Main, Kaplan, & Cassidy, 1985; Simpson, Rholes, & Phillips, 1996). Clinicians could recognize these tendencies of insecurely attached individuals and target them in specific interventions. One such type of intervention was developed by Johnson and Greenberg (1995). Emotionally Focused Therapy conceptualizes relationship distress as the result of attachment patterns in the

relationship. In this model, interventions focus on the creation of new positive emotional experiences with attachment figures. These positive interactions allow for working models to change and attachment characteristics to become more secure. Positive interactions are encouraged through the use of “softenings,” in which secondary emotions underlying affect are unearthed (Keiley, 2002).

There are future directions that results of this study suggest. The most immediate of these is the behavioral coding of the videotaped interactions. This process is currently being pursued for coding of self-disclosure and intimacy. Future research will examine coding of attachment patterns. This is of particular interest because coding the videotapes might allow behavioral manifestations of attachment characteristics to be observed and measured. For example, it may be possible to pinpoint actions and emotions in these interactions which distinguish individuals with insecure attachment. This could be very useful when designing interventions for these individuals. The results of this study support these possibilities and encourage future research in this area to be undertaken.

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## APPENDIX A

**TABLE 1**  
**Summary of actor and partner effects of avoidance, ambivalence, and avoidance-x-ambivalence on reports of post-interaction (state) intimacy**

Variable	Effect	
	b	t
Model 1: Avoidance		
Avoidance	-.229	-2.85**
Partner Avoidance	.007	.092
Threat Level	-.041	-.822
Gender	-.161	-3.21***
Model 2: Ambivalence		
Ambivalence	.043	-.540
Partner Ambivalence	-.148	-1.88+
Threat Level	-.035	-.685
Gender	-.183	-3.63***
Model 3: Unhealthy Attachment (Avoidance-x-Ambivalence)		
Unhealthy Attachment	-.158	-2.05*
Partner Unhealthy Attachment	-.076	-.987
Threat Level	-.038	-.753
Gender	-.191	-3.82***

Note. Values in table are unstandardized regression coefficients.

<sup>+</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**TABLE 2**  
**Summary of actor and partner effects of avoidance, ambivalence, and avoidance-x-ambivalence on reports of overall (trait) intimacy**

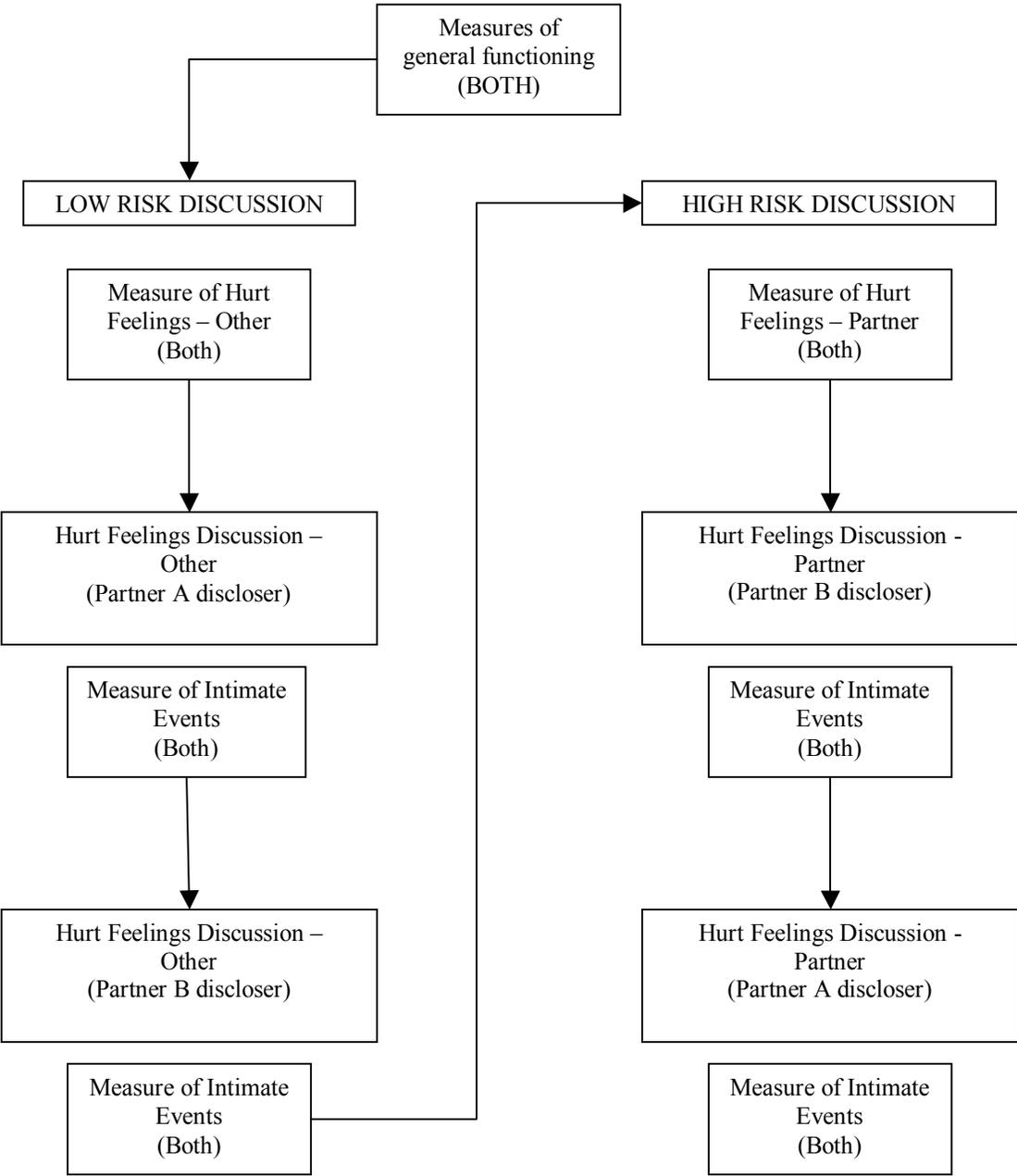
Variable	Effect	
	b	t
Model 4: Avoidance		
Avoidance	-1.24	-4.55***
Partner Avoidance	-4.73	-1.73
Gender	-.161	-3.21***
Avoidance-x-Gender	-.509	-1.84+
Model 5: Ambivalence		
Ambivalence	-1.67	-6.76***
Partner Ambivalence	-.644	-2.61**
Gender	.443	3.60***
Model 6: Unhealthy Attachment (Avoidance-x-Ambivalence)		
Unhealthy Attachment	-1.86	-7.97***
Partner Unhealthy Attachment	-6.83	-2.92**
Gender	.546	4.56***
Unhealthy Attachment-x-Gender	-.613	-2.21*

Note. Values in table are unstandardized regression coefficients.

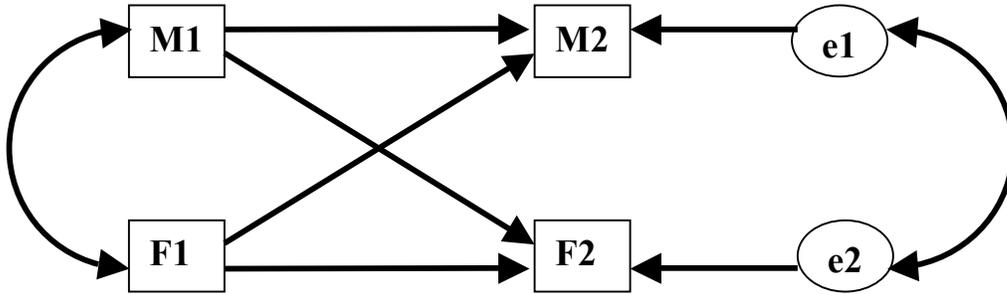
<sup>+</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

APPENDIX B

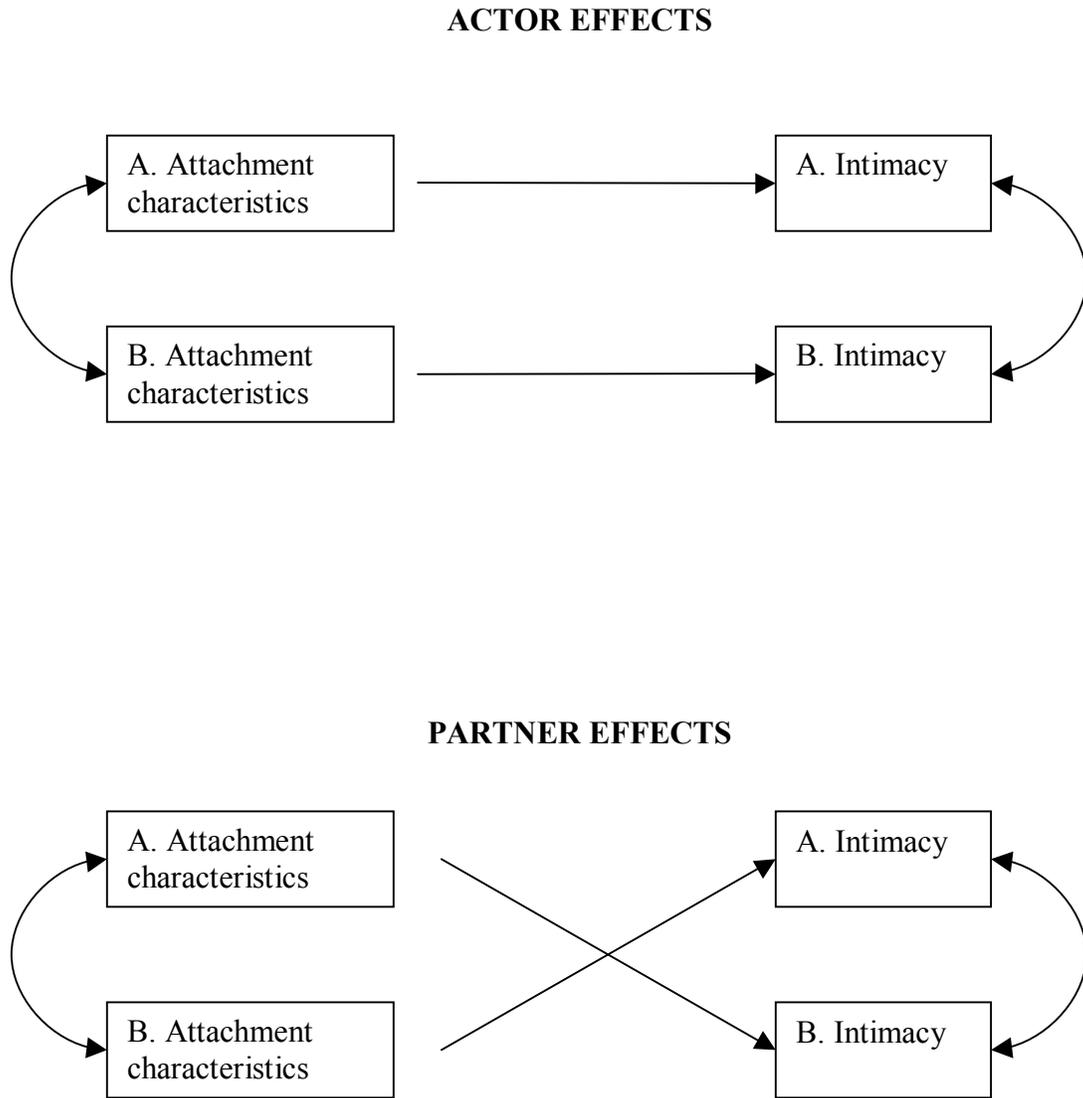
**FIGURE 1**  
**Complete methodological procedure for each couple participant.**



**FIGURE 2**  
**The Actor-Partner Interdependence Model (Kenny & Cook, 1999).**



**FIGURE 3**  
**The effect of attachment characteristics on reports of intimacy.**



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