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Attachment Security and Partner Presence as Moderators to Automatic Responses to Stress in Women

Brooke C. Feeney
College of William & Mary - Arts & Sciences

Attachment Security and Partner Presence as Moderators of Autonomic Responses to Stress in Women

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Brooke C. Feeney

Author

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Lee A. Kirkpatrick, Ph.D.
(Chairman)

Constance J. Pilkington, Ph.D.

Deborah Ventis, Ph.D.

Judith Dubas, Ph.D.

TABLE OF CONTENTS

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LIST OF TABLES

LIST OF TABLES (Continued)

Table Page

LIST OF FIGURES

Figure Page

Abstract

The anxiety-reducing function of secure romantic attachment was examined in a sample of 35 females involved in serious dating relationships. Each subject performed a standard psychological stress task both in the presence and in the absence of her romantic partner. Physiological measures of heartrate, skin conductance, and blood pressure were obtained for each subject in each partner-proximity condition, during both baseline and task performance periods. Subjects were divided into attachment groups using Simpson's (1990) attachment scale. Results indicated significant interactions among attachment group, partner-proximity, and task period on the heartrate measure for both secure/avoidant and non-anxious/anxious attachment dimensions. Although the presence versus absence of romantic partners did not affect heartrates of secure subjects, the avoidant group experienced greater anxiety in the presence of their romantic partners than when alone. The anxious group exhibited heightened anxiety both in the presence and in the absence of their partners. Discussion focuses on the implications of these findings and need for additional experimental research demonstrating the security-regulating function of attachment in adult romantic relationships.

PARTNER PRESENCE AND ATTACHMENT STYLE AS MODERATORS OF AUTONOMIC RESPONSES TO STRESS IN WOMEN

Introduction

Studies of the attachment-theory approach to adult love relationships have indicated strong similarities between adult romantic attachments and attachments exhibited by children to their primary caregivers (Hazan & Shaver, 1987; Shaver, Hazan, & Bradshaw, 1988). Although additional studies of adult romantic attachment have tested various implications of attachment theory (Collins & Read, 1990; Feeney & Noller, 1990; Kirkpatrick & Davis, 1992; Simpson, 1990; Simpson, Rholes, & Nelligan, 1992), experimental research demonstrating the anxiety-reducing function of secure attachment, which is central to attachment theory, has not been conducted. Although the security-regulating function of the attachment system has been well established in infant studies (Ainsworth, Blehar, Waters, & Wall, 1978), research examining this function in adult romantic relationships is critical to the extension of attachment theory from infancy to adulthood. The present study attempts to experimentally demonstrate with psychophysiological measures the anxiety-reducing function of secure romantic attachment in adults.

Attachment Theory

Bowlby's goal as the pioneer of attachment theory was to describe and explain, from an evolutionary-ethological

perspective, how and why infants become emotionally attached to their primary caregivers and emotionally distressed when separated from them (Bowlby, 1969; 1973; 1980). A major feature of attachment theory is that attachment behavior is organized and regulated by means of a control system within the central nervous system. Bowlby postulated that the attachment system serves a major evolutionary function of protection and hence survival; it is activated most strongly in adversity so that when alarmed, anxious, tired, or ill, an individual will seek protection, comfort, and support from a primary caregiver (Bowlby, 1969; Bretherton, 1987). Although there are many behavioral systems (including caregiving, mating, and exploration), Bowlby (1988) maintains that the attachment system is of central importance and influences the functioning of the other behavioral systems.

According to attachment theory, every infant will become attached to a caregiver, even if the attachment figure is not optimally attentive or available; however, differences in the quality of caregiver/infant transactions result in different patterns of attachment and relationship quality (Bowlby, 1969). Once the infant begins to construct cognitive models of the self and attachment figures, both infant and caregiver contribute to the stability of individual differences in the relationship (Bowlby, 1969;

Bretherton, 1987). Attachment theory postulates that individuals will be much less likely to experience intense or chronic fear when they are confident that an attachment figure will be accessible and responsive when desired (Bowlby, 1973). Although in infancy it is important that an attachment figure be physically close and emotionally available, once expectations regarding caregivers have been established, just the knowledge that an attachment figure is potentially accessible and responsive provides a strong feeling of felt security (Bowlby, 1969; Bretherton, 1987).

Attachment theory emphasizes that continuity in individual differences in attachment functioning is primarily due to the persistence of internal working models involving representations of the self and representations of attachment figures (the social world). Confidence that an attachment figure is accessible and likely to be responsive is dependent upon whether the attachment figure is judged to be generally supportive and protective, and dependent upon whether the self is judged to be the sort of person who deserves support and protection. These mental models are often mutually confirming and are considered to play an important role in determining an individual's feelings and relationship quality across the lifespan (Bowlby, 1973; 1988; Bretherton, 1987). Bowlby (1973) suggests that internal working models of self and parents developed in

childhood play a major role in the intergenerational transmission of attachment patterns. Prospective studies (Main, Kaplan, & Cassidy, 1985; Stroufe, Egeland, & Kreutzer, 1990) have shown that each pattern of attachment, once developed, tends to persist because the way parents treat their children often continues unchanged and because each attachment pattern tends to be self-perpetuating, causing cycles of interaction to develop (Bowlby, 1988). Unless early relationships have been reevaluated and internal working models of the self have been restructured, enduring cognitive models are carried forward into new relationships so that the nature of the early parent/child relationship becomes a model for later relationships, influencing expectations and beliefs about the self as a love object and about others as attachment figures (Bowlby, 1988; Bretherton, 1985; 1987).

The anxiety-reducing function of secure attachment, central to attachment theory, has been well established in the infant research of Ainsworth et al. (1978). These researchers extended Bowlby's work by designing the Strange Situation procedure to assess individual differences in the organization of attachment behavior during the first twelve months of life. This procedure provided a context in which to explore individual differences in an infant's use of a caregiver as a base for exploration, the ability of the

infant to derive comfort from the caregiver, and the attachment-exploration balance as it changes during a series of situations. Of primary interest were their observations of how children respond in relation to their attachment figures when distressed. Based on these observations, Ainsworth et al. (1978) differentiated three major patterns of attachment and the family conditions that promote them. These patterns include secure, avoidant, and anxious/ambivalent attachment styles.

Secure children explore freely in a strange situation using their mothers as a secure base (Ainsworth et al., 1978). They are generally not distressed by the presence of a stranger, and although they may be distressed by the temporary absence of their mothers, they generally show an organized sequence of goal-corrected behavior and reestablish contact with her when she returns. They spend a large amount of time in exploratory play, and when distressed, they seek proximity (close bodily contact) and are readily comforted. Secure children tend to have mothers who are sensitive and responsive to their needs, signals, and communications. Therefore, they seem to have confident expectations that attachment figures will be available, responsive, and helpful in adversity--expectations that have been repeatedly confirmed by a long history of positive interaction with their mothers (Ainsworth et al., 1978).

Anxious/Ambivalent children generally oscillate between seeking proximity and contact with their mothers and resisting contact and interaction with her upon reunion (Ainsworth et al., 1978). They respond to separation with intense distress, and they are likely to be distressed and seek proximity to their mothers in the presence of a stranger. Because of inconsistency in the emotional availability of their caregivers, these children do not seem to have confident expectations of their mothers' accessibility and responsiveness; therefore, they are unable to use her as a secure base from which to explore an unfamiliar situation. These infants cry more and explore less than usual, and they blend attachment behaviors with expressions of protest, anger, and resistance (Ainsworth et al., 1978). Anxious/Ambivalent children have mothers who are slow or inconsistent in responding or who regularly interfere with their children's desired activities (Ainsworth et al., 1978).

Avoidant children exhibit avoidance, apparent disinterest, and detachment in the presence of their mothers during episodes in which the attachment behaviors of other babies are activated at high intensity (Ainsworth et al., 1978). These children display avoidant behaviors despite their mother's efforts to persuade their babies to come to them. Their mothers are generally rejecting and

unresponsive. They rebuff infant desire for close bodily contact, are characteristically rigid and compulsive, tend to be angry and irritated by their babies, and tend to give their babies unpleasant experiences in physical contact (Ainsworth et al., 1978). Avoidant children, therefore, seem to have little confidence that they will be responded to helpfully and expect to be rebuffed due to past experiences of repeated rejections. Although these children often maintain exploration at a relatively high level across episodes, they tend to engage in displacement exploration (displacing or redirecting attention toward the activity and away from the attachment figure) which lacks the interested attentiveness characteristic of true exploration (Ainsworth et al., 1978).

It is assumed that avoidant infants, like other infants, desire contact with their mothers when the attachment system is activated at high intensity (Ainsworth et al., 1978). These infants exhibit seemingly paradoxical behavior in that their attachment systems are strongly activated; however, they do not show their distress overtly. Bowlby (1969) maintains that, ironically, maternal rejection itself intensifies the activation of the attachment system; however, unpleasant past experiences with close bodily contact lead to an approach-avoidance conflict. Distressing situations activate the conflict more intensely so that the

child's fear of proximity is greater than the desire for proximity. Avoidance behavior represents a method of coping with the conflict situation, preventing the direct expression of anger to the attachment figure and therefore protecting the baby from reexperiencing expected rejection. It is assumed that avoidant behaviors constitute "cut-off behaviors" that serve to somewhat reduce the arousal level created by the approach-avoidance conflict. Sroufe and Waters (1977) support this interpretation with findings indicating heartrate acceleration in both separation and reunion episodes among avoidant babies, as well as among secure and anxious infants (Ainsworth et al., 1978). They also reported an absence of the intermittent decelerations of heartrate that normally occur in non-anxious exploratory activity (Ainsworth et al, 1978).

Adult Romantic Attachment

Recent studies suggest that the patterns of attachment that characterize adult romantic relationships are similar to those observed in childhood, and the behavioral, cognitive, and emotional consequences of these styles are similar from infancy to adulthood (Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987; Kirkpatrick & Davis, in press; Simpson, 1990). Results of these studies indicate that attachment style is related in theoretically expected ways to attachment history and beliefs about

relationships, providing support for the usefulness of an attachment theory perspective for understanding adult romantic love (Collins & Read, 1990; Feeney & Noller, 1990).

Securely attached individuals possess mental models of themselves as being valued and worthy of support, care, and affection from others. They perceive attachment figures as being generally well-intentioned, trustworthy, good-hearted, responsive, and accessible (Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987). Their romantic relationships tend to be characterized by frequent positive emotion and high levels of trust, interdependence, commitment, and satisfaction (Collins & Read, 1990; Hazan & Shaver, 1987; Simpson, 1990). People with secure attachment styles are generally comfortable with closeness and are not worried about being abandoned or unloved. They tend to be involved in relationships that corroborate their mental models stemming from positive, warm, and responsive relationship histories (Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987).

Anxious/Ambivalent individuals possess mental models of themselves as being misunderstood, underappreciated, and lacking in confidence. They perceive significant others as being inconsistent, unreliable, and unwilling to commit to relationships (Collins & Read, 1990; Hazan & Shaver, 1987). Their romantic relationships tend to be characterized by

obsession, dependence, frequent negative affect, and a strong desire for commitment (Hazan & Shaver, 1987; Simpson, 1990). Anxiously attached individuals desire extreme closeness with their romantic partners and are very worried about being abandoned or unloved (Collins & Read, 1990). Because of their extreme dependence, jealousy, and obsession, their love relationships are the least enduring of the three attachment styles (Feeney & Noller, 1990). They tend to be involved in relationships that corroborate their mental models stemming from inconsistent, unpredictable, and relatively unsupportive relationship histories (Collins & Read, 1990; Hazan & Shaver, 1987).

Avoidantly attached individuals describe themselves as being emotionally distant and mistrusting. They perceive significant others as being unreliable, unavailable, and overly eager to commit to long-term relationships (Collins & Read, 1990; Hazan & Shaver, 1987). Avoidant individuals are uncomfortable with closeness and intimacy and are not worried about being abandoned (Collins & Read, 1990). They tend to be involved in relationships that corroborate their mental models stemming from cold and rejecting relationships with caregivers. Similar to anxious/ambivalent individuals, their relationships tend to involve more frequent negative emotions and less frequent positive emotions (Simpson, 1990). However, the negative nature of their relationship

stems from fear of intimacy rather than obsessive preoccupation with partners that is characteristic of anxiously attached individuals (Hazan & Shaver, 1987).

Although individuals tend to be in relationships with partners who share similar beliefs and feelings about becoming close and intimate with others and about the dependability of others, they do not simply choose partners who are similar on every attachment dimension (Collins & Read, 1990). Individuals tend to choose partners and to be in relationships that confirm their internal working models of self and others, suggesting that people may choose partners for whom their attachment system is already prepared to respond (Collins & Read, 1990). Research findings indicate that long-term anxious-anxious and avoidant-avoidant relationship pairs are scarce (Kirkpatrick & Davis, in press). Anxious men and women choose partners who are uncomfortable with getting close instead of choosing partners who share their fears of being abandoned and unloved (Collins & Read, 1990; Kirkpatrick & Davis, in press; Simpson, 1990). There is also evidence to suggest a relationship between the attachment style dimensions of an individual's partner and the perceived caregiving style of the individual's opposite-sex parent, suggesting that opposite-sex parents may shape beliefs and expectations

regarding heterosexual love relationships (Collins & Read, 1990).

Most recently, Simpson et al. (1992) conducted an experimental study testing how spontaneous interaction between couples differs as a function of each member's attachment style when the female member of the dyad is confronted with an anxiety-provoking situation. Their study was the first to experimentally examine the role that anxiety assumes in eliciting proximity-seeking behaviors in adult romantic relationships. Simpson et al. measured attachment on two continuous dimensions which included an avoidant versus secure attachment index and an anxious versus non-anxious attachment index. Their results indicated that people who were more securely attached behaved differently than people who were more avoidant in terms of physical contact, supportive comments, and efforts to seek and give emotional support. Specifically, more secure women sought more support as anxiety level increased, and more avoidant women sought less support as anxiety level increased. Secure men offered more support as their partners displayed greater anxiety, and avoidant men were less inclined to offer support. However, no significant effects were found for the anxious attachment dimension. Simpson et al. (1992) hypothesized that the null results for anxious people may reflect behavioral ambivalence in which

contradictory approach and withdraw behaviors counterbalance one another.

Comparing their findings with those of Ainsworth et al. (1978), Simpson et al. account for their results using a conflict model of avoidance which suggests that the behavior of avoidant people is a product of conflicting motives--a desire for, yet a fear of proximity. The desire for proximity is aroused more strongly than the fear of proximity when environmental conditions are less threatening and emotional distress is at lower levels. Therefore, these researchers hypothesized that at lower levels of anxiety, avoidant people may overcompensate with proximity. Additional findings indicated that avoidant women appear to be more responsive to support than secure women. Because avoidant women receive less frequent support, when support is offered it may have a stronger and more positive impact on them than on secure women (Simpson et al., 1992).

Simpson et al.'s research has extended the adult romantic attachment literature by providing a much-needed controlled laboratory experiment investigating romantic caregiving and careseeking behaviors. However, the question of whether these observed comfort-seeking and comfort-providing behaviors actually have any impact on felt anxiety remains an open question. More controlled laboratory

research is needed in order to experimentally examine the anxiety-reducing effects of secure romantic attachment.

Interpersonal Support and Autonomic Reactivity

Several recent studies have been conducted examining the effects of the presence of significant others on physiological responses to stress in women (Allen, Blascovich, Tomaka, & Kelsey, 1991; Kamarck, Manuck, & Jennings, 1990). These researchers focused on the presence of others as a moderating variable and were interested in the degree to which significant others can act as buffers of autonomic reactivity during stressful situations.

Kamarck et al. (1990) conducted a study examining the effects of nonevaluative social support on cardiovascular responses to stress. Female subjects participated in two laboratory tasks (a mental arithmetic and a concept formation task) either in the presence of a same-sex friend or alone. Because anticipation of performance evaluation is associated with increased arousal, the evaluation potential of the partners was minimized by the design of the experiment so that the subjects would not perceive their friends as evaluative. Kamarck et al. instructed the friends to be supportive by "silently cheering the subject on" and by touching the subject on the wrist throughout the period they were together in the laboratory. In order to minimize possible evaluation effects and to control the

interaction between friends, all partners were given their own tasks to complete, asked to wear a headset playing white noise while in the laboratory with their friends, and instructed not to distract the subjects. Measures of cardiovascular activity included assessments of heartrate and blood pressure. Their results indicated clear reductions in the cardiovascular reactivity to psychological challenge in the presence of a supportive, nonevaluative friend relative to the alone condition. However, self-reported emotional arousal was similar across conditions in the study, suggesting that the friend's presence did not simply have a general calming effect, but may have had a more specific impact on autonomic activity.

In a similar laboratory investigation, Allen et al. (1991) extended the design of Kamarck et al. (1990) by investigating the effects of a stressful situation in which subjects could perceive their friends as evaluative. They were interested in the degree to which potentially evaluative and nonevaluative companions can act as buffers of autonomic reactivity during stressful situations. They hypothesized that the cognitive anticipation of being evaluated generally leads to evaluation apprehension and thus to increased arousal in the presence of a significant other. However, the mere presence of a nonevaluative companion provides the kind of companionship that is

necessary for social support to be functional in acutely stressful performance situations. Autonomic responses including pulse rate, skin conductance, and blood pressure were measured while the subjects performed a standard experimental stress task (mental arithmetic) in the presence of a female friend, a pet dog, or alone with only the experimenter present. Presumably because pet dogs are perceived as nonevaluative compared to human friends, subjects with their friends present during the stressful challenge exhibited higher physiological reactivity and poorer task performance than subjects in the pet and control conditions. Subjects performing in the presence of their nonevaluative pets demonstrated less physiological reactivity during the stressful tasks than subjects in other conditions (Allen et al., 1991).

Kamarck et al. (1990) and Allen et al. (1991), in their studies of socially-mediated responsivity to stress, have introduced an experimental paradigm that is ideal for studying the anxiety-reducing function of secure attachment in adult romantic relationships. The paradigm is applicable for studying adult romantic attachment in that it provides a method for creating an acute stress situation with which to examine the moderating effects of attachment style and partner presence on physiological reactivity.

Present Study

Until Simpson et al.'s (1992) laboratory experiment, only questionnaire and self-report studies had been conducted relating attachment theory to adult romantic relationships. However, additional studies are crucial in order to experimentally demonstrate the anxiety-reducing function of attachment in adult romantic relationships. The present study extended that of Simpson et al. (1992) by applying a methodology similar to that employed by Allen et al. (1991) and Kamarck et al. (1990) to the study of adult romantic attachment. The present study experimentally manipulated the presence versus absence of romantic partner in an anxiety-provoking situation in order to examine how attachment security moderates the ability of individuals to derive comfort from the presence of their romantic partners (attachment figures) when the attachment system is activated. The way each subject responded to her partner's presence provided valuable information regarding the security regulating function of attachment in adult romantic relationships.

Because secure individuals are confident that their attachment figures will be accessible, responsive, and emotionally available when needed, it was hypothesized that more secure subjects would experience less anxiety in the presence of their romantic partners than when alone.

Because avoidant individuals desire proximity in distressing situations, yet simultaneously fear it, and because they have little confidence that they will be responded to helpfully by attachment figures, it was hypothesized that more avoidant subjects would experience either the same amount or greater levels of anxiety in the presence of their romantic partners than when alone. Expectations regarding the more anxious subjects were unclear; however, because these subjects are generally anxious in relation to their attachment figures, it was hypothesized that contradictory approach-withdraw behaviors would increase anxiety in the presence of their romantic partners.

Method

Participants

Thirty-five women enrolled in introductory psychology courses at the College of William and Mary and their romantic (male) partners participated in this investigation. The subjects were selected for participation based upon their responses on a preliminary (mass testing) questionnaire. Subjects were required to have been dating their romantic partners for at least three months prior to participation to ensure they were involved in established relationships. The mean age of the subjects was 19.3 years, and the mean dating length for the couples was 15.6 months. Four subjects indicated that they were engaged, and the

others indicated that they were involved in an exclusive dating relationship with their romantic partners. All subjects were caucasian with the exception of one Asian student.

The preliminary (mass testing) questionnaire also included the Hazan and Shaver (1987) categorical measure of attachment, and subjects were asked to indicate the attachment category (secure, avoidant, or anxious) that best describes their relationships with others. The original intent of the study was to use the Hazan and Shaver attachment types to preselect a number of subjects from each attachment category. However, because of the inadequate amount of insecure types available, all respondents who indicated that they had been involved in a serious dating relationship for at least three months were eligible to participate.

Procedure

The following procedure, adapted from the studies of Allen et al. (1991) and Kamarck et al. (1990), was employed in the laboratory phase of the study. The female member of each dyad participated in a laboratory experiment in which her autonomic responses were monitored during a mental arithmetic task. The experiment was performed under two partner-proximity conditions for each participant. The presence versus absence of the romantic partner was

manipulated as a within-subjects variable so that each subject performed the mental arithmetic task under both conditions. Order of partner-presence/absence was counterbalanced. Within each partner-proximity condition, rest (baseline 1) period, stress (task performance) period, and rest (baseline 2) period measures were obtained for each subject.

Increasingly difficult values for subtraction were used for the mental arithmetic tasks in each condition in order to mitigate potential habituation effects. The subject was instructed to count backward by 13s for the first rapid serial subtraction task and to count backward by 17s for the second. Allen et al. (1991) experienced no habituation effects in their experiment from task to task when employing a similar procedure; therefore, it was assumed that using increasingly difficult values for subtraction would be effective in mitigating any such effects.

When the participant arrived for the study with her partner, informed consent was obtained. Then the partner was escorted from the laboratory for a ten minute period during which the subject was being prepared for the upcoming experiment. The partner was escorted back into the laboratory after the ten minute preparation period if the partner-present condition was first, or he stayed out of the room for the first part of the experiment if the partner-

absent condition was first. The subject was instructed to sit quietly and rest for ten minutes while the physiological equipment was being calibrated and adjusted. Various sensors and electrodes for recording physiological measures were attached to the participant, and general instructions for performing the upcoming mental arithmetic tasks were given. The subject was informed that the mental arithmetic tasks would require her to count backward rapidly and out loud for two minutes and that she would be evaluated on both the speed and accuracy of her responses. After the initial ten minute rest period, the subject was informed that all further instructions would be given via a tape recorder.

Psychophysiological Measures. An Autogenic Systems Biolab was used to measure and record physiological reactivity. Physiological assessments included measures of heartrate, skin conductance, and systolic and diastolic blood pressure. The dependent measures for physiological reactivity were computed for the first and last minutes of each baseline (rest) period and for the first and second minutes of each task performance (stress) period. Heartrate and skin conductance were continuously measured throughout each one-minute trial, and the mean recording for each trial was used in the data analyses. Skin conductance response was a measure of the number of fluctuations greater than .05 micromhos for each one-minute trial. Systolic and diastolic

blood pressure measures were taken once during each one-minute trial.

Partner-Absent Condition. The subject was instructed to sit quietly and rest for five minutes during which baseline physiological data was recorded. This was followed by an instruction period during which the subject was asked to count backward rapidly and out loud from a 4-digit number for two minutes upon a start signal. Following the mental arithmetic task, the subject was instructed to sit quietly and rest again for five minutes while additional baseline measures were taken.

Partner-Present Condition. In the partner-present condition, the romantic partner was present while the subject participated in the laboratory task. The basic procedures, instructions, and recordings were the same as those used in the partner-absent condition.

This condition included controls, similar to those employed by Kamarck et al. (1990), to ensure that each partner engaged in standard, nonevaluative behaviors throughout the procedure. It was important that all romantic partners engaged in similar behaviors and that they were perceived as nonevaluative by the subjects so that anxiety level in the participants could be interpreted in terms of attachment effects rather than in terms of evaluation apprehension (feared evaluation of task

performance). Therefore, the perceived evaluation potential of the romantic partners was minimized by design.

The romantic partner was administered standard "support" instructions. Both participants were informed that the role of the partner was to sit next to the subject and act as a "support partner" to her--to "silently cheer her on" without distracting her from her task. In order to control for the interaction between the partners and to minimize possible evaluation effects, the romantic partner was instructed to work on some task (e.g. homework) during the laboratory session. In addition, he was asked to wear a headset playing white noise while he was with the subject in the laboratory. The partner was also instructed not to distract the subject during the laboratory session.

After the subject participated in both conditions of the experiment, sensors and electrodes were removed. Then, both the subject and her partner filled out post-experimental questionnaires.

Attachment Measures Both members of each couple completed questionnaire measures inquiring about their attachment style to romantic partners in general. Attachment measures included Hazan and Shaver's (1987) categorical measure and Simpson's (1992) continuous attachment index. The original intent of this study was to obtain subjects from each of Hazan and Shaver's three

attachment categories, and to use this attachment measure for the primary data analysis. However, just as had been the case with subject selection, there were not enough subjects who indicated that their attachment styles were insecure (avoidant or anxious). Of the present sample, 27 subjects indicated that their attachment style was secure, 4 subjects indicated that their style was avoidant, and 4 subjects indicated that their style was anxious. Because of the small number of avoidant and anxious subjects that were available, the grouping variable could not be used, and data were analyzed using the median split on Simpson's secure/avoidant and non-anxious/anxious attachment scales instead. Simpson (1992) set a precedent for using a continuous attachment index to form secure/avoidant and non-anxious/anxious attachment dimensions. For simplicity, attachment groups were formed in the present study by using the median split on each attachment dimension.

The subject also completed a health survey to ensure that she did not have any known medical problems and was not taking medications that may have affected physiological assessments or performance. Based on previous studies (Allen et al., 1991), no problems were anticipated, and no such problems were reported in this study. However, the data for subjects who reported any such problems would have been excluded from further analysis. After completing the

questionnaires, both participants were debriefed as to the purpose of the study.

Results

Subjects were first divided into secure/avoidant groups and anxious/non-anxious groups based upon whether they scored high or low on Simpson's continuous attachment dimensions. The two dimensions (anxious and avoidant) were virtually uncorrelated ($r = .085$), suggesting that they are independent dimensions. The phi coefficient between the two dichotomous variables (secure/avoidant and non-anxious/anxious) was nonsignificant ($r = .118$), indicating that the categorical measures are just as independent as the original continuous measures (the no correlation holds for the categories as well as for the original scales). Scores for subjects on Simpson's secure/avoidant attachment index ranged from 11 to 46, with a median of 20. The possible range for this dimension was 8 to 56, with a median of 28. Therefore, on average, all subjects scored close to the secure end of the attachment scale, indicating that this is a relatively secure sample of subjects. Scores for subjects on Simpson's non-anxious/anxious attachment index ranged from 6 to 27, with a median of 13. The possible range for this dimension was 5 to 35, with a median of 20. Again, subjects, on average, scored closer to the non-anxious end of the attachment scale, indicating that this is a

relatively non-anxious sample of subjects. In describing and discussing the results of the study, the term avoidant will be used to describe those subjects who scored above the median on the secure/avoidant attachment index, and the term secure will be used to describe those subjects who scored below the median on the secure/avoidant attachment index. In addition, the term anxious will be used to describe those subjects who scored above the median on the non-anxious/anxious attachment index, and the term non-anxious will be used to describe those subjects who scored below the median on the non-anxious/anxious attachment index. Following Simpson (1992), data analysis focused primarily on the secure/avoidant dimension.

The primary statistical analysis was a four-way doubly multivariate analysis of variance (MANOVA) with two within-subjects variables, two between-subjects variables, and four dependent variables. The two between subjects variables included attachment group with two levels (secure versus avoidant) and order with two levels (partner-present condition first versus partner-absent condition first). The two within subjects variables included partner-proximity condition (partner-present versus partner-absent) and task period (baseline 1, task performance, and baseline 2). The four dependent variables included heartrate, systolic blood pressure, diastolic blood pressure, and skin conductance

response frequency. Separate ANOVAs (using multivariate analyses for the repeated factors) were also conducted for each of the physiological measures (heartrate, systolic blood pressure, diastolic blood pressure, and skin conductance) separately. The analyses were conducted using SPSS/PC+ software.

Results of the doubly multivariate and the separate multivariate analyses are shown in Tables 1 through 9.

Insert Tables 1-9 about here

The doubly multivariate analysis of variance revealed many nonsignificant effects. In addition, some significant effects revealed by this analysis were not of substantive interest and are viewed as manipulation checks or methodological artifacts. For example, results of the doubly multivariate analysis indicated a significant main effect of task with higher physiological reaction occurring during task periods and lower physiological reaction occurring during baseline periods for all dependent variables. Significant main effects for task were also observed in the separate MANOVAs for each physiological measure, and all of these effects are viewed as manipulation checks.

In addition, results of the separate MANOVAs revealed a main effect of order for both heartrate and systolic blood pressure. For these measures, subjects exhibited higher physiological readings, on average, during all three task periods when the partner-absent condition came first than when the partner-present condition came first. This finding is of substantive interest and supports attachment theory in that, on average, subjects seemed to be less anxious throughout the experiment when their romantic partners were present first. It seems that whichever condition comes first sets the stage for whatever follows in the rest of the experiment.

The main effect of order, however, was moderated by the significance of interactions involving order. The doubly multivariate analysis indicated a significant interaction between order and partner-proximity condition. This interaction was significant for heartrate and skin conductance in the separate MANOVAs, and indicated that subjects tended to exhibit higher physiological readings for whichever condition came first. This interaction indicates the presence of a habituation effect. This effect was expected, and efforts were made to prevent its occurrence; however, it seems that the habituation effect was not quite eliminated by increasing the difficulty of the task across conditions.

The doubly multivariate analysis also indicated the presence of a significant interaction among order, partner-proximity, and task period. The separate MANOVA analyses indicated that this interaction was significant for each of the four physiological measures. This interaction is the exception to the usual interaction observed between order and partner-proximity, and involves a subtle effect of task period when the partner-absent condition comes first. Overall, subjects seem to exhibit higher physiological reactivity for whichever condition comes first. However, when romantic partners enter the laboratory for the second half of the experiment (when partner-absent condition comes first), the subjects show increased physiological reactivity during the first baseline period when the partner first enters. It seems that the subjects are reacting to the initial presence of their partners after the period of absence.

The doubly multivariate analysis also revealed a significant interaction between order and task period. However, separate analyses indicated a significant interaction for only systolic blood pressure, with greater differences in systolic blood pressure occurring between orders (partner-present first versus partner-absent first) during the task performance period. Differences between the task periods were slightly exaggerated when the partner-

absent condition came first. However, this finding seems minor and is not of substantive interest.

Results of the separate MANOVAs revealed a significant main effect for partner-proximity for both heartrate and systolic blood pressure. On average, subjects exhibited slightly higher physiological readings when their partners were present than when they were absent. Although substantive, this finding is the opposite of what was expected and is not consistent with attachment theory. The doubly multivariate analysis also revealed a significant interaction between partner-proximity and task period. The separate analyses revealed that this interaction was significant for both heartrate and skin conductance. On average, physiological reactivity was higher when partners were present than when they were absent during both the first baseline period and the task period. However, physiological reactivity was approximately the same during the second baseline period for both partner-present and partner-absent conditions. This finding is also contrary to prediction and does not support attachment theory. However, the main effect of partner-proximity and the interaction between partner-proximity and task are moderated by the significant interaction that was observed among group, partner-proximity, and task condition. This interaction

takes precedence over the previously mentioned effects involving partner-proximity.

Of primary interest was the significant 3-way interaction for heartrate among group (secure versus avoidant), partner-proximity (present versus absent), and task period (baseline 1, task, baseline 2). This interaction was significant neither in the doubly multivariate analysis, nor in the separate analyses for systolic blood pressure, diastolic blood pressure, and skin conductance. As shown in Figure 1, secure subjects had similar heartrates across the three task periods in both partner-present and partner-absent conditions. However, heartrates of avoidant subjects were higher during the first baseline and task performance periods when their partners were present than when they were absent. During the final baseline period, however, the heartrates of avoidant subjects were similar for both partner-present and partner-absent conditions (see Figure 1).

Insert Figure 1 about here

It seems that the anticipation of a stressor and the presence of the actual stressor have different effects (on heartrate) for avoidant subjects depending upon whether their romantic partners are present or absent. However,

during the second baseline period, after the tasks had been completed, there was no difference in heartrate for partner-present and partner-absent conditions.

Anxious Versus Non-Anxious Groups

The above analyses were repeated using the non-anxious/anxious attachment dimension, and many similar patterns of results were found. Results of the doubly multivariate and the separate multivariate analyses are shown in Tables 10 through 18.

Insert Tables 10-18 about here

These analyses also revealed a significant main effect of task; a significant interaction between task and order; a significant interaction between order and partner-proximity; and a significant interaction among order, partner, and task. The patterns of these results are similar to those described above.

It is also important to note that, of the 16 subjects who are classified as non-anxious on Simpson's non-anxious/anxious attachment index, nine of these subjects were classified as secure and seven were classified as avoidant on the secure/avoidant scale in the preceding analysis. In addition, of the 18 subjects who where classified as anxious on the non-anxious/anxious attachment

index, eight of these subjects were classified as secure and 10 were classified as avoidant on the secure/avoidant scale in the preceding analysis.

In addition, some new findings emerged from this analysis. First, there was a significant interaction between group (non-anxious versus anxious) and order (partner-present condition first versus partner-absent condition first) in the doubly multivariate analysis. The separate MANOVAs revealed that this interaction occurred for both heartrate and diastolic blood pressure. On average, anxious subjects had much higher physiological readings than non-anxious subjects when partner-absent was the first condition, and non-anxious subjects had higher physiological readings than anxious subjects when partner-present was the first condition. However, there were no significant main effects of group or order in either the doubly multivariate analysis or in the separate analyses. This finding again seems to indicate that whichever condition comes first sets the stage for whatever happens during the rest of the experiment for each group.

Most interesting was the significant three-way interaction among group, partner-proximity, and task period which was again observed for heartrate (see Figure 2).

Insert Figure 2 about here

This interaction approached significance in the doubly multivariate analysis of variance and was nonsignificant for all individual physiological measures except for heartrate. A pattern emerged similar to that observed using the secure/avoidant dimension. There did not seem to be a significant difference between partner-absent and partner-present conditions during task performance and baseline 2 periods for non-anxious subjects. However, during baseline 1, non-anxious subjects had higher heartrates when their partners were present than when their partners were absent. For the anxious group, subjects had higher heartrates during baseline 1 and task periods when their romantic partners were present. However, during the final baseline period, there was no difference in mean heartrate between partner-present and partner-absent conditions.

Between-Groups Design

Additional 3-way between-groups analyses (group x partner-proximity x task period) were conducted for both the secure/avoidant and the non-anxious/anxious attachment dimensions. The data from whichever condition each subject participated in first were used in these analyses. Because subjects had been randomly assigned to an order condition

(to have either the partner-present condition first or to have the partner-absent condition first), subjects therefore had been randomly assigned into partner-present and partner-absent conditions within each order condition. Removing the within-subjects order variable from the analyses alleviated the order effects which made the other findings difficult to interpret. For this reason, the between-groups analysis is a more straightforward test and is the ideal way to analyze the data. Because of the small sample size in this study, the repeated measures design (using both partner-present and partner-absent conditions for each subject) had been used for the primary data analyses for more statistical power.

Despite the fact that there was little power for a between-groups design, there was a significant interaction between group and partner-proximity for the non-anxious/anxious attachment groups. This interaction was significant in the doubly multivariate analysis, $F(4, 25) = 3.60$, $p < .05$, and in the separate MANOVAs both for heartrate, $F(1, 30) = 5.24$, $p < .05$, and diastolic blood pressure, $F(1,30) = 4.21$, $p < .05$. Results for systolic blood pressure and skin conductance also tended in the same direction; however, these effects were not statistically significant. Results indicated that there are large differences in physiological reactivity between anxious and non-anxious groups when their partners are absent. Results

indicated that anxious subjects exhibit much higher physiological reactivity when their romantic partners are absent than when they are present, whereas non-anxious subjects tend to exhibit slightly higher physiological reactivity when their partners are present than when they are absent. Non-anxious subjects seem to be moderately anxious in both partner-proximity conditions; however, anxious subjects experience more intense anxiety when their partners are absent (see Figure 3).

Insert Figure 3 about here

All results for the secure/avoidant attachment dimension were nonsignificant ($p > .05$).

Task Performance

Additional MANOVAs were conducted for each attachment dimension examining the task performance of the subjects. The frequency of inaccurate responses was obtained for each subject and used in the data analysis. For the secure and avoidant groups, results revealed a significant interaction between group and order, $F(1,29) = 7.13$, $p < .05$. Results indicate that secure subjects make less errors when the partner-present condition comes first, whereas avoidant subjects make less errors when the partner-absent condition comes first. This finding is also consistent with

attachment theory and with the previous findings suggesting that whichever condition comes first sets the stage for how subjects will respond (or perform) throughout the rest of the experiment. There were no significant effects involving errors for the non-anxious and anxious groups ($p > .05$).

Discussion

The present study provided an opportunity to examine individual differences in the ability of individuals to derive comfort from their romantic partners. The majority of support for attachment theory came from the findings for heartrate using both the secure/avoidant and the non-anxious/anxious attachment dimensions. As previously mentioned, scores for the subjects on the attachment scales indicated that this sample is predominantly a secure group of subjects. On average, subjects scored closer to the secure and non-anxious ends of the attachment scales than to the avoidant and anxious ends of the scales. The group of subjects that are termed avoidant in these analyses are not avoidant in the pure categorical sense, and the group of subjects that are termed anxious in these analyses are also not anxious in the pure categorical sense. However, the subjects in the avoidant and anxious attachment groupings are more anxious and avoidant relative to other subjects who are more secure and non-anxious. Therefore, in the present study, the terms secure, anxious, avoidant, and non-anxious

are used to indicate the attachment groupings of the subjects relative to one another. Secure subjects were compared with slightly avoidant subjects, and non-anxious subjects were compared with slightly anxious subjects. Despite the fact that truly anxious and truly avoidant subjects were not compared with secure subjects, interesting and theoretically-meaningful results (differences between the attachment groups) were still obtained.

According to attachment theory (Ainsworth et al., 1978; Bowlby, 1973), secure attachment originates from a history of experiences in which attempts to establish physical and psychological contact with attachment figures during times of distress have been routinely successful. Because secure individuals are confident that their attachment figures will be accessible, responsive, and helpful in adversity, it was expected that secure subjects would exhibit lower levels of physiological responses to stress in the presence than in the absence of their partners. However, the present findings indicated that, for heartrate, partner-presence did not make a difference for secure subjects across the three task conditions. These subjects exhibited heartrates that were approximately the same during both partner-present and partner-absent conditions. Although unexpected, this finding is consistent with attachment theory in that secure individuals are confident of the potential accessibility of

their romantic partners when needed. This confidence in the potential accessibility and responsiveness of attachment figures probably leads to more independence on the part of secure individuals, and a greater willingness for them to take on challenging tasks, knowing that their "secure base" will be responsive and available if needed (similar to Ainsworth's notion of non-anxious exploratory play observed in secure infants).

Avoidant attachment stems from repeated experiences in which efforts to establish contact with attachment figures have been rejected. Therefore, avoidant individuals generally exhibit avoidance, apparent disinterest, and detachment in the presence of attachment figures when distressed, and they generally have no confidence that they will be responded to helpfully. Because avoidant individuals want and need proximity yet simultaneously fear it, it was predicted that activation of the attachment system would be distressing, and partner presence would exacerbate anxiety. This prediction was supported by the findings of Simpson et al. (1992) indicating opposite support-seeking effects for secure and avoidant subjects under conditions of emotional distress. This prediction was also supported by the present findings for heartrate. Avoidant subjects exhibited higher heartrates when their partners were present than when they were absent during both

the first baseline period and the task performance period. However, there was no significant difference in their heartrates between partner-present and partner-absent conditions for the final baseline period. Therefore, avoidant subjects seem to be more anxious when their partners are present during the times when they are anticipating and actually experiencing a stressful situation. However, these differences disappear during the final baseline period when the stressful tasks have been completed and subjects are no longer anticipating or experiencing stress.

Anxious attachment stems from experiences in which attempts to make contact with attachment figures have been associated with inconsistent or unpredictable responses. Because their attachment figures are generally inconsistent and unpredictable and because they do not have confident expectations of their accessibility and responsiveness, it was not clear whether anxious/ambivalent subjects would experience more or less anxiety in the presence of their romantic partners than when alone. It was predicted that anxious individuals would exhibit greater levels of anxiety in the partner-present condition due to their repeatedly confirmed expectations of unpredictable and inconsistent emotional availability of significant others. Simpson et al. (1992) found no significant effects for anxious

subjects; results for anxious subjects indicated behavioral ambivalence in which contradictory approach and withdraw behaviors counterbalanced one another. In the present study, however, a similar pattern of results occurred for the anxious and avoidant subjects on the heartrate physiological measure. As found with avoidant subjects, anxious individuals were more anxious during the first baseline and task performance periods when their partners were present than they were when their partners were absent. Because these subjects are generally anxious in relation to their attachment figures, contradictory approach-withdrawal behaviors may have increased anxiety in the presence of their romantic partners. These findings are of potential importance to attachment theory in that similar patterns of results were found for both avoidant and anxious individuals--two different types of insecure subjects as indicated by the low correlation between them.

The interaction between group (non-anxious versus anxious) and order yielded significant results that seem to contradict the above findings for anxious individuals. On average, anxious subjects exhibited much higher physiological reactivity than non-anxious subjects when partner-absent was the first condition. It seems that anxious subjects experience high levels of stress when they are separated from their romantic partners. This finding is

also supported by the significant interaction between group and partner-proximity revealed in the between-groups analyses for the anxious and non-anxious groups. Again, results for anxious subjects indicate that these individuals are very anxious (they exhibit a great increase in physiological reactivity) when they are separated from their romantic partners. However, the significant interaction among group, partner, and task indicates that anxious subjects were also stressed by the presence of their partners. The findings for anxious individuals are paradoxical in that separation causes anxiety; however, upon reunion (when the partner is present), the partner is unable to provide anxiety-reduction. These findings may reflect the ambivalent nature of anxious individuals. For example, this same type of effect was observed in Ainsworth's anxious children, who are characterized by their tendency to respond to separation with intense distress and by their tendency to blend attachment behaviors with expressions of protest and resistance.

It is important to note that some of these findings involving differences between attachment groups were significant only for heartrate. A potential explanation for this finding may stem from the fact that heartrate is controlled primarily by the parasympathetic division of the autonomic nervous system while blood pressure (or

contractile force) is controlled primarily by the sympathetic division and electrodermal activity is controlled exclusively by the sympathetic division of the autonomic nervous system (Blascovich & Kelsey, 1990). The two divisions differ functionally in that the sympathetic nervous system (SNS) serves to mobilize and expend bodily resources whereas the parasympathetic nervous system (PNS) serves to conserve and restore bodily resources. Electrodermal responses involve sympathetically mediated secretion of sweat at the skin surface; and neural control of the heart involves a complex interaction between the sympathetic and parasympathetic divisions of the autonomic nervous system. However, heartrate is controlled predominantly by the parasympathetic division while the sympathetic division plays only a secondary role; and blood pressure is controlled predominantly by the sympathetic division while the parasympathetic division plays only a secondary role. This suggests that different aspects of the autonomic nervous system may be more functionally active in different contexts depending upon the type of stressful situation encountered, therefore causing some physiological effects to be more pronounced than others.

There are various psychophysiological theories of arousal providing explanations for the relationships observed among electrodermal, cardiac, and vascular measures

of arousal (Blascovich & Kelsey, 1990). Lacey (1967) has demonstrated that, although covariation is often observed among autonomic measures, "directional fractionation" of autonomic responses (inconsistent variation among autonomic measures) may occur during certain situations. It is suggested that this may appear within the cardiovascular system, such that increases in sympathetically mediated autonomic responses may be accompanied by either increases or decreases in heartrate, depending upon the situation (Blascovich & Kelsey, 1990). This has led researchers to suggest that electrodermal, cardiac, and vascular measures of arousal are not interchangeable. Graham and Clifton (1966) further suggested that the orienting response to novel stimuli (sensory intake) is associated with an increase in electrodermal activity but a decrease in heartrate, whereas the defensive response to threatening stimuli (sensory rejection) is associated with increases in both electrodermal activity and heartrate. Therefore, it is suggested that directional fractionation of heartrate and electrodermal activity appears during orienting behavior (sensory intake), whereas covariation between heartrate and electrodermal activity appears during defensive behavior (sensory rejection). Since the PNS predominates in the control of heartrate, it is further suggested that instances of directional fractionation of heartrate responses may be

due to the masking of SNS influences on the heart by more powerful parasympathetic nervous system influences (Blascovich & Kelsey, 1990).

More recently, however, Brener (1987) suggested that SNS influences on the heart tend to emerge under novel or unpredictable environmental conditions (Blascovich & Kelsey, 1990). Therefore, variations in SNS and PNS influences on the heart may be related to dimensions of active-passive coping and novelty-familiarity. The mental arithmetic task used in the present study qualifies as both an active coping task and a sensory rejection task. Although these theories do not provide specific predictions, they may provide insight into why the autonomic measures used in the present study did not consistently covary together and why the heartrate measure seemed to be the strongest of the autonomic measures (Blascovich & Kelsey, 1990).

Other unexpected findings that emerged in the present study, but might be seen as consistent with attachment theory, were the significant interactions and main effects involving order. On average, subjects exhibited higher physiological readings during all three task periods when the partner-absent condition came first than when the partner-present condition came first. Attachment theory states that, in general, when stressed, anxious, ill, or tired, the attachment system will be most strongly

activated, and individuals will seek proximity to attachment figures. This finding supports attachment theory in that, overall, all subjects exhibited higher physiological readings (were more anxious) across all task periods when their partners were absent in the first part of the experiment. However, when partners were present in the first part of the experiment, subjects exhibited lower physiological readings (were less anxious), on average, across all three task conditions. Therefore, it is suggested that whichever condition comes first in the experiment sets the stage for how the subjects will react physiologically during the rest of the experiment.

Although some findings seem to be relatively minor and insubstantial, overall, the results of this study seem to support attachment theory, and the findings seem to have both statistical and real-life (generalizable) meaning. Although the present study was a contrived laboratory experiment, the results for the different attachment groups provide some indication of how these subjects may respond (physiologically) to the presence and absence of their romantic partners in real-life, acutely stressful situations. The present findings offer valuable suggestions as to how attachment security moderates interactions with romantic partners in stressful situations. These findings suggest that anxious individuals may become very anxious and

clingy with their romantic partners during periods of distress. These individuals would probably be very demanding of their partners' attention; and if their partners are unavailable, anxious individuals will probably experience more intense levels of anxiety. Present findings also suggest that avoidant individuals may become even more distressed when they are with their romantic partners during stressful situations. The presence of a romantic partner may exacerbate anxiety for avoidant individuals, and they may want to have as little to do with their romantic partners as possible during periods of distress. Present findings also suggest that, for secure individuals, considerable comfort may be derived merely from the knowledge that the romantic partner is emotionally available and responsive if needed. These findings raise interesting questions for future research about what kinds of support may be most effective in reducing anxiety for relatively secure, relatively avoidant, and relatively anxious individuals. Also, because attachment characteristics may exert a stronger influence within relationships facing chronic stress, future research addressing this issue may be of potential importance to the adult attachment literature.

The present study was an important next step in the attempt to establish the role that attachment plays in adult romantic relationships; however, several improvements could

be made in subsequent studies. First, it would be important to conduct a similar study where the roles of subject and "support partner" are reversed for females and males. According to attachment theory, the same predictions would be made if the roles were reversed; however, it would be important to empirically demonstrate this in a subsequent study. Although attachment theory would predict similar findings, the psychophysiological findings for women cannot necessarily be generalized to men, and the nonevaluative, "supportive" effects of men cannot necessarily be generalized to women. Also, it may be important in subsequent studies to take into account the attachment types of the romantic partners in assessing the mediating effects of their presence on the physiological reactivity of the subjects. It is also important to note that although adults and children appear to exhibit similar patterns of attachment when distressed, this investigation cannot address whether these patterns reflect those that were first formed in early childhood.

An additional limitation of the present study involves the small sample size. Because the sample size is small, statistical power to detect important differences may have been greatly reduced. Another limitation, related to the problem of sampling and sample size, was the lack of available subjects (anxious and avoidant) who met the

criteria for participation in the study. Had there been an adequate number of subjects fitting Hazan and Shaver's (1987) avoidant and anxious attachment categories, results (indicating differences between the three attachment groups) may have been much stronger. Results might have more closely approximated those predicted in the introduction, and may have provided stronger support for attachment theory. Although significant and meaningful results were found, despite the categorization of subjects into attachment groups (using a median split on Simpson's continuous attachment index), the present study may have been more powerful if the pure categorical types were used. This highlights the importance, in future research, of obtaining an adequate number of subjects that are categorized into each of the Hazan and Shaver categorical types.

An additional concern with the present study involves the order in which subjects filled out the attachment questionnaires and participated in the stressful laboratory experiment. Subjects' responses on the attachment questionnaires may have been influenced by the stressful laboratory experiment which they had just experienced both with and without their romantic partners. In subsequent studies, it may be important to have subjects complete the attachment questionnaires first so that their general

relationship responses will not be affected by the specific stressful situation that they had just experienced.

Finally, an additional concern with the present study involves the recording of physiological measurements. All physiological measures except for blood pressure were recorded continuously throughout each one-minute trial period. Because only one reading was obtained for both systolic and diastolic blood pressure during each trial, significant variations in blood pressure throughout each recording period may have been lost. Therefore, equipment that measures blood pressure continuously should be used in subsequent studies.

Despite these limitations, the present study is of potential importance to the adult attachment literature and may contribute to a greater understanding of the security regulating function of attachment in romantic relationships. Experimental research investigating anxiety in stressful situations provides an additional link in the extension of attachment theory to adult romantic attachment. The present study provided an additional link by demonstrating the effects of secure versus insecure attachment on anxiety in acutely distressing situations and by providing much-needed experimental research to establish the role that attachment plays in adult romantic relationships. This research advances previous work on adult attachment by providing some

evidence that attachment characteristics have some clear and theoretically meaningful effects on psychophysiological responses in adults during acutely stressful situations.

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Table 1

Mean Heartrates for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (8)	78.1	92.8	78.1	83.0
	Order 2 (8)	82.7	95.0	82.4	86.7
	Mean	80.4	93.9	80.3	84.9
SECURE					
	ABSENT				
	Order 1 (8)	76.0	85.8	74.4	78.7
	Order 2 (8)	82.6	100.6	83.7	89.0
	Mean	79.3	93.2	79.1	83.9
	PRESENT				
	Order 1 (9)	80.2	95.0	74.2	83.1
	Order 2 (6)	105.3	116.4	100.0	107.2
	Mean	92.8	105.7	87.1	95.2
AVOIDANT					
	ABSENT				
	Order 1 (9)	76.7	90.6	75.5	80.9
	Order 2 (6)	98.8	115.0	100.2	104.7
	Mean	87.7	102.8	87.9	92.8

Table 1 (Continued)

Mean Heartrates for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	85.1	98.9	83.6	89.2

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 2

Mean Systolic Blood Pressure for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

			BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT					
	Order 1	(8)	109.9	121.2	111.5	114.2
	Order 2	(8)	114.5	123.7	111.3	116.5
	Mean		112.2	122.5	111.4	115.4
SECURE						
	ABSENT					
	Order 1	(8)	109.3	115.7	109.0	111.3
	Order 2	(8)	111.9	126.3	114.2	117.5
	Mean		110.6	121.0	111.6	114.4
	PRESENT					
	Order 1	(9)	108.5	120.4	111.9	113.6
	Order 2	(6)	122.2	131.8	118.4	124.1
	Mean		115.4	126.1	115.2	118.9
AVOIDANT						
	ABSENT					
	Order 1	(7)	108.6	114.6	109.5	110.9
	Order 2	(9)	114.0	131.0	118.9	121.3
	Mean		111.3	122.8	114.2	116.1

Table 2 (Continued)

Mean Systolic Blood Pressure for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	112.4	123.1	113.1	116.2

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 3

Mean Diastolic Blood Pressure for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (8)	62.9	71.6	64.2	66.2
	Order 2 (8)	63.4	70.1	63.4	65.6
	Mean	63.2	70.8	63.8	65.9
SECURE					
	ABSENT				
	Order 1 (8)	64.0	68.4	63.0	65.1
	Order 2 (8)	63.7	72.2	66.1	67.3
	Mean	63.9	70.3	64.5	66.2
	PRESENT				
	Order 1 (9)	63.2	72.2	61.9	65.8
	Order 2 (6)	64.8	77.0	65.8	69.2
	Mean	64.0	74.6	63.8	67.5
AVOIDANT					
	ABSENT				
	Order 1 (9)	62.7	70.8	63.4	65.6
	Order 2 (6)	62.8	79.0	70.4	70.7
	Mean	62.8	74.9	66.9	68.2

Table 3 (Continued)

Mean Diastolic Blood Pressure for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	63.4	72.7	64.7	66.9

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 4

Mean Number of Skin Conductance Fluctuations for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (8)	4.6	12.8	5.6	7.7
	Order 2 (8)	3.9	9.9	3.4	5.7
	Mean	4.3	11.3	4.5	6.7
SECURE					
	ABSENT				
	Order 1 (8)	1.9	8.2	2.1	4.1
	Order 2 (8)	3.9	11.6	4.2	6.6
	Mean	2.9	9.9	3.2	5.4
	PRESENT				
	Order 1 (9)	3.9	8.9	3.6	5.5
	Order 2 (6)	2.9	4.3	1.7	3.0
	Mean	3.4	6.6	2.7	4.3
AVOIDANT					
	ABSENT				
	Order 1 (9)	1.9	6.7	1.6	3.4
	Order 2 (6)	3.4	7.6	4.3	5.1
	Mean	2.7	7.1	2.9	4.3

Table 4 (Continued)

Mean Number of Skin Conductance Fluctuations for Subjects on the Secure/Avoidant Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	3.3	8.7	3.3	5.2

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 5

Doubly Multivariate Analysis of Variance for the Secure/Avoidant Attachment Dimension

Source	df	Pillais Statistic	Approx. F	p
Group (G)	(4, 24)	.14476	1.01559	.419
Partner (P)	(4, 24)	.22555	1.74743	.173
Order (O)	(4, 24)	.23433	1.83517	.155
Task (T)	(8, 20)	.94359	41.81517	.000
T x G	(8, 20)	.46459	2.16935	.077
T x P	(8, 20)	.51574	2.66256	.036
T x O	(8, 20)	.56586	3.25856	.015
O x P	(4, 24)	.47688	5.46968	.003
O x G	(4, 24)	.06585	.42292	.791
G x P	(4, 24)	.11009	.74225	.573
G x O x P	(4, 24)	.18017	1.31862	.291
O x P x T	(8, 20)	.79703	9.81712	.000
G x O x T	(8, 20)	.20522	.64551	.731
G x P x T	(8, 20)	.34030	1.28958	.304
G x O x P x T	(8, 20)	.14842	.43572	.886

Table 6

Multivariate Analysis of Variance for Heartrate (Secure/Avoidant Attachment Dimension)

UNIVARIATE F-TESTS

Source	df	SS	MS	F	p
Group (G)	1	4117.06	4117.06	1.73	.199
Partner (P)	1	132.52	132.52	5.48	.026
Order (O)	1	11909.92	11909.92	5.00	.033
G x O	1	3766.16	3766.16	1.58	.219
G x P	1	30.14	30.14	1.25	.273
O x P	1	130.76	130.76	5.41	.027
G x O x P	1	148.02	148.02	6.12	.019

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 28)	.83553	71.12074	.000
T x O	(2, 28)	.02288	.32784	.723
T x G	(2, 28)	.11885	1.88827	.170
T x P	(2, 28)	.20745	3.66446	.039
O x P x T	(2, 28)	.32616	6.77631	.004
G x P x T	(2, 28)	.24236	4.47839	.021
G x O x T	(2, 28)	.02545	.36560	.697
G x O x P x T	(2, 28)	.04767	.70074	.505

Table 7

Multivariate Analysis of Variance for Systolic Blood Pressure (Secure/Avoidant Attachment Dimension)

UNIVARIATE F-TESTS

Source	df	SS	MS	F	p
Group (G)	1	338.40	338.40	.97	.334
Partner (P)	1	148.50	148.50	4.81	.036
Order (O)	1	2361.80	2361.80	6.74	.015
G x O	1	372.10	372.10	1.06	.311
G x P	1	28.81	28.81	.93	.342
O x P	1	30.24	30.24	.98	.330
G x O x P	1	64.80	64.80	2.10	.158

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 28)	.92591	174.94885	.000
T x O	(2, 28)	.40557	9.55217	.001
T x G	(2, 28)	.03667	.53296	.593
T x P	(2, 28)	.29796	5.94194	.007
O x P x T	(2, 28)	.69585	32.02941	.000
G x P x T	(2, 28)	.01627	.23160	.795
G x O x T	(2, 28)	.02043	.29202	.749
G x O x P x T	(2, 28)	.04754	.69883	.506

Table 8

Multivariate Analysis of Variance for Diastolic Blood Pressure (Secure/Avoidant Attachment Dimension)

UNIVARIATE F-TESTS					
Source	df	SS	MS	F	p
Group (G)	1	277.26	277.26	1.12	.299
Partner (P)	1	2.09	2.09	.07	.797
Order (O)	1	433.92	433.92	1.75	.197
G x O	1	230.74	230.74	.93	.343
G x P	1	.40	.40	.01	.910
O x P	1	54.69	54.69	1.77	.193
G x O x P	1	6.20	6.20	.20	.657

MULTIVARIATE F-TESTS				
Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 28)	.81919	63.42927	.000
T x O	(2, 28)	.08044	1.22462	.309
T x G	(2, 28)	.15118	2.49343	.101
T x P	(2, 28)	.08875	1.36352	.272
O x P x T	(2, 28)	.25884	4.88924	.015
G x P x T	(2, 28)	.11670	1.84962	.176
G x O x T	(2, 28)	.02637	.37914	.688
G x O x P x T	(2, 28)	.00430	.06053	.941

Table 9

Multivariate Analysis of Variance for Skin Conductance (Secure/Avoidant Attachment Dimension)

UNIVARIATE F-TESTS					
Source	df	SS	MS	F	p
Group (G)	1	324.98	324.98	3.91	.058
Partner (P)	1	37.48	37.48	2.98	.095
Order (O)	1	1.64	1.64	.02	.889
G x O	1	47.37	47.37	.57	.456
G x P	1	21.63	21.63	1.72	.200
O x P	1	170.92	170.92	13.61	.001
G x O x P	1	.05	.05	.00	.949

MULTIVARIATE F-TESTS				
Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 28)	.68385	30.28267	.000
T x O	(2, 28)	.02055	.29381	.748
T x G	(2, 28)	.17870	3.04613	.064
T x P	(2, 28)	.08912	1.36979	.271
O x P x T	(2, 28)	.36766	8.13990	.002
G x P x T	(2, 28)	.02915	.42040	.661
G x O x T	(2, 28)	.03848	.56031	.577
G x O x P x T	(2, 28)	.06492	.97195	.391

Table 10

Mean Heartrates for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (10)	83.4	95.2	79.3	86.0
	Order 2 (6)	74.5	86.2	71.8	77.5
	Mean	79.0	90.8	75.6	81.8
NON-ANXIOUS					
	ABSENT				
	Order 1 (10)	79.9	90.9	76.7	72.5
	Order 2 (6)	71.3	91.6	73.3	78.7
	Mean	75.6	91.2	75.0	80.6
	PRESENT				
	Order 1 (7)	73.2	92.0	71.4	78.8
	Order 2 (9)	101.1	111.9	98.9	103.9
	Mean	87.1	102.2	85.2	91.5
ANXIOUS					
	ABSENT				
	Order 1 (7)	71.4	84.7	72.6	76.2
	Order 2 (9)	98.5	113.0	99.0	103.5
	Mean	85.0	98.9	85.8	89.9

Table 10 (Continued)

Mean Heartrates for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	81.7	95.8	80.4	86.0

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 11

Mean Systolic Blood Pressure for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (10)	109.7	120.9	112.3	114.3
	Order 2 (6)	113.8	122.0	112.6	116.1
	Mean	111.8	121.5	112.5	115.3
NON-ANXIOUS					
	ABSENT				
	Order 1 (10)	109.1	114.6	108.9	110.9
	Order 2 (6)	108.9	126.2	115.7	116.9
	Mean	109.0	120.4	112.3	113.9
	PRESENT				
	Order 1 (7)	108.4	120.7	111.0	113.4
	Order 2 (9)	118.6	128.3	114.3	120.4
	Mean	113.5	124.5	112.7	116.9
AVOIDANT					
	ABSENT				
	Order 1 (7)	108.7	115.9	109.8	111.5
	Order 2 (9)	113.4	127.3	115.1	118.6
	Mean	111.1	121.6	112.5	115.1

Table 11 (Continued)

Mean Systolic Blood Pressure for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	111.4	122.0	112.5	115.3

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 12

Mean Diastolic Blood Pressure for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

			BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT					
	Order 1	(10)	63.9	72.1	63.8	66.6
	Order 2	(6)	59.9	67.2	58.8	62.0
	Mean		61.9	69.7	61.3	64.3
SECURE						
	ABSENT					
	Order 1	(10)	63.7	70.1	64.5	66.1
	Order 2	(6)	57.6	70.6	61.9	63.4
	Mean		60.7	70.4	63.2	64.8
	PRESENT					
	Order 1	(7)	61.8	71.6	61.9	65.1
	Order 2	(9)	66.5	75.9	67.8	70.1
	Mean		64.2	73.8	64.9	67.6
AVOIDANT						
	ABSENT					
	Order 1	(7)	62.7	69.0	61.3	64.3
	Order 2	(9)	66.4	77.5	71.5	71.8
	Mean		64.6	73.4	66.4	68.1

Table 12 (Continued)

Mean Diastolic Blood Pressure for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	62.9	71.8	64.0	66.2

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 13

Mean Number of Skin Conductance Fluctuations for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

		BASELINE 1	TASK	BASELINE 2	MEAN
	PRESENT				
	Order 1 (10)	5.0	11.3	6.3	7.5
	Order 2 (6)	2.4	5.3	1.8	4.8
	Mean	3.7	8.3	4.1	5.4
NON-ANXIOUS					
	ABSENT				
	Order 1 (10)	2.4	7.9	2.5	4.3
	Order 2 (6)	1.5	6.9	2.3	3.6
	Mean	2.0	7.4	2.4	4.0
	PRESENT				
	Order 1 (7)	3.1	9.9	2.1	5.0
	Order 2 (9)	3.8	8.2	2.9	5.0
	Mean	3.5	9.1	2.5	5.0
ANXIOUS					
	ABSENT				
	Order 1 (7)	1.4	6.6	.9	3.0
	Order 2 (9)	4.7	10.8	5.1	6.9
	Mean	3.1	8.7	3.0	4.9

Table 13 (Continued)

Mean Number of Skin Conductance Fluctuations for Subjects on the Non-Anxious/Anxious Attachment Dimension in Partner-Present and Partner-Absent Conditions

	BASELINE 1	TASK	BASELINE 2	MEAN
OVERALL MEAN	3.1	8.4	3.0	4.8

Note. N's are given in parentheses. All marginal means are unweighted means.

Table 14

Doubly Multivariate Analysis of Variance for the Non-Anxious/Anxious Attachment Dimension

Source	df	Pillais Statistic	Approx. F	p
Group (G)	(4, 25)	.15550	1.15085	.356
Partner (P)	(4, 25)	.17798	1.35232	.278
Order (O)	(4, 25)	.12514	.89402	.482
Task (T)	(8, 21)	.92682	33.24680	.000
T x G	(8, 21)	.28062	1.02397	.449
T x P	(8, 21)	.46564	2.28746	.062
T x O	(8, 21)	.48655	2.48744	.045
O x P	(4, 25)	.43774	4.86594	.005
O x G	(4, 25)	.40532	4.25989	.009
G x P	(4, 25)	.05938	.39457	.811
G x O x P	(4, 25)	.05686	.37680	.823
O x P x T	(8, 21)	.85569	15.56480	.000
G x O x T	(8, 21)	.40248	1.76813	.141
G x P x T	(8, 21)	.44883	2.13762	.078
G x O x P x T	(8, 21)	.23423	.80293	.607

Table 15

Multivariate Analysis of Variance for Heartrate (Non-Anxious/Anxious Attachment Dimension)

UNIVARIATE F-TESTS

Source	df	SS	MS	F	p
Group (G)	1	3719.17	3719.17	1.68	.205
Partner (P)	1	80.41	80.41	2.88	.100
Order (O)	1	5934.76	5934.76	2.68	.112
G x O	1	12340.07	12340.07	5.58	.025
G x P	1	6.62	6.62	.24	.630
O x P	1	182.50	182.50	6.55	.016
G x O x P	1	25.37	25.37	.91	.348

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 29)	.82736	69.48961	.000
T x O	(2, 29)	.03600	.54149	.588
T x G	(2, 29)	.03572	.56530	.574
T x P	(2, 29)	.16414	2.84746	.074
O x P x T	(2, 29)	.44381	11.57044	.000
G x P x T	(2, 29)	.20771	3.80133	.034
G x O x T	(2, 29)	.08842	1.40639	.261
G x O x P x T	(2, 29)	.03311	.49648	.614

Table 16

Multivariate Analysis of Variance for Systolic Blood Pressure (Non-Anxious/Anxious Attachment Dimension)

UNIVARIATE F-TESTS

Source	df	SS	MS	F	p
Group (G)	1	138.00	138.00	.34	.566
Partner (P)	1	105.80	105.80	3.48	.072
Order (O)	1	1376.48	1376.48	3.36	.077
G x O	1	91.06	91.06	.22	.641
G x P	1	1.56	1.56	.05	.822
O x P	1	40.03	40.03	1.32	.261
G x O x P	1	70.82	70.82	2.33	.138

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 29)	.90919	145.18249	.000
T x O	(2, 29)	.26255	5.16225	.012
T x G	(2, 29)	.11264	1.84068	.177
T x P	(2, 29)	.32009	6.82645	.004
O x P x T	(2, 29)	.72182	37.62364	.000
G x P x T	(2, 29)	.03842	.57931	.567
G x O x T	(2, 29)	.15246	2.60826	.091
G x O x P x T	(2, 29)	.10668	1.73164	.195

Table 17

Multivariate Analysis of Variance for Diastolic Blood Pressure (Non-Anxious/Anxious Attachment Dimension)

UNIVARIATE F-TESTS

Source	df	SS	MS	F	p
Group (G)	1	709.90	709.90	3.53	.070
Partner (P)	1	2.41	2.41	.08	.778
Order (O)	1	96.10	96.10	.48	.495
G x O	1	1279.51	1279.51	6.36	.017
G x P	1	3.01	3.01	.10	.753
O x P	1	57.83	57.83	1.94	.174
G x O x P	1	.95	.95	.03	.860

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 29)	.78929	57.38373	.000
T x O	(2, 29)	.05914	.91139	.413
T x G	(2, 29)	.00841	.12294	.885
T x P	(2, 29)	.10223	1.65113	.209
O x P x T	(2, 29)	.28083	5.66213	.008
G x P x T	(2, 29)	.06315	.97735	.388
G x O x T	(2, 29)	.04433	.67256	.518
G x O x P x T	(2, 29)	.01695	.25005	.780

Table 18

Multivariate Analysis of Variance for Skin Conductance (Non-Anxious/Anxious Attachment Dimension)

UNIVARIATE F-TESTS

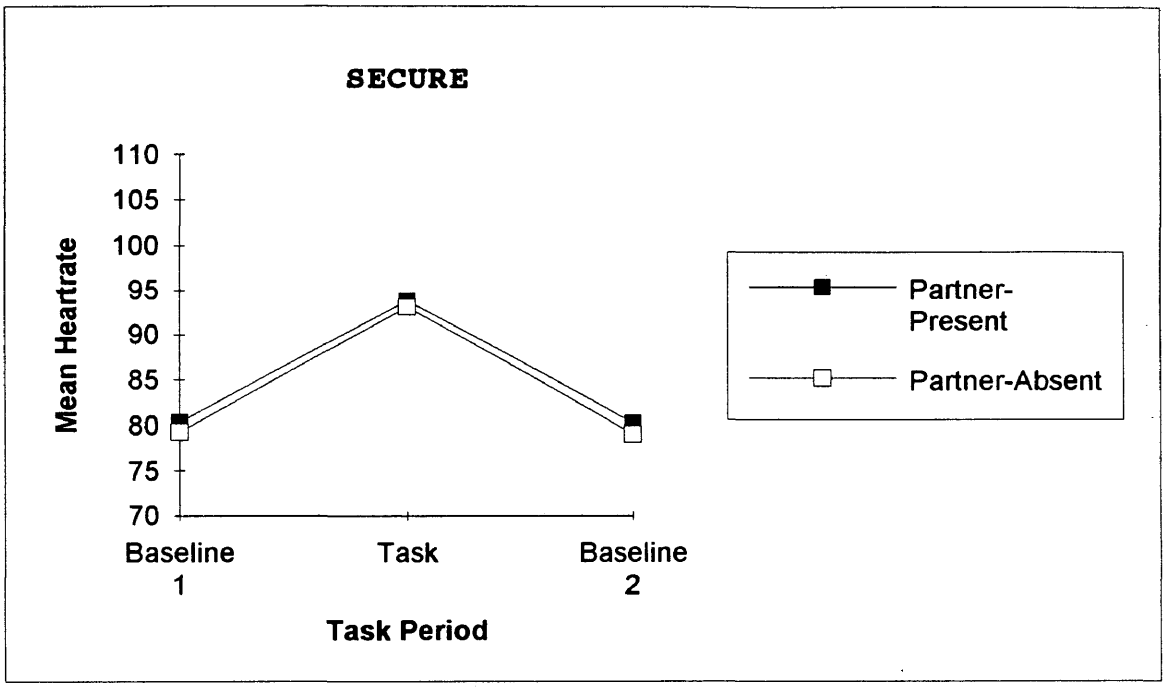
Source	df	SS	MS	F	p
Group (G)	1	324.98	324.98	3.91	.058
Partner (P)	1	28.65	28.65	2.30	.140
Order (O)	1	1.64	1.64	.02	.889
G x O	1	47.37	47.37	.57	.456
G x P	1	21.32	21.32	1.71	.201
O x P	1	177.03	177.03	14.24	.001
G x O x P	1	.47	.47	.04	.847

MULTIVARIATE F-TESTS

Source	df	Pillais Statistic	Approx. F	p
Task (T)	(2, 28)	.63812	24.68733	.000
T x O	(2, 28)	.01697	.24168	.787
T x G	(2, 28)	.11581	1.83365	.179
T x P	(2, 28)	.05123	.75591	.479
O x P x T	(2, 28)	.28390	5.55032	.009
G x P x T	(2, 28)	.06631	.99420	.383
G x O x T	(2, 28)	.01667	.23739	.790
G x O x P x T	(2, 28)	.04924	.72509	.493

Figure Caption

Figure 1. Mean heartrates for the secure and avoidant attachment groups across task periods in both partner-present and partner-absent conditions.


SECURE
110
105
100
95
90
85
80
75
70
Mean Heartrate
Baseline 1
Task
Baseline 2
Task Period
Partner-Present
Partner-Absent

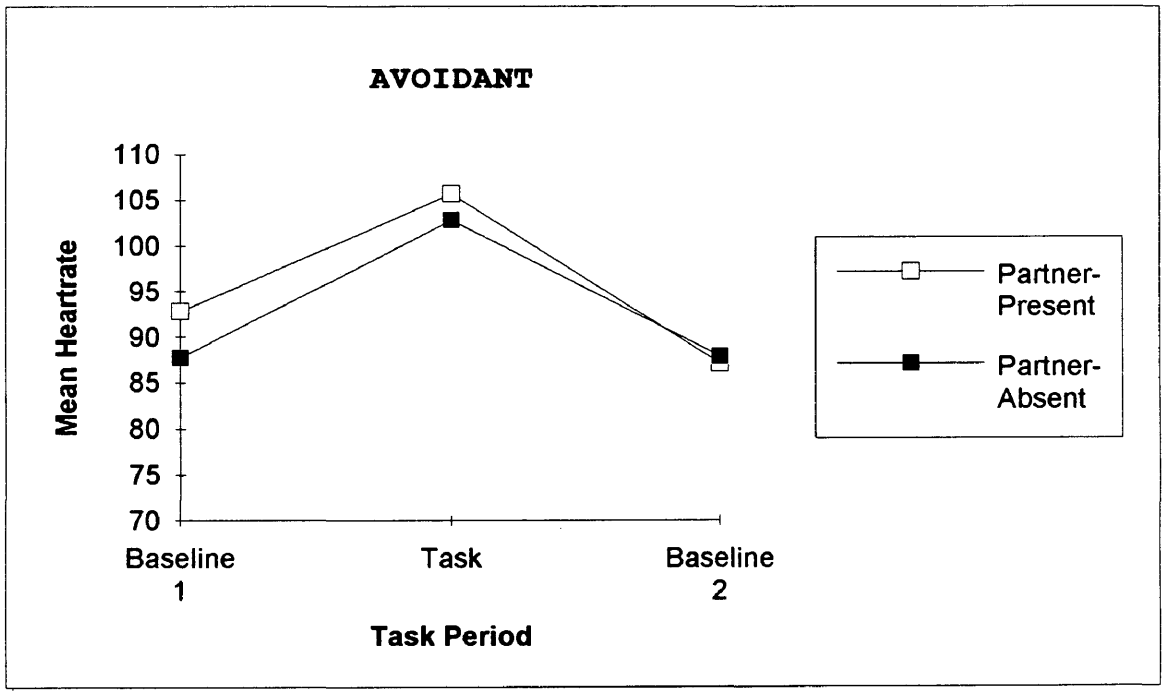
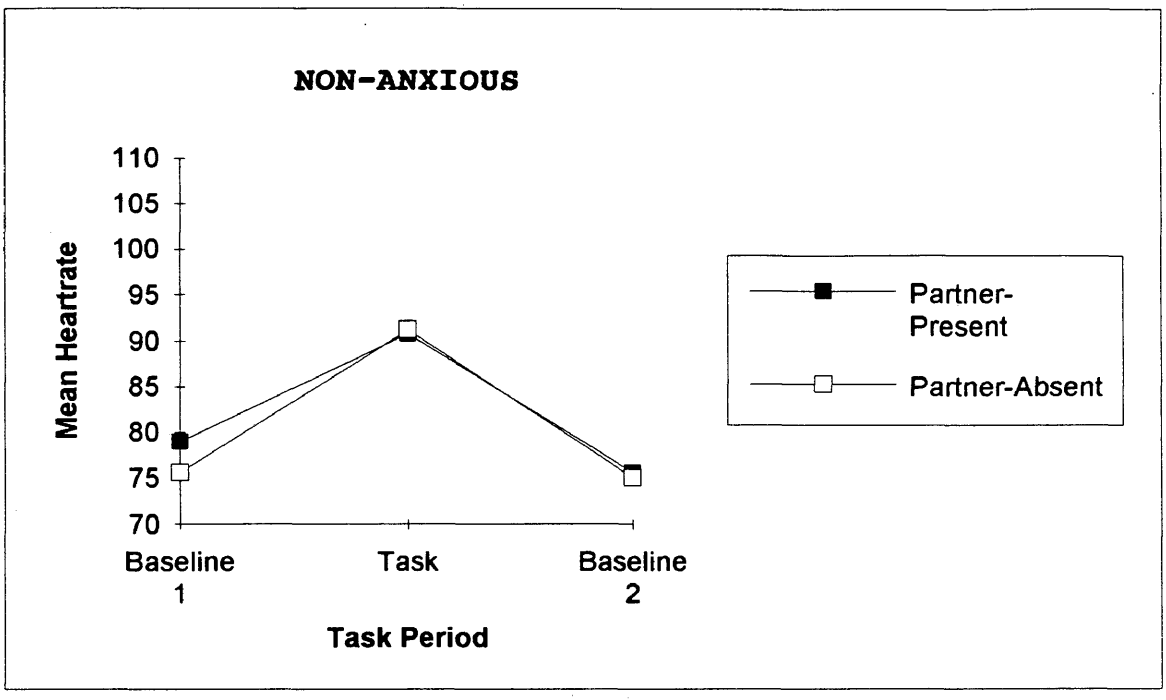

AVOIDANT
110
105
100
95
90
85
80
75
70
Mean Heartrate
Baseline 1
Task
Baseline 2
Task Period
Partner-Present
Partner-Absent

Figure Caption

Figure 2. Mean heartrates for the non-anxious and anxious attachment groups across task periods in both partner-present and partner-absent conditions.


NON-ANXIOUS
Mean Heartrate
110
105
100
95
90
85
80
75
70
Baseline 1
Task
Baseline 2
Task Period
Partner-Present
Partner-Absent

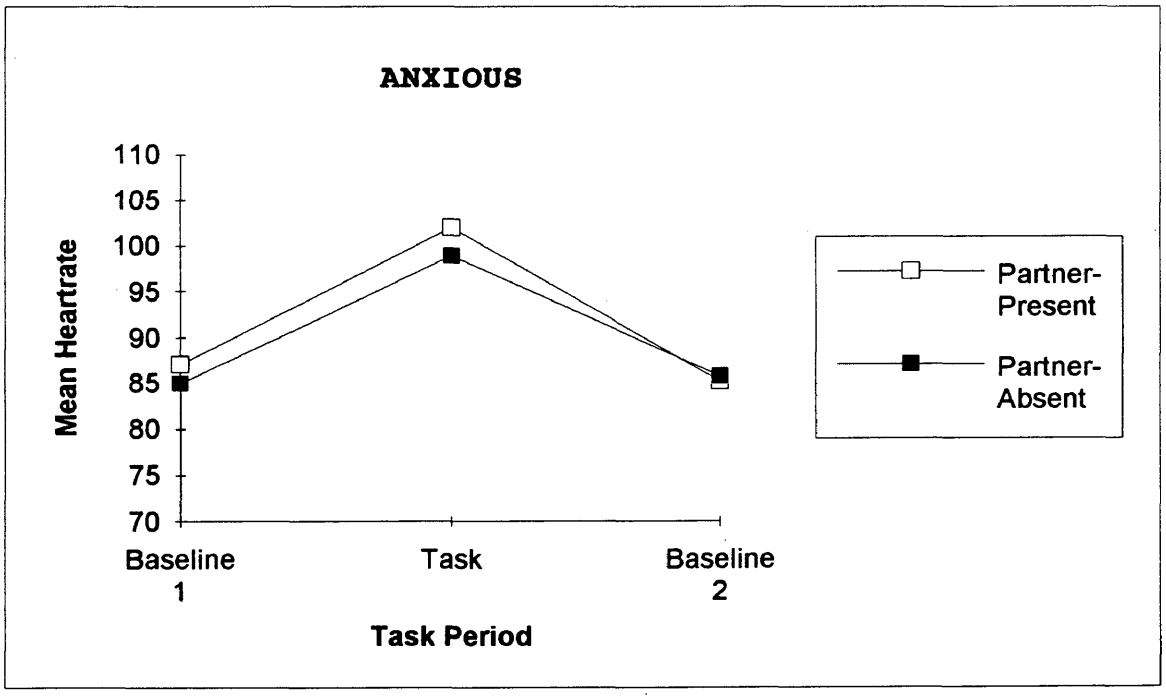
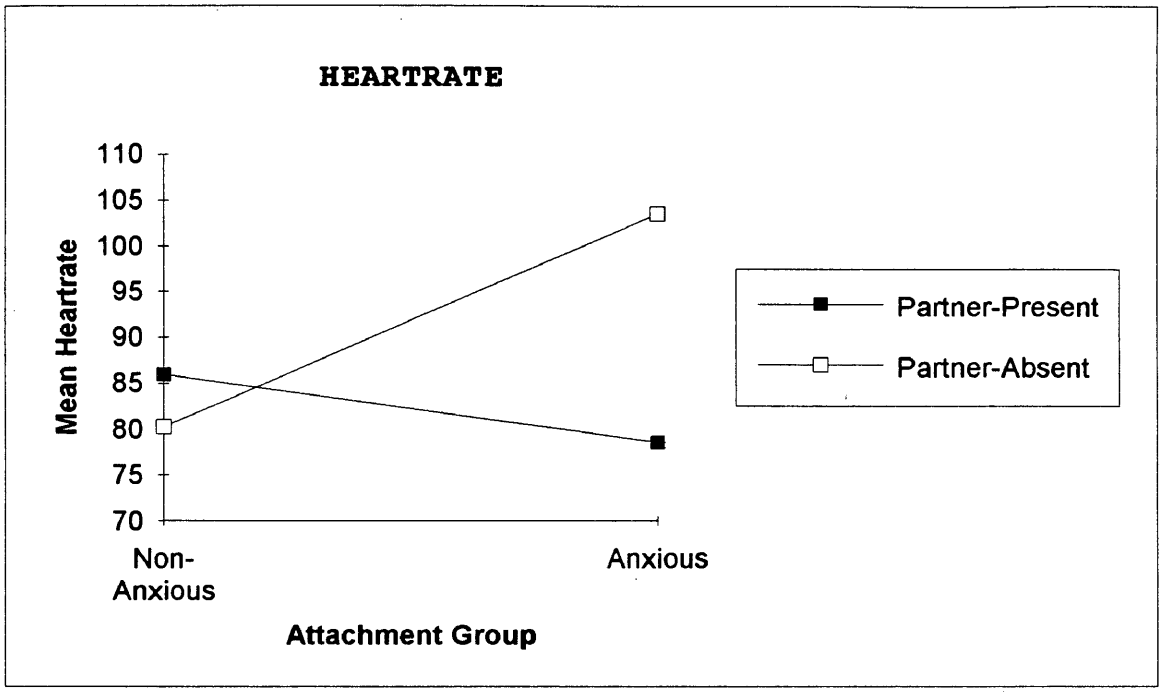
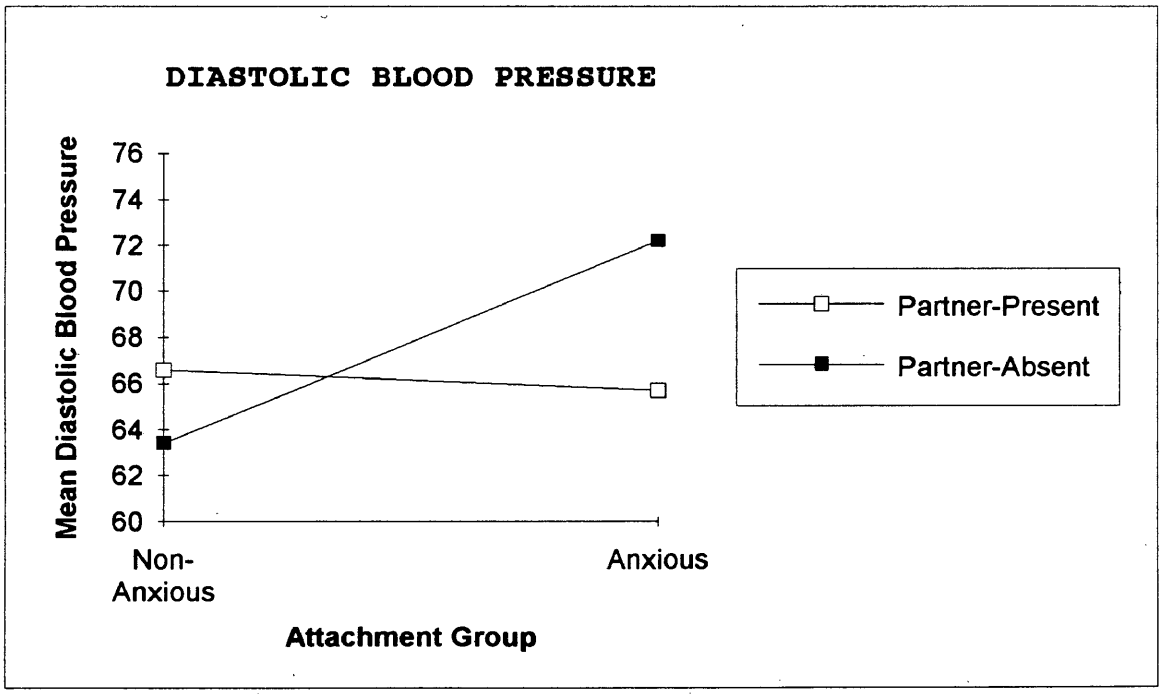

ANXIOUS
Mean Heartrate
110
105
100
95
90
85
80
75
70
Baseline 1
Task
Baseline 2
Task Period
Partner-Present
Partner-Absent

Figure Caption

Figure 3. Mean heartrate and diastolic blood pressure for the non-anxious and anxious attachment groups in both partner-present and partner-absent conditions.


HEARTRATE
Mean Heartrate
110
105
100
95
90
85
80
75
70
Non-
Anxious
Anxious
Attachment Group
Partner-Present
Partner-Absent


DIASTOLIC BLOOD PRESSURE
Mean Diastolic Blood Pressure
76
74
72
70
68
66
64
62
60
Non-
Anxious
Anxious
Attachment Group
Partner-Present
Partner-Absent

Appendix A

Questionnaires

Preliminary (Mass Testing) Questionnaire

1. Gender: ___ Male ___ Female

   Age: _____

2. A. Are you currently involved in a serious dating relationship? ___ Yes ___ No

   B. If so, for how long? _____

3. A. Is your dating partner currently living in the Williamsburg area? ___ Yes ___ No

   B. Would you be willing to bring in your dating partner to take part in a one-hour experiment with you? ___ Yes ___ No ___ Maybe

4. Below are descriptions of three general relationship styles that people often report. Please read each description and check the one style that best describes you or is closest to the way you are.

   ___ I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.

   ___ I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

   ___ I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away.

Simpson's (1990) Attachment Index

Please rate the following items according to how you typically feel toward romantic partners **in general** (1 = **strongly disagree** and 7 = **strongly agree**).

1. I find it relatively easy to get close to others.

   1 2 3 4 5 6 7

2. I'm not very comfortable having to depend on other people.

   1 2 3 4 5 6 7

3. I'm comfortable having others depend on me.

   1 2 3 4 5 6 7

4. I rarely worry about being abandoned by others.

   1 2 3 4 5 6 7

5. I don't like people getting too close to me.

   1 2 3 4 5 6 7

6. I'm somewhat uncomfortable being too close to others.

   1 2 3 4 5 6 7

7. I find it difficult to trust others completely.

   1 2 3 4 5 6 7

8. I'm nervous whenever anyone gets too close to me.

   1 2 3 4 5 6 7

9. Others often want me to be more intimate than I feel comfortable being.

   1 2 3 4 5 6 7

Simpson's (1990) Attachment Index (Continued)

10. Others often are reluctant to get as close as I would like.

1 2 3 4 5 6 7

11. I often worry that my partner(s) don't really love me.

1 2 3 4 5 6 7

12. I rarely worry about my partner(s) leaving me.

1 2 3 4 5 6 7

13. I often want to merge completely with others, and this desire sometimes scares them away.

1 2 3 4 5 6 7

Hazan and Shaver's (1987) Attachment Categories

Below are descriptions of three general relationship styles that people often report. Please read each description and check the one style that best describes you or is closest to the way you are.

___ I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.

___ I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

___ I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away.

VITA

Brooke Colleen Feeney

The author was born on October 29, 1969 in Baltimore, Maryland. She graduated from Delmar High School in Delmar, Delaware in June, 1987. She received her Bachelor of Arts, with a major in Psychology and a minor in English, from Salisbury State University in May, 1991. She entered the Master of Arts program in Psychology at the College of William and Mary in August, 1991.