

NEGATIVE ADULT ROMANTIC RELATIONSHIP EXPERIENCES
AND WORKING MODELS OF SELF AND OTHER

Lisa Marie Taylor

A Dissertation
Submitted to
the Graduate Faculty of
Auburn University
in Partial Fulfillment of the
Requirements for the
Degree of
Doctor of Philosophy

Auburn, Alabama
December 16, 2005

NEGATIVE ADULT ROMANTIC RELATIONSHIP EXPERIENCES
AND WORKING MODELS OF SELF AND OTHER

Lisa Marie Taylor

Permission is granted to Auburn University to make copies of this dissertation at its discretion, upon the request of individuals or institutions and at their expense. The author reserves all publication rights.

Signature of Author

Date of Graduation

VITA

Lisa Marie Taylor, daughter of Larry and Shirleyanne Rogers, was born on June 11, 1969 in Bangor, Maine. She married Troy S. Taylor in September, 1992. She attended the University of Maine in Orono, Maine and graduated magna cum laude with a Bachelor of Arts degree in Psychology in May, 1999. She attended Auburn University in Auburn, Alabama and graduated with a Master of Science degree in Human Development and Family Studies in August, 2002. She began the doctoral program at Auburn University in September, 2000 to pursue the degree of Doctor of Philosophy in Human Development and Family Studies with special interests in adult attachment and relationship violence.

DISSERTATION ABSTRACT

NEGATIVE ADULT ROMANTIC RELATIONSHIP EXPERIENCES AND WORKING
MODELS OF SELF AND OTHER

Lisa Marie Taylor

Doctor of Philosophy, December 16, 2005

(M.S., Auburn University, 2002)

(B.A., University of Maine, 1999)

113 Typed Pages

Directed by Joe F. Pittman

Internalized working models of self and other are blueprints of relationships that affect how people think about themselves and others in social relationships. The model of self is associated with an underlying anxiety dimension that is conceptualized as affect associated with abandonment. The model of other has been linked to an avoidance dimension, conceptualized as discomfort with closeness. Collins and colleagues (Collins & Read, 1994; Collins & Allard, 2001) proposed that people develop multiple working models; an overarching model that applies to multiple relationships, a model for every type of relationship, and one for every specific relationship. The theory provides an explanation for how it is possible for people to have different types of working models across multiple relationships (La Guardia, Ryan, Couchman, & Deci, 2000).

The quality of relationships affects the kind of models that develop for specific relationships (Hamilton, 2000). High quality relationship experiences typically result in a “secure” working model and lower quality relationship interactions in an “insecure”

working model. Research focused on the influences of contextual factors on attachment styles has shown that negative relationship experiences can change attachment styles in specific relationships from secure to insecure (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000).

The current study looked at the effects of both positive and negative relationship experiences on attachment styles in specific romantic relationships while controlling for attachment style for romantic relationships in general. The sample was comprised of 303 female undergraduates from a Southeastern university. Findings showed that relationship satisfaction, competence, relatedness, and autonomy were powerful predictors of security in specific relationships. Additionally, verbal aggression and perceived partner control were significantly associated with specific-level attachment style. Verbal aggression from partner and perceived partner control was positively associated with anxiety and negatively associated with avoidance.

Finally, whether or not the relationship was ongoing or had ended also made a difference in specific-level attachment style. Ongoing relationships were associated with more anxiety (negative model of self), but less avoidance (positive model of self). These findings demonstrate that the quality of relationship experiences is fundamentally important to specific-level attachment security.

ACKNOWLEDGMENTS

The author would first like to thank her committee chair, Dr. Joe Pittman, for his never-ending patience, support, and direction during the course of this investigation. A special thanks is also extended to her committee members, Dr. Jennifer Kerpelman, Dr. Donna Sollie, and Dr. Leanne Lamke for their kindness and guidance, as well as to her outside reader, Dr. Steven Shumate, for his thoroughness and willingness to help. The author would also like to thank her parents, siblings, mother-in-law, and late father-in-law for supporting her decision to pursue her Ph.D, and for always letting her know how proud they were of her. A warm and special thank you to her husband, Troy Taylor, for his love and emotional support through a very difficult experience, and for helping her with statistics and data entry! Finally, the author would like to thank God.

Style manual or journal used: Publication Manual of the American Psychological
Association, Fifth Addition

Computer software used: Coral WordPerfect, SPSS, HLM

TABLE OF CONTENTS

LIST OF TABLES	x
I. REVIEW OF LITERATURE	1
II. INTRODUCTION	47
III. METHOD	54
Subjects	54
Procedures	54
Measures	55
IV. RESULTS	60
V. DISCUSSION	72
VI. REFERENCES	79
APPENDIX A	90
APPENDIX B	91
APPENDIX C	98
APPENDIX D	100
APPENDIX E	102

LIST OF TABLES AND FIGURES

Table 1: Characteristics of sample	55
Table 2: Percentages of attachment styles across relationships and participants .	59
Table 3: Descriptive statistics for predictor and outcome variables included in analyses	63
Table 4: Two-way contingency table analysis with attachment style and relationship status across all specific relationships	64
Table 5: Summary of hierarchical linear modeling analysis for predicting specific-level insecurity (logistic regression)	66
Table 6: Summary of hierarchical linear modeling analysis for predicting specific-level attachment style (multinomial regression)	68
Table 7: Summary of hierarchical linear modeling analysis for predicting specific-level avoidance	70
Table 8: Summary of hierarchical linear modeling analysis for predicting specific-level anxiety	71
Figure 1: Default hierarchy of internalized working models	41

I. REVIEW OF LITERATURE

Introduction

Internalized working models develop out of attachment relationships between caregivers and infants. Working models consist of a model of self and a model of other. The model of self indicates whether one views oneself as worthy of love and the model of other whether one can expect love and caring from an attachment figure. The models of self and other guide expectations, beliefs, and behaviors in all social relationships throughout life. Although relatively stable, working models can change and research has documented that contextual factors, such as relationship quality can facilitate change in working models. The current study seeks to investigate links between negative experiences in adult romantic relationships and working models of self and other. The study will also examine diversity in working models across multiple romantic relationship experiences. The following literature review is organized into three major sections: Attachment and working models, diversity in working models, and the structure and organization of working models. Within each section, relevant theory and research will be discussed and summarized.

Attachment and working models

Attachment theory, as proposed by Bowlby (1969), put forth a model of development that regarded attachment to caregivers as a necessary biological function that ensures the nurturing and care of infants. According to the theory, infants are predisposed to seek proximity to a caregiver, most especially under conditions of stress (e.g., fear, hunger, illness). Attachment behaviors, such as crying or turning towards an

attachment figure, are instrumental for gaining or maintaining proximity to the caregiver. An important aspect of attachment theory for adult relationships concerns the interactions between the child and caregiver. These early interactions form a prototype for subsequent relationships, emphasizing the importance of the quality of the attachment relationship.

Based on interactions with caregivers, children form working models of the self, others, and themselves in the context of relationships with others (Bowlby, 1969). Working models affect how people interpret and predict other's behavior, and their own reaction to that behavior (Collins & Read, 1994). As such, if the attachment relationship between the child and caregiver is insecure, the child's working models may reflect negative beliefs and expectations about the self and others. The model of self reflects how individuals see themselves; whether they think they are worthy of love and support from others. The model of other refers to how individuals see others; whether they think others are reliable and trustworthy, and whether others can be depended upon to "be there" if needed. Combinations of positive versus negative models of self and other have important implications for individuals' relationships with others.

Working models originally develop out of the attachment relationship between infants and caregivers, thus, they are associated with the quality of the relationship and the interactions. When there are mutually responsive high-quality interactions between the child and caregiver, the attachment relationship is described as "secure." Secure attachment is characterized by a belief that one is worthy of love from an attachment figure and that the attachment figure will be there for them; as such it is associated with a positive model of self and a positive model of other. Lack of mutually responsive high-

quality interactions or inconsistency in interactions is associated with “insecure” attachment relationships. Insecure attachment is linked to the construction of working models that reflect the insecurity in the attachment relationship. For instance, after reviewing clinical studies, Bowlby (1973) suggested that when infants form insecure attachments with caregiver(s) they develop inconsistent working models of self and other. The children may view the self as unworthy or incompetent, the attachment figure(s) as unreliable and rejecting, or a combination of both (Bretherton, 1993). Clearly, the quality of attachment interactions with caregivers affects the essence of working models that are generated.

In the early 1970s, developmental researchers devised a methodology that identified three attachment styles between infants and caregivers (Ainsworth, Blehar, Waters, & Wall; 1978). The methodology, called the “*Strange Situation*,” involved a laboratory procedure where a parent and their infant were placed in a room and left alone for a few minutes until a stranger entered the room. The mother then left the room, leaving the infant with the stranger and then returned after a brief episode. The stranger then left the room, followed after a few more minutes by the mother. The mother then returned to the room. Trained observers watched the mother and child reunion and coded the infant’s behaviors. Ainsworth et al. (1978) identified three types of attachment relationships based upon this methodology.

Secure attachment was classified when babies separated briefly from their mothers and left with a stranger approached or greeted the mother upon her return, were easily comforted if upset, and returned to exploration and play after being comforted. This

behavior suggested positive models of self and other in the infant. In this same classic study, two variations on insecurity were identified. Infants with an anxious-ambivalent attachment exhibited distress after separation and sought proximity when their mothers returned, but they could not be comforted by her afterwards and they seemed unable to return to play. Anxious-avoidant attachments were characterized by a failure to seek proximity to the mother upon her return and a tendency to actively avert their gaze from or avoid looking at the mother. Indeed, typically they avoided her altogether (Ainsworth, et al., 1978). More recently, a third insecure style was noted. Infants with “disorganized” attachments displayed contradictory behaviors upon mother’s return; they sometimes froze in place, appeared dazed or even frightened, or exhibited apprehension towards the mother (Main & Solomon, 1990). Insecure attachment relationships are associated with negative models of self or other, or both, but no specific combination of the models is assumed to underlie each type of insecurity.

During the early 1980s an interview protocol was developed by Main and Goldwyn (1984) to evaluate attachment style to parents in childhood when participants had reached adulthood. The assessment was called the Adult Attachment Interview (AAI) and it has been revised several times since it was first developed (Main & Goldwyn, 1998). The protocol consists of 18 semi-structured questions. Interviewers begin by asking for a general description of the parent-child relationship when the interviewee was a child. Interviewers then ask the participant to list adjectives to describe the relationship with both parents. The next phase involves probing for specific episodic memories that would demonstrate why the adjectives were selected for the participant’s

mother and for the participant's father. Participants are then asked about experiences of separations, rejection, threats, abuse, loss or death. Finally, they report about their current relationship with their parents and, if the participants are parents themselves, they talk about their experiences in the role. In the early version of the AAI a coding scheme was developed and participants were classified into one of three categories:

Secure/autonomous, dismissing, or preoccupied. Later on, when the disorganized classification was added to the strange situation typology a similar category was added to the AAI. Comparisons made between the strange situation and the AAI show significant correspondence.

Crowell, Waters, Treboux, and O'Connor (1996) tested the discriminant validity of the AAI to make sure it is assessing an attachment dimension as opposed to social adjustment. Fifty-three mothers of preschool children were the participants in the validity study. The mothers' mean age was 34.5 and they were from middle-class families that were mostly intact (49 mothers were married). The mothers were administered the AAI, an IQ test, a social adjustment test, a test for discourse style, and social desirability. IQ was assessed with the Henmon-Nelson Test of Mental Ability (Lamke & Nelson, 1973). Discourse style was measured with the Employment Experience Interview (EEI; Crowell, et al., 1996). Social desirability was determined with the Social Desirability Scale (SDS; Crowne & Marlowe, 1960). And social adjustment was assessed with the Social Adjustment Scale (SAS; Weissman & Paykel, 1974), which included six dimensions: global, work, social, extended family, marital, and parental. Correlations between the AAI and the validity measures indicated modest-to-moderate significant correlations

between the AAI and IQ scores ($r = .42; p < .01$) and the AAI and social adjustment dimensions (global $r = -.46, p < .001$, work $r = -.49, p < .001$, social $r = -.30, p < .05$, extended family $r = -.29, p < .05$, marital $r = -.49, p < .001$, and parental $r = -.31, p < .05$). Correlations with the other dependent variables were not significant. IQ was included as a covariate in an ANCOVA of AAI classification and overall social adjustment as intelligence potentially contributes to social adjustment. The results indicated that the relationship between the AAI and overall social adjustment was not significant when IQ is used as a covariate, $F(1, 49) = 2.19, ns$. The findings from this study support the notion that the AAI is an attachment-related measure.

The four types of attachment derived from the AAI paralleled and predicted the four infant attachment types generated from the Strange Situation (Hesse, 1999). Secure mapped onto secure/autonomous, avoidant mapped onto dismissing, resistant/ambivalent mapped onto preoccupied, and disorganized/disoriented mapped onto unresolved/disorganized. Interviewers and coders must undergo extensive training in order to conduct the AAI and reliability is assessed by calculating kappa to determine the rate of agreement among coders. The AAI is used extensively to determine the type of attachment relationship adults had with parents. However, it is costly and time consuming to utilize.

The attachment construct seems just as relevant to adult romantic relationships as to early social relationships and social development. The working models that underlie the attachment construct are essential to romantic relationship functioning as the models affect how people view, experience, and behave in relationships. More specifically, the

models “*regulate, interpret, and predict the attachment figure’s and the self’s attachment-related behavior, thoughts, and feelings*” (Bretherton & Munholland, 1999, pg. 89). Working models organize relationship history over time and across relationships, helping people to interpret and predict their own and others’ actions (Feeney & Noller, 1996). For example, how an individual reacts to stress or threat in a current relationship is affected by the styles of experiences they have had in past relationships with stress or threat. If the past relationships were characterized by secure attachment styles it is likely that the individual would expect an attachment figure to be there for them during times of stress or threat. On the other hand, if previous relationships were characterized by an insecure attachment style, it is more likely that the individual would not expect an attachment figure to be there for them.

Hazen and Shaver (1987) applied attachment theory to adult romantic relationships. They argued that, like infant-caregiver attachment relationships, adults derive security and comfort from their romantic relationship partners and want to be close to them, especially during times of stress. Thus, Hazan and Shaver set out to create a self-report measure that would identify the three known attachment styles in adult relationships (secure, anxious-ambivalent, anxious-avoidant; Ainsworth et al., 1978). A measure of the three attachment styles was created after first translating Ainsworth et al.’s (1978) descriptions of infants into terms that were appropriate for describing adult romantic relationships. A love quiz was printed in a local Denver, Colorado newspaper and the attachment questionnaire was tested on the first 620 participants (205 men, 415 women) to respond to the advertisement. The items were worded to reflect how

participants felt in relationships and what they “*believed concerning the typical course of romantic love*” (pg. 514). Most of the sample reported a secure attachment style (56%), 25% reported an avoidant style, and 19% reported an anxious/ambivalent style. The measure was tested again with 108 undergraduate students and the findings were similar, most classified themselves as secure 56%, 23% avoidant, and 20% anxious/ambivalent. Through the findings from both studies, Hazen and Shaver (1987) supported the idea that romantic relationships are an attachment process similar to that found with children and primary caregivers. It is important to note that when Hazan and Shaver (1987) created the attachment self-report measure, the third variation on insecure infant attachment styles (i.e., disorganized) had not yet been identified (Main and Solomon, 1990).

Following the work of Hazen and Shaver (1987) and the identification of a fourth style in the developmental literature, Bartholomew and Horowitz (1991) created a four-category classification and measurement of adult attachment patterned on Bowlby’s (1988) thinking about working models. They conceptualized the model of self in terms of anxiety. Anxiety can vary from low to high; low anxiety is associated with a positive self-regard and less dependence on others for self validation whereas high anxiety signifies that a positive self-regard is only maintained by others’ approval. The model of other was conceptualized as avoidance of intimacy. It reflects the degree to which people seek or avoid close contact with others as a result of the beliefs they hold about others. The model of self was dichotomized into a positive versus a negative orientation toward the self, and the model of other was dichotomized into a positive versus negative orientation toward the other.

Bartholomew and Horowitz (1991) proposed four attachment styles: secure, preoccupied, fearful, and dismissing. Secure attachment is characterized by a sense of worthiness and the belief that others are responsive. Secure attachment therefore involves a positive model of self and a positive model of other, or in terms of the dimensions, low anxiety and low avoidance. Securely attached people are expected to be capable of intimacy, but not desperate for it.

Preoccupied attachment is described in terms of a sense of personal unworthiness but a “positive evaluation of others” (Bartholomew & Horowitz, 1991, p. 227); thus it is conceptualized as a negative model of self and a positive model of other. The preoccupied attachment style corresponds with Hazan and Shaver’s (1987) anxious-ambivalent classification. These people would be expected to be low in avoidance, but high in anxiety. Therefore they tend to seek close relationships, and to become dependent on them when so engaged because they need others’ approval. Individuals with a preoccupied attachment style would rely on other’s evaluation of them as worthy or unworthy of love as their model of self is negative.

Fearful attachment is characterized by a sense of personal unworthiness and a belief that others are untrustworthy and rejecting. This style of attachment is conceptualized in terms of a negative model of self (high on anxiety) and a negative model of other (high on avoidance). Although this style is not described explicitly in the attachment literature, it is similar in some ways to Hazan and Shaver’s (1987) anxious-avoidant style. Being high on anxiety and avoidance suggests an ambivalent pattern of relationship behavior. Although these people may seek and become dependent on

relationship partners, they would be unlikely to do their part in maintaining the relationship because they would believe that they are unworthy of receiving love and have difficulty trusting others.

A dismissing attachment style is defined as being associated with a sense of worthiness but also with a “negative disposition towards others” (Bartholomew & Horowitz, 1991, p. 227). As such, it is characterized by a positive model of self and a negative model of others, high in avoidance, and low in anxiety. Like the preoccupied attachment style, this type of attachment is similar in some ways to Hazan and Shaver’s (1987) anxious-avoidant attachment style. Bartholomew and Horowitz (1991) argued that the anxious-avoidant attachment style may mask two different styles if conceptualized with the models of self and other, as the two styles would differ on the model of self. People classified as having a dismissive attachment style would be relatively distant in a relationship. They might leave or threaten to leave a relationship rather than work to maintain it.

Bartholomew and Horowitz (1991) successfully tested the classification system on a group of 40 female and 37 male undergraduate students and they conducted a follow up study in a separate sample consisting of 33 female and 36 male undergraduates to verify that the findings would replicate. Self-report measures of self-esteem, self-acceptance, friendship (i.e., duration and nature of friendships), sociability, and interpersonal problems were included to evaluate the relationship between attachment classifications and independent perceptions of self and other as a validity check. Additionally, peer ratings of participant’s self-esteem, self-acceptance, friendship, sociability, and

interpersonal problems were included in both studies, and family ratings were included in a second part to the study. Sociability assessed whether participants enjoyed socializing with others and interpersonal difficulties were defined in terms of excessive scores on control, competitiveness, subassertiveness, coldness, introversion, exploitability, nurturance, and expressiveness (i.e., wanting to be noticed too much). Attachment interviews were also conducted to determine validity of the self-report attachment measure. Participants were asked to describe their friendships, romantic relationships, and feelings about the importance of close relationships.

The construct validity assessments were consistent with the proposed four-category conceptualization of attachment styles and working models. A secure attachment style, as identified by its positive model of self and other, was associated with self and peer reports of high self-esteem, self-acceptance, and sociability. The preoccupied attachment style, which was represented by a negative model of self and a positive model of other, was correlated with low self-esteem and self-acceptance, and high scores on sociability, expressiveness, control, and competitiveness. These participants were, in a sense, “preoccupied” with relationships; they strongly desired closeness with others, but were afraid of being rejected at the same time.

A fearful attachment style, distinguished by its negative models of self and other, was linked to low scores on self-esteem, self-acceptance, and sociability. Fearful attachment was also associated with low assertiveness and high introversion. Subjects with a fearful attachment style deemed others untrustworthy and were hesitant of becoming too close to others in close relationships.

The dismissing attachment style, determined by its positive model of self and a negative model of other, was characterized by high self-esteem, self-acceptance, and introversion. In addition, individuals with a dismissing attachment style evidenced low sociability. These people tended to be highly independent and downplayed the importance of close relationships (Bartholomew & Horowitz, 1991).

As the studies reviewed in the previous section demonstrate, attachment research has moved beyond the parent-child relationship. In the early days of attachment theory and research, in addition to the parent-infant relationship, attachment theory was extended to the study of grief following the loss of a spouse (Parke, 1972). It was only a matter of time before attachment theorizing and research were focused on the formation and life of romantic relationships. Bartholomew and Horowitz's (1991) work confirmed that working models of self and other have important implications for how adults function in relationships. This is one of the reasons attachment theory is so attractive to adult relationship researchers.

Early research on attachment treated the concepts of attachment styles and working models as though they operated similarly across all types of social relationships. However, recent research has indicated that individuals can evidence different types of attachment relationships across multiple relationships (La Guardia, et al., 2000). In other words, it is possible to have a secure attachment style in some relationships and yet have an insecure style with another relationship. Since attachment styles are associated with working models of self and other (Bartholomew & Horowitz, 1991), this suggests that it is possible for people to have variation in working models. The next section will present

and review evidence for this idea.

Diversity in working models

A basic assumption regarding internalized working models of attachment is that they are relatively stable over time and resistant to change (Bowlby, 1973). The theory suggests that stability in working models is maintained through the models' strong effect on the beliefs and expectations about relationships. In other words, we bring a set of expectations to new relationships in a manner that transforms the relationships so that they conform to our previously held expectations or beliefs (Bretherton, 1993; Eagle, 1999; Pietromonaco & Barrett, 1997). However, just as the term "working" implies, the models *are* capable of change. Bowlby (1969) claimed that working models change in response to a substantially changed environment so that they can remain adaptive. This implies that there are certain circumstances that facilitate change. For example, parental depression affects the quality of caregiving they provide, which can affect a child's working models negatively. The attachment literature has supported this line of research with evidence that change or diversity in working models has been evident in at least three ways. One kind of diversity is associated with change in a specific set of working models for a specific relationship over time. A second type of diversity is affiliated with variation in attachment working models across relationships of the same type (i.e., romantic, friendship, parent). The third type of diversity in working models is associated with variation in working models across relationships of different types.

Change in a specific attachment relationship over time. Change in specific attachment relationships over time has been documented for the most part in the

developmental literature in regards to infant attachment to parents. Attachment theory described working models as evolving and responding to experience (Waters & Cummings, 2000). Thus, change in attachment security is thought to be related to significant changes in contextual factors, such as family environment. In concordance with this line of thinking, the bulk of the developmental studies reviewed in this section examined continuity in attachment style from infancy through adolescence/early adulthood in conjunction with negative life experiences (e.g., maternal depression, child maltreatment, divorce). Events and circumstances are thought to intervene in attachment relationships and working models over time, emphasizing the importance of the context of the relationship (Bowlby, 1988). However, not all of the studies examined contextual factors, some simply looked at continuity in attachment relationships over time.

Beckwith, Cohen, & Hamilton (1999) examined continuity in attachment in light of negative life events by evaluating maternal sensitivity during infancy and attachment style at 18 years of age. Maternal sensitivity is not a precise measure of attachment style, but the theory says that mother's sensitivity is the cause of security and the measure was similar to a measure used by Isabella, Belsky, & von Eye (1989) that found an empirical link between maternal sensitivity and infant attachment. Eighty-six families that had children born prematurely at the University of California at Los Angeles Medical Center from 1972 - 1974 participated in a longitudinal study that included naturalistic home observations conducted by two of the authors when the children were 1, 8, and 24 months of age as well as at age 12. At 1 and 8 months of age, infants were observed every 15 seconds and coded for infant vocal, gaze, and motor behaviors. Mothers were also coded

on their sensitivity for vocal, gaze, touching-holding behaviors with the infant, and their responses to infant signals like crying, vocalizing, gazing, and smiling. At 24 months of age, mother sensitivity was coded again in a laboratory session. At age 12 mother sensitivity was assessed from videotaped 20-minute interactions in two laboratory tasks. The first task involved having the mother and the child agree to descriptions of an ideal person. The second task had the mother and child use an Etch-a-Sketch to copy a design.

When participants were 18 years of age, attachment style was measured with the Adult Attachment Interview (AAI; Main & Goldwyn, 1993). Negative events were assessed using a core set of life events suggested by Bowlby (1969) as interfering with a family's ability to care for a child. These events included foster care, chronic severe illness of parent or child, parental psychiatric disorder, death of parent, separation or divorce of parents, and physical/sexual abuse of child. Parents were interviewed when their kids were 2, 5, 8, 12, and 18 about these events to see if they had occurred. Early mother sensitivity was dichotomized into sensitive versus less sensitive care and negative life events were dichotomized into present or absent. A 4 x 3 multi-dimensional contingency analysis revealed that there was a significant effect of negative life events on attachment status change. Participants who experienced high sensitivity from their mothers during infancy and had negative life experiences thereafter were more likely to be classified as having a preoccupied attachment style at age 18, compared to being classified as having a secure or dismissing attachment style [$\chi^2 (6, N = 86) = 23.50, p < .0007$]. Since high maternal sensitivity has been linked to a secure attachment style between mothers and infants (Isabella, et al., 1989) the findings from this study suggest

that it is possible to change from a secure attachment style to an insecure attachment style in light of negative life events.

Teti, Sakin, Kucera, & Corns (1996) examined attachment style continuity among 194 preschool-age firstborn children ($M = 32.03$ months, $SD = 11.06$) before the birth of a sibling and then following the birth of the sibling (4-8 weeks following the birth of the second-born child; $M = 6.36$ weeks, $SD = 1.98$). Attachment security was assessed at Time 1 and Time 2 by having the mothers of the preschool-age children complete The Attachment Q-Set (AQS; Waters & Deane, 1985). An attachment security score was derived by correlating the mothers' sorts with a criterion Q-set that was created by asking experts in the attachment field to complete the Q-sort based upon their notions of secure base behavior. Higher scores indicated a stronger correlation between the mother's Q-sort and the criterion Q-sort. Maternal psychiatric symptomatology (i.e., depression, anxiety, and hostility) was included in the study to represent family contextual factors and was measured with the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). Three sets of children were identified for the purposes of follow up analyses. The first group, called "high-high," maintained high scores on attachment security at both Time 1 and Time 2. The second group was called "low-low" as they scored low on attachment security at Time 1 and Time 2. The third group, called "high-drop," evidenced high security scores at Time 1 but their score dropped significantly at Time 2. The latter of the three groups represented change in attachment security over time. No other groups emerged. Repeated measure ANOVAs (with time as the repeated factor) were conducted to determine if maternal psychiatric symptoms or marital harmony predicted change in

attachment security from Time 1 to Time 2. Results indicated that maternal psychiatric symptoms were higher for the change group (i.e., “high-drop”) as compared to the “high-high” group [$F, (1, 86) = 5.89, p = .017$], supporting the theoretical claim that family environment can be linked to variation in security for a specific attachment relationship over time.

Belsky, Campbell, Cohn, and Moore (1996) also examined attachment continuity in a sample of infants from two separate longitudinal studies that assessed attachment style between mothers and infants at 12 and 18 months of age. The Pennsylvania State University participants consisted of 125 intact, working and middle-class families where mothers' average age was 29 ($SD = 4.4$). The families were rearing first born sons and were drawn from a study examining family stress and conflict during the “terrible twos” (i.e., the second and third year of life). The University of Pittsburgh sample was initially recruited for a study on postpartum depression. As a result, a large percentage of the mothers met the screening criteria for depression at the time they were enrolled in the study (of the 144 original participants, 74 met the criteria for depression). The subsample selected by Belsky et al. (1996) was comprised of 90 middle-class, first time mothers, in intact marriages. Forty-two of the mothers met the screening criteria for depression. These mothers also had an average age of 29 ($SD = 3.29$). Attachment was measured with the Strange Situation in both samples when the infants were 12 and 18 months of age. Lambda coefficients were used to determine whether there was continuity in attachment style. Cross-tabulation tables were computed for each sample and findings revealed that continuity was 46% for the Pittsburgh sample and 52% for the Penn State

sample. Lambda indicated these stability rates were no greater than would be expected by chance in either sample ($\lambda = .00$), meaning attachment style for this sample of infants was not stable over the six month period examined. Belsky et al. theorized that the low rate of continuity could be attributed to the large percentage of depressed mothers, a supposition that is consistent with findings from other studies that found discontinuity in attachment style over time in connection with negative life events.

Waters, et al. (2000) conducted a longitudinal study on attachment change and stability with families recruited from newspaper birth announcements in the Minneapolis and St. Paul area. Sixty families were originally recruited, 50 were relocated 20 years later and were the focus of this study. The families' socioeconomic status was middle class. Attachment was assessed at 12-months of age, 18 months of age, and again 20 years later (ages for the young adults assessed after 20 years ranged from 20-22). Attachment during childhood was measured with the three-category Ainsworth Strange Situation. Adult attachment status was determined with an earlier version of the AAI (George, Kaplan, & Main, 1985). Negative life events were obtained from the coding of the participant's AAI transcript and included (1) loss of parent, (2) parental divorce, (3) life-threatening illness of parent or child (e.g., diabetes, cancer, heart attack), (4) parental psychiatric disorder, and (5) physical or sexual abuse by family member. Thirty-two out of 50 participants (64%) had the same attachment classification in infancy and early adulthood using a secure-insecure dichotomy, $\kappa = .40, p < .005$; $\tau = .17, p < .002$. Thirty-six percent (18 participants) changed attachment classification from infancy to early adulthood. When infants had mothers who reported one or more negative life events, in

terms of their own or their children's, they were more likely to change attachment classification compared to infants whose mothers reported none. Negative life events increased the probability that a secure classification at 12 months changed to an insecure classification in early adulthood. Negative life events did not predict insecure classifications changing to secure classifications. In the absence of negative life events only 21.9% of the young adults changed attachment status from infancy to early adulthood, but when mothers reported any negative life events, 44.4% changed attachment status, a finding that was significant [R^2 change for presence or absence of stressful life events = .09, $F(2, 47) = 4.64, p < .037$].

In a similar study, Weinfield, Sroufe, & Egeland (2000) examined attachment stability and negative life events from infancy through young adulthood among a sample from the Minnesota Mother-Child Project, an ongoing prospective longitudinal study of development and adaptation among families identified as at risk for poor developmental outcomes. The original sample was made up of 267 women that were recruited from public health clinics during the third trimester of their pregnancy. All of the mothers in the original sample were young (Median = 20, range = 12-34) and lived in poverty. The sample for this particular study consisted of a subgroup of the children from the original sample. These participants came from two groups that were not mutually exclusive. One of the groups was chosen for their stable infant attachment classifications at 12 and 18 months of age. The second group consisted of participants that had become mothers by the age of 19. Of the original 267 infants, 57 participated in Weinfield et al.'s (2000) study.

Infant attachment was assessed with the Strange Situation (Ainsworth, et al., 1978) at 12 months of age and again at 18 months. One attachment classification was determined for each participant during infancy. If attachment styles differed at 12 and 18 months, one classification was determined through inter-rater conferencing or the 12 month classification was accepted. Adult attachment style was measured with the Berkeley Adult Attachment Interview (George, Kaplan, & Main, 1985). Negative life events were assessed in the manner described above for the Waters et al. (2000) study and included maternal life stress, child maltreatment, and maternal depression. Family functioning was assessed by observing and coding parent-child interaction tasks using three “balance” scales. The scales determine how secure the family members are in their roles, whether the relationship supports the needs of the individuals, and whether the relationship allows for a commitment to goal-oriented teamwork. In order to determine whether attachment style was consistent across time Weinfield et al. (2000) employed a chi-square analysis strategy. A contingency table and chi-square analysis strategy revealed that the rate of continuity was 38.6% in the three-category classification from infancy to adulthood, a finding that was not significant [$\chi^2 (4, N = 57) = 1.19, ns$]. The two insecure attachment styles were then collapsed into one category but the rate of continuity (50.9%) was still not significant [$\chi^2 (1, N = 57) = .54, ns$]. In order to determine whether characteristics of the data or the sample could account for the nonsignificant findings, the two-level contingency analysis was recalculated using different criteria (i.e., selecting only males vs. females, 12 vs. 18 month attachment classifications) and findings were similar; attachment continuity from infancy to

adulthood in this sample of 57 was not significant.

To assess the effect of negative life events on attachment continuity, planned contrasts were conducted to compare groups on negative life events when they had the same or differing infant-adult classifications. Findings indicated that the insecure-insecure group ($n = 17$) differed significantly from the insecure-secure ($n = 22$) on child maltreatment $t(16) = 3.35, p = .004$. The insecure-secure group was less likely to have experienced child maltreatment than the insecure-insecure group. For maternal depression, the secure-secure group ($n = 12$) differed significantly from the secure-insecure ($n = 22$) group [$t(31.5) = -2.13, p = .04$], the mothers of the secure-insecure group were depressed more often than the mothers of the secure-secure group. There were group differences in terms of family functioning as well. The insecure-secure group had higher scores on (i.e., more positive) family functioning than the insecure-insecure group [$t(50) = -2.24, p = .03$]. The results from this study emphasize the importance of relationship quality to attachment styles. Specifically, negative life events such as maternal depression can lead to a change from a secure attachment style to an insecure attachment style. On the other hand, an insecure attachment style can change to a secure attachment style when there is positive family functioning.

Weinfield, Whaley, & Egeland (2004) also investigated continuity and discontinuity in attachment status from infancy to adulthood among a sub-sample drawn from the Minnesota Mother-Child Project. Recall that the original sample was made up of 267 women that were recruited from public health clinics during the third trimester of their pregnancy. Of the original 267 infants, 169 were interviewed using the AAI. Of

these, 125 also had complete Strange Situation data that included scoring for the disorganization attachment classification. These 125 infants are the sample for Weinfield et al.'s study on attachment continuity. The participants were administered the Strange Situation during infancy and the AAI during late adolescence to assess whether attachment styles had changed or remained stable throughout development. Correlates of continuity/discontinuity were measured and consisted of negative life events. Maltreatment was determined through maternal interviews, home observations, and child protective services reports. Maternal depression was measured with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Maternal life stress was assessed using the Life Events Scale (Egeland & Deinard, 1975) which measures events such as trouble with family, neighbors, romantic partners, work, living situation, health, and crime. Finally, family functioning was evaluated when the target child was 13 years of age using observational procedures.

A chi-square analysis was used to determine whether there was continuity from infancy through adulthood in the three-category attachment classification. A four-by-four contingency table revealed that the rate of continuity approached significance [$\chi^2(9) = 15.99, p = .067$]. The three insecure attachment styles were then collapsed into one category but the rate of continuity (56.8%) was still not significant [$\chi^2(1) = .33, ns$].

Lewis, Feiring, & Rosenthal (2000) examined the relationship between attachment continuity and negative life events over time. Eighty-four children from White middle- and upper middle class suburban families were recruited for this study. Attachment status was evaluated at 12 months with a modified Strange Situation and the Adult

Attachment Interview at 18 years of age. Negative life events were assessed by asking participants to think about their childhood when they were 13 years of age, and again at 18 years of age. Parental divorce and adolescent maladjustment were also included in the assessment of negative life events. Adolescent maladjustment was measured with three instruments: Mothers completed the Child Behavior Checklist (CBCL; Achenbach, 1991a), teachers completed the Teacher Report Form (TRF; Achenbach, 1991b), and adolescents completed the Youth Self-Report (YSR; Achenbach, 1991c). Participants' attachment status at 12 months was not related to attachment status at 18 years [$\chi^2(1, N = 84) = .24, ns$]. Fourteen of the 84 participants had experienced a family divorce by 18 years of age. Divorce was significantly related to attachment classification at 18 years $\chi^2(1, N = 84) = 9.41, p < .01$. Participants whose parents had divorced were more likely to be classified as insecurely attached than securely attached at age 18. In addition, 90% of the participants who had experienced a parental divorce and were classified as securely attached during infancy had changed to an insecure attachment classification during early adulthood.

Like Weinfield et al. (2000), Roisman, Padron, Sroufe, & Egeland (2002) found evidence that the change in attachment style can go from insecure to secure. One hundred and fifty-three individuals living in poverty drawn from an ongoing 23-year longitudinal study were examined for a phenomenon referred to as "earned secure" attachment status. This status refers to when individuals who are classified as insecurely attached to mothers during infancy but securely attached as adults. Attachment was assessed at 12 and 18 months of age with the Strange Situation and with the AAI at age 19. Roisman et al.

were specifically interested in the adults that had an earned secure attachment status.

Thus, they first identified two groups of individuals: those with a secure attachment status at age 19 ($n = 46$) and those with an insecure attachment status at age 19 ($n = 107$).

Roisman et al. (2002) were then able to define earned security in two ways that were not mutually exclusive of one another (in order to compare outcomes associated with earned security using two separate methodologies to determine earned security).

The first classification involved a procedure described by Pearson, Cohn, Cowan, and Cowan (1994) that relied upon retrospective methodology, hence it was named “retrospective earned security.” A retrospective earned secure classification was assigned when participants produced coherent (e.g., secure) discourse during the AAI but whose mother and/or father were rated as unloving, rejecting, or neglecting. Of the 153 participants, 46 were classified as “secure” and of these, 24 were assigned a retrospective earned secure label.

The second earned security was classified involved combining attachment data from infancy with the attachment data in adulthood. Thus, rather than relying on retrospective reports, infant attachment data (i.e., Strange Situation) determined whether the participants had been insecurely attached during infancy and if the AAI revealed security in adulthood a “prospective earned secure” status was assigned. Thirty of the 153 participants were classified as having a prospective earned secure status. A cross-tabulation of the retrospective operationalization of earned secure by prospective operationalization of earned secure indicated that the retrospective classification had low sensitivity and specificity in accurately classifying participants as earned secure.

Comparisons between the earned secure groups and the adults classified as insecure (regardless of infant attachment classification as that was not the focus of this study), and a continuous secure group were then carried out. First the retrospectively defined earned secure group was compared to the insecure and continuous secure groups and then separate analyses were conducted between the prospective earned secure group, the insecure group, and the continuous secure group. Comparisons were made among the groups in regards to romantic relationship quality. Romantic relationship quality was measured with an observation procedure that involved having couples discuss a previously identified problem and collaborating on an ideal couple Q-sort. Assessments were coded for anger, conflict resolution, dyadic negative affect, hostility, overall quality, secure base, and shared positive affect.

Findings approached significance for both earned secure groups compared to the insecure groups but Cohen's d was calculated and indicated a medium-to-large effect size. The retrospective earned secure group had higher quality romantic relationships than the insecure group, $t(58) = 2.04, p = .07, d = .79$. Similarly, the prospective earned secure group demonstrated higher quality romantic relationships compared to the insecure group, $t(57) = 1.96, p = .06, d = .76$. The findings from this study demonstrated that change in attachment style from insecurity to security is possible over time in spite of adverse childhood experiences. It is clear from the findings in the Roisman et al. (2002) study that the quality of the parent-child attachment relationship changed over time from less positive to more positive and that this change positively affected the manner in which the participants engaged in interaction with their current romantic relationship partner.

The studies reviewed thus far came from the developmental perspective on attachment. In contrast, the next few studies came from a social psychology perspective and examined continuity in adult attachment relationships. For example, Davila, Kamey, and Bradbury (1999) looked at change in working models of self and other for couples during their first two years of marriage. One hundred and seventy-two newlywed couples were recruited from marriage licenses filed in Los Angeles county. The couples completed in-person laboratory sessions and questionnaires for two years (one initial assessment and four follow-ups every six months). This study focused on three sets of factors that might predict change: Contextual, social-cognitive, and individual differences. Attachment was assessed with the 18-item Revised Adult Attachment Scale (Collins & Read, 1990). Marital satisfaction was included as a contextual factor and was measured with the Marital Adjustment Test (MAT; Locke & Wallace, 1959). Individual difference factors included parental divorce, history of personal or family psychopathology, and personality disturbance. Parental divorce was assessed by asking participants if their families were still intact. Personal history of psychopathology was evaluated by using the Structured Clinical Interview for DSM-IV (SCID; Spitzer, Williams, Gibbon, & First, 1994). A family history of psychopathology was determined with the Family History-Research Diagnostic Criteria (FH-RDC; Endicott, Andreasen, & Spitzer, 1975). Personality disturbance was assessed with the Borderline Personality Disorder subscale of the Personality Diagnostic Questionnaire-Revised (PDQ-R; Hyler & Rieder, 1987). Social-cognitive factors were explored by examining whether changes in marital satisfaction, which typically decreases over time, would correspond with changes

in attachment (i.e., changing from more secure to less secure).

Hierarchical linear modeling (HLM) was used to test whether the three sets of factors predicted attachment change over time. Data were collected for two years in five time waves (an initial assessment and four follow-ups once every six months). Results supported the relevance of all three sets of predictive factors (i.e., contextual, social-cognitive, and individual differences), in discontinuity of adult attachment style. On average, attachment security increased over time in the marriages under examination but there was also individual variation in attachment security. When husbands and wives saw evidence of commitment and stability, their attachment security increased, supporting the importance of social-cognitive factors. In addition, higher levels of wives' vulnerabilities (i.e., parental divorce, history of personal or family psychopathology, and personality disturbance) were associated with greater variability in attachment. And finally, in support of contextual factors, findings showed that as vulnerable husbands became less satisfied in their marriages, they also became less comfortable depending on their wives. In light of these intricate findings, Davila et al. (1999) argue that changes in attachment styles and working models are products of both interpersonal (between-persons) and intrapersonal (within-person) factors.

The next study also examined attachment security over time for married couples. Fuller and Fincham (1995) looked at changes in attachment style and working models over time with a sample comprised of 44 married couples. Couples were married for an average of 8.4 ($SD = 10.5$) years at Time 1 and 10.7 ($SD = 9.3$) at Time 2 (two years later). Attachment style was assessed with Hazan and Shaver's (1987) three-category

measure as well as a dimensional measure developed by Hazan and Shaver (1988) that broke the three paragraph descriptions used in the three-category assessment into thirteen sentences that participants rated on a 7-point Likert-type scale (ranging from strongly disagree to strongly agree). In order to test whether levels of trust were associated with change in attachment styles the Trust Scale (Rempel, Holmes, & Zanna, 1985) was used to evaluate three dimensions of interpersonal trust: dependability, predictability, and faith. Dependability referred to a partner's dispositional qualities (e.g., honesty, reliability). Predictability emphasized stability of a partner's behavior (based on past experiences). And faith items assessed feelings of confidence in the relationship and the level of caring participants expect from their partners. To assess stability in attachment styles over time, Fuller and Fincham (1995) calculated Kappa coefficients to assess the degree of agreement between attachment styles at Time 1 versus Time 2. For husbands, $\kappa = .49$ and for wives $\kappa = .45$, indicating that attachment styles showed only moderate stability (considerable instability) over time. Findings indicated that for husbands, change in the faith dimension of trust in the partner (i.e., more feelings of confidence and level of caring from partner) of trust in the partner was negatively correlated with an avoidant attachment style at Time 2 ($r = -.46, p < .01$). For wives, more faith was negatively correlated with an ambivalent attachment style ($r = -.46, p < .01$) and positively correlated with a secure attachment style at Time 2 ($r = .31, p < .05$). For both husbands and wives, more predictability (i.e., stability of partner's behavior) was positively correlated with attachment security at Time 2 ($r = .31, p < .05$; $r = .32, p < .05$, respectively). These findings emphasize how the quality of relationships is important to changes in attachment

styles and working models for specific intimate relationships over time.

These studies demonstrate that change in working models over time is possible. Each of the studies looked at a specific attachment relationship (child-parent or spousal) over time and investigated the effects of social, personal, and contextual factors on attachment security over time. Working models of self and other are the mechanisms by which childhood attachment affects people's social relationship experiences throughout life (Bretherton & Munholland, 1999). Working models of self and other underlie specific attachment styles (Bartholomew & Horowitz, 1991). Thus, if attachment security can vary in specific attachment relationships over time, by definition, working models of self and other change over time.

Variation in attachment working models across relationships of the same type.

This next section looks at a different form of diversity associated with attachment working models. Specifically, individuals can have more than one attachment style across relationships of similar types, like parental, friendship, or romantic relationships. Although this kind of diversity is not necessarily typical, research supports the notion that this type of variation is possible. For example, the developmental literature has documented that most infants have the same type of attachment style with their mothers and their fathers (see Fox, Kimmerly, & Schafer, 1991 for a meta-analysis review). However, the continuity of attachment style between infants and mothers versus infants and fathers is not perfect, implying that inconsistent parental attachment styles can and do exist (Goossens & van Ijzendoorn, 1990; Steele, Steele, & Fonagy, 1996).

The next section reviews literature that looked at diversity in attachment styles

across relationships of the same type, mainly romantic relationships. The methodology used to assess attachment style in these studies typically had participants report on their *general* attachment style in close relationships. Thus, when there is change in attachment style over time, it is not entirely clear whether the change occurred for a specific relationship (when such information was available) or whether the change was in a more general manner. Regardless, the findings reported in this section suggest that it is possible for people to have variation in attachment styles and working models across relationships of the same type.

Kirkpatrick and Hazan (1994) found support for the notion that adult attachment styles can change. One hundred seventy-seven adults (146 females and 31 males) participated in a longitudinal study examining whether attachment style changes over time. Attachment was measured with Hazen and Shaver's (1987) three category measurement of adult attachment. Questionnaires were mailed to participants, which originally included 714 adults (571 females, 143 males), and then the same questionnaires were mailed again four years later, to the participants that had originally provided a mailing addresses ($n = 344$). Participants indicated their relationship status at both times (i.e., seeing someone, seeing more than one person, not seeing anyone but looking, living with a partner, engaged, married, remarried, separated, divorced, or widowed). The respondents were also asked to indicate the current status of the relationship they had described four years prior at Time 1.

Overall, thirty percent of the 177 adults who responded indicated their attachment styles had changed over the course of the four years. The value of kappa was .51,

representing only a moderate rate of continuity. Concerning the participants that were involved in the same relationship at both time waves ($n = 126$), 61.9% of the participants classified as avoidant, 86.7% of the participants classified as ambivalent, and 80.3% of the participants classified as secure were involved in the same relationship at Time 1 and Time 2. In addition, of these same participants (i.e., that indicated they were in the same relationship at Time 1 and Time 2), 23.3% changed their attachment style from insecure to secure and 11.2% changed from secure to insecure.

Baldwin and Fehr (1995) conducted a meta-analysis on studies that examined the stability of attachment ratings across romantic relationships. The meta-analysis reviewed nine different research projects, with a total of 23 samples (some of the studies had multiple sample pools). The studies were drawn from Baldwin and Fehr's own studies, as well as data from other adult attachment researchers. All subjects completed the Hazan and Shaver (1987) attachment measure twice separated in time from one week to one year. The Hazan and Shaver measure asks participants to select the description that best fits how they feel and relate to romantic partners in general. Thus, it assesses how individuals relate to *all* romantic partners, as opposed to one specific relationship. When looking exclusively at the studies conducted by Baldwin and Fehr (six studies, $N = 221$) that assessed change in attachment style over three to four months, results revealed that 19.5% (24/123) of individuals who classified themselves as secure at Time 1 changed their attachment style at Time 2; 42.5% (31/73) of avoidant individuals changed their reported style at Time 2; 68% (17/25) of anxious-ambivalent participants changed their attachment classification at Time 2. The overall proportion of change in attachment style

from Time 1 to Time 2 was 32.6% (72/221), meaning that the overall proportion of stability was 67.4%. However, the kappa ($\kappa = .41$), a measure of exact agreement, indicated that this was only a “fair” agreement.

Looking at data from other researchers (three additional studies, $N = 746$; time between attachment assessments ranged from 1 week to 40 weeks) Baldwin and Fehr indicated that the rate of instability ranged from 19.8% to 28.9% (they did not indicate the specific changes). Finally, all the studies were pooled together and the findings showed that the rate of instability for the participants that were classified as securely attached at Time 1 but not at Time 2 was 17.2%. Thirty-three percent of participants with an avoidant attachment classification at Time 1 changed their attachment status over time and 55% of the respondents classified with an anxious-ambivalent attachment style at Time 1 changed their status over time. It was not reported whether the change was from one type of insecurity to another, or whether the change was to secure.

Baldwin and Fehr also looked at whether continuous attachment scores (compared to categorical ones) would result in higher stability rates in attachment style and had similar results (correctly classified 62.6% of 171 subjects at Time 2). In addition, a change in relationship status from Time 1 to Time 2 was looked at as a possible correlate of attachment change. However, when change in relationship status was correlated with change in attachment style, the finding was not significant (the correlation was not reported). The specific changes in attachment were not reported. The findings of the meta-analysis implied that overall, 30% of people change their romantic relationship attachment style over time (i.e., time ranged from 1 week to 40 weeks).

Davila, Burge, & Hammen (1997) assessed attachment style change in a sample comprised of 104 women from Los Angeles-area high schools. The study was part of a larger ongoing longitudinal study of young women making the transition from adolescence to young adulthood. Attachment style was assessed at three different time periods: During the initial assessment, during a follow-up assessment after six months, and a final assessment two years after the initial assessment. Hazan and Shaver's (1987) three-category attachment measure was used to determine how they felt in romantic relationships in general. In addition, family status was determined by asking the participants if their families were still intact. A family history of psychopathology was measured with the Family History-Research Diagnostic Criteria (FH-RDC; Endicott, Andreasen, & Spitzer, 1975).

Cross-tabulations were used to determine whether attachment style had changed over time. After six months, 72% of the women endorsed the same attachment style they endorsed at Time 1. After two years, 66% of the women revealed the same attachment style that they did at Time 1. Davila et al. next looked specifically at what factors predicted change in attachment style. First four groups were created based upon attachment status from Time 1 to Time 3 ($n = 97$ for women who had complete data). A stable-secure group ($n = 46$), a stable-insecure group ($n = 19$), a change-to-insecure group ($n = 16$), and a change-to-secure group ($n = 19$) were created. In order to simplify the analysis strategy (cross-tabulations with chi-square statistics) the stable groups and the change groups were combined and entered into a 2 x 2 contingency table with family status and then again with family psychopathology to see if either factor predicted change

in attachment status from Time 1 to Time 2. For family psychopathology, findings indicated more women in the change group had a history of family psychopathology compared to the women in the stable group, $\chi^2(1) = 6.75, p = .009$. Results for family status at Time 3 were only marginally significant, $\chi^2(1) = 3.04, p = .08$. Consistent with the findings from the section that reviewed change in attachment working models for a specific relationship over time, the results from this study seem to imply that problems in the family (i.e., psychopathology) can affect how the family functions and thus result in a change in the attachment relationship.

The studies reviewed up until this point in this section have looked at stability in working models across romantic relationships. The next study assessed whether adolescents' attachment style within friendships changed over time. Like the romantic relationship studies assessed thus far, Miller, et al. (2002) measured attachment styles in a general manner, asking participants to select the statement that best reflected their feelings in all of their friendships from a modified version of Hazan and Shaver's (1987) three-category attachment measure. Participants in the study were part of a longitudinal study of urban high school students at risk for dropping out of school. Only the 539 African-American students in the larger sample pool were selected for Miller et al.'s study. In addition to attachment, Miller et al. assessed psychological well-being (depression, anxiety, and stress), problem behaviors (alcohol use, marijuana use, violent behavior, and non-violent delinquency), and negative peer influences (alcohol and drug use, aggression, and antisocial behavior). Psychological well-being was evaluated with the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) and the Perceived Stress

Scale (Cohen, Kamarck, & Mermelstein, 1983). Problem behaviors were measured by asking participants to first respond to yes or no questions in regards to their own use of alcohol and marijuana and then to indicate how frequently they engaged in these behaviors by rating frequency on a 7-point Likert-type scale (1 - 40+ times) over their lifetime, during the last 12 months, and during the last 30 days. Frequencies of aggression and non-violent delinquency were assessed in a similar manner on a 5-point Likert-type scale (0 - 4+ times). Negative peer influences were assessed in the same way (i.e., asking participants to rate how frequently their friends had engaged in alcohol and drug use, antisocial behavior, and aggressive behavior). Peers' antisocial behavior included low school attendance and theft. The study included two time waves, each one year apart.

The two insecure attachment styles were collapsed into one for the analyses. Forty-six percent ($n = 248$) of the sample were in the stable-secure group, 19% ($n = 105$) were included in the stable-insecure group, and 35% ($n = 186$) were categorized as the instability group as they had changed their attachment status from secure to insecure or from insecure to secure. Unfortunately, collapsing the two change groups together did not allow for an examination of the kinds of outcomes associated with different types of change. Within the instability group, 48% ($n = 90$) had changed their attachment style from insecure to secure and 52% ($n = 96$) had changed from secure to insecure. There were not significant sex differences across the three attachment groups. MANOVAs were conducted to determine whether the attachment groups differed on psychological well-being, problem behaviors, and negative peer influences. Findings showed that the

stable-insecure group fared the worst on all of the domains. Participants classified as stable-insecure had more depressive symptoms, anxiety, and stress than the stable-secure group. The stable-insecure group also had higher stress scores than the instability group. In terms of problem behaviors, the stable-insecure group indicated they had used alcohol and marijuana more than the stable-secure group, and the stable-insecure group reported more violent behaviors and non-violent delinquency than the stable-secure group. Finally, the stable-insecure group had more problems with negative peer-influences than the stable-secure group and the instability group. The friends of the stable-insecure group used alcohol and drugs more often than the friends of the stable-secure and instability groups. In addition, the friends of the stable-insecure groups demonstrated more violent and antisocial behaviors compared to the friends of the stable-secure group. The findings from this study emphasize the relevance of relationship context. It was not simply the participant's own problem behaviors that were linked to remaining insecurely attached in friendships, it appears that the friends' behavior is important to this stable mode of operating within friendships. It is important to note that the study did not assess one particular friendship over time, rather it asked respondents to indicate their general friendship attachment style. Although there was change noted in some of the respondents' attachment style over time, there is no way to know whether attachment styles changed for one highly salient specific relationship or for more than one of these relationships. Additionally, collapsing both "change" groups (i.e., change from insecure to secure and secure to insecure) into one category did not allow for a critical analysis of how the type of change in attachment status is associated with problem behaviors, stress,

or psychological problems.

The literature reviewed in this section looked at individuals' attachment styles across relationships of the same type. However, it is important to note that the studies reviewed did not ask participants to report on multiple specific relationships but rather to report how they felt in general across romantic or friendship relationships. Findings indicate that people can change their attachment style in similar relationships over time. This implies that it is possible to have more than one type of working model in consecutive relationships of the same kind. In contrast, the following section reviews literature that looked at attachment styles across different types of adult relationships.

Diversity in attachment working models across different types of relationships.

Unlike the adult attachment literature that asked participants to report on how they feel in relationships in general, the studies in this section looked at attachment styles across multiple relationships. Baldwin, Keelan, Fehr, Enns, and Koh-Rangarajoo (1996) assessed attachment styles in multiple relationships with a sample made up of 178 college students at the University of Winnipeg. Participants selected one of the Hazan and Shaver's (1987) three attachment classifications that best described how they felt in close relationships in general. In addition to close relationships, participants were instructed to indicate their attachment style for (up to) ten relationships that they felt had the greatest (positive or negative) impact on their lives. These relationship types included parents, peers, romantic partners, teachers, etc.

To calculate the percentage of relationship respondents classified as secure, avoidant, or anxious-ambivalent the total number of relationships was divided by the

number of relationships classified in each attachment category. The mean percentages for all of the relationships under consideration were as follows: 66% secure, 24% avoidant, and 10% anxious-ambivalent. Eighty-eight percent of participants reported more than one attachment style across the ten relationships described and almost half (47%) indicated that they had relationships that fit all three types. In addition, when a 3 x 3 (general attachment style by relationship type) analysis of variance (ANOVA) was carried out with repeated measures on the relationship type, findings indicated a main effect for relationship type, $F(2, 342) = 140.32, p < .001$. Post-hoc comparisons showed participants were most likely to report secure types of relationships when their general attachment style was secure, participants with an avoidant attachment style were most likely to report on avoidant relationships, and individuals with an anxious-avoidant attachment style were most likely to report anxious-ambivalent relationships.

Looking specifically at parental relationships, 34% of participants indicated they had a different attachment style with their mothers versus their fathers. Furthermore, participants' general attachment style often did not match at least one of the parental relationships. Forty-one percent reported a general attachment style different from the one they reported with their mother and 46% had a general attachment style different from that with their fathers. There was better overlap between respondent's general attachment style and a current romantic relationship partner, however, 32% still indicated

a general attachment orientation different from the attachment style within a current romantic relationship.

La Guardia, Ryan, Couchman, and Deci (2000) also investigated whether adults could have different attachment styles across different types of close relationships. In one study, 152 undergraduate college students were administered surveys to assess the attachment style of relationships with their mother, father, romantic partner, best friend, roommate, and another significant adult (e.g., teacher or employer). Attachment was determined with the attachment measure developed by Bartholomew and Horowitz (1991) and the Inventory of Adolescent Attachments (Greenberg, Siegel, & Leitch, 1983) which assesses felt security (e.g., “Although I trust my mother, sometimes I have my doubts”) and emotional utilization (e.g., “I wish I had a different mother”). To assess whether there was variability across relationships, a repeated-measures analysis of variance (ANOVA) was performed on overall security, using relationships as the repeated measure. The same type of analysis was done for the model of self and again for the model of other, to determine if the participant’s model of self and model of other could vary across relationships. Findings indicated participants reported differences in overall security, views of self, and views of others across multiple relationships. A second study included a sample of 160 undergraduate students and evaluated attachment in the same manner as with the first study for four primary relationships: mother, father, best friend, and romantic partner. As expected, and like the first study, results again supported the notion that people could have different levels of overall security, different models of self, and different models of other across relationships of various types.

The structure and organization of working models

The studies reviewed in the previous section looked at diversity in working models across dissimilar types of relationships. Empirical evidence was found for the notion of diversity in attachment styles. Looking across the different studies included in this literature review, it is clear that different levels of attachment were assessed. For example, some of the studies looked at specific attachment relationships and assessed change over time in the attachment style connected with that relationship, like the developmental literature. Still others looked at attachment style in a more general sense, as was seen in the adult attachment literature. It is disputable whether direct comparisons of findings across studies using different methodologies is legitimate. Nevertheless, this literature review has presented evidence of diversity affiliated with working models.

Working models of attachment can differ across time and across relationships. Collins and colleagues (Collins & Read, 1994; Collins & Allard, 2001) proposed a “network of interconnected models” (p. 57) organized in a hierarchy with the specificity of relationship as the organizing principle (see Figure 1). At the top of the hierarchy is the most general working model of relationships that matches the most universal representations of the self and others. This “overarching” working model is comprised of all relationship experience and can apply to a large variety of relationships.

Individual’s basic beliefs, expectations, and behavior are represented at this level, but they may not characterize any particular individual relationship or relationship type

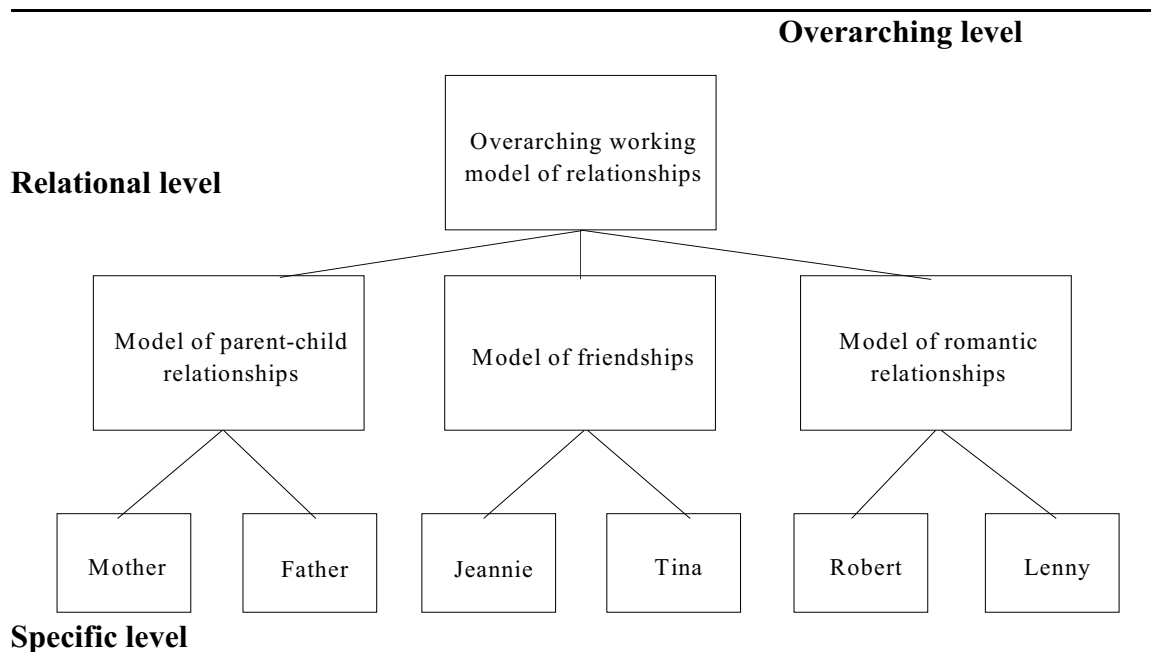


Figure 1: Default hierarchy of internalized working models (Adapted from Collins & Read, 1994)

adequately. Similar to the developmentalist point of view, experiences in actual relationships and with significant life events can alter the model of self and other contained in the “overarching” model.

The next level is comprised of “relational” working models. The theory suggests there is a general model for every different *type* of relationship with which an individual has had experience. Thus, for example, there are working models of self and other for parent-child relationships, peer relationships, coworker relationships, romantic relationships, and others. These working models correspond with an individual’s most general model of self and other that is applicable to each kind of relationship. Each summarizes and integrates experience with multiple people of the same *type* over time.

At the bottom of the hierarchy are working models for *specific* relationships with individual parents, friends, romantic partners, and others. At this level, the individual represents their sense of self (model of self) and sense of other (model of other) for *each* relationship they now have or have ever had (Collins and Allard, 2001). Collins and Read (1994) explained

“Models higher in the hierarchy will fit a wide range of situations, but will typically be less useful in guiding perception and behavior because they are not closely matched to the details of a particular situation. In contrast, models lower in the network will provide a better fit, although at the cost of applying to a more narrow range of relationships and situations” (p. 58).

Collins and Read (1994) speculated that three factors affect the influence of each level of the hierarchy in new situations. These factors are: (a) the specificity of the model, (b) the strength of the model, and (c) whether the model matches the particular situation. The specificity of the model affects whether the model will be activated. Collins and Read (1994) proposed *“All things being equal, more specific models will be preferred”* (p. 60). Once a specific model has been developed it will be preferred over more general models (i.e., overarching or relational) since its models will have the most relevant beliefs, expectations, and information about the relationship or situation it is being applied to. The strength of the model is built upon how often it is used, which means strength is associated with experience. And finally, whether the model matches a particular situation will depend upon the attributes of the interaction partner, the essence of the relationship itself, and the goals associated with the situation. For relationships or

relationship types with which a person has no experience (e.g., first romance) there is no “match” so the overarching level of the hierarchy will be utilized. However, once relational or specific models are developed, they will have more information that matches the relationship or situation than the overarching models, thus the working models at his level will be preferred and utilized to organize and decipher information about the self and the other. Furthermore, ongoing experience informs all levels of the hierarchy but has the most immediate impact on the specific models of self and other.

Each of the working model levels are informed by the synthesis of a range of relationship experiences. Since relationship experiences can vary, it is possible that the working models can also vary across the three levels. The literature reviewed in the current paper provided support for the idea that working models can vary over time and across relationships. The working model hierarchical conceptualization provides an explanation for how this is possible (Collins & Read, 1994; Collins & Allard, 2001). For example, in the studies reviewed in the diversity in working models section of this paper we saw evidence that people could have different attachment styles and working models for relationships that are dissimilar (e.g., parent relationship compared to romantic relationship, peer compared to romantic). In addition, the literature showed that people could even evidence different attachment styles across relationships that were similar (e.g., parent, peer, romantic). Collins and colleagues’ theory posits that people can form different types of attachment relationships with the many different relationships they form over the course of their lifetime. The overarching attachment style is the level that is most salient in new situations, thus it affects the way that people first think about and

behave in relationships they have no experience with, such as romantic relationships. However, once people acquire experience for different types of relationships, it is the relational level that becomes most salient for those types of relationship experiences. What is important to note about this theory for the purposes of this study is that it is important to assess the level most relevant to the hypotheses of a specific study in order to best understand how relationship experiences are related to attachment.

It seems that in terms of the Collins and Read (1994) hierarchy, most of the adult attachment literature has measured aspects of the overarching and relational working models as opposed to the more specific models. For example, attachment style questionnaires typically ask individuals to answer questions about how they relate in relationships in general (e.g., they measure at a relational level reflecting a *type or kind* of relationship, or at an overarching level when they ask participants how they relate to everyone in general). This is potentially misleading when trying to look across studies and make comparisons as the studies may be comparing working models at different levels of the hierarchy. Additionally, it is possible to have experienced one romantic relationship where there was an insecure attachment style, but to still have an overall relational representation of romantic relationships that is secure and reflects a positive model of self and a positive model of other.

As the empirical evidence supports, attachment style and working models of self and other can change over time and across relationships. The most common mechanism for change in working models over time in the literature reviewed thus far was negative life experiences, such as divorce, maternal depression, maltreatment, or life threatening

illness. Typically negative life events were associated with change from a secure attachment style to an insecure attachment style. However, it was also the case that change in attachment working models of self and other occurred in the opposite direction. That is, change from insecure to secure took place for some of the participants. For example, Weinfield et al. (2000) found that positive family functioning was associated with change in attachment status from insecure to secure. Clearly what is happening in terms of the quality of the relationship is important to the attachment style and working models that develop. This is most likely one of the reasons that attachment and working models have been examined in conjunction with negative relationship behaviors, such as aggression.

Summary

While the developmentalist view on attachment typically treats working models as though they operate similarly across all types of social relationships, social-psychological and social-cognitive attachment researchers conceptualize multiple working models across multiple relationships (Collins & Allard, 2001). The studies reviewed in this section demonstrated that variation in working models is possible in three ways. First, there can be change in a specific attachment relationship over time, from secure to insecure, or vice versa. The next type of diversity associated with working models is diversity in attachment styles across relationships of the same type. Finally there can be

variation in attachment styles across relationships that are dissimilar in nature. For example, people can have a secure attachment style with a romantic partner but an insecure attachment style with a friend or parent. The quality of relationship experiences have been shown to facilitate change in specific attachment relationships (Belsky et al., 1996; Waters et al., 2000; Weinfield et al., 2004). Negative experiences have been associated with a change from secure to insecure and positive relationship experiences have been linked with changes from insecure to secure. The quality of relationship experiences are important to understanding specific-level attachment security.

Looking across all the studies in the current literature review, while it is clear that there is diversity associated with working models, it appears that different levels of the working model hierarchy proposed by Collins and colleagues (Collins & Read, 1994; Collins & Allard, 2001) were assessed. Some studies reported on attachment security for specific relationships over time while others asked respondents to report on how they felt “in general” across all relationships, or across a specific type of relationship like friendships or romantic relationships. This poses a problem when investigating how relationship experiences affect specific-level attachment security. In order to get an accurate assessment of how specific relationship experiences affect attachment security for that relationship, attachment security needs to be measured at the specific-level. Additionally, it is important to understand how attachment security at higher levels of the hierarchy is related to specific-level attachment security.

II. INTRODUCTION

Attachment theory (Bowlby, 1969) asserts that people organize relationship experience into internalized “working models,” mental representations of relationships that influence feelings, beliefs, behaviors, and expectations about the self and others, as well as the relationship between the self and others (Collins, 1996; Main, Kaplan, & Cassidy, 1985).

Two working models are conceptualized: a model of self and a model of other (Bowlby, 1988). The model of self reflects whether one views oneself as worthy of receiving love from an attachment figure. The model of other refers to whether one can expect an attachment figure to respond to one’s needs reliably and with sensitivity (Bartholomew & Horowitz, 1991). People that can be characterized positively for both the model of self and other are considered “securely” attached. Alternately, those that are classified negatively for either one or both of the models are labeled “insecurely” attached (Main, et al., 1985).

Working models of self and other have been conceptualized in terms of two underlying dimensions: anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Anxiety refers to the affect associated with abandonment and avoidance refers to discomfort with closeness and dependency. The anxiety dimension corresponds with the model of self and the avoidance dimension with the model of other. High anxiety is

consistent with a negative model of self and low anxiety implies a positive model of self. Alternately, high avoidance is indicates a negative model of other and low avoidance suggests a positive model of other (Brennan, et al., 1998).

Working models arise from and reflect the nature of the relationships between caregivers and infants but are assumed to affect people's thinking about *all* social relationships throughout life (Bowlby, 1988). This does not mean that working models are static, however. Their title "working" implies a dynamic nature. The usefulness of working models depends on their capacity to be updated. New relationship information is continuously incorporated leading to the possibility of change.

Studies document three distinct forms of model diversity. First, specific attachment relationships may change over time, from insecure or to secure and vice versa (Davila, Burge, & Hammen, 1997; Kirkpatrick & Hazan, 1994; Miller, Notaro, & Zimmerman, 2002; Roisman, Padron, Sroufe, & Egeland, 2002; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Second, working models can vary for the same person across relationships of the same type (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Bridges, Connell, & Belsky, 1988; Cunningham, 2001; Main & Weston, 1981; Miller, et al., 2002). Finally, people can have different types of working models across different types of relationships (Bartholomew & Horowitz, 1991; Baldwin, et al., 1996; La Guardia, et al., 2000). These studies illustrate the diversity and complexity of the working model structure.

Collins and colleagues (Collins & Read, 1994; Collins & Allard, 2001) offer an explanation for how it is possible for working models to be both stable and dynamic.

Their theory postulates that people have multiple working models that are organized in a three-tier hierarchal structure with the specificity of relationship as the organizing principle. At the top of the hierarchy is the most “general” working model of relationships that matches the most universal representations of the self and others, ignoring (by synthesizing across) types of relationships. The middle level is comprised of “relational” working models for every different *type* of relationship with which an individual has had experience, for example romantic or peer relationships. These models ignore (or synthesize across) the specific relationships of the relevant type. At the third tier of the hierarchy are working models for *specific* relationships with individual people, e.g., parents, specific friends and romantic partners. These models synthesize across experiences with the particular relationship partner. The working model hierarchy summarizes and synthesizes *all* relationship experiences, even though the experiences may vary significantly in their quality.

In one’s first romantic relationship, the general working model or a model for a different type of relationship (e.g., peer friendship) would be expected to inform one’s expectations and beliefs about this initial romantic relationship. Experience in this initial romantic relationship would then provide the initial basis for one’s romantic relationship relational model. At the beginning of subsequent romances, the relational working model for romantic relationships would inform one’s expectations for the new relationship as ongoing experience in that relationship permitted specific models to emerge. In the absence of direct experience in a relationship, the most informative models are found at the next higher level in the hierarchy. If a new romance differs significantly from

previous romantic relationships, then the working models for the specific relationship can be expected to vary from the working models at the relational level of the hierarchy. On the other hand, continuity of experience across relationships would yield consistent models at specific and relational levels. Dramatic relationship experiences should account for discrepancies among the different levels in the hierarchy (Collins & Allard, 2001). For example, an aggressive or controlling romantic relationship could result in insecurity at the specific working model level in spite of secure relational-level models.

Consistent with this argument, research and theory on diversity and change in working models have focused on contextual factors, especially relationship quality. Attachment theorists expect stability in attachment style and working models across time under “ordinary circumstances.” Change in models are assumed to require substantial change in the attachment figure’s behavior, for example, from responsive to unresponsive (Hamilton, 2000; Waters, et al., 2000). Thus, consistency in attachment style over time and across relationships is associated with consistency in the quality of relationship experiences. In support of this notion, positive experiences in close relationships have been strongly associated with attachment security (Collins & Feeney, 2000). In fact, La Guardia et al. (2000) were able to predict overall security in romantic relationships based upon the extent that people’s needs were met in terms of autonomy, competence, and relatedness.

The importance of negative relationship experience to working models is documented in developmental research. Discontinuity in children’s attachments to caregivers is more likely following a negative life event (e.g., parental divorce, death, or

chronic illness; Waters et al., 2000). Negative relationship experiences, therefore, should be important to working models in specific relationships. Since positive experiences have been linked to attachment security in specific relationships, it is important to control for them in order to determine the unique effect of negative relationship experiences. Close relationships research does not directly document the effect of negative relationship experience on the development of working models. However, experience with negative experiences such as oppressive control or aggression in a close relationship seems likely to have an impact on the working model developed within that relationship, as aggression is a negative experience with serious consequences (Puzone, Saltzman, Kresnow, Thompson, & Mercy; 2000).

Researchers have argued that all women are at risk of experiencing relationship aggression as a result of being raised within a patriarchal society that supports male control and female dependence (Lloyd, 1991). It is the general expectation of this study that working models and their corresponding attachment styles for specific relationships will be affected as victims of relationship aggression and controlling behaviors assimilate these negative experiences. This pattern is expected while controlling for the positive experiences reported in the relationship and while controlling for the relational-level working model that synthesizes across romantic relationships.

It is important to note, however, that aggression is not always recognized for what it is. Indeed, in some aggressive relationships, victims report being satisfied in spite of the aggression (Rogers, Castleton, & Lloyd, 1996). Women may down play the aggression and/or its effect (Lingren, 1995). They may interpret controlling behaviors as “acts of

love” (Lloyd & Emery, 2000a). Although most victims of controlling behavior and aggression are surprised and confused when it is first encountered (Lloyd & Emery, 2000b), they attempt to make sense of it by *reframing the aggression* in a way that fits their romantic relationship scripts (Lloyd & Emery, 2000a). This interpretive process suggests the assimilation of experience into working models. Depending on the interpretation of a behavior, the same objective behavior may have implications for the model of self for some people and the model of other for others and in some cases perhaps no implications at all.

The proposed study investigates links between negative romantic relationship experiences and working models at the most specific level of the working model hierarchy theorized by Collins (Collins & Read, 1994; Collins & Allard, 2001), controlling for positive relationship experiences. The participants for this study are college undergraduates. Because it is expected that they will have had multiple dating relationships, they will be asked to report on as many as they have had (up to five).

For each romantic relationship, respondents report on their models of self and other, thus tapping the most specific level of the hierarchy proposed by Collins and colleagues (Collins & Read, 1994; Collins & Allard, 2001). In addition, respondents report their models of self and other for romantic relationships in general, thus tapping the “relational level” models. This study makes a unique contribution to the literature through its examination of working models at both levels.

This study also examines diversity in attachment styles across multiple romantic relationships. We expect the models reported, and the attachment styles to which they are

linked, to vary across relationships. This will be the first study to examine working models for distinct relationships of the same type experienced by the same individuals over time.

The following hypothesis and research question will organize the analysis:

H1: Negative relationship experiences (verbal and physical aggression and controlling behaviors) will be positively associated with attachment insecurity at the specific level while statistically controlling for positive relationship experiences.

R1: How is security at the relational level related to the impact of negative relationship experiences on specific relationship security, controlling for positive relationship experiences also at the specific level?

III. METHOD

Subjects

Four hundred and twenty-eight surveys were collected from male and female undergraduate college students enrolled in Human Development and Family Studies (HDFS) courses at Auburn University. The gender distribution was not equal thus the decision was made to focus the analyses solely on females (84.4% of the sample). Other selection criteria included the following: respondents were at least 19 years old, had never been married, and had never been parents. A total of 303 respondents met these criteria. The characteristics of the analysis sample are presented in Table 1.

Procedure

Recruitment took place in classrooms and the study, the benefits for participating, and the directions for completing the survey were briefly described (see Appendix A for the script). Participants received extra credit for participation. All data were collected from a single administration of a self-report questionnaire. The order of the measures in the survey was considered carefully (see Appendix B for the full survey). Relational level attachment security was assessed immediately following demographic questions. Then respondents reported several general characteristics (e.g., length, seriousness) for each relationship under consideration. Next, positive relationship experiences were assessed for each relationship. Specific level attachment security was then evaluated before

Table 1

Characteristics of Sample (N = 303)

Variable	<i>f</i> (if applicable)	<i>M</i>	<i>SD</i>	Range (if applicable)
Age		20.52	1.29	19 - 30
College level				
Freshman	7.9%			
Sophomore	23.9%			
Junior	38.4%			
Senior	29.8%			
Ethnicity				
Caucasian	91.6%			
African-American	7.4%			
Other	.9%			
Family type				
Original two-parent	73.2%			
Relationships reported on*				
First	29.4%			
Most recent	26.0%			
2nd most recent	20.6%			
3rd most recent	14.6%			
Least recent	9.4%			
Length of relationships (in months)		13.38	14.11	1 - 120

*Across all specific relationships reported (N = 1031), percent that were first relationships, most recent, 2nd most recent, 3rd most recent, and least recent.

perceptions of control and aggression were considered. This ordering was intended to minimize priming effects by addressing negative relationship experience after assessing specific attachment security.

Measures

Demographics. Participant's reported their age, gender, year in college, ethnicity, marital status, parental status, and family background (see Appendix B).

Variables regarding dating/romantic relationship history. Participants were asked to report on up to five romantic relationships. They began with their earliest romantic relationship that lasted at least a month. The participants then shifted their attention to any current relationship, before working back through time for up to three additional most recent relationships. Across participants ($N = 303$), there were 1031 relationships reported. For each, participants indicated its *length* in months, their *age* when the relationship began, and *who initiated a break-up* if one had occurred (0 = no breakup, 1 = self, 2 = partner, 3 = mutual). *Seriousness* of each relationship was rated on a Likert-scale that ranged from 1 (casually dating) to 5 (married).

Variables reflecting negative relationship experiences. Three items derived from the Conflict Tactics Scale (CTS; Straus, 1979, 1990) tapped experience of aggression in each relationship. Since each respondent reported on multiple relationships, answering the same questions repeatedly, response burden was reduced by combining multiple items from the original CTS into single item measures. The goal of measurement was to distinguish any such experience rather than amounts. *Verbal aggression* was assessed in terms of being insulted, sworn at, humiliated or being called names. *Low severity physical aggression* was tapped in terms of slaps, shoving, grabbing, or having things thrown by a partner. *Severe physical aggression* was measured in terms of punches, kicks, or being beaten up by a partner. For current purposes, each variable was coded 0 = never and 1 = any experience. Of the 1031 relationships, 37.9% (390) had at least one act of verbal aggression, 13.3% (136) had at least one low-severity physically aggressive act, and 2.7% (28) had at least one of high-severity. Because the high severity

category was so rare and the correlation between low and high severity was so high ($r=.7$), these two categories were collapsed and called “*physical aggression*”.

Sexually aggressive behaviors. One item created by the author asked whether each partner had pushed or forced the respondent to be more sexually intimate than she wanted to be. It was also coded 0 = never, 1 = any such occurrence. Across all relationships, 20.2% (208) had at least one such experience with sexual aggression.

Controlling behaviors were assessed with Stets (1995) 10-item Control Scale. Participants used a 6-point Likert scale to indicate how characteristic each behavior was of the partner, ranging from (1) “not at all” to (6) “very much”. Example items include: “Kept me in line,” and “Imposed his/her will on me.” Scores were averaged across items and higher scores indicate more control. Stets (1995) reported good internal consistency ($\alpha = .87$). For the current sample, the mean score was 2.19 ($SD = 1.16$), $\alpha = .92$.

Variables reflecting positive relationship experiences. Positive relationship experience was assessed as the mean of 12 items selected from four measures of positive aspects of romantic relationships. Three of these, autonomy, competence, and relatedness, were tapped with the nine items of the Needs Satisfaction Scale (La Guardia et al., 2000). The fourth was assessed with three items from the 7-item Relationship Assessment Scale (RAS; Hendrick, 1988). Higher scores on this composite reflected more positive experiences. A sample autonomy item was “When I am with ____, I feel free to be who I am”. A sample competence item “When I am with ____, I feel like a competent person.” A sample relatedness item is “When I am with ____, I feel loved and cared about”. A sample relationship satisfaction item asked, “In general, how satisfied

were you in this relationship?” Participants rated the relationship satisfaction items on a 5-point likert-type scale. The mean of *positive relationship experience* was 4.21 ($SD = 1.04$) and $\alpha = .91$.

Variables that reflect adult attachment and working models. The Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998), a 36-item measure tapping anxiety and avoidance, was used to assess adult attachment. *Anxiety* is the fear of abandonment, while *avoidance* is discomfort with closeness and dependency. These dimensions map onto the dimensions that Bartholomew and Horowitz (1991) connect respectively with models of self and other. A sample item for anxiety is “I worry a fair amount about losing my partner,” and for avoidance, a sample item is, “I prefer not to show a partner how I feel deep down.” Items were rated on a six-point Likert-scale ranging from 1 “disagree strongly” to 6 “agree strongly.” Both subscales were completed for each specific relationship and for romantic relationships in general, and means were generated for each dimension, with higher scores always indicating greater avoidance and anxiety. Brennan et al. (1998) reported α coefficients for avoidance and anxiety, respectively, of .94 and .91. In the current study, *specific relationship avoidance and anxiety* revealed α coefficients of .95 and .91, respectively, for the 1031 specific relationships, and their respective means were 2.76 ($SD = 1.21$) and 2.65 ($SD = 1.01$). For *relational level avoidance and anxiety*, the α was .93 and .91, respectively. The mean avoidance score at the relational level was 2.65 ($SD = .79$) and the mean anxiety score was 2.64 ($SD = .74$).

Table 2

Percentages of Attachment Styles Across Relationships and Participants

Attachment style	Specific level (All relationships) (<i>N</i> = 1031)	Relational level (All participants) (<i>N</i> = 303)
Secure	33.5	38.0
Fearful	20.6	18.5
Preoccupied	17.0	23.1
Dismissive	29.0	20.5

A 4-Category assessment of adult attachment style. Using a hierarchical cluster analysis of the two attachment dimensions, four attachment categories were produced (see Appendix C for more detail on this analysis). A K-means cluster analysis was undertaken with hypothesized means reflecting cluster centers corresponding to the meaning of the four attachment styles defined by Bartholomew and Horowitz (1991). Specifically, “secure” is low on both avoidance and anxiety; “preoccupied” is low on avoidance but high on anxiety; “fearful” is high on avoidance and anxiety; and finally, “dismissing” is high on avoidance but low on anxiety. Table 2 shows the frequency of attachment styles reported for the 1031 specific relationships and the 303 relational-level models. Brennan et al. (1998) reported that this type of distribution is consistent across studies looking at attachment styles in adult romantic relationships.

Dichotomous attachment security. Once the four attachment categories were calculated, a dummy variable was created for both specific and relational level by collapsing the three insecure attachment styles into a single category with a code = 1 versus a secure attachment style, coded = 0.

IV. RESULTS

This study is organized around a specific hypothesis and a broad research question. Both address the effects of negative experiences and relational-level security on specific attachment security. The hypothesis stated the expectation that negative relationship experiences (verbal and physical aggression and controlling behaviors) would be positively associated with attachment insecurity while statistically controlling for positive relationship experiences and relational-level security. The general research question asked, how security at the relational level is related to the impact of negative relationship experiences on specific relationship security, controlling for positive relationship experiences also at the specific level. In addition, this study examined whether or not there was variation in attachment security across multiple romantic relationships.

Two methods were used to investigate whether there was diversity in specific level attachment security across multiple romantic relationships. The first method involved calculating percentages for participants in terms of how many of their relationships were classified as secure, fearful, preoccupied, or dismissive. This analysis was only carried out with the respondents that reported more than one relationship ($n = 213$). Findings indicated that 83.2% of the participants that reported having more than one attachment style across all of their relationships. We then examined the percentage

of relationships classified within each attachment category separately within four groups of cases: those that reported two relationships ($n = 55$), those that reported three ($n = 62$), those that reported four ($n = 55$), and those that reported five ($n = 96$). The frequencies for the number of cases with 100% of their relationships in one attachment category indicated that only 35% (19) of the cases with two relationships, 23% (14) of the cases with three relationships, 24% (13) of the cases with four relationships, and 13% (12) of the cases with five relationships reported the same attachment style for every relationship.

The second method involved calculating mean part-whole correlations for the anxiety and avoidance dimensional scores. Again only the respondents with more than one relationship were selected. Total avoidance and anxiety dimensional scores excluding the scores for the specific relationship under consideration were computed by multiplying the total dimensional score by the number of relationships and then subtracting the dimensional score for that case (relationship). Then total dimensional scores were correlated with the newly created dimensional scores (i.e., total multiplied by number of relationships minus the total score). The more diverse the participant's relationship experiences in terms of anxiety and avoidance, the lower the mean correlations will be. The mean part-whole correlation for the avoidance dimension was .17 and .26 for the anxiety dimension. Both correlations were statistically significant at $p < .01$, however, the fact that were small indicated that there was diversity in attachment dimensions across specific relationships.

Hierarchical linear modeling (HLM) using an “intercepts and slopes as outcomes” model was utilized to test both the hypothesis and research question. HLM allows

simultaneous tests of the claims posed by the above hypothesis and research question. HLM was selected above regression modeling for this analysis because regression assumes independence of observations, but the current data consist of multiple observations nested within respondents. Furthermore, unlike regression and SEM models like AMOS or EQS, HLM is able to accommodate data with varying numbers of nested observations per unit (Byrk & Raudenbush, 1992). I use a 2-level analysis for this study. At level 1 are the specific relationships which are nested at level 2 in the individuals reporting these relationship experiences across their dating history. HLM uses level 2 variables, which are variables representative of the individual and common across observations, to explain variation in the level 1 parameters. The results of these analyses, however, can be understood in ways directly analogous to regression modeling.

For the analyses reported below, the outcome variable (specific-level attachment security) was operationalized in three ways, calling for three different types of HLM analyses. First, security was operationalized as a dichotomous variable and a logistic (binomial) HLM model was used. Second, security was treated as a four-category variable, so a multinomial logistic HLM analysis was conducted with the secure category as the comparison group. The third and fourth tests employed linear HLM models to predict security assessed in terms of the two continuous attachment dimensions, anxiety and avoidance. Descriptive statistics for all the predictor and outcome variables used in the HLM analyses are presented in Table 3. Although not part of the original hypothesis, preliminary analysis revealed that ongoing relationships differed from ended relationships

Table 3
Descriptive Statistics for the Predictor and Outcome Variables Included in Analyses

Variable	<i>f</i> (if applicable)	<i>M</i>	<i>SD</i>	<i>N</i>	Min	Max
Level 1 predictors						
Positive experiences		4.20	1.04	1031	1.08	5.75
Control		2.19	1.16	1031	1.00	6.00
Verbal aggression				1030	0.00	1.00
no	62.1%					
yes	37.9%					
Physical aggression				1031	0.00	1.00
no	86.7%					
yes	13.3%					
Sexual aggression				1031	0.00	1.00
no	79.8%					
yes	20.2%					
Ongoing				1031	0.00	1.00
no	80.9%					
yes	19.1%					
Level 2 predictors (relational level security)						
Relational level dichotomous attachment security				303	0.00	1.00
secure	38.6%					
insecure	61.4%					
Relational level four-category attachment style				303	0.00	3.00
secure	38.6%					
fearful	18.8%					
preoccupied	22.4%					
dismissing	20.1%					
Relational level avoidance		2.47	.83	303	1.00	4.83
Relational level anxiety		3.13	.84	303	1.11	5.61
Outcome variables (specific level security)						
Specific level dichotomous attachment security				1031	0.00	1.00
secure	37.4%					
insecure	62.6%					
Specific level four-category attachment style				1031	0.00	3.00
secure	33.5%					
fearful	20.6%					
preoccupied	17.0%					
dismissive	29.0%					
Specific level avoidance		2.76	1.21	1031	1.00	5.90
Specific level anxiety		2.65	1.01	1031	1.00	6.00

in the likelihood of being secure. A two-way contingency table analysis with the four attachment categories and the two relationship status categories (i.e., ended or ongoing)

Table 4
Two-way Contingency Table Analysis with Attachment Style and Relationship Status Across all Specific Relationships (N = 1031)

		Attachment style				Total
		Secure	Fearful	Preoccupied	Dismissive	
Relationship status						
Ended	Count	224.0	195.0	122.0	293.0	834.0
	Expected count	279.1	171.5	141.6	241.9	834.0
Ongoing	Count	121.0	17.0	53.0	6.0	197.0
	Expected count	65.9	40.5	33.4	57.1	197.0
Total	Count	345.0	212.0	175.0	299.0	1026.0

$\chi^2 (9, N = 1031) = 144.47, p = .000$

was conducted. Table 4 displays the results of this analysis. Relationships where respondents classified themselves as dismissive were significantly under-represented in the ongoing relationships. In fact, they were nearly nonexistent. Relationships where respondents classified themselves as secure were significantly over-represented in the ongoing relationship category. In light of these findings it seemed important to include “ongoing” as a predictor of attachment security.

Logistic HLM model

The binomial logistic HLM model included the following level 1 predictors assessed for each specific relationship for each respondent: positive relationship experiences and control, both assessed as continuous variables and are centered on their grand means, and verbal aggression, physical aggression, and sexual aggression, all assessed as dichotomies (none = 0, any = 1). In addition, a level 1 variable indicating whether a specific relationship was ongoing (i.e., intact) at the time the surveys were administered was included as a dichotomy (no = 0, yes = 1). At level 2 (factors shared across level 1 units) only relational-level security was included (0 = secure, 1 = insecure).

Relational security was modeled as affecting only the level 1 intercept term. This means that the hypothesized effect of relational-level security is directly on the likelihood of being secure in a specific relationship. The outcome variable was the specific-level dichotomous attachment security style (0 = secure, 1 = insecure).

Table 5 shows that, controlling for other variables in the model, only relational-level security and positive experiences were significant predictors of specific-level attachment style classifications. Coefficients are the log odds of being in the insecure category when all other variables in the model are set to zero. A more interpretable assessment of probability is calculated as $\text{exponent} \times \text{coefficient}$ (Raudenbush, Bryk, Cheong, & Congdon, 2000). For the first intercept in Table 4, therefore, when relational-level security was zero (secure) and control and positive experiences were at their means, and no aggression of any kind was reported and the relationship was finished, respondents were 3.54 times more likely to belong in the insecure category.

The effect of relational-level security on the level 1 intercept was significant. For a variable with a positive coefficient, $\text{exp} \times \text{coeff}$ yields the difference in the likelihood of being in the category of the dependent variable coded "1" given a unit change in the predictor variable. Since the predictor in this case is a dichotomy, $\text{exp} \times \text{coeff}$ is the difference in the likelihood of an insecure classification between the two categories of the dichotomy. Thus, participants classified as insecure at the relational level were over five times more likely to report insecurity in their specific relationships than those secure at the relational level, holding all remaining predictors constant.

Table 5

Summary of HLM Analysis for Predicting Specific-level Insecurity (Logistic Regression) (N = 301)

Fixed effect	Coefficient	SE	T-ratio	df	p	Probability (when significant)
Intercept						
Intercept	1.264	0.150	8.446	299	.000	3.540
Relational level security	1.632	0.209	7.795	299	.000	5.115
Control slope						
Intercept	-.038	0.105	-0.367	1002	.713	
Positive experiences slope						
Intercept	-2.041	0.146	-14.022	1002	.000	0.130
Verbal aggression slope						
Intercept	0.030	0.182	-0.163	1002	.871	
Sexual aggression slope						
Intercept	0.314	0.229	1.373	1002	.170	
Physical aggression						
Intercept	-0.143	0.276	-0.517	1002	.605	
Ongoing						
Intercept	0.130	0.200	0.651	1002	.515	

Positive experiences in specific relationships were associated with less insecurity specific relationships. Negative coefficients yield an $\exp*\text{coeff}$ less than one, which indicates here a decrease in the likelihood of belonging in the insecure category. Positive experience was a continuous variable, so, to evaluate its effect in terms of standard deviation units, $\exp*\text{coeff}$ (0.130) was multiplied by the SD (1.04) and subtracted from 1.00. This indicates an 86% decrease in the likelihood of being insecure at the individual level given one SD more positive experience, controlling for other predictors in the model. No negative experience variables were associated with insecurity in this analysis.

Multinomial HLM model

A multinomial HLM analysis tested whether the same set of variables used above could predict specific-level security when classified into four styles (fearful = 1, preoccupied = 2, dismissing = 3, secure = 4, with secure as the comparison category). For

this model, relational-level security was again a dichotomous variable, but was coded insecure = 0, secure = 1. Again, the level 2 predictor was modeled only as a direct effect on the likelihood of the level 1 classification (intercept).

The findings from the multinomial analysis are presented in Table 6. A multinomial analysis simultaneously evaluates $n-1$ submodels (where n =number of categories of the DV), each comparing probabilities of membership in the submodel category versus the comparison category. The results in Table 6 reveal 12 significant parameters. A detailed interpretation of each is presented in Appendix E. Presented here is a summary of the major findings.

Relational level security was a significant predictor of membership in all three insecure styles. Relational-level security reduced the likelihood of insecure classifications at the specific level for all three types of insecurity. Positive experiences were also significant in all three submodels, with greater perceived positive experience reducing the likelihood of belonging in each insecure category. Control was significant for both the preoccupied and dismissive submodels, but it worked differently in each. For the preoccupied style, more control from a partner increased likelihood of the preoccupied classification (compared to a secure classification). On the other hand, more control from a partner decreased the likelihood of a dismissive classification (again, compared to secure). Whether a relationship was ongoing also mattered in opposite directions in the preoccupied and dismissing submodels. Ongoing relationships were more likely to be preoccupied in their classification as compared to secure. However, ongoing relationships were less likely to be classified as dismissing compared to secure.

Table 6

Summary of HLM Analysis for Predicting Specific-level Attachment Style (Multinomial Regression) (N = 301)

Fixed effect	Coefficient	SE	T-ratio	df	p	Probability (when significant)
Fearful						
Intercept						
Intercept	0.865	0.245	3.527	300	.001	2.375
Relat. level attach. security	-2.155	0.344	-6.266	300	.000	0.116
Control slope						
Intercept	-0.083	0.152	-0.550	1002	.582	
Positive experiences slope						
Intercept	-2.615	0.269	-12.092	1002	.000	0.073
Verbal aggression slope						
Intercept	-0.147	0.270	-0.548	1002	.583	
Sexual aggression slope						
Intercept	0.385	0.332	1.159	1002	.247	
Physical aggression						
Intercept	-0.567	0.415	-1.366	1002	.172	
Ongoing						
Intercept	-0.284	0.327	-0.870	1002	.385	
Preoccupied						
Intercept						
Intercept	0.425	0.225	1.893	300	.058	
Rel. level attach. security	-2.268	0.301	-7.532	300	.000	0.104
Control slope						
Intercept	0.294	0.129	2.286	1002	.022	1.557
Positive experiences slope						
Intercept	-1.362	0.210	-6.498	1002	.000	0.256
Verbal aggression slope						
Intercept	0.389	0.267	1.453	1002	.146	
Sexual aggression slope						
Intercept	0.260	0.327	0.796	1002	.426	
Physical aggression						
Intercept	0.011	0.378	0.028	1002	.978	
Ongoing						
Intercept	0.671	0.260	2.584	1002	.010	1.956
Dismissive						
Intercept						
Intercept	1.07	0.218	4.919	300	.000	2.919
Rel. level attach. security	-1.192	0.278	-4.276	300	.000	0.304
Control slope						
Intercept	-0.439	0.160	-2.741	1002	.007	0.645
Positive experiences slope						
Intercept	-2.758	0.216	-12.766	1002	.000	0.063
Verbal aggression slope						
Intercept	-0.367	0.268	-1.370	1002	.171	
Sexual aggression slope						
Intercept	0.212	0.301	0.705	1002	.481	
Physical aggression						
Intercept	-0.110	0.412	-0.268	1002	.789	
Ongoing						
Intercept	-1.378	0.442	-3.115	1002	.002	0.252

Because the 4-category security variable distinguishes between three specific forms of insecurity, the multinomial analysis elaborated on the findings from the binomial model. Similarities between the insecure styles were noted, but distinctions in the impact of partner control and the significance of current involvement in a relationship were also noted.

Linear HLM models

Since each security style is constructed from two separate constructs, avoidance and anxiety, separate HLM models were conducted to test whether the set of variables used in the categorical analyses above would operate in similar or different ways when predicting the underlying dimensions of attachment style. When the DV is specific-level avoidance, relational-level avoidance is examined in the model. Likewise, when the DV is specific-level anxiety, relational-level anxiety is tested in the model. Both models are specified so that the relational-level construct predicts not only the intercept of the specific-level construct, but also each of its fixed predictors.

Predicting specific-level avoidance. Table 7 presents the model for specific-level avoidance. The significant intercept (first row) indicates a mean specific-level score for avoidance greater than zero. The only significant effect for relational-level avoidance is in the prediction of the mean value of avoidance at the specific level. Controlling for other predictors, relational-level and specific-level avoidance are positively related. Also evident from Table 7 are significant relations for control from a partner, positive relationship experiences, verbal aggression, and an ongoing relationship status. The effect of physical violence also approaches significance but does not meet the 2-tailed criterion.

Table 7
 Summary of HLM Analysis for Predicting Specific-level Avoidance
 (N = 301)

Fixed effect	Coefficient	Standard error	T-ratio	df	p
Intercept					
Intercept	2.881	0.039	73.652	299	.000
Relational level avoidance	0.250	0.048	5.179	299	.000
Control slope					
Intercept	-0.182	0.028	-6.388	299	.000
Relational level avoidance	-0.028	0.035	-0.797	299	.425
Positive experiences slope					
Intercept	-0.856	0.032	-26.433	299	.000
Relational level avoidance	0.038	0.040	0.953	299	.341
Verbal aggression slope					
Intercept	-0.203	0.055	-3.730	996	.000
Relational level avoidance	0.111	0.072	1.5567	996	.119
Sexual aggression slope					
Intercept	0.081	0.067	1.220	996	.223
Relational level avoidance	-0.047	0.086	-0.549	996	.582
Physical aggression					
Intercept	-0.144	0.085	-1.694	996	.090
Relational level avoidance	0.069	0.100	0.688	996	.491
Ongoing relationship slope					
Intercept	-0.273	0.058	-4.743	996	.000
Relational level avoidance	0.027	0.064	0.430	996	.667

Interestingly, the signs for all of these relations indicate contributions to lower levels of avoidance. Specifically, controlling for relational-level avoidance, avoidance is lower in relationships that are ongoing and have more positive experience, but also have more controlling partners, and more verbal aggression.

Predicting specific level anxiety. Table 8 presents the model predicting specific-level attachment anxiety. The significant intercept (first row) indicates level 1 means above zero. Significant associations with specific-level anxiety are shown for relational-level anxiety, controlling behaviors, positive relationship experiences, verbal aggression, and an ongoing relationship status. Relational-level and specific-level anxiety were strongly and positively related. Positive relationship experience was negatively related to

Table 8
 Summary of HLM Analysis for Predicting Specific-level Anxiety (N = 301)

Fixed effect	Coefficient	Standard error	T-ratio	df	p
Intercept					
Intercept	2.560	0.044	58.673	299	.000
Relational level anxiety	0.510	0.056	9.152	299	.000
Control slope					
Intercept	0.160	0.030	5.402	299	.000
Relational level anxiety	0.024	0.037	0.642	299	.521
Positive experiences slope					
Intercept	-0.088	0.035	-2.496	299	.013
Relational level anxiety	-0.012	0.044	-0.285	299	.776
Verbal aggression slope					
Intercept	0.139	0.060	2.304	996	.021
Relational level anxiety	0.092	0.073	1.267	996	.206
Sexual aggression slope					
Intercept	0.049	0.079	0.622	996	.534
Relational level anxiety	-0.070	0.123	-0.568	996	.569
Physical aggression					
Intercept	0.040	0.093	0.426	996	.670
Relational level anxiety	-0.056	0.122	-0.457	996	.647
Ongoing relationship slope					
Intercept	0.183	0.060	3.076	996	.003
Relational level anxiety	0.291	0.070	4.181	996	.000

anxiety, while control and verbal aggression were linked with higher anxiety. Anxiety was also higher in ongoing relationships. Interestingly, relational-level anxiety had a strong impact on the association between specific-level anxiety and being in an ongoing relationship. As relational-level anxiety increases, the effect of an ongoing status gets stronger (by .29 points per unit increase in relational-level anxiety).

V. DISCUSSION

This study builds on the notion of hierarchically organized working models where specificity of relationship is the organizing principle (Collins & Read, 1994; Collins & Allard, 2001). The model accounts for asymmetry in attachment style across multiple relationships (Bartholomew & Horowitz, 1991; Baldwin et al., 1996; La Guardia, et al., 2000). In the current study, 83.2% of respondents that reported on more than one romantic relationship indicated they had different attachment styles across those relationships. In spite of the discontinuity in attachment styles for specific relationships, relational-level security was a strong, and consistent predictor of specific-level security. This was an expected finding given that Collins and colleagues posited that the three levels of the hierarchy were interrelated and models at the higher levels inform models at the lower levels.

Studies focused on continuity in attachment styles over time have shown that relationship experiences are associated with change in attachment style (Beckwith et al., 1999; Fuller & Fincham, 1995; Lewis et al., 2000; Waters et al., 2000; Weinfield et al., 2000). Clearly, the quality of relationship experiences is essential to attachment security. The current study investigated how negative experiences in specific romantic relationships were related to attachment style in those specific relationships while controlling for positive experiences and the attachment style reported for romantic

relationships in general.

The findings for negative relationship experiences were mixed. At the specific relationship level, perceived control and verbal aggression from one's partner were significantly associated with attachment insecurity. But neither physical nor sexual aggression was related to specific-level attachment security. Perceived partner control was associated with both the avoidance and anxiety attachment dimensions, but in opposite directions. Perceived partner control was positively related to anxiety but negatively related to avoidance. Since anxiety maps onto the model of self and avoidance maps onto the model of other, more control from a partner was affiliated with a negative model of self and a positive model of other. This set of models characterizes the preoccupied attachment style and the multinomial regressions indicated that this style did report more perceived partner control. However, the multinomial results also showed perceived partner control was rare in relationships classified as dismissive. Due to its negative model of other, a dismissive attachment style would be inconsistent with such control attempts. The dismissing individual would be intolerant of such behavior. The multinomial and linear model results taken together imply that perceived partner control may be interpreted in terms of a negative model of self but a more positive model of other.

In a similar pattern, verbal aggression was positively related to anxiety (negative model of self) and negatively related to avoidance (positive model of other). Again, this pattern of anxiety and avoidance corresponded with the preoccupied attachment style, but the analysis did not reveal a significant relation between verbal aggression and the

preoccupied attachment style. The direction of the coefficient for verbal aggression, however, was consistent with this expected pattern and the findings for the anxiety and avoidance dimensional suggest some type of linkage.

It seems counterintuitive that verbal aggression and control would be positively related to a positive model of other, as we tend to affiliate a positive view of other as “healthy.” There are two potential explanations that can be derived from existing literature. Both focus on the interpretation of the verbal aggression and controlling behavior. First, if one has a positive view of an attachment figure, controlling and verbally abusive behaviors may be interpreted as expressions of caring or investment in the relationship (Lloyd & Emery, 2000a; Milardo, 1998; Taylor, 2002). Second, victims of relationship aggression engage in emotion-focused avoidance strategies (Rosen, 1996), which involve minimizing the seriousness of abusive incidents, forgetting about abusive behaviors, or denying that an incident was abusive. Victims often harbor beliefs about aggressive romantic partners that emphasize *Cinderella* or *Beauty and the Beast* scripts. In other words, the abusive behavior is viewed as not “the real him” (Wood, 2001). The victim may thus inflate the positivity of the model of other. In both explanations, a victim interprets a partner’s use of verbal aggression or controlling behavior in ways that enhance the model of other rather than perceiving the behavior as abuse.

An unanticipated finding revealed that whether or not a relationship was ongoing mattered for attachment style. Ongoing relationships were more likely to be classified as preoccupied or secure, and least likely to be classified as dismissive. Findings from the analysis of the attachment dimensions show ongoing relationships were associated with

more anxiety, but less avoidance. Additionally, the effect of being in an ongoing relationship on specific relationship anxiety was intensified by the amount of relational-level anxiety. People in ongoing relationships reported considerably more anxiety in that relationship when their relational-level anxiety score was also higher. It is possible that anxiety over abandonment is more salient when people are involved in a relationship, as opposed to reporting on a relationship that had already ended. High anxiety at the romantic relationship level might intensify this effect.

Ongoing relationships were more likely reveal low avoidance compared to relationships that had ended. Attachment avoidance refers to discomfort with closeness and dependency on a partner. In ongoing relationships, there was less such discomfort on average across relationships. However, when relationships had ended, respondents were much more likely to report discomfort with closeness in the already ended relationship. The dramatic difference in the likelihood that ongoing versus ended relationships were described in terms of a dismissive attachment style suggests a revisionist interpretation of relationship experience following the termination of the relationship. Ongoing relationships are disproportionately secure in their style, but when the relationship ends, individuals may revise their view of the former partner. The revision seems disproportionately to reflect on the partner (model of other) rather than oneself (the model of self). Combining this pattern with the earlier interpretation-focused explanations for the results of partner control and verbal aggression, it may be the case that people with a positive model of other are inclined to interpret these negative behaviors as expressions of love and caring only while the relationship is ongoing. Once the relationship has

ended, it may be easier to look back and see the behaviors in a more negative light.

Limitations

The current study shed some light on how positive and negative relationship experiences are related to security in specific romantic relationships. One of the limitations of the study is the fact that the sample is comprised solely of white, middle-to-upper-class Southeastern female college students. More diverse samples are needed to better understand how negative relationship experiences are associated with specific attachment security.

There were also very few occurrences of physical aggression in the current sample. Findings from nationwide surveys indicated that, on average, 25% of women experience physical aggression from intimate partners (Tjaden & Thoennes, 1998) but only 13.3% of the 1031 relationships in the current sample involved any low-severity physical aggression (i.e., slap, shove, grab, or throw things) and only 2.7% had any high-severity physical aggression (i.e., punch, kick, or beat up). There was not enough physical aggression to gauge the impact this kind of behavior on attachment security at the specific-level.

The current study used retrospective data collection. Participants were asked to recall up to five relationships. Including multiple specific relationships was a strength of the study, but it was revealed that ongoing versus terminated relationships were different in important ways. The conclusion that past relationships may be revised in terms of their underlying dimensions of attachment style is important information. However, because the revision process is not directly observed, the retrospective procedure may also be a

limitation.

Because all the data were collected concurrently, it is difficult to establish the ordering of events and the flow of causality. Do negative experiences lead to insecurity, or does insecurity increase likelihood of negative experiences occurring?

Future directions

Future research looking at negative relationship experiences and attachment security in specific relationships would benefit from enlisting participants from diverse backgrounds in terms of socioeconomic status, race, and direct experience with physical relationship aggression. Future research could also broaden the range of negative experiences under consideration. For example, how do infidelity, extreme jealousy, or over-dependancy on partner affect specific and relational-level attachment security.

The current study focused on the effects of negative experiences on attachment security for the people on the receiving end of aggressive behavior. Another future direction is investigating these variables with perpetrators. Focusing on victims only reveals how the perception or experience of control or aggression is associated with attachment security. It is also important to know how initiating control or aggression affects security at the specific-level. An additional future innovation would be to address the couple as the unit of analysis.

A final future direction concerns longitudinal methodology. Following individuals as they move in and out of romantic relationships would answer causality questions regarding the impact of negative relationship experiences on specific-level attachment security. It would also permit a direct assessment of the process of revising

one's models of self and other in terminated relationships. It seems important to understand how this process works and to learn how revised models of specific relationships affect relational-level working models.

VI. REFERENCES

- Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Achenbach, T.M. (1997). *Manual for the Young Adult Self-Report and Young Adult Behavior Checklist*. Burlington: University of Vermont, Department of Psychiatry.
- Baldwin, M.W., & Fehr, B. (1995). On the instability of attachment style ratings. *Personal Relationships, 2*, 247-261.
- Baldwin, M.W., Keelan, J.P.R., Fehr, B., Enns, V., & Koh-Rangarajoo, E. (1996). Social-cognitive conceptualization of attachment working models: Availability and accessibility effects. *Journal of Personality and Social Psychology, 71*, 94-109.
- Bartholomew, K., & Horowitz, L.M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226-244.
- Beck, A., Ward, C., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 53-63.
- Beckwith, L., Cohen, S.E., & Hamilton, C.E. (1999). Maternal sensitivity during infancy

- and subsequent life events relate to attachment representation at early adulthood. *Developmental Psychology*, 35, 693-700.
- Belsky, J., Campbell, S.B., Cohn, J.F., & Moore, G. (1996). Instability of infant-parent attachment security. *Developmental Psychology*, 32, 921-924.
- Bowlby, J. (1969). *Attachment and Loss: Volume 1*. New York: Basic Books.
- Bowlby, J. (1978). *Attachment Theory and Its Therapeutic Implications*. Chicago: University of Chicago Press.
- Bowlby, J. (1980). *Attachment and Loss: Volume 3*. New York: Basic Books.
- Bowlby, J. (1988). *A Secure Base. Parent-Child Attachment and Healthy Human Development*. New York: Basic Books, Inc.
- Brennan, K.A., Clark, C.L., & Shaver, P.R. (1998). Self-report measure of adult attachment: An integrative overview. In J.A. Simpson and W.S. Rholes (Eds.) *Attachment theory and close relationships* (pp. 46-76). New York: The Guilford Press.
- Bretherton, I. (1993). From dialogue to internal working models: The co-construction of self in relationships. In C.A. Nelson (Ed.) *Memory and affect in development. The symposium on child psychology*, Vol. 26. Hillsdale, NJ: Erlbaum.
- Bretherton, I. & Munholland, K.A. (1999). Internal working models in attachment relationships. In J. Cassidy and P.R. Shaver (Eds.) *Handbook of attachment: Theory, research, and clinical applications* (pp. 89-111). New York: The Guilford Press.
- Bridges, L.J., Connell, J.P., & Belsky, J. (1988). Similarities and differences in infant-

- mother and infant-father interaction in the strange situation: A component process analysis. *Developmental Psychology*, 24, 92-100.
- Cohen, J. (1994). The earth is round ($p < .05$). *American Psychologist*, 49, 997-1003.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health & Social Behavior*, 24, 385-396.
- Collins, N.L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology*, 810-832.
- Collins, N.L., & Allard, L.M. (2001). Cognitive representations of attachment: The content and function of working models. In G.J.O. Fletcher and M.S. Clark (Eds.) *Blackwell Handbook of Social Psychology: Interpersonal Processes* (p. 60-85).
Madden, MA: Blackwell Publishers.
- Collins, N.L., & Feeney, B.C. (2000). A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology*, 78, 1053-1073.
- Collins, N.L., & Read, S.J. (1994). Cognitive representations of attachment: The structure and function of working models. In K. Bartholomew and D. Perlman (Eds.), *Advances in personal relationships volume 5: Attachment processes in adulthood* (pp. 53-90). London: Jessica Kingsley Publishers.
- Crowell, J.A., Waters, E., Treboux, D., & O'Connor, E. (1996). Discriminant validity of the *Adult Attachment Interview*. *Child Development*, 67, 2584-2599.
- Cunningham, G.E. (2001). Romantic relationship careers: The influence of attachment on young adults' romantic experience. Unpublished doctoral dissertation, Auburn

University, Auburn, Alabama, United States.

Davila, J., Burge, D., & Hammen, C. (1997). Why does attachment style change?

Journal of Personality and Social Psychology, 73, 826-838.

Davila, J., Kamey, B.R., & Bradbury, T.N. (1999). Attachment change processes in the

early years of marriage. *Journal of Personality and Social Psychology, 76*, 783-802.

Derogatis, L.R., & Melisaratos, N. (1983). The Brief Symptom Inventory: An

introductory report. *Psychological Medicine, 13*, 595-605.

Duncan, Duncan, Biglan, & Ary (1997, April). *A comparison of model and multiple*

imputation-based approaches to analyses with partial missingness. Paper

presented at the Biennial meeting of the Society for Research on Child

Development, Washington D.C.

Eagle, M. (1999). Why don't people change? A psychoanalytic perspective. *Journal of*

Psychotherapy Integration, 9, 3-32.

Egeland, B., & Deinard, A. (1975). *Life stress scale and manual*. Unpublished

manuscript, University of Minnesota.

Endicott, J., Andreasen, N. & Spitzer, R. (1975). *Family history research diagnostic*

criteria. New York: Biometrics Research, New York State Psychiatric Institute.

Feeney, J.A., & Noller, P. (1991). Attachment style and verbal descriptions of romantic

partners. *Journal of Social and Personal Relationships, 8*, 187-215.

Feeney, J.A., & Noller, P. (1996). *Adult attachment*. Thousand Oaks, CA: Sage

Publications.

- Fox, N.A., Kimmerly, N.L., & Schafer, W.D. (1991). Attachment to mother/attachment to father: A meta-analysis. *Child Development, 62*, 210-225.
- Fuller, T.L., & Fincham, F.D. (1995). Attachment style in married couples: Relation to current marital functioning, stability over time, and method of assessment. *Personal Relationships, 2*, 17-34.
- George, C., Kaplan, N., & Main, M. (1985). The adult attachment interview. Unpublished manuscript, University of California at Berkeley.
- Goossens, F.A., & van IJzendoorn, M.H. (1990). Quality of infants' attachments to professional caregivers: Relation to infant-parent attachment and day-care characteristics. *Child Development, 61*, 832-837.
- Greenberg, M.T., Siegel, J.M., & Leitch, C.J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth & Adolescence, 12*, 373-386.
- Hamilton, C.E. (2000). Continuity and discontinuity of attachment from infancy through adolescence. *Child Development, 71*, 690-694.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511-524.
- Hazan, C., & Shaver, P. (1988). *Measures from our adult attachment studies*. Unpublished manuscript, Cornell University.
- Hendrick, S.S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- Hesse, E. (1999). The adult attachment interview. Historical and current perspectives. In

- J. Cassidy and P.R. Shaver (Eds.) *Handbook of attachment: Theory, research, and clinical applications* (pp. 395-433). New York: The Guilford Press.
- Hylter, S.E., & Rieder, R.O. (1987). *Personality diagnostic questionnaire-revised*. New York: New York State Psychiatric Institute.
- Isabella, R.A., Belsky, J., & von Eye, A. (1989). Origins of infant-mother attachment: An examination of interactional synchrony during the infant's first year. *Developmental Psychology, 25*, 12-21.
- Johnson, M.P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family, 57*, 283-294.
- Johnson, M.L. (In press). Conflict and control: Gender symmetry and asymmetry in domestic violence. To appear in *Violence Against Women*.
- Johnson, M.F., & Ferraro, K.J. (2000). Research on domestic violence in the 1990s: Making distinctions. *Journal of Marriage and the Family, 62*, 948-963.
- Kachadourian, L.K., Fincham, F., & Davila, J. (2004). The tendency to forgive in dating and married couples: The role of attachment and relationship satisfaction. *Personal Relationships, 11*, 373-393.
- Kirkpatrick, L.A., & Hazan, C. (1994). Attachment styles and close relationships: A four-year prospective study. *Personal Relationships, 1*, 123-142.
- La Guardia, J.G., Ryan, R.M., Couchman, C.E., & Deci, E.L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology, 79*, 367-384.

- Lewis, M., Feiring, C., & Rosenthal, S. (2000). Attachment over time. *Child Development, 71*, 707-720.
- Lingren, H.G. (1995). *Dating violence and acquaintance assault*. Cooperative Extension, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln.
- Lloyd, S.A. (1991). The darkside of courtship: Violence and sexual exploitation. *Family Relations: Interdisciplinary Journal of Applied Family Studies, 40*, 14-20.
- Lloyd, S.A., & Emery, B.C. (2000a). I wouldn't hurt you if I didn't love you so much. The dynamics of physical aggression. From *The Dark Side of Courtship*, pp. 45-88. Thousand Oaks: Sage Publications.
- Lloyd, S.A., & Emery, B.C. (2000b). The context and dynamics of intimate aggression against women. *Journal of Social and Personal Relationships, 17*, 503-521.
- Locke, H., & Wallace, K. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living, 21*, 1-255.
- Main, M. & Goldwyn, R. (1984). *Adult attachment scoring and classification system*. Unpublished manuscript, University of California at Berkeley.
- Main, M. & Goldwyn, R. (1993). *Adult attachment classification system*. Unpublished manuscript, University of California, Berkeley.
- Main, M. & Goldwyn, R. (1998). *Adult attachment scoring and classification system*. Unpublished manuscript, University of California at Berkeley.
- Main, M., & Weston, D. (1981). The quality of the toddler's relationship to mother and father: Related to conflict behavior and the readiness to establish new

- relationships. *Child Development*, 52, 932-940.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Monographs of the Society of Research in Child Development*, 50, 66-104.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. Greenberg, D. Cicchetti, & E.M. Cummings (Eds.), *Attachment in the preschool years* (pp. 121-160). Chicago: University of Chicago Press.
- Milardo, R.M. (1998). Gender asymmetry in common couple violence. *Personal Relationships*, 5, 423-438.
- Miller, A.L., Notaro, P.C., & Zimmerman, M.A. (2002). Stability and change in internal working models of friendship: Associations with multiple domains of urban adolescent functioning. *Journal of Social and Personal Relationships*, 19, 233-259.
- Pietromonaco, P.R., & Barrett, L.F. (1997). Working models of attachment and daily social interactions. *Journal of Personality and Social Psychology*, 73, 1409-1423.
- Puzone, C.A., Saltzman, L.E., Kresnow, M., Thompson, M.P., & Mercy, J.A. (2000). National trends in intimate partner homicide. *Violence Against Women*, 6, 409-426.
- Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.
- Raudenbush, S., Byrk, A., Cheong, Y.F., Congdon, R. (2000). *HLM 5. Hierarchical*

linear and nonlinear modeling. Lincolnwood, IL: Scientific Software International, Inc.

Rempel, J.K., Holmes, J.G., & Zanna, M.P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*, *49*, 95-112.

Rogers, L.E., Castleton, A., & Lloyd, S.A. (1996). Relational control and physical aggression in satisfying marital relationships. In D.D. Cahn and S.A. Lloyd (Eds.) *Family violence from a communication perspective* (pp. 218-239). Thousand Oaks, CA: Sage Publication.

Roisman, G.I., Padron, E., Sroufe, A., & Egeland, B. (2002). Earned-secure attachment status in retrospect and prospect. *Child Development*, *73*, 1204-1219.

Rosen, K.H. (1996). The ties that bind women to violent premarital relationships: Processes of seduction and entrapment. In D.D. Cahn and S.A. Lloyd (Eds.) *Family violence from a communication perspective* (pp. 151-176). Thousand Oaks, CA: Sage Publications.

Spitzer, R.L., Williams, J.B.W., Gibbon, M., & First, M. (1994). *Structured clinical interview for DSM-IV (SCID)*. New York: New York State Psychiatric Institute, Biometrics Research.

Steele, H., Steele, M., & Fonagy, P. (1996). Associations among attachment classifications of mothers, fathers, and their infants. *Child Development*, *67*, 541-555.

Stets, J. (1995). Modeling control in relationships. *Journal of Marriage & the Family*, *57*, 489-501.

- Straus, M.A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics Scale. *Journal of Marriage and the Family*, 41, 75-88.
- Straus, M.A. (1990). Corporal punishment, child abuse, and wife-beating: What do they have in common? In M.A. Straus & R.J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 403-424). New Brunswick, NJ: Transaction.
- Taylor, L. (2002). *Motivations and justifications for aggression used within the context of intimate relationships*. Unpublished master's thesis, Auburn University, Auburn, Alabama, United States.
- Teti, D.M., Sakin, J.W., Kucera, E., & Corns, M. (1996). And baby makes four: Predictors of attachment security among preschool-age firstborns during the transition to siblinghood. *Child Development*, 67, 579-596.
- Thompson, R.A. (1999). Early attachment and later development. In J. Cassidy and P.R. Shaver (Eds.) *Handbook of attachment: Theory, research, and clinical applications* (pp.265-286). New York: The Guilford Press.
- Tjaden, P., & Thoennes, N. (1998). *Prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey*. Atlanta, GA: Center for Disease Control and Prevention, Center for Injury Prevention and Control.
- Tolman, R.M. (1989). The development of a measure of psychological maltreatment of women by their male partners. *Violence and Victims*, 4, 159-177.
- Waters, E., & Cummings, M.E. (2000). A secure base from which to explore close

- relationships. *Child Development*, 71, 164-172.
- Waters, E., & Dean, K.E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research* (pp. 41-65). *Monographs of the Society for Research in Child Development*, 50(1-2, Serial No. 209).
- Waters, E., Merrick, S., Treboux, D., Crowell, J., & Albersheim, L. (2000). Attachment security in infancy and early adulthood: A twenty-year longitudinal study. *Child Development*, 71, 684-689.
- Weinfield, N.S., Whaley, G.J.L., & Egeland, B. (2004). Continuity, discontinuity, and coherence in attachment from infancy to late adolescence: Sequelae of organization and disorganization. *Attachment & Human Development*, 6, 73-97.
- Weinfield, N.S., Sroufe, L.A., & Egeland, B. (2000). Attachment from infancy to early adulthood in a high-risk sample: Continuity, discontinuity, and their correlates. *Child Development*, 71, 695-702.
- Wolfe, D.A., Reitzel-Jaffe, D., Gough, R., & Wekerle, C. (1994). *Conflicts in Relationships Questionnaire: Measuring physical and sexual coercion among youth*. Available from the Youth Relationships Project, Department of Psychology, The University of Western Ontario, London, N6A 5C2, Canada.
- Wood, J.T. (2001). The normalization of violence in heterosexual romantic relationships: Women's narratives of love and violence. *Journal of Social and Personal Relationships*, 18, 239-261.

Appendix A: Script for study participation

At the time that I introduce myself to discuss the extra credit/study participation opportunity, I will use the following script: "Hi, my name is Lisa Taylor, I am working towards my Ph.D in Human Development and Family Studies at Auburn University. I am currently working on my dissertation and have a survey that I would like interested students who are at least 19 years of age to complete. I am interested in experiences you've had in dating/romantic relationships that you may be in currently and others you may have been involved in. I am interested in the quality of your relationships as well as whether any hostile or aggressive behaviors occurred. I am going to hand out a copy of my survey and an information letter. You need to complete the survey outside of class, therefore I will return to the next two scheduled class periods to collect the completed surveys. You may keep the information letter. In order to keep your survey responses anonymous, please do not put any identifying information on them. When I collect the surveys, I will provide students with a slip of paper that confirms their participation in the study which can then be turned into your professor/instructor for the amount of extra credit they have predetermined. The survey will take approximately 45 to 60 minutes to complete. Do you have any questions about the survey, my purposes, or your rights as a participant? Thank you very much for your time and (potential) participation. I will return to your next two class periods to collect the completed surveys. Remember not to put your name or any other identifying information on the actual surveys."

Appendix B - Measures

Age: _____ Gender (circle one): M F Year in College (circle one): Freshman Sophomore Junior Senior

Ethnicity:

- _____ Caucasian
- _____ African-American
- _____ Hispanic
- _____ Asian
- _____ Native American

Marital Status

- _____ Never Married
- _____ Currently Married
- _____ Currently Divorced
- _____ Remarried
- _____ Other

Parental status:

- _____ I am not a parent
- _____ I am a parent
- _____ I am a step-parent
- _____ I am both a step-parent
AND
biological/adoptive parent

Other ethnicity: _____ (please specify)

Think about all of the romantic/dating relationships you have ever had. Without thinking of any particular one, use the scale at right to report the degree to which you agree that each statement describes you in romantic/dating relationships in general.	Circle your answers					
In my dating/romantic relationships,	Disagree strongly				Agree strongly	
1. I prefer not to show my romantic partners how I feel deep down.	1	2	3	4	5	6
2. I worry about being abandoned by romantic partners.	1	2	3	4	5	6
3. I am very comfortable being close to my romantic partners.	1	2	3	4	5	6
4. I worry a lot about my romantic relationships.	1	2	3	4	5	6
5. Just when my romantic partners start to get close to me I find myself pulling away.	1	2	3	4	5	6
6. I worry that my romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6
7. I get uncomfortable when romantic partners want to be very close.	1	2	3	4	5	6
8. I worry a fair amount about losing my romantic partners.	1	2	3	4	5	6
9. I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6
10. I often wish that my romantic partners' feelings for me were as strong as my feelings for them.	1	2	3	4	5	6
11. I want to get close to my romantic partners, but I keep pulling back.	1	2	3	4	5	6
12. I often want to merge completely with my romantic partners, and this sometimes scares them away.	1	2	3	4	5	6
13. I am nervous when my romantic partners get too close to me.	1	2	3	4	5	6
14. I worry about being alone.	1	2	3	4	5	6
15. I feel comfortable sharing my private thoughts and feelings with my romantic partners.	1	2	3	4	5	6
16. My desire to be very close sometimes scares romantic partners away.	1	2	3	4	5	6
17. I try to avoid getting too close to my romantic partners.	1	2	3	4	5	6
18. I need a lot of reassurance that I am loved by my romantic partners.	1	2	3	4	5	6

Think about all of the romantic/dating relationships you have ever had. Without thinking of any particular one, use the scale at right to report the degree to which you agree that each statement describes you in romantic/dating relationships in general. In my dating/romantic relationships,	Circle your answers					
	Disagree strongly					Agree strongly
19. I find it relatively easy to get close to romantic partners.	1	2	3	4	5	6
20. Sometimes I feel that I force my romantic partners to show more feeling, more commitment.	1	2	3	4	5	6
21. I find it difficult to allow myself to depend on my romantic partners.	1	2	3	4	5	6
22. I do not often worry about being abandoned by my romantic partners.	1	2	3	4	5	6
23. I prefer not to be too close to my romantic partners.	1	2	3	4	5	6
24. If I can't get my romantic partners to show interest in me, I get upset or angry.	1	2	3	4	5	6
25. I tell my romantic partners just about everything.	1	2	3	4	5	6
26. I find that my romantic partners don't want to get as close as I would like.	1	2	3	4	5	6
27. I usually discuss my problems and concerns with my romantic partners.	1	2	3	4	5	6
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.	1	2	3	4	5	6
29. I feel comfortable depending on my romantic partners.	1	2	3	4	5	6
30. I get frustrated if my romantic partners are not around as much as I would like.	1	2	3	4	5	6
31. I don't mind asking romantic partners for comfort, advice, or help.	1	2	3	4	5	6
32. I get frustrated if my romantic partners are not available when I need them.	1	2	3	4	5	6
33. It helps to turn to my romantic partners in times of need.	1	2	3	4	5	6
34. When my romantic partners disapprove of me, I feel really bad about myself.	1	2	3	4	5	6
35. I turn to my romantic partners for many things, including comfort and reassurance.	1	2	3	4	5	6
36. I resent it when my romantic partners spend time away from me.	1	2	3	4	5	6

Romantic Relationship History: Think back over the romantic relationships you have experienced and recall those that lasted a month or longer. Think of your FIRST (earliest) relationship that lasted a month or more and write that partners' initials in the blank below at left. Next, start with the present and think about your current or most recent relationship experiences. On the blanks labeled Relationship #1 through Relationship #4 place the initials for each of your four most recent partners working back through time making Relationship #4 the "least recent" relationship. (If you have had less than five romantic relationships, report just on the ones you have had.) *Later in the questionnaire you will be asked about these relationships. Please refer back to the list you provide here to ensure that relationship partners and relationship numbers remain consistent across sets of questions.*

Place partner initials in the blanks below for each of your 5 most recent dating/romantic relationships:

1st relationship	(Most recent)			(Least recent)
Relationship #1	Relationship #1	Relationship #2	Relationship #3	Relationship #4
Partner initials:	Partner initials:	Partner initials:	Partner initials:	Partner initials:
_____	_____	_____	_____	_____

Next, indicate the length of each relationship in years and months, and your age when the relationship began:

	(Most recent)			(Least recent)	
1st relationship	Relationship #1	Relationship #2	Relationship #3	Relationship #4	Relationship #4
Years _____	Years _____	Years _____	Years _____	Years _____	Years _____
Months _____	Months _____	Months _____	Months _____	Months _____	Months _____
Age _____	Age _____	Age _____	Age _____	Age _____	Age _____

Use this Seriousness Scale to rate the seriousness of each relationship as YOU saw it:

1=Casually Dating 2=Seriously Dating 3=Exclusive & Committed but NOT Engaged 4=Engaged 5=Married

	(Most recent)			(Least recent)	
1st relationship	Relationship #1	Relationship #2	Relationship #3	Relationship #4	Relationship #4
Seriousness _____	Seriousness _____	Seriousness _____	Seriousness _____	Seriousness _____	Seriousness _____

<p>Please indicate how each dating/romantic relationship ended using the scale below.</p> <p>0 = It is still going 1 = I broke it off. 2 = My partner broke up with me. 3 = We reached a mutual agreement to end the relationship.</p>	Dating/Romantic Relationship History (In each cell below, write the number from the scale at left that best answers the question for each relationship)				
	1st romantic partner	Most recent partner 1	2	3	Least recent partner 4
Indicate how each relationship ended:					

<p>1. In general, how satisfied were you in this relationship?</p> <p>1 2 3 4 5</p> <p>Extremely Dissatisfied Neutral Extremely Satisfied</p>	Dating/Romantic Relationship History				
	1st romantic partner	Most recent partner 1	2	3	Least recent partner 4
<p>2. How much did you love this partner?</p> <p>1 2 3 4 5</p> <p>Not Much Some Very Much</p>	1st romantic partner	Most recent partner 1	2	3	Least recent partner 4
	<p>3. How many problems were there in this relationship?</p> <p>1 2 3 4 5</p> <p>Very Few Some A Lot</p>	1st romantic partner	Most recent partner 1	2	3
			0		

<p>Think of each romantic relationship you listed on Pg 2. Use the 6-point agreement scale below to describe how you felt in each relationship. (The statements are worded in the past tense, but think about how things are now for on-going relationships.)</p> <p>Disagree strongly 1 2 3 4 5 6 Agree strongly</p> <p>When I was with _____,</p>	<p>Dating/Romantic Relationship History (In the column for each relationship, write the number from the scale at left that best describes your response to the item in that row - add partner's initials below if you need to)</p>				
	<p>1st romantic partner Initials _____</p>	<p>Most recent partner 1 Initials _____</p>	<p>2 Initials _____</p>	<p>3 Initials _____</p>	<p>Least recent partner 4 Initials _____</p>
1. I felt free to be who I am.					
2. I felt like a competent person.					
3. I felt loved and cared about.					
4. I often felt inadequate or incompetent.					
5. I had a say in what happened and could voice my opinion.					
6. I often felt a lot of distance in our relationship.					
7. I felt very capable and effective.					
8. I felt a lot of closeness and intimacy.					
9. I felt controlled and pressured to be certain ways.					

Family Background

Please check the statements that most accurately describe your family and answer any connected questions.

_____ Both of my biological/adoptive parents are alive and live together.

_____ Both of my biological/adoptive parents are alive, but they never married or lived together.

_____ My biological/adoptive mother is deceased (_____ Your age at time of death)

_____ My biological/adoptive father is deceased (_____ Your age at time of death)

If there has been a divorce, or if one of your parents is deceased, please answer the following questions

_____ Both of my biological/adoptive parents are alive but are divorced/separated and *have not reunited/remarried* (_____ please record your age at time of divorce/separation)

_____ My biological/adoptive mother has remarried someone else (_____ Your age at time of remarriage)

*Is this marriage still intact? Circle one: YES NO

*If NO, has she remarried again? Circle one: YES NO (_____ Your age at time of remarriage)

_____ My biological/adoptive father has remarried someone else (_____ your age at time of remarriage)

*Is this marriage still intact? Circle one: YES NO

*If NO, has he remarried again? Circle one: YES NO (_____ Your age at time of remarriage)

<p>For the next set of questions, use the scale below to describe how characteristic each statement was/is of each of your dating/romantic relationships.</p> <p style="text-align: center;">Disagree strongly 1 2 3 4 5 6 Agree strongly</p> <p>In my relationship with _____,</p>	<p>Dating/Romantic Relationship History (In the column for each relationship, write the number from the scale at left that best describes your response to the item in that row - add partner's initials if you need to)</p>				
	<p>1st romantic partner Initials _____</p>	<p>Most recent partner 1 Initials _____</p>	<p>2 Initials _____</p>	<p>3 Initials _____</p>	<p>Least recent partner 4 Initials _____</p>
1. I prefer not to show this partner how I feel deep down.					
2. I worry about being abandoned.					
3. I am very comfortable being close to this partner.					
4. I worry a lot about this relationship.					
5. Just when this partner starts to get close to me I find myself pulling away.					
6. I worry that this partner won't care about me as much as I care about him/her.					
7. I get uncomfortable when this partner wants to be very close.					
8. I worry a fair amount about losing this partner.					
9. I don't feel comfortable opening up to this partner.					
10. I often wish that this partner's feelings for me were as strong as my feelings for him/her.					
11. I want to get close to this partner, but I keep pulling back.					
12. I often want to merge completely with this partner, and this sometimes scares him/her away.					
13. I am nervous when this partner gets too close to me.					
14. I worry about being alone.					
15. I feel comfortable sharing my private thoughts and feelings with my partner.					
16. My desire to be very close sometimes scares this partner away.					
17. I try to avoid getting too close to this partner.					
18. I need a lot of reassurance that I am loved by my partner.					
19. I find it relatively easy to get close to this partner.					
20. Sometimes I feel that I force my partner to show more feeling, more commitment.					
21. I find it difficult to allow myself to depend on this partner.					
22. I do not often worry about being abandoned.					
23. I prefer not to be too close to this partner.					

Disagree strongly 1 2 3 4 5 6 Agree strongly In my relationship with _____,	1 st romantic partner	Most recent partner 1	2	3	Least recent partner 4
	Initials____	Initials____	Initials____	Initials____	Initials____
24. If I can't get this partner to show interest in me, I get upset or angry.					
25. I tell this partner just about everything.					
29. I feel comfortable depending on this partner.					
30. I get frustrated if this partner is not around as much as I would like.					
31. I don't mind asking romantic partners for comfort, advice, or help.					
32. I get frustrated if this partner is not available when I need him/her.					
33. It helps to turn to this partner in times of need.					
34. When this partner disapproves of me, I feel really bad about myself.					
35. I turn to this partner for many things, including comfort and reassurance.					
36. I resent it when this partner spends time away from me.					

For the next set of questions, use the scale below to describe how characteristic each statement was/is of each of your romantic relationships. Not at all Characteristic 1 2 3 4 5 6 Very much Characteristic In my relationship with _____, he/she	1 st romantic partner	Most recent partner 1	2	3	Least recent partner 4
	Initials____	Initials____	Initials____	Initials____	Initials____
1. Made me do what he/she wanted.					
2. Kept me in line.					
3. Imposed his/her will on me.					
4. Kept tabs on me.					
5. Regulated who I saw.					
6. Supervised me.					
7. Kept me from doing things he/she didn't approve of.					
8. Let me do what I wanted.					
9. If he/she didn't like what I was doing, made me stop.					
10. Set the rules in our relationship.					

<p>Again thinking of each of your dating/romantic relationships, please indicate whether, and how often, the following occurred.</p> <p>0 1 2 3 No, Yes, 1-2 Yes, 3-5 Yes, more never times times than 5 times</p> <p>In you relationship with _____, did he/she ever:</p>	<p>Dating/Romantic Relationship History (In the column for each relationship, write the number from the scale at left that best describes your response to the item in that row - add partner's initials if you need to)</p>				
	<p>1st romantic partner</p> <p>Initials_____</p>	<p>Most recent partner 1</p> <p>Initials_____</p>	<p>2</p> <p>Initials_____</p>	<p>3</p> <p>Initials_____</p>	<p>Least recent partner 4</p> <p>Initials_____</p>
1. Insult, swear at, humiliate, or call you names?					
2. Slap, shove, grab, or throw things at you?					
3. Punch, kick, or beat you up?					
4. Push or force you to be more sexually intimate than you wanted to be?					

Appendix C - Cluster analysis for constructing four attachment styles

To create the four attachment categories a nonhierarchical cluster analysis was conducted on all specific relationships using a K-means method with a four cluster solution. The results of the cluster analysis revealed four distinct groups. An ANOVA was conducted to verify that the patterns of scores for each of the four clusters on the avoidance and anxiety dimensions clearly distinguished among the four groups in a manner similar to the four attachment styles described by Bartholomew and Horowitz (1991) and Brennan et al. (1998). The ANOVA was significant for both tests, for the avoidance dimension, $F(3, 304) = 196.54, p = .000$, and for the anxiety dimension $F(3, 304) = 227.36, p = .000$. Follow-up tests (Duncan) indicated that the secure group had the lowest scores on both the avoidance and anxiety dimensions, the fearful group had high scores on both dimensions, but the score for the fearful group avoidance did not differ significantly from the dismissing group and the fearful group anxiety score did not differ significantly from the preoccupied group. The preoccupied group had a low score on the avoidance dimension that differed significantly from all of the other groups and high score on the anxiety dimension that differed from the secure and dismissing group scores. The dismissing group had the highest score on the avoidance dimension although it did not differ from the fearful group's score, and a low score on the anxiety dimension that was different from all of the other groups.

Once it was determined that the patterns of scores resembled the four adult attachment styles the sample the reliability of the cluster classification was tested by randomly splitting the sample into two groups and running two additional K-means

nonhierarchical cluster analyses where the cluster centers were specified from the cluster centers generated during the first K-means cluster analysis performed on the entire sample. The results from the cluster analyses performed on the two groups were similar to those obtained on the entire sample. In both analyses there were four distinct groups whose patterns of scores on the avoidance and anxiety dimensions resembled the four attachment styles described by Bartholomew and Horowitz (1991).

The four cluster groups for each randomly selected sample half were next cross-tabulated with the four cluster groups from the cluster analysis on the whole sample in order to determine the rate of classification change. The results of the cross-tabulation revealed a 5.8% rate of classification change. Of the 18 cases that experienced a classification change, half (9) of them were originally classified as fearful in the full sample cluster analysis, but with the other insecure groups in the half-sample replications. Four of these nine cases were grouped with the preoccupied group and five with the dismissing group in the half-sample replications. The secure group remained relatively stable. Of the 117 secure classifications found in the full sample, only two changed to an insecure classification in the half-sample analyses.

Appendix D - Data cleaning, missing data analysis, and sub-scale creation

After the data was entered missing data was examined by performing count functions for all the items that make up the predictor (i.e., positive and negative relationship experiences and relational level attachment security) and outcome variables (attachment security at the specific level). At the specific level, the count analysis revealed that everyone had at least 56% of the data for the avoidance dimension, one of the outcome variables (i.e., specific level attachment security). Only 7 of the 1031 relationships were missing the maximum amount of missing data (44%) for specific level avoidance, all of the other relationships had at least 72% of the data, and the majority of cases had complete data (96%). The majority of cases (97%) had complete data for the anxiety dimension items as well. Like the avoidance dimension, seven of the cases were missing the maximum amount of missing data (44%). In fact, further inspection of these cases showed that the seven cases represented three respondents' data. When the survey was pulled for examination it looked like these respondents simply skipped the second set of items for specific attachment security (items 21-36). Since the two avoidance items were mixed up throughout the measure it seemed logical to include these cases by imputing a mean score for the two dimensions based upon having complete data for at least 10 of the 18 items.

This pattern was similar with the predictor variables. Two cases were missing 9 of the 16 avoidance items, one person was missing two items, and 18 were missing one item. The majority (92.3%) had complete data. Mean avoidance sub-scale scores were calculated based upon having complete data for at least 9 of the 18 avoidance items. Like

the avoidance dimension, two cases were missing 9 of the 18 anxiety dimension items. Nineteen cases were missing only one of the 18 items. Mean anxiety sub-scale scores were calculated based upon having complete data for at least 9 of the 18 anxiety items.

For the control items, the majority of cases (99%) had complete data. Only two cases were missing 33% of the items and seven cases were missing 11%. In a manner similar to the attachment dimensional scores, the control composite was computed with the mean score on at least six of the nine items. Ninety-seven percent of the cases had complete data for the positive experience variable (three items from the Relationship Assessment Scale and all nine items from the Needs Satisfaction Scale). Two percent (22) were missing one of the twelve items, four cases were missing two items, and only one case was missing three items. The positive experiences variable was comprised of the mean computed on having nine of the twelve items. Ninety-nine percent of the cases answered all four aggression items. One case was missing two of the aggression items and nine were missing one. The aggression items were analyzed separately, thus the cases with missing data were excluded from the analyses.

Appendix E: HLM multinomial regression results

Fearful. The significant intercept for the fearful attachment style indicated that holding all the predictors constant at zero, the likelihood of being in the fearful category compared to the secure category is 2.4 times greater. Relational level security significantly predicted membership in the fearful attachment category. Controlling for all the other predictors, when participants classified themselves as secure at the relational level, they were 88% less likely to classify themselves as fearful as they were secure at the specific level. Positive experiences also had a significant impact on predicting membership in the fearful category. A one standard deviation difference in positive experiences in a specific relationship was associated with a 73% lower likelihood of being classified as fearful in that specific relationship, controlling for the remaining predictors in the model.

Preoccupied. Controlling for the remaining predictors in the model, relational level security, control, positive experiences, and whether the relationship was ongoing or not all uniquely predicted membership in the preoccupied attachment style in specific relationships. When respondents were classified as secure at the relational level, they were 90% less likely to classify themselves as preoccupied than secure at the specific level. A increase of one standard deviation in positive experiences in specific relationships was associated with a 73% lower likelihood of being classified as fearful compared to secure. If the relationship was ongoing, there was a 1.96 greater likelihood of the respondent classifying themselves as having a preoccupied attachment style than a secure attachment style in that relationship.

Dismissive. The significant intercept for the dismissive attachment style indicated that holding all the predictors constant at zero, there was a 2.2 likelihood of being in the dismissive category as opposed to the secure category. Relational level security, control, positive experiences, and whether or not the relationship was ongoing all uniquely predicted whether or not the specific relationship was dismissive or secure. Participants with a secure attachment style at the relational level were 70% less likely to be classified as having a dismissive attachment style at the specific level than a secure attachment style. An increase of one standard deviation in positive experiences in specific relationships was associated with a 93% lower likelihood of being classified as dismissive in specific relationships. An ongoing specific relationship is 75% more likely to be classified as dismissing than secure.