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STABILITY OF ATTACHMENT PATTERNS IN YOUNG ADULTS

by

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B.A. (Honors) (Psychology), University of Western Ontario, 1988

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

in the Department

of

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## Abstract

Bowlby proposed that the quality of childhood relationships with caregivers results in internal representations of the self and others in social relationships that become integrated into the personality structure. Research on the stability of childhood attachment patterns has demonstrated that the quality of young children's attachment to a particular caregiver is enduring. Although it is generally assumed that adult attachment patterns are also relatively stable, there is little empirical evidence to support this assumption. Attachment representations are expected to guide social information processing and behaviour as well as to be open to change as individuals adapt to their social environments. Therefore, it is important to examine both stability and change in adult attachment patterns. The present study examined the stability of adult attachment patterns over eight months using both self-report and interview measures. Life events that occurred during the intervening eight months were also assessed to determine if changes in adult attachment patterns were predictable. Results indicated that adult attachment patterns assessed by interview and self-report measures were moderately stable. A latent variable analysis demonstrated stability of two dimensions underlying adult attachment patterns: positivity of models of the self and positivity of models of others. Changes in interview and self-report ratings of attachment were not consistently related to life events. However, this sample experienced few life events which would be expected to influence attachment patterns. To determine the conditions that influence change in attachment representations, future research should examine the stability of attachment patterns in samples with unstable social environments.

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## Stability of Attachment Patterns in Young Adults

### Introduction

Research on the stability of childhood attachment patterns has confirmed that the quality of young children's attachments to a particular caregiver is relatively stable (Egeland & Sroufe, 1981; Thompson, Lamb & Estes, 1982; Vaughn, Egeland, Sroufe & Waters, 1979; Waters, 1978). Although it is generally assumed that adult attachment patterns are also stable, there is little empirical evidence to support this assumption. Attachment representations are expected to guide social information processing and behaviour as well as to be open to change as individuals adapt to their social environments. Therefore, it is important to examine both stability and change in adult attachment representations. This project was designed to test the stability of adult attachment patterns over eight months and measure life events that may influence change.

Bowlby proposed that the quality of childhood relationships with caregivers results in internal representations of the self and others in social relationships that become integrated into the personality structure and have a propensity to remain stable (Bowlby, 1973, 1980, 1982). These models must be at least somewhat stable if they are to organize an individual's socio-emotional and cognitive development (Main, Kaplan, & Cassidy, 1985). While internal working models are thought to be stable, they are not conceived as templates. They are best conceived as structured processes serving to obtain or to limit access to information. Once formed they direct attention and behaviour and restrict and distort information either through memory, attention, or interpretation (Main et al., 1985).

Social and personality psychologists have also identified interpersonal mechanisms that may help to maintain attachment patterns. Individuals perform social behaviours that elicit specific reactions from others, which are then interpreted

by the individual in ways that confirm existing beliefs about the self or others (see Caspi & Herbener, 1988; Swann, 1983, 1987). One specific example of this process is selective affiliation, seeking social contacts who are likely to confirm internal models and avoiding those that do not. The process of selective affiliation is proposed to be central in maintaining adult attachment patterns (see Bartholomew, 1990; Collins & Read, 1990).

Stable attachment representations are expected to guide social information processing and thereby influence the ongoing confirmation of existing internal models. However, unpredictable social events may facilitate an opportunity to change representations. Epstein (1980) argues that it may be necessary to experience a compelling emotional experience that is inconsistent with existing models in order to change them. There has been some support for his arguments. Research has demonstrated a significant relationship between a change from insecure to secure attachment in infancy and life events reported by caregivers (Egeland & Sroufe, 1981; Thompson et al., 1982; Vaughn et al., 1979). In adulthood, supportive spousal relationships may help to moderate the effects of difficult early attachment relationships (Brown & Harris, 1978; Crockenberg, 1987; Quinton, Rutter, & Little, 1984). In addition, major life transitions that involve the adoption of new social roles, such as leaving for college, getting married, having children, or retiring, may be opportune times for individuals to evaluate and reorganize their internal working models of attachment (cf. Caspi & Elder, 1988; Ricks, 1985).

### Childhood Attachment

Mary Ainsworth and her colleagues (Ainsworth, 1969; Ainsworth, Blehar, Waters & Wall, 1978; Ainsworth, 1985) developed a procedure called the Strange Situation that is used to classify young children into one of three attachment categories. The majority of children evaluated with the Strange Situation procedure are considered to be secure. Children who are securely attached are confident that

their caregiver will be available and responsive if needed and tend to explore the social world with confidence and competence. Anxious avoidant children expect their caregiver to ignore pleas for help and thus learn not to look to the caregiver for comfort and support. Anxious resistant children are uncertain that the caregiver will be available and responsive when needed for comfort or support. These children become anxious and tend not to want to separate from the caregiver. Although most of the research in childhood attachment uses the original Ainsworth categories, researchers have proposed additional categories (disorganized; Main & Solomon, 1986 and avoidant/resistant; Crittenden & DiLalla, 1988).

Using Ainsworth's categorical approach, several studies have confirmed that an infant's attachment to a particular caregiver is moderately stable between 12 and 18 months of age. Using an upper middle class sample, Waters (1978) reported that 96% of the infants were classified in the same attachment category at the two time points. This result was so astonishing that other researchers in the field attempted to replicate his findings in somewhat different populations.

Thompson et al. (1982) tested infants from adequate middle class homes at 12.5 and 19.5 months of age. Their results found that only 53% were assigned to the same category at the two time points. Shifts in attachment categories were found to be related to changes in the family environment such as the mothers' return to work or changes in caregivers. Changes in attachment categories were not related to life events, such as moving, that would not necessarily affect the quantity or quality of the mother-infant interaction.

Vaughn et al. (1979) studied the stability of attachment patterns in 100 economically disadvantaged children. Although the attachment patterns were relatively stable, 38% changed. A change from secure to insecure was predicted by mothers' reports of a high number of stressful life events, whereas a change from insecure to secure was predicted by mothers' reports of a low number of stressful life

events.

Egeland and Sroufe (1981) compared the stability of attachment in a maltreated (abused and/or neglected) and an excellent care group. Patterns of attachment between 12 and 18 months of age of children in the excellent care group were stable. In contrast, 52% of the children in the maltreated group changed classifications at 18 months. A change to a secure attachment style was related to positive life events, such as adequate caregiving from other members of the family or the mother's report of a less stressful lifestyle.

In summary, these studies indicated that the attachment categories of infants in stable environments are moderately stable. In contrast, the stability of attachment categories was consistently lower for infants in high-risk environments. Finally, stressful life events which would directly affect the mother-infant interaction were related to change in the quality of attachment relationships.

#### Adult Attachment

According to attachment theory, attachment relationships continue to be important throughout the lifespan (Ainsworth, 1982, 1989; Bowlby, 1973, 1980, 1982). Two distinct approaches have been taken to studying adult attachment. First, developing directly out of childhood literature, Mary Main and her colleagues have developed the Adult Attachment Interview (AAI; Main, Kaplan & Cassidy, 1985). This interview focuses on individuals' internal representations of their families of origin. Based on interview responses, individuals are classified as either secure (autonomous) or one of three insecure styles (preoccupied, dismissing, or disorganized). The greater part of the research with the AAI has been conducted with parents in order to examine the parenting style of individuals with different attachment representations as well as predict the future attachment status of their children. In the second approach to studying adult attachment, social and personality theorists have expanded the definition of internal working models to include

representations in friendships and romantic relationships as well as family relationships. In order to measure these representations, several self-report measures (e.g., Hazan & Shaver, 1987; Collins & Read, 1990) and an interview measure (Bartholomew & Horowitz, 1991) have been developed. These measures yield a variety of attachment dimensions (e.g., anxiety, avoidance) as well as categories that are parallel to the childhood attachment categories.

Only one study has investigated the stability of adult attachment patterns based on the AAI. Steele, Fonagy, and Steele (unpublished paper) interviewed 12 mothers, at two month intervals, and found that 88% of attachment styles were stable. Although these results are promising, there were major methodological problems, such as the small sample size and use of the same coders at each time period.

The AAI has been used in various studies examining the intergenerational transmission of attachment patterns. Theoretically, evidence of intergenerational transmission of attachment patterns supports the assumption of temporal stability of attachment patterns. For example, a mother with a secure representation may interact with her child in a different way than a mother with an avoidant representation (Crowell & Feldman, 1988) and, therefore, be more likely to raise a relatively secure child than an insecure mother. Using the AAI, various researchers have examined mothers' attachment representations and their infants' attachment behaviours during the Strange Situation at approximately 12 months of age.

Main, Kaplan and Cassidy (1985) were the first to study the relationship between the attachment patterns of children and their parents. A moderate relationship was found between the mother's attachment representations and the quality of the attachment relationship with her child at one and six years of age. The results with fathers were not significant. These results support the hypothesis that mothers with specific attachment styles behave in ways that perpetuate similar attachment relationships with their children. However, since the parents' attachment



patterns were assessed when the child was six years old, it could be that the child's behaviour has influenced the parents' attachment status.

Three recent studies have avoided the limitations of the Main et al. (1985) study by interviewing caregivers before the birth of their children and assessing the parent-infant attachment relationship when the child is one year old. Fonagy, Steele and Steele (1991) found 75% agreement between mothers' attachment classifications and their infant's attachment classifications according to the Strange Situation. Using a sample of adolescent mothers, Ward and Carlson (1991) reported an agreement of 68% between the mothers' and infants' attachment classifications. Similarly, Benoit, Vidovic and Roman (1991) reported a correspondence of 77% between mothers' and infants' attachment classifications. These researchers also examined the correspondence between infants, mothers, and grandmothers and found that the correspondence between mothers and grandmothers was 74%, and infants and grandmothers was 55%. These results indicating intergenerational transmission of attachment patterns are consistent with the assumption of stability, but none of these studies directly assessed temporal stability. Moreover, the mechanisms of stability and change in adult attachment patterns have yet to be examined.

Various studies have examined the stability of self-report measures that assess attachment representations of adult friendships and romantic relationships. Hazan and Shaver (1987) developed a self-report measure of adult attachment with three groups that are parallel to the childhood groups: secure, avoidant, and anxious/ambivalent. This measure consists of three short paragraphs describing the three attachment patterns. Each participant is asked to choose the paragraph that best describes themselves. This measure has subsequently been revised to include a Likert scale to enable respondents to rate how well they fit each of the three descriptions. Using the continuous scales of this revised measure, Levy and Davis (1988) examined the stability of the three patterns over a two week period. The test-retest correlations for

secure, avoidant, and anxious/ambivalent were .48, .58, and .65 respectively.

Further research replicated the initial stability results using measures derived from Hazan and Shaver's (1987) self-report measure. Collins and Read (1990) revised the Hazan and Shaver (1987) categorical measure of attachment into a list of 30 statements that individuals rate on a Likert scale. The resulting measure has three empirically derived dimensions: closeness (comfort with closeness and intimacy), dependence (ability to trust and depend on others to be responsive when needed), and anxiety (anxiety from feelings of being abandoned or unloved). The test-retest correlations for these scales over a two month interval were moderately high: close .68, depend .71, and anxiety .52 (Collins & Read, 1990).

Bartholomew (1990) has developed and validated an expanded model of individual differences in attachment representations in adulthood. Four prototypic attachment patterns (secure, fearful, preoccupied, and dismissing) are defined in terms of the intersection of two underlying dimensions of internal working models - positivity of models of the self and positivity of models of hypothetical others. Using a self-report measure developed from this model, Bartholomew (unpublished data) found moderate stability over two months. The stability for the secure rating was .71, fearful .64, preoccupied .59, and dismissing .49.

Each of the above studies reports moderate stability over a short time period. In order to support Bowlby's proposition that attachment representations tend to be stable across the lifespan, it is necessary to use longer test-retest periods. To date, two studies have examined the stability of self-report attachment patterns over time periods of more than two months. Using statements from Hazan and Shaver's (1987) categorical measure, Feeney (1990) derived two attachment dimensions (closeness and anxiety) which are similar to the comfort with closeness and anxiety dimensions reported by Collins and Read (1990). Feeney, Noller, and Callan (in press) reported that their attachment dimensions were moderately stable over nine months (closeness,

$r = .64$  and anxiety,  $r = .61$ ).

Using Hazan and Shaver's (1987) categorical measure of adult attachment, Hazan, Hutt and Markus (1991 as cited in Shaver & Hazan, 1992) examined the stability of self-reported attachment categories over one year. The results indicated that 78% of participants reported the same category after one year.

Although previous research assessing stability of adult attachment patterns has relied almost exclusively on self-report measures, these measures may have important limitations. Ross and his colleagues (cf. McFarland & Ross, 1987) have studied the process that individuals go through when rating their previous status on personal attributes. When rating a personal attribute, individuals consider their perceived stability on the personal attribute as well as their current rating on the personal attribute. Bartholomew (in press) reports that self-report attachment measures given to individuals in a romantic relationship may be highly influenced by relationship variables such as current satisfaction. Therefore, self-report measures may be biased by beliefs about the stability of personal attributes and current satisfaction in the relationship.

Results reported by Hazan and Shaver (1987) also suggest that self-report attachment measures of family relationships may be limited. College aged avoidant individuals were more likely to describe their parents using positive descriptors than were older avoidant individuals. This difference between the younger and older individuals was interpreted as the younger individuals being more defensive of their parents. Characteristics such as idealization and coherence of thought are important components of attachment representations but are difficult to assess using self-report measures (Collins & Read, 1990; Hazan & Shaver, 1987). Since it is possible to train coders to rate constructs such as idealization and coherence as well as other attachment related variables, problems with self-report data may be avoided by rating these characteristics and the attachment patterns from interview responses.

Bartholomew and Horowitz (1991) have developed an interview measure, parallel to their self-report measure, to assess the four prototypic attachment patterns (secure, fearful, preoccupied, and dismissing) as defined by the self- and other-model dimensions. There is no stability data for this interview. Methodological problems in Fonagy, Steele and Steele (unpublished paper) which examined the stability of the AAI and the different focus of the two interviews warrant a replication of Fonagy et al.'s results using the interview developed by Bartholomew and Horowitz (1991).

The present study examined the stability of attachment patterns over eight months using self-report and interview ratings. The data from the self-report questionnaires was expected to replicate previous findings. Interview ratings were expected to be at least as stable as self-report ratings.

Although previous studies have examined the stability of adult attachment patterns, researchers have not measured other variables, such as stressful life events, that may facilitate change in attachment patterns. Therefore, I have measured significant life events and the perceived impact of these life events in order to determine if changes in adult attachment patterns can be predicted by life experiences. In the childhood literature, interpersonal events (such as separations) have been found to be most predictive of change in attachment patterns. In order to determine if changes in adult attachment are also related to interpersonal events, life events were coded as interpersonal or non-interpersonal.

## Hypotheses

1. A moderate degree of stability was expected for both the interview and self-report attachment measures.
2. Scales used in previous work (Collins & Read, 1990; Feeney et al., in press) were included to replicate previous stability results of adult attachment dimensions.
3. A negative relationship between stability and life events was expected. Therefore, a high number of life events was expected to be related to less stable attachment patterns.
4. More specifically, interpersonal life events were hypothesized to be more strongly related to the stability of attachment patterns than were non-interpersonal life events.

## Study 1

Overview Study 1 was conducted to determine which events in the Life Experiences Survey (LES) are considered to be interpersonal. A sample of psychology faculty and graduate students were given a list of the events in the LES and asked to judge if each item was an interpersonal event.

### Method

Subjects The participants in this study were eight faculty members and 49 graduate students in the Department of Psychology at Simon Fraser University.

Procedure Each participant was given a list of the 76 life experiences and asked to determine if each event was "primarily an interpersonal event or not". This was a forced choice task; the event was either an interpersonal event or not an interpersonal event.

### Measures

The Life Events Survey (LES). (Sarason, Johnson & Siegel, 1978) The LES is a self-report measure developed to record the number and impact of stressful life events in the past year (e.g. failing a course, involvement in a major conflict, marriage). After examining this list, I concluded that it was not a comprehensive list of possible life events. Therefore, two attempts were made to supplement the survey. First, 12 items from the Life Events Inventory (Cochrane & Robertson, 1973) and five items suggested by committee members were added to this measure, resulting in an inventory of 76 life experiences. Second, participants were asked to suggest items that were not listed in the survey but may be particularly stressful.

### Results

In order to be coded as an interpersonal event, items were rated as an interpersonal event by at least 70% of the participants. Events that were not rated as an interpersonal event by at least 70% of the participants were coded as non-interpersonal. Two items were deleted from the list after deciding that the participants

in study 2 would not experience these events (i.e., retirement from work and being dismissed from a dormitory). Based on suggestions from the participants, 11 items were added to the final list of life events. One item on the list in Study 1 (therapy) was expanded into six items: starting therapy, being in therapy, ending therapy, partner starting therapy, partner being in therapy, partner ending therapy. Since over 90% of the participants judged that "therapy" was a interpersonal event, the six items were added to the interpersonal events subscale. "Starting an important relationship" was also added to the interpersonal events subscale. Finally, four additional items were added to the list; however, they were not categorized as a interpersonal or non-interpersonal events. Of the 84 possible events, 41 were categorized as interpersonal events and 21 were categorized as non-interpersonal events. For a complete list of each group and the source of the item, see Appendix A. The resulting subscales of interpersonal and non-interpersonal events were used in Study 2.

## Study 2

Overview In order to study the stability of self-report and interview measures of attachment, a longitudinal study was completed. During two test sessions, eight months apart, each participant completed various self-report measures and was administered an attachment interview.

## Method

Subjects In order to participate in the study at Time 1 (t1), participants were required to be currently involved in a romantic relationship of two years or more and have no children. One of the individuals in the couple had to be between the ages of 20 and 35 years. Seventy-seven couples completed the initial session. The mean age of the participants was 24.5 years at t1. The average length of the relationships was 49.5 months with a range between 24 and 168 months. Forty-four percent of the couples were cohabiting and 28% of the couples were married. The participants were recruited via various methods including advertisements in the university newspaper

and on a video bulletin board, volunteers from non-psychology classes, and research pool participants. Seventy-one women and 70 men agreed to complete the second session (t2). One woman and two men completed the self-report questionnaires but declined the interview at t2, therefore sample sizes vary for self-report and interview results. There were no significant differences between individuals who completed t2 and those who did not in age, relationship length, or mean attachment ratings.

Six couples terminated their relationship before the second session. All twelve individuals participated in the second session. There were no differences between these individuals and individuals who continued their relationship in age, relationship length, or mean attachment ratings.

Procedure This study included two test sessions eight months apart. Time 1 included two hour long appointments. Each participant completed a set of questionnaires that included the Relationship Questionnaire and the Relationship Scales Questionnaire during the first appointment. During a second appointment, each individual was interviewed using the Peer Attachment Interview. Each participant was paid \$10.00 upon completion of the interview.

The second interview was scheduled eight months after the first interview. Two weeks before the second interview, the participants were sent a questionnaire packet to complete before the interview date. The questionnaires in this packet included the Relationship Questionnaire and the Relationship Scales Questionnaire. The participants were given the attachment interview by an independent (to the interviewer and coder at t1) interviewer. Immediately after the attachment interview, the participant was asked to complete the LES for events that had occurred in the past eight months. Each participant received \$25.00 upon completion of the attachment interview.



## Measures

Peer Attachment Interview. (Bartholomew & Horowitz, 1991; see Appendix B). This hour long interview asks subjects to describe their friendships, history of romantic relationships, and feelings about the importance of close relationships. In the context of their current relationship, participants are asked their reactions to various issues in the relationship (e.g., conflicts, affection, social life), feelings in the relationship (e.g., dependency, anxiety, jealousy, trust), and hopes for changes in the future.

Interviews were coded using the attachment framework proposed by Bartholomew (1990; Bartholomew & Horowitz, 1991). Each participant's degree of correspondence to each of four prototypic attachment patterns (secure, fearful, preoccupied, and dismissing; see Appendix C) was rated on a 9-point scale (1=no correspondence with the prototype to 9=excellent fit with the prototype). Each interview was coded by two independent coders. All coders were trained until they had attained an acceptable level of reliability. The final attachment ratings were an average of both codings. Alpha coefficients were computed to assess the reliability of the attachment ratings. The alpha coefficients ranged from .85 to .93.

The attachment ratings were used to classify individuals as secure or insecure by using the highest attachment rating as an indicator of the individual's predominate representation. Thus, if the highest attachment rating was fearful, preoccupied, or dismissing, the participant was classified as insecure. If the individual's highest rating was secure, the individual was classified as secure<sup>1</sup>.

The attachment ratings were also used to compute scores for the self- and other-model dimensions. To compute the self-model dimension, the sum of the fearful and preoccupied ratings were subtracted from the sum of the secure and dismissing ratings. To compute the other-model dimension, the sum of the dismissing and fearful ratings were subtracted from the sum of the secure and preoccupied

ratings.

The Relationship Questionnaire (RQ). (Bartholomew & Horowitz, 1991; see Appendix D). This questionnaire consists of four short paragraphs describing the four attachment patterns. Each respondent is asked to choose the description that best fits their behaviour and feelings in close relationships. Next, the respondent rates the degree to which they resemble each of the four patterns on a 7-point Likert scale.

The continuous ratings were used to classify individuals into secure and insecure groups using the same procedure as described for the interview ratings.

Relationship Scales Questionnaire (RSQ). (see Appendix E) This thirty item questionnaire consists of phrases from the paragraph descriptions of Hazan and Shaver's (1987) and Bartholomew and Horowitz's (1991) categorical measures as well as three items developed by Collins and Read (1990). Each respondent is asked to rate the degree to which their thoughts and feelings in close relationships resemble the thoughts and feelings in each statement on a 5-point Likert scale.

Eighteen items measure the three attachment scales developed by Collins and Read (1990): closeness (comfort with closeness and intimacy), dependence (ability to trust and depend on others to be responsive when needed), and anxiety (anxiety from feelings of being abandoned or unloved). Average alpha coefficients were .75 for the closeness scale, .74 for the dependence scale, and .78 for the anxiety scale.

Fifteen items measure two attachment dimensions derived by Feeney (1990). Independent of Collins and Read (1990), Feeney (1990) developed a similar scale to measure closeness and an identical anxiety scale (also see Simpson, Rholes & Nelligan, 1992). The average alpha coefficients were .81 for the closeness scale, and .78 for the anxiety scale.

The Life Events Survey (LES). The LES was developed by Sarason et al. (1978) in order to record the number and impact of life events. The LES was supplemented with 24 items as described in Study 1 to result in a list of 84 possible life events. Using the categories determined in Study 1, the number of interpersonal and non-interpersonal events were calculated as well as a count of the total number of events recorded by each participant. The inventory also requires participants to rate the impact of the events on a 7-point Likert scale (-3=extremely negative, -2=moderately negative, -1=somewhat negative, 0=no impact, 1=somewhat positive, 2=moderately positive, and 3=extremely positive). Using this scale, interpersonal and non-interpersonal events were distinguished into events rated as having a positive or negative impact. The total absolute value of impact was also calculated by adding the absolute value of all impact scores.

Data Analysis The participants in this study were women and men in romantic relationships. In order to maintain independence in the data, females' and males' data were analyzed separately.

The stability of the continuous self-report and interview ratings were analyzed using various methods. First, the means of the self-report and interview attachment ratings at t1 and t2 were compared, to determine if there were mean differences in the attachment ratings over time. Second, Pearson product-moment correlations were calculated using the continuous ratings for each pattern at t1 and t2 to assess the stability of individual differences over time. Consistent with the standard procedure used in the childhood attachment literature, percentage agreement of classification into secure or insecure groups was examined over time. In a comparison using the four attachment categories at both t1 and t2, almost 70% of the cells had counts of four or less. Since the intention was to use these groups to examine the life events of individuals who changed or remained stable, it was necessary to collapse the four categories into secure/insecure groups. Thus, four groups were formed according to

stability of the categorization: secure at t1, secure at t2; insecure at t1, insecure at t2; secure at t1, insecure at t2; insecure at t1, secure at t2. Kappas were calculated to assess the category correspondence over time controlling for the correspondence that would be expected if the categories were strictly independent (Hays, 1988).

A structural equation analysis was conducted to test the stability of interview based attachment ratings. In order to create latent variables for a structural equation analysis, it is necessary to have two or more (preferably independent) measures of each construct. Since the attachment interview was coded by two independent coders, these two sets of codings were used to create the latent variables.

Preliminary multi-trait multi-method analysis of the four attachment patterns revealed a lack of discriminant validity across the methods (Griffin & Bartholomew, 1991). There were a number of instances where attachment variables correlated more strongly across patterns than within patterns (e.g., interview ratings of the secure pattern correlated more strongly, albeit negatively, with peer reports of fearfulness than interview ratings of fearfulness with peer reports of fearfulness). Thus, the measures of the four attachment patterns were simply not reliable enough to be used in structural equation models. Therefore, the ratings of the attachment dimensions were used in this stability assessment. Using the EZPATH program (Steiger, 1989), a structural equation analysis tested the hypothesis that the self-model dimension at t1 was highly related to the self-model dimension at t2 and the other-model dimension at t1 was highly related to the other-model dimension at t2.

Structural equation modelling has several advantages over the previously described statistics. First, structural equation modelling allows researchers to assess the relationships between constructs while controlling for measurement error which may attenuate or overestimate the relationship between variables (Judd, Jessor & Donovan, 1986). As well as controlling for unreliability, the results of structural equation analyses provide statistics to measure the goodness of fit of the data to the

model. A nonsignificant chi-square test demonstrates that the model and the data are consistent. However if the sample size is small, the chi-square has insufficient power to reject all but the most inappropriate models. Therefore, three additional goodness of fit indices were calculated: Joreskog-Forbom Adjusted Goodness of Fit (AGFI), Steiger-Lind Adjusted Root Mean Square Index ( $R^*$ ), and the Adjusted Population Gamma Index (G2) (Steiger, 1989). Values of the AGFI of more than .85 and G2 of more than .90 indicate a good fit and values of AGFI of more than .90 and G2 of more than .95 indicate an excellent fit. A good fit is indicated by  $R^*$  values of less than .10 and an excellent fit is indicated by values less than .05. Both the  $R^*$  and G2 indices have confidence intervals that estimate the power of the analysis; if the confidence intervals are narrow, there is high accuracy of the goodness of fit estimates (Steiger, 1989).

## Results

### Stability of Attachment Patterns

Means of the four attachment ratings for females and males at t1 and t2 are presented in Table 1. There were no significant differences between the means of corresponding attachment ratings at t1 and t2 on either self-report or interview ratings.<sup>2</sup>

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 Insert Table 1 about here  
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Table 2 presents the correlations between t1 and t2 attachment ratings for females and males for both interview and self-report data. Females' interview attachment ratings had an average stability of .64 with a range from .58 to .71, and females' self-report ratings had an average stability of .53 with a range from .45 to .58. Males' interview attachment ratings had an average stability of .67 with a range from .44 to .83, and males' self-report ratings had an average stability of .48 with a range from .35 to .58

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 Insert Table 2 about here  
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The stability of the males' interview based preoccupied rating was significantly lower than the stability of the other attachment patterns. Using Fisher's  $r$  to  $Z$  transformation, the correlations were significantly different at  $p \leq .05$  (Hays, 1988). However, when considering the low stability of the male preoccupied rating it is important to note that the range of ratings on this scale was from 1 to 5 on a 9-point scale. This restricted range may have attenuated the observed correlation (Cohen & Cohen, 1983).

Using the interview data, 82% of the females (Kappa=.63) and 80% of the males (Kappa=.60) were rated as secure or insecure at both testing periods (see Figure 1). Using the self-report data, 71% of the females (Kappa=.42) and 60% of the males (Kappa=.20) reported they were secure or insecure at both testing sessions.<sup>3</sup> For both interview and self-report data, there were no differences between the number of individuals who were rated as insecure at t1 and secure at t2 and the number of individuals who were rated as secure at t1 and insecure at t2.

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 Insert Figure 1 about here  
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Finally, latent variable analyses were completed to test the stability of the self- and other-model dimensions of the interview ratings. Pearson product-moment correlations were computed among the eight derived dimensions (self- and other-model for the four independent coders). The correlations were submitted to a full structural equation model that related the self-model dimension over time and the other-model dimension over time.

Results for the females' data are presented in Figure 2. The stability coefficients of the hypothesized paths from the self-model dimension at t1 to the self-model dimension at t2 and the other-model dimension at t1 to the other-model dimension at t2 indicate that the dimensions were highly related across time. As expected, the "crossed" paths were not significant.

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 Insert Figure 2 about here  
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The model fit the females' data well ( $X^2(15)=20.6$ ,  $p=.15$ ). The AGFI value of .84 indicated a good fit between the model and the data. The  $R^*$  was .07, with a 90% confidence interval of .00 to .14. The G2 was .96, with a 90% confidence interval of

.84 to 1.0. Both the  $R^*$  and the G2 values indicate good to excellent fit and the narrow confidence intervals around these values confirm that the excellent fit of model to the data is not simply a result of inadequate power to reject the model.

For men, the simple model postulating only paths from each latent variable at t1 to the latent variables at t2 did not fit the data adequately ( $X^2(15)=28.3, p<.05$ ). It was therefore necessary to include a path between the unexplained variance in the two latent dimensions at t2. This correlated residual indicates a correlation between the latent constructs at t2 that could not be explained by the latent constructs at t1.

Results for the males' data are presented in Figure 3. The stability coefficients of the hypothesized paths from the self-model dimension at t1 to the self-model dimension at t2 and the other-model dimension at t1 to the other-model dimension at t2 indicate that the dimensions were highly related across time. Contrary to hypotheses, the path from the self-model dimension at t1 to the other-model dimension at t2 was moderate and significant.

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 Insert Figure 3 about here  
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The model fit the males' data well ( $X^2(14)=19.4, p=.15$ ). The AGFI value of .85 indicated a good fit between the model and the data. The  $R^*$  was .06, with a 90% confidence interval of .00 to .14. The G2 was .97, with a 90% confidence interval of .84 to 1.0. Both the  $R^*$  and the G2 values indicate a good to excellent fit and the narrow confidence intervals around these values confirm that the good fit of model to data is also not simply a result of inadequate power to reject the model.

In summary, the results demonstrated that the corresponding attachment dimensions were moderately stable over time. Also, the results of each analysis demonstrated that the coders were measuring the attachment dimensions reliably as indicated by the high loadings of the ratings on the latent attachment dimensions.



### Stability of Self-Report Attachment Scales

The attachment dimensions derived from the RSQ were moderately stable. The stability of the scales developed by Collins and Read (1990) for females was .60 (closeness,  $r(69)=.62$ ,  $p \leq .001$ ; dependence,  $r(71)=.61$ ,  $p \leq .001$ ; anxiety,  $r(70)=.58$ ,  $p \leq .001$ ) and for males was .66 (closeness,  $r(69)=.74$ ,  $p \leq .001$ ; dependence,  $r(68)=.65$ ,  $p \leq .001$ ; anxiety,  $r(69)=.58$ ,  $p \leq .001$ ). There were no mean difference in the closeness, dependence and anxiety scales over time.

The average stability of the scales developed by Feeney (1990) for females was .64 (closeness,  $r(68)=.70$ ,  $p \leq .001$ ; anxiety,  $r(70)=.58$ ,  $p \leq .001$ ) and for males was .67 (closeness,  $r(69)=.75$ ,  $p \leq .001$ ; anxiety,  $r(69)=.58$ ,  $p \leq .001$ ). There were no mean differences in the closeness and anxiety scales over time.

### Life Events

The means of the life events subscales are presented in Table 3. Inspection of the means indicates that individuals experienced a relatively small number of life events.

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Insert Table 3 about here  
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The impact subscales were highly related to the corresponding number of events subscales. Correlations ranged between .89 to .94. Since results using the impact of events scores were parallel to the results using the number of events, the results using the impact scores are not reported.

The top 10 life events for females and males are presented in Table 4. Two events from Table 4 are coded as interpersonal events (major change in closeness with family members and major change in social activities).

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Insert Table 4 about here  
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### Total Change

In order to examine if life events were related to total change in attachment ratings (regardless of direction), an "absolute value of change" score was calculated by adding the absolute value of change of each of the four interview ratings. The results for interview and self-report ratings are presented in Table 5.

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Insert Table 5 about here  
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For females, absolute value of change using the interview ratings was related to the total number of positive interpersonal events ( $r(70)=.20, p<.05$ ). For males, the absolute value of change was related to the total number of events ( $r(70)=.20, p<.05$ ), and the total number of positive interpersonal events ( $r(70)=.34, p<.01$ ).

For females, the absolute value of change in the self-report data was related to the total number of events ( $r(70)=.23, p<.05$ ), the number of positive interpersonal events ( $r(70)=.20, p<.05$ ) and the number of negative non-interpersonal events ( $r(70)=.23, p<.05$ ). For males, the absolute value of change in the self-report data was not significantly related to reported life events.

### Direction of Change

To examine the influence of life events on change in a "positive" direction, a "change towards security" score was calculated by adding the insecure ratings at t1 and subtracting the sum of the insecure ratings at t2 and adding this amount to the result of the secure rating at t2 minus the secure rating at t1. The results for interview and self-report ratings are presented in Table 6.

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 Insert Table 6 about here  
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For females, change towards security in the interview data was related to number of negative non-interpersonal events ( $r(70)=-.23$ ,  $p<.05$ ). The change towards security for males was not significantly related to any of the life events subscales.

For females, change towards security according to self-reports was related to the total number of life events ( $r(70)=-.29$ ,  $p<.01$ ) and the number of positive non-interpersonal events ( $r(70)=-.39$ ,  $p<.001$ ). The change towards security for males was not significantly related to any of the life events subscales.

#### Categorical Changes in Security

In order to compare individuals who changed from secure to insecure or vice versa and those individuals who remained secure or insecure, t-tests were computed to look at the mean differences of the various life events for interview (see Table 7) and self-report data (see Table 8). For both interview and self-report measures of attachment patterns, there were no significant differences in the number of life events reported by women or men who remained secure and those who remained insecure.

Interview Data. Females who changed from secure to insecure reported more negative interpersonal events ( $t(29)=-2.6$ ,  $p<.05$ ) than females who were rated secure at both time periods. There were no significant differences between males who changed from secure at t1 to insecure at t2 and males who remained secure at both time periods.

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 Insert Table 7 about here  
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Males who changed from insecure to secure reported a higher number of positive interpersonal events ( $t(33)=2.1$ ,  $p<.05$ ) than males who remained insecure.

There were no significant differences between females who changed from insecure at t1 to secure at t2 and females who remained insecure at both time periods.

Self-report data. Females who reported a change from secure to insecure reported more negative non-interpersonal events ( $t(34)=-2.5, p<.05$ ) than females who remained secure. There were no significant differences between men who reported a change from secure to insecure and men who remained secure.

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Insert Table 8 about here  
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Females who reported a change from insecure to secure reported more events ( $t(32)=3.2, p<.01$ ), more negative interpersonal events ( $t(32)=2.4, p<.05$ ), and more negative non-interpersonal events ( $t(32)=3.1, p<.01$ ) than females who remained insecure. Negative events were not hypothesized to be related to a change towards security and therefore the group of women who rated themselves as insecure at t1 and secure at t2 ( $n=10$ ) was further analyzed. According to the interview ratings, only two of these women changed from an insecure pattern to a secure pattern: three women were secure at both times, three were insecure both times, and one changed from secure to insecure. One woman did not complete the interview at t2.

There were no significant differences between men who changed from insecure to secure and men who remained insecure.

## Discussion

Previous work has demonstrated that childhood attachment categories are moderately stable and that various life events predict change in infants' attachment to a particular caregiver. In contrast, few studies have examined stability of adult attachment patterns and none of these studies have tested whether there is a relationship between change in adult attachment patterns and life experiences. This study tested the stability of adult attachment patterns and measured life events that may be predictive of change.

### Stability

Overall, the results demonstrated that adult attachment patterns, as assessed by expert coders and a variety of self-report measures, were moderately stable. The stability of the four attachment patterns was tested by comparing continuous ratings over time. There were no mean differences between the corresponding interview and self-report measures of attachment, indicating that there was not a systematic change in attachment ratings over time. Correlational analyses demonstrated a significant relationship between the attachment ratings at t1 and t2. The average relationship between t1 and t2 for the interview and self-report measures was .66 and .51, respectively. An additional method used to investigate the stability of the attachment representations involved grouping individuals as securely or insecurely attached. Results demonstrated that most individuals were categorized in the same group at t1 and t2 (average of 81% for interview ratings and 65% for self-report ratings). Of the individuals who changed groups from t1 to t2, equal proportions became secure from insecure and insecure from secure. Together, these results confirmed that the four attachment patterns were moderately stable over eight months.

The stability of attachment dimensions underlying the four category model of adult attachment was tested using structural equation modelling. The two interview based measures of each dimension loaded highly on the latent variables, indicating

that the latent variables were measured reliably. As predicted, there were strong relationships between corresponding latent attachment dimensions across time. The average stability coefficient for the self-model dimension was .79 and the average stability coefficient for the other-model dimension was .78. Both "crossed" paths were insignificant for the females' data, suggesting that the self- and other-model dimensions are not related over time. However, the males' other-model latent variable at t1 was moderately related to the self-model latent variable at t2. Since this result is not consistent with the females' data, replication is necessary before making any substantive conclusions. Although it is impossible to prove that the model is correct (Judd et al, 1986), the results of each latent variable analysis strongly support the stability of the self- and other-model dimensions underlying Bartholomew's four category model of adult attachment.

Results using the RSQ replicated findings reported in previous studies that have examined the stability of self-report measures of adult attachment. Collins and Read (1990) reported an average stability of .64 over two months for their three scales measuring attachment dimensions. Comparable stability of the three scales (.63) was found in this study, over eight months. Using the attachment scales developed by Feeney (1990), Feeney, Noller and Callan (in press) reported an average stability of .63 over nine months. Their results are also comparable to the results found in this study (.66 over eight months).

Previous research examining the stability of adult attachment patterns over two weeks to nine months have reported surprisingly similar results. For example, Levy and Davis (1988) reported an average test-retest correlation of .57 over two weeks. Using their three attachment scales, Collins and Read (1990) reported an average stability of .64 over two months. And, using the four category model of adult attachment, Bartholomew (unpublished data) found an average stability of .61 over two months. The average stability over eight months in this study, .51 for the self-

report pattern ratings and .63 for Collins and Read's three attachment scales, is directly comparable to these previous findings. Although the populations and test-retest periods are different, each study uses similar self-report measures of adult attachment that are all affected by measurement error. Since the problem of unreliability is common to each measure, these results suggest that attachment patterns are just as stable over two months as over eight months. This interpretation of the data is further supported by the overall weak association between life events and changes in attachment representation. Therefore, the observed correlations may be due to unreliability of the measures rather than stability of attachment representations.

In contrast to the present findings, previous studies using categorical measures of attachment have reported a tendency for secure classifications to show greater stability than insecure classifications and correspondingly, a tendency to be classified as secure (rather than insecure) in the second assessment for children (Thompson et al., 1982; Vaughn et al., 1979; Waters, 1978) and adults (Hazan, et al., 1991 as cited in Shaver & Hazan, 1991). Explanations for these findings have included the proposition that secure attachment is more developmentally robust than insecure attachment and that all individuals strive for security. These explanations imply that all individuals will eventually become more secure, and therefore, researchers should expect a higher proportion of secure individuals in older populations.

To date there is no empirical support for the suggestion that older individuals are more likely to be secure than younger individuals. In fact, using a categorical measure similar proportions of attachment categories were found in a college and an older population (Hazan & Shaver, 1987). Bartholomew (in press) argues that findings indicating that individuals are more likely to change in the direction of security may be premature based on the fact that all studies showing this are based on categorical measures of attachment. Interpretation of stability results must take into

account that each attachment category has a substantially different expected value of stability due to differential base rates (with the secure category overrepresented). Therefore, direct interpretation of stability results with categorical measures may be misleading (Bartholomew, in press). The one other study to use a continuous measure of attachment (Feeney et al., in press) also tested mean differences and did not find a tendency toward greater security over time. In conclusion, using continuous measures of attachment, there is no support for the claim that change is more likely in the direction of security.

Knowledge that adult attachment representations are moderately stable is required before attachment representations can be hypothesized to influence personal thoughts, feelings, and behaviour or the interpretation of thoughts, feelings, and behaviour of others. The results of the present study confirm that attachment representations are stable over a relatively short period of time (in comparison to a life time), but nevertheless provide a foundation to study the effects of attachment representations on experiences such as adjustment to college or new romantic relationships.

### Life Events

The second purpose of this study was to examine whether stressful life events would predict change in attachment patterns. Changes in attachment patterns were not consistently related to reported life events. Six of the 20 correlations between absolute value of change and life events subscales were significant. However, only the correlations between change and positive interpersonal events was consistent across method (for females) and sex (for interview). Three of the 20 correlations between change towards security and life events subscales were significant. However, none of these correlations were consistent across sex or method. Two of the 20 t-tests examining the mean differences in the number of reported life events between individuals who changed groups according to interview ratings were



significant. However, these significant t-tests were not consistent across sex or method. Three of the 20 t-tests examining the mean differences of the number of reported life events between individuals who changed groups according to self-report ratings were significant. None of the t-tests were significant across sex or method. Nevertheless, the results of the three significant tests were interesting because they were strong, consistent with one another, and contrary to expected findings. Females who reported a change in the self-report ratings from insecure at t1 to secure at t2 reported more events, more negative interpersonal events, and more negative non-interpersonal events.

Few participants experienced events that would be expected to influence attachment representations. Only two of the top ten reported events for females and males were interpersonal events (i.e., increased or decreased closeness to family members and major change in social activities). Since it was hypothesized that interpersonal events would affect the attachment representations, further descriptive analyses of change in attachment patterns of individuals who had reported major interpersonal events were completed. In particular, changes in relationship status was one event that was hypothesized to affect attachment patterns and therefore data from individuals experiencing this event was examined. Twelve individuals reported terminating their relationship, and seven individuals reported that they were married during the intervening eight months. The absolute value of change for interview and self-report ratings for this group was not significantly different from the change scores for the rest of the sample. Thus, even individuals experiencing a particular event that was hypothesized to influence attachment representations did not show a systematic change.

Unlike previous studies that have depended on self-report measures, the present study included both self-report and interview measures to assess attachment representations. There are several advantages in including interview measures of

attachment as well as self-report measures. First, individuals may have completed the self-report measures in this study more thoughtfully because they were aware that they would later discuss friendships and romantic relationships with an interviewer. Additionally, interview measures of attachment give researchers more information about the individuals' representations and may assist in interpretation of self-report data. For example, the group of women in this sample who changed from insecure at t1 to secure at t2 on the self-report measure, reported a higher number of events, negative interpersonal events, and negative non-interpersonal events than women who remained insecure. These results were inconsistent with expectations: a shift from insecure to secure attachment was hypothesized to be related to positive interpersonal events and a shift from secure to insecure was hypothesized to be related to negative interpersonal events. However, only two of the nine women changed from an insecure to a secure attachment pattern at t2 according to the interview ratings. One explanation for the inconsistency between the interview and self-report measures is that self-report measures may be more strongly influenced by life events than interview measures. Therefore, future research should examine whether self-reported changes in attachment persist over time or whether such changes reflect a temporary fluctuation in reaction to life events.

As well as the event, there are other variables that could be measured in order to determine the effect of events on changes in attachment representations. Characteristics such as the amount of control or choice the individual had in determining the outcome of the event may influence the direction or amount of change. In addition, a challenge for future research is to determine the amount of time necessary for an individual to reorganize representations after an event. In this study, few individuals changed as a result of experiencing interpersonal events that were hypothesized to influence attachment representations. However, the participants' attachment patterns were assessed over eight months and changes resulting from life

experiences may not be completed; these individuals may report more change in the future. Examination of the effects of major interpersonal events over time may help to determine the amount of time necessary to change an attachment representation.

Overall, the results indicated that the interview measure may be a more valid measure of adult attachment patterns. Both the reliability and stability were consistently higher for interview ratings than self-report ratings. Interview measures of attachment representations may be preferable to self-report measures for two reasons. First, interview measures of attachment are rated by coders trained to recognize a number of characteristics of attachment representations. Coders rate a total of 28 specific characteristics from the attachment interview prior to rating the attachment patterns. Some of these characteristics, such as jealousy and dependency, could be adequately assessed with self-report measures. However, constructs such as coherence of thought and idealization of relationships are important characteristics of attachment representations that can not be readily assessed by self-report measures. Other researchers have discussed the importance of using interview measures because of the opportunity to assess defensiveness, elaboration, coherence, and idealization (Collins & Read, 1990; Hazan & Shaver, 1987). Second, interview ratings are hypothesized to be less influenced by variables, such as the participant's mood or current relationship satisfaction, that may influence ratings on a self-report measure.

This sample was expected to be somewhat stable. Few participants experienced major life stressors, such as divorce, birth of a child, or death of a parent. It has been suggested that the most powerful test of stable individual differences should involve individuals in stable social environments (Vaughn et al., 1979). The present study confirms that adult attachment patterns are moderately stable in a stable environment. However, this study was not ideal for examining the mechanisms of change. An interesting pursuit for future research is to examine the stability of attachment representations of individuals living in high-risk environments or

experiencing a common stressful life event. Results of these explorations may provide a framework for understanding the mechanisms of change in adult attachment representations.

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## Footnotes

<sup>1</sup>This includes cases where the highest rating was a tie between the secure rating and one of the insecure ratings.

<sup>2</sup>Consistent with previous findings, there were sex differences on the attachment ratings. Females scored higher than males on the preoccupied ratings at both t1 ( $t(69)=7.09, p<.001$ ) and t2 ( $t(67)=6.47, p<.001$ ) for the interview data and at t2 ( $t(68)=2.2, p<.05$ ) for the self-report data. Males scored higher than females on the dismissing ratings at both t1 ( $t(69)=6.26, p<.001$ ) and t2 ( $t(67)=4.23, p<.001$ ) for the interview data and at both t1 ( $t(69)=3.31, p<.01$ ) and t2 ( $t(68)=3.2, p<.01$ ) for the self-report data.

<sup>3</sup>Kappas obtained using the four categories at t1 and t2 were comparable to results using the secure/insecure distinction. For the interview data, 76% of the females (Kappa=.63) and 76% of the males (Kappa=.63) were judged to have the same predominant attachment pattern at both testing periods. For the self-report data, 63% of the females (Kappa=.42) and 56% of the males (Kappa=.26) reported the same predominant attachment pattern at both testing sessions.

Table 1

Mean Values of Interview and Self-Report Attachment Ratings

## Interview Data

	Females		Males	
	t1	t2	t1	t2
Secure	4.3	4.2	4.4	4.3
Fearful	3.1	3.0	3.3	3.4
Preoccupied	4.1	4.0	2.3	2.4
Dismissing	1.9	2.2	3.3	3.2

## Self-report Data

	Females		Males	
	t1	t2	t1	t2
Secure	4.6	4.7	4.4	4.7
Fearful	3.4	3.0	2.8	2.8
Preoccupied	3.3	3.4	2.8	2.7
Dismissing	2.7	2.9	3.6	3.8

Note. The n's range from 70 to 72.

Table 2

Correlations between Corresponding Continuous Interview and Self-Report Ratings at t1 and t2

Interview Data

		Females				Males			
		t2				t2			
		Sec	Fear	Pre	Dis	Sec	Fear	Pre	Dis
t1	Sec	.62	.22	-.39	.02	.69	-.55	.09	-.15
	Fear	-.42	.65	.02	-.16	-.55	.83	-.18	-.24
	Pre	-.37	-.15	.71	-.29	.29	-.24	.44	-.25
	Dis	-.02	-.19	-.31	.58	-.44	-.17	-.16	.73

Self-report Data

		Females				Males			
		t2				t2			
		Sec	Fear	Pre	Dis	Sec	Fear	Pre	Dis
t1	Sec	.53	-.44	-.05	-.16	.39	-.35	.19	-.14
	Fear	-.52	.58	-.07	.25	-.33	.57	-.12	.09
	Pre	.00	.04	.56	-.18	.19	-.02	.49	-.21
	Dis	-.09	-.11	-.32	.45	.06	-.08	-.09	.51

Note. All correlations on the diagonal are significant at  $p < .001$ . Sec=secure attachment rating; Fear=fearful attachment rating; Pre=preoccupied attachment rating; Dis=dismissing attachment rating.

Table 3

Mean Values of Life Events Subscales

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	Females	Males
Total events	12.83	13.31
Positive interpersonal	1.87	1.57
Negative interpersonal	1.96	1.84
Positive non-interpersonal	2.16	2.53
Negative non-interpersonal	2.34	2.41

---

Table 4

Ten Most Common Life Events for Females and Males

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## Females

1. Loss or gain in weight
  2. Major change in sleeping habits
  3. Outstanding personal achievement
  4. Going on a holiday
  5. Major change in recreational activities
  6. Major change in eating habits
  7. Major change in social activities
  8. Major change in financial status
  9. Change of residence
  10. Major change in closeness to family members
- 

## Males

1. Major change in recreational activities
  2. Outstanding personal achievement
  3. Major change in financial status
  4. Going on a holiday
  5. Major change in sleeping habits
  6. Loss or gain in weight
  7. Major change in social activities
  8. Change of residence
  9. Beginning a new school experience
  10. Financial problems concerning school
-

Table 5

Correlations between Life Events and Absolute Value  
of Change in Interview and Self-report Attachment Ratings

Interview Data		
	Females	Males
n	70	70
Total events	.05	.20*
Positive Interpersonal	.20*	.34**
Negative Interpersonal	.08	.05
Positive Non-interpersonal	-.10	.17
Negative Non-interpersonal	-.10	.11
Self-report Data		
	Females	Males
n	70	69
Total events	.23*	.04
Positive Interpersonal	.20*	.00
Negative Interpersonal	.13	.04
Positive Non-interpersonal	.13	.12
Negative Non-interpersonal	.23*	-.14

Note. \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$



Table 6

Correlations between Life Events and Change toward  
Security in Interview and Self-report Attachment Ratings

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Interview Data

	Females	Males
n	70	70
Total events	.04	-.05
Positive Interpersonal	-.08	.10
Negative Interpersonal	-.03	.08
Positive Non-interpersonal	.00	.02
Negative Non-interpersonal	.23*	-.14

---

Self-report Data

	Females	Males
n	70	69
Total events	.29**	.01
Positive Interpersonal	.13	-.06
Negative Interpersonal	.17	.05
Positive Non-interpersonal	.39***	.00
Negative Non-interpersonal	.00	.04

---

Note. \* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$

Table 7

Mean Differences of Life Events between Four Groups Derived from Categorical Changes in Security on Interview Ratings

	Females					
	SS	SI	IS	II	SS/SI	IS/II
	n=26	n=5	n=8	n=31	t value	
Total events	11.8	15.6	13.8	13.0	-1.21	0.26
Positive interpersonal	1.5	2.4	2.6	1.9	-1.26	0.98
Negative interpersonal	1.7	4.0	2.1	1.8	-2.64*	0.38
Positive non-interpersonal	1.8	1.8	1.9	2.5	0.06	-0.91
Negative non-interpersonal	2.4	2.2	2.9	2.2	0.17	0.78

	Males					
	SS	SI	IS	II	SS/SI	IS/II
	n=28	n=7	n=7	n=28	t value	
Total events	12.4	13.1	14.4	14.0	-0.30	0.22
Positive interpersonal	1.5	1.9	2.6	1.4	-0.67	2.09*
Negative interpersonal	1.6	1.1	1.9	2.2	0.76	-0.42
Positive non-interpersonal	2.5	2.6	3.3	2.4	-0.16	1.43
Negative non-interpersonal	1.9	3.6	2.1	2.8	-1.92	-0.64

Note. \* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ . SS=secure at t1, secure at t2; SI=secure at t1, insecure at t2; IS=insecure at t1, secure at t2; II=insecure at t1, insecure at t2.

Table 8

Mean Differences of Life Events between Four Groups Derived from Categorical Changes in Security on Self-Report Ratings

	Females					
	SS	SI	IS	II	SS/SI	IS/II
	n=25	n=11	n=9	n=25	t value	
Total events	10.2	12.0	21.3	12.8	-1.10	3.20**
Positive interpersonal	1.2	2.0	3.1	2.0	-1.63	1.50
Negative interpersonal	1.3	2.3	3.7	1.8	-1.66	2.36*
Positive non-interpersonal	2.0	1.4	3.3	2.3	1.04	1.56
Negative non-interpersonal	1.5	3.3	4.4	2.0	-2.49*	3.07**

	Males					
	SS	SI	IS	II	SS/SI	IS/II
	n=27	n=12	n=15	n=16	t value	
Total events	13.3	12.8	14.2	12.8	0.30	0.66
Positive interpersonal	1.3	1.8	1.9	1.5	-1.05	0.70
Negative interpersonal	1.9	1.3	2.1	1.9	0.89	0.28
Positive non-interpersonal	2.6	2.8	2.3	2.4	-0.43	-0.08
Negative non-interpersonal	2.3	2.4	2.5	2.6	-0.23	-0.03

Note. \* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$ . SS=secure at t1, secure at t2; SI=secure at t1, insecure at t2; IS=insecure at t1, secure at t2; II=insecure at t1, insecure at t2.

## Figure Captions

Figure 1. Percentages of the observed secure and insecure groups using interview and self-report data across time

Figure 2. Structural model relating females' t1 attachment dimensions to t2 attachment dimensions

Figure 3. Structural model relating males' t1 attachment dimensions to t2 attachment dimensions

**Figure 1.** Percentages of the Observed Secure and Insecure Groups Using Interview and Self-Report Data

**Interview Ratings**

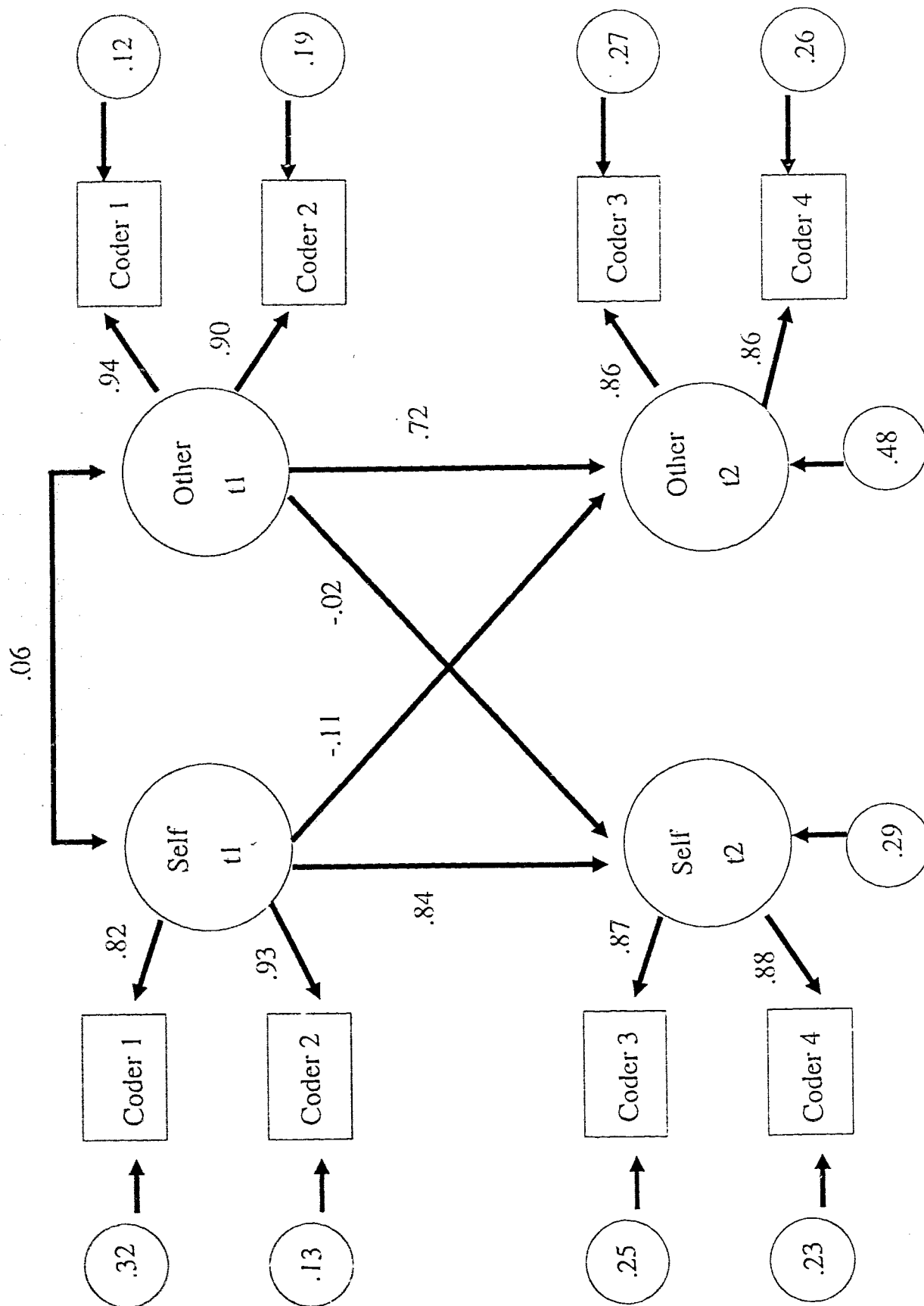
		Females		Males	
		t1		t1	
		secure	insecure	secure	insecure
t2	secure	38%	11%	40%	10%
	insecure	7%	44%	10%	40%
		K= .63		K= .60	

**Self-report Ratings**

		Females		Males	
		t1		t1	
		secure	insecure	secure	insecure
t2	secure	36%	14%	39%	21%
	insecure	15%	35%	18%	22%
		K= .42		K= .20	

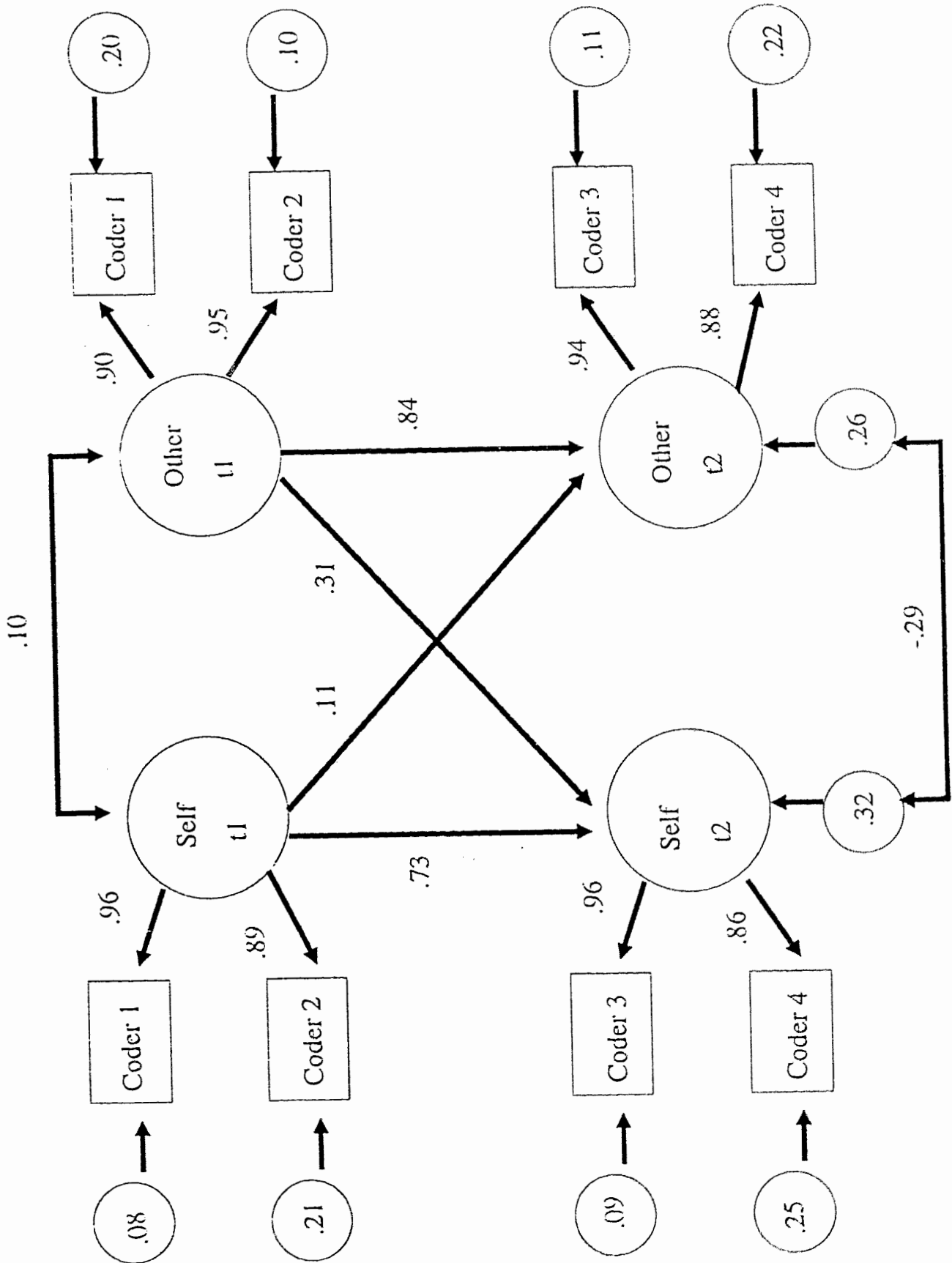
**Note.** All Kappas are significant at  $p \leq .05$

Figure 2. Structural model relating females' t1 attachment dimensions to t2 attachment dimensions



Note. All paths with a loading greater than or equal to .72 are significant.

Figure 3. Structural model relating males' t1 attachment dimensions to t2 attachment dimensions



Note. All paths with a loading greater than or equal to .29 are significant.

## Appendix A

### Interpersonal Life Events

Joining a fraternity/sorority of other club/organization

Involvement in major conflict<sup>a</sup>

Someone close to you starts drinking heavily and/or abusing drugs<sup>a</sup>

Serious injury or illness of a close friend

Serious injury or illness of a close family member

Immediate family member sent to prison<sup>a</sup>

Immediate family member attempts suicide<sup>a</sup>

Death of a close friend

Death of a close family member (mother, father, sister, brother, grandmother, grandfather, other)

Death of partner

Engagement

Marriage

Separation from partner (due to work, travel, etc)

Major change in number of arguments with partner (a lot more or a lot less arguments)

Separation from partner (due to conflict)

Reconciliation with partner

Divorce

Male: Partner's pregnancy

Female: Pregnancy

Male: Partner's miscarriage<sup>a</sup>

Female: Miscarriage<sup>a</sup>

Male: Partner's abortion

Female: Abortion



Major change in closeness of family members (increased or decreased closeness)

Gaining a new family member (through birth, adoption, family member moving in, etc)

Trouble with in-laws

Sexual difficulties

Having an "extra-marital" affair<sup>a</sup>

Infidelity of partner<sup>a</sup>

Starting an important relationship (i.e. family member, friendship, romantic or sexual partner)<sup>b</sup>

Ending an important relationship (i.e. family member, friendship, romantic or sexual partner)<sup>b</sup>

Starting therapy<sup>b</sup>

Being in therapy<sup>b</sup>

Ending therapy<sup>b</sup>

Partner starts therapy<sup>b</sup>

Partner's therapy<sup>b</sup>

Partner ends therapy<sup>b</sup>

Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)

Major change in dating activity (increased or decreased participation)<sup>b</sup>

Problems with co-workers<sup>b</sup>

Trouble with employer (in danger of losing job, demotion)

### Non-interpersonal Life Events

Outstanding personal achievement

Ending of formal schooling

Applying to a postsecondary institution<sup>b</sup>

Writing an important examination (LSAT, GRE, comprehensives, etc)<sup>b</sup>

Dropping a course

Changing a major

Failing an important exam

Failing a course

Academic probation

Change of residence

Minor law violations (traffic tickets, disturbing the peace, etc)

Major change in sleeping habits (much more or much less sleep)

Major change in eating habits (much more or much less food intake)

Loss or gain of weight

Borrowing less than \$10,000 (buying car, TV, getting school loan, etc)

Borrowing more than \$10,000 (buying home, business, etc)

Major change in financial status (a lot better off or a lot worse off)

Financial problems concerning school (in danger of not having sufficient money to  
continue)

Getting into debt beyond repayment<sup>a</sup>

Foreclosure on mortgage or loan

Major change in usual type and/or amount of recreation

### Other Events

Beginning a new school experience (college, graduate school, professional school,  
etc)

Leaving home for the first time

Period of homelessness<sup>a</sup>

Major change in living conditions (building a new home, remodelling, floods, fire,  
etc)

Detention in jail

Involvement in a car accident<sup>b</sup>

Starting a diet<sup>b</sup>

Major personal illness or injury

Victim of crime (theft, harassment, physical abuse, etc)<sup>b</sup>

Personal suicide attempt<sup>b</sup>

Personal problems related to alcohol or drugs<sup>a</sup>

Immediate family member or close friend is separated or divorced<sup>b</sup>

Getting a new pet<sup>b</sup>

Serious illness or injury of a pet<sup>b</sup>

Death of a pet<sup>b</sup>

Change in partner's work (beginning work, ceasing work, changing to a new job, etc)

Going on a holiday<sup>a</sup>

Major change in church activities (increased or decreased attendance)

New job

Changed work situation (different work responsibility, major change in working conditions, working hours)

Being fired from a job

Note. <sup>a</sup> Events added from the Life Events Inventory (Cochrane & Robertson, 1973).

<sup>b</sup> Events added from suggestions of psychology faculty and graduate students.

## Appendix B

PEER ATTACHMENT INTERVIEW  
(Young couple version II)\* Personal Information

General: Age, what do for a living, living situation.

Compared to other people you know, would you describe yourself as an emotional person? Why do you say that?

\* If you do feel unhappy or upset about something, what are you likely to do?

What kinds of things do you tend to get most upset about these days? Example.

How often do you cry? What about? More often alone or with others? When cry, with whom?

\* Friendships

About how many friends do you have?

Of those, how many do you consider close friends?

What does it mean to you to say someone is a close friend?

Do your friends tend to be more male or female?

If so, do you have a sense of why that might be?

Has that changed since your teens? If so, why the change?

Now could you choose one of your friends as a reference so I can ask you some questions about a particular friendship. Name.

How long have you known each other?

How much time do you spend together?

Why do you think you've become good friends?

If necessary: Could you give me an example of things you've done together or experiences you've had together that have brought you to be good friends?

What do you like most about F? Are there things you don't like about F?

Do you discuss personal matters with F?

Are there things you wouldn't talk about or that would be difficult to talk about?

Example. Why?

Do you think that F really understands you?

Do you ever get angry at F? What do you do?

Have you ever had your feelings hurt by F?

Do you have a sense of which of you seems more involved or invested in the  
friendship?

How satisfied are you with your friendship?

Are there any changes you'd like to see in your friendship over time?

#### \* General Friends

How does your friendship with F compare to your other close friends?

Especially: closeness, time spent together

Have you ever felt rejected by a close friend? Example.

Are you completely satisfied with your friendships? Quality? Numbers? If not, how  
would like to change them?

#### \* Relationship history

First, what is your sexual preference?

How long have you been involved with your current partner?

Were there any previous serious relationships?

Now I'd like you to give a brief history of your serious romantic/sexual involvements

For all previous relationships: briefly describe, major issues, reason for breakup, time  
alone before next relationship

During non-involvements: why not? dated? looking?

If appropriate: Do you see any patterns across your relationships?

#### \* Current Relationship

Course of your current relationship: how long have you known each other?, when did  
you start dating?, (how quickly did you become serious?), separations, other

involvements since together

- living arrangement, children

Briefly describe your relationship in terms of how serious it is and whether or not you've considered future plans?

Amount of time spent together.

Choose some adjectives that best characterize the relationship, examples (e.g., stormy, comfortable, warm, conflictual).

How would you describe your feelings for him/her? And vice versa?

What do you like most about the relationship? Like least?

Describe your partner. What do you like most about him/her?

What don't you like about him/her? Do you talk to your partner about it?

What do you think your partner likes most about you? And least?

If necessary: What would they say?

### Communication & Support

If necessary: Do you discuss personal matters?

\* Are there any things you wouldn't talk about with you partner - for instance, family or sex or your past relationships? Why?

\* Most couples have topics of conversation that they avoid - because they're awkward to talk about or they lead to disagreements. Do you have any such topics?

\* How does your partner respond when you would like help or support?

If necessary: Do you ever feel that your partner is not responsive enough?

About crying in front of your partner? If not, why not? How do they respond?

How do you feel about giving help or support to your partner?

If necessary: Do you ever feel taken advantage of by your partner? Or that you take advantage of your partner?

\* Do you feel your partner really understands you?

### Love-worthiness & Trust

Have you ever doubted that your partner truly loves you?

How often do you say "I love you" to each other?

One more often? Explore as necessary.

\* Have you ever felt rejected by your partner? Describe.

\* Have you ever had your feelings hurt by your partner?

If necessary: Do you really feel that you can trust your partner?

### Conflict Resolution

\* How often do you have arguments or fights? What about? What happens? Does it get resolved? How?

Could you give me an example of a typical conflict and describe how it tends to go.

If necessary: How long do you stay angry? If nasty things, what? Who initiates the arguments and the resolution?

Conflicts ever become physical?

Has your partner ever done anything that you consider to be abusive? And have you done anything they would consider abusive?

If necessary: How do the two of you go about making decisions? Is it mutual?

### \* Sexual Relationship

\* How affectionate are the two of you within the relationship? Is one of you more so than the other? Ever an issue, in private or public?

Do you ever feel that your partner is not warm or affectionate enough?

\* How important a part does sex occupy in your relationship?

\* Is it more important for you or your partner? Explore.

Has that changed over time?

During this relationship, have there been any other sexual involvements?

Have you ever felt attracted to others? If so, have you ever considered doing anything about it?

Do you and your partner talk about it?

Have you ever felt bored with your sexual relationship with P?

If necessary: Do you generally feel satisfied with the sexual aspect of your relationship? If not, why not? How are dealing with it?

Are you ever concerned that you are not sufficiently sexually interested in your partner? Or that your partner is not sufficiently sexually interested in you?

### Time and Friends

Have the two of you had any issues about the amount of time you spend together?

If necessary: How much time do you spend alone?

How often do you socialize without your partner?

\* Any conflicts between friends and the relationship? How resolved?

If necessary: Think of your closest friends, how compare to closeness with your partner?

\* What about more major separations? How respond? Preferences?

### Mutuality

\* People in relationships commonly report that one partner seems more invested or committed to the relationship? Has this ever been the case in your relationship? If so, describe.

\* Some people feel concerned about becoming too dependent in a relationship. Is this a concern for you? For your partner?

\* Have you ever felt jealous in this relationship? Describe.

Is your partner ever jealous? How does it make you feel?

If necessary: Are you ever possessive of your partner? And they of you?

Do you ever feel trapped in the relationship?

### Regrets, break-up

Do you ever have regrets or doubts about having become involved with (married) your partner?



\* Have you ever consider separating? When? Why?

\* How much faith do you have that your relationship will last in the long term? Do you ever worry about it ending? If it did, who do you think would be most likely to initiate a break up?

If necessary: If you and your partner ever did break up, how difficult do you think it would be for you? And for your partner?

### General Evaluation

In general, how happy would you say you are in the relationship?

\* How would you like to see your relationship change over time?

If necessary: Any changes in the way you relate to your partner? Your partner relates to you?

\* If you could have the ideal relationship, how would it differ from your present relationship?

### General Social Relations

Do you every feel that you are too trusting of people?

Do you ever feel that you are too suspicious of others? or too judgmental?

Would you say you're shy? If so, what are you concerned about?

\* What impression do you think you make on other people?

\* What impression would you like to make?

When you meet new people do you expect them to like you?

How confident are you that you can make new friends?

\* What kinds of changes would you like to see in the way you relate to others?

What kinds of changes would you like to see in the way others relate to you?

Is there anything else about your social relationships that we haven't hit upon that seems important?

How did you feel about this interview? Are these things that you've talked about with other people?

## Appendix C

PEER ATTACHMENT PROTOTYPES***Secure: Positive self-model, positive other-model***

- general tone: confident, expressive, realistic, thoughtful, able to evaluate relationships, has learned from past experiences
- themes: importance of relationships, has close relationships, sense of mutuality, likes people
- upsets: flexible response, including active coping, and going to others as a source of support
- crying: at least sometimes, can in front of others
- friendships: important, intimate, high disclosure, can express negative feelings in affectionate
- romantic relationships: likely to have been involved or reasonable explanation as to why not; high intimacy; realistic appraisal of other person & issues in relationship; high disclosure; good conflict resolution; mutuality
- impressions: positive and consistent with feeling in interview, such as friendly, warm, confident

***Fearful: Negative self-model, negative other-model***

- general tone: insecure, hesitant, vulnerable, nervous laughter
- themes: shy; self-conscious; very sensitive to rejection; wants contact; avoids conflict; hard to develop trust; feelings of not fitting in; when in relationships dependent; lonely
- upsets: acknowledges feeling bad, but hesitant to show in front of others; doesn't go to others for support
- friendships: may be a few close, but slow in establishing; avoids conflict in; feels more invested in than partners
- affection: uncomfortable with, especially in public
- romantic relationships: difficult to become involved in; if so passive role, very

dependent; more invested in than partner; blames self for problems, insecure; hard time breaking off relationships, avoids conflict in, difficult to openly communicate and show feelings to partner

- why not in relationships: conflict of friends & lovers, don't want to take a chance of being rejected, shy, feels unattractive
- future: worries about never finding someone, never being wanted by anyone
- impressions: worried about not being liked - that seen as stupid, unattractive, boring, or whatever; sometimes says others see as stuck-up or aloof but insists that not the case
- changes desired: more socially confident; open up more; more assertive

***Preoccupied: Negative self-model; positive other-model***

- general tone: very expressive, high elaboration, emotional content
- themes: very dependent on others for self-esteem, relationships of critical importance, concerned that not valued sufficiently by others; sense that others can never give enough, of an insatiable need for attention and approval, that likely to drive others away
- upsets: freely acknowledge, goes to others for support; difficulties in dealing with problems without others' help; overly sensitive
- crying: a lot, in front of others
- friends: importance of very close friends, sometimes the need for a single best friend stressed, expects a great deal out of friends; extreme self-disclosure, enmeshment; commonly conflict with friends  
sometimes - if female, difficulty with women friends; conflict between romance & friendships; competitive with women  
sometimes - friends perceived as unreliable, not sufficiently supportive  
feels taken advantage of
- very affectionate, sometimes to point of being problematic
- romance: constant involvements, becomes quickly involved, tendency to be more

involved than partner; very clinging or dependent in, very demanding of partner; bad at breaking off relationships, will accept severe problems to maintain relationship but likely to idealize present involvement; break-ups very difficult; emotional extremes: passion, jealousy, anger, possessiveness, etc., conflict initiating, very open with feelings and insecurities in relationships

- future: worries about never finding someone

***Dismissing: Positive self-model, negative other-model***

- general tone: cool, matter-of-fact, at extreme cold and arrogant, defensive, rational, unemotional, aloof, defensive laughter, poor elaboration, non-introspective, confident, self-sufficient
- themes: independence, freedom, achievement orientation, downplays importance of relationships, sometimes cynical, sense that doesn't much like most people, critical, distant from others, maintenance of interpersonal distance
- coping: distraction from emotions; deals with on own
- cry: rarely, only alone
- friends: not overly intimate, but may describe as fine; low self-disclosure with friends, prefers not to go to friends for help or support
- affection: uncomfortable with, just "not that kind of person"
- relationships: shys from commitment, not emotionally expressive or communicative, conflict avoidant, tends to keep relationships superficial, less involved than partners
- why not relationships: not interested, too busy, focus on work, achievement, don't need, get bored easily, don't want commitment or dependence on me, too picky, want to "play the field"
- others' impressions of: "don't know", or maybe: obnoxious, aloof, arrogant, smart, argumentative, critical, smart ass, serious, reserved

## Appendix D

**RELATIONSHIP QUESTIONNAIRE****PLEASE READ DIRECTIONS!!!**

1) Following are descriptions of four general relationship styles that people often report. Please read each description and **CIRCLE** the letter corresponding to the style that *best* describes you or is *closest* to the way you generally are in your close relationships.

**A.** It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

**B.** I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

**C.** I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

**D.** I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

2) Please rate each of the above relationship styles according to the *extent* to which you think each description corresponds to your general relationship style.

	Not at all like me		Somewhat like me			Very much like me	
<b>Style A.</b>	1	2	3	4	5	6	7
<b>Style B.</b>	1	2	3	4	5	6	7
<b>Style C.</b>	1	2	3	4	5	6	7
<b>Style D.</b>	1	2	3	4	5	6	7

## Appendix E

**RSQ**

Please read each of the following statements and rate the extent to which it describes your feelings about close relationships. Think about all of your close relationships, past and present, and respond in terms of how you generally feel in these relationships.

	<b>Not at all like me</b>		<b>Somewhat like me</b>		<b>Very much like me</b>
1. I find it difficult to depend on other people.	1	2	3	4	5
2. It is very important to me to feel independent.	1	2	3	4	5
3. I find it easy to get emotionally close to others.	1	2	3	4	5
4. I want to merge completely with another person.	1	2	3	4	5
5. I worry that I will be hurt if I allow myself to become too close to others.	1	2	3	4	5
6. I am comfortable without close emotional relationships.	1	2	3	4	5
7. I am not sure that I can always depend on others to be there when I need them.	1	2	3	4	5
8. I want to be completely emotionally intimate with others.	1	2	3	4	5
9. I worry about being alone.	1	2	3	4	5
10. I am comfortable depending on other people.	1	2	3	4	5
11. I often worry that romantic partners don't really love me.	1	2	3	4	5
12. I find it difficult to trust others completely.	1	2	3	4	5
13. I worry about others getting too close to me.	1	2	3	4	5
14. I want emotionally close relationships.	1	2	3	4	5
15. I am comfortable having other people depend on me.	1	2	3	4	5

	<b>Not at all like me</b>		<b>Somewhat like me</b>		<b>Very much like me</b>
16. I worry that others don't value me as much as I value them.	1	2	3	4	5
17. People are never there when you need them.	1	2	3	4	5
18. My desire to merge completely sometimes scares people away.	1	2	3	4	5
19. It is very important to me to feel self-sufficient.	1	2	3	4	5
20. I am nervous when anyone gets too close to me.	1	2	3	4	5
21. I often worry that romantic partners won't want to stay with me.	1	2	3	4	5
22. I prefer not to have other people depend on me.	1	2	3	4	5
23. I worry about being abandoned.	1	2	3	4	5
24. I am somewhat uncomfortable being close to others.	1	2	3	4	5
25. I find that others are reluctant to get as close as I would like.	1	2	3	4	5
26. I prefer not to depend on others.	1	2	3	4	5
27. I know that others will be there when I need them.	1	2	3	4	5
28. I worry about having others not accept me.	1	2	3	4	5
29. Romantic partners often want me to be closer than I feel comfortable being.	1	2	3	4	5
30. I find it relatively easy to get close to others.	1	2	3	4	5