Change and stability of attachment from childhood to early adulthood

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The main objective of this study was to examine continuity and change in attachment classification from childhood to early adulthood. The relations between childhood attachment, stressful life events, and young adult attachment were examined based on data from observations of thirty-four Swedish middle-class 3 years old children who were invited to a play session together with their mothers. At 23 years, the same participants were interviewed with an attachment interview and they also filled out Paykel’s Life Event Scale. Results showed that the stability of secure and insecure attachment classification was 74 %. Classification of childhood attachment (secure versus insecure) together with stressful life events before 18 years were strong predictors of adult attachment. In conclusion, the present study supports the relevance of childhood experience to development later in life.

Key words: attachment, childhood, early adulthood, life events, longitudinal study

In Bowlby’s (1973) view, the infant’s experiences with the caregiver are aggregated into enduring images of the self and others. These images serve as “internal working models”, or sets of expectations about the availability of the caregiver, the likelihood of receiving support and comfort from the caregiver, and the interaction with the caregiver. A securely attached infant should develop internal working models of the self as valuable and others as affectionate and supportive. Conversely, if the caregiver frequently rejects the infant’s bids for comfort or for exploration, the infant is likely to become insecurely attached and to construct internal working models of the self as unworthy or incompetent and others as hostile or unreliable.

Bowlby (1953; 1980) posited that, over time, the internal working models should become more consistent and less changeable, given a stable, reinforcing environment. However, veritable changes in the internal working models will occur in relation to stressful life events that have some bearing on the caregiver’s availability and responsiveness (cf. Bowlby, 1953; Vaughn, Egeland, Sroufe, & Waters, 1979).

Despite the alleged importance of attachment throughout the life cycle, surprisingly few longer longitudinal studies of continuity between observable attachment behaviors in infancy and early childhood to attachment representations in adolescence and adulthood have been published. However, recently four studies of attachment style from infancy to childhood became available (Hamilton, 2000; Lewis, Feiring, & Rosenthal, 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000; Weinfield, Sroufe, & Egeland, 2000). Two of these studies (Hamilton, 2000; Waters, et al., 2000) reported a considerable correspondence (72 % and 77 % respectively) between attachment classifications in infancy and attachment in young adulthood. In contrast, the researchers behind the other two studies (Lewis et al., 2000; Weinfield et al., 2000) found that attachment style was not consistent over time. These findings were discussed in light of the use of a high-risk sample in one study (Weinfield et al., 2000) and in relation to parental divorce in the other (Lewis et al., 2000). In a similar vein, Waters and colleagues (2000) attained results that were supportive of Bowlby’s (1953; 1973) assumption that attachment style will change when stressful life events alter caregiver behaviors. Following Bowlby (1953) stressful life events...
were defined as loss of a parent, parental divorce, severe illness of child or parent, parental psychiatric disorder, and physical or sexual abuse by a family member. The findings reported in these four studies suggested that discontinuity in the child’s attachment style is related to one or more stressful life events or an instable, unsupportive environment.

The present study examined stability and change in attachment by employing attachment classifications at three years of age and assessments of attachment representations in early adulthood. In keeping with previous findings (Vaughn et al., 1979; Waters et al., 2000) we expect to find that change from secure attachment at 3 years of age to insecure adult attachment will occur depending on a stressful life event before the age of 18 years.

**Method**

**Participants**

Participants were 34 middle-class individuals (19 males, 15 females) who were recruited in 1974 for participation in a longitudinal study on possible effects of extra early mother-infant contact (de Château & Wiberg, 1977a; de Château & Wiberg, 1977b; de Château & Wiberg, 1984; Wiberg, Humble, & de Château, 1989). The study was performed in a university hospital in the north of Sweden. Forty-two mother-infant dyads participated in the original study. Requirements for entry into the study were that mother and infant should be healthy, live in the hospital area, and delivery and neonatal period should have been normal.

**Procedure and Design**

Data for the longitudinal study was collected when the participants were newborns and then repeatedly at three months, one year, three years, and finally at 23 years of age. This study used data collected at two measurement points, at three years of age and at 23 years of age.

**Attachment at three years.** When participants were three years old, their attachment style was classified based on observations. Each mother and child pair was invited to a playroom where they received instructions to play “one day in the family” with a dolls’ house. The play session was video taped and lasted 30 minutes. Each mother-child dyad selected the dolls that would represent themselves and their family members. The play session was then transcribed, and both verbal and non-verbal expressions were recorded (Wiberg et al., 1989).

Two psychologists classified the child’s attachment style independently of each other, based on watching the video taped play session and reading the transcript. The categorization procedure was done in two steps. First, each child was described according to nine psychological dimensions that were defined in an assessment manual (Wiberg, Blom, Gjertsson, Hedlund, Hezekielsson, Jansson & Karlsson, 2001); interaction with mother, quality of play, goal corrected partnership, empathy, affective sharing, conflicts/conflict solving, and secure base behavior. Following Arend, Gove, & Sroufe (1979), ego resilience defined as the capacity to react to a problem with a flexible, resourceful, and persistent stance rather than with becoming rigid or disoriented and ego control (defined as the level of control over emotions, desires, impulses, and needs) were also assessed. Secondly, on the basis of the manual-based description of each child’s psychological resources, the two coders made a consensus assessment of main attachment style. Children were classified according to Ainsworth, Blehar, Waters, & Wall (1978) as secure (group B), insecure-ambivalent (group C), insecure-avoidant (group A), and according to Main & Solomon (1990) as disorganized/disoriented (group D). Interrater reliability was assessed by using a
subsample of ten cases. Agreement between the two independent coders was perfect (100 %, $\kappa = 1.0$, p. < .001).

**Attachment at twenty-three years.** At a follow-up 20 years later, attachment style was classified on the basis of information culled from a semi-structured interview. During the interview, participants were asked about specific memories from his/her relationships to mother, father, siblings, friends and significant others during childhood, adolescence and adulthood, especially childhood experiences of rejection and loss, being upset, ill and hurt, abuse, and other stressful life events. In addition, participants were asked to describe their current image of self and significant others, emotions, the influence they considered that childhood experiences had on their adult personality and life circumstances, and their thoughts about future parenthood. The interviewers were psychology students who were trained to perform the interview, and the interviews were both video and audio recorded. Attachment classifications were made from video recordings and transcriptions of the interviews, using an assessment manual (Wiberg et al., 2001). Coders first evaluated eleven themes that were assumed to be attachment-related, and thus they were included and thoroughly defined in the manual; quality of parental relationships, peer relationships, romantic relationships, and of relationships with other significant others, capacity to rely on self and others, secure base behavior, emotions, self image and self esteem, stressful life events and coherence (assessment of coherence was based on the participant’s general presentation of himself/herself during the interview). The information summarized from the interview provided the basis from which the individual’s main attachment style was classified. Basically, an individual was classified as securely attached when (s)he presented a coherent and believable report of loving behavior by parents and significant others. An individual who reported negative behaviors of parents and significant others, and/or incoherent/unconvincing reports of loving behavior was classified as insecurely attached. Similar to the 3-years attachment classification, the 23-years classification used Main and Solomon’s (1990) system. Interrater agreement based on a subset of the cases (n = 10) was 96 %, $\kappa = .88$) across the four attachment classifications.

**Life Events.** At 23 years of age participants filled out an extended version of Paykel’s Life Events (Paykel, 1983). In the present study, the list of life events used by Waters et al. (2000) was selected (being born to a single mother, parental divorce, physical illness or injury of parent or child, serious parental alcohol or drug problem, child experiencing physical or sexual abuse, parent dying).

**Results**

**Stability and instability of attachment**

Using four attachment classifications at each age, 16 out of 34 participants (47 %) retained the same classification over time (Table 1). All but one of these participants had received the classification of secure attachment at both time points, while one individual was classified as disorganized/disorganized.
Table 1.
*Stability of attachment style at 3 years of age and early adulthood. Four-category attachment classification*

<table>
<thead>
<tr>
<th>Attachment classification at 23 years</th>
<th>Attachment classification at 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Secure (B)</td>
</tr>
<tr>
<td>Secure (B)</td>
<td>15</td>
</tr>
<tr>
<td>Avoidant (A)</td>
<td>1</td>
</tr>
<tr>
<td>Ambivalent (C)</td>
<td>2</td>
</tr>
<tr>
<td>Disorganised (D)</td>
<td></td>
</tr>
<tr>
<td>∑</td>
<td>18</td>
</tr>
</tbody>
</table>

When we used two classifications (secure/insecure), 25 participants (74%) were assessed to have the same classification over time. The number of participants grouped according to the two attachment classifications are presented in Table 2.

Table 2.
*Stability of attachment style at 3 years of age and early adulthood. Two category attachment classification*

<table>
<thead>
<tr>
<th>Attachment classification at 23 years</th>
<th>Attachment classification at 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Secure (B)</td>
</tr>
<tr>
<td>Secure</td>
<td>15</td>
</tr>
<tr>
<td>Insecure</td>
<td>3</td>
</tr>
<tr>
<td>∑</td>
<td>18</td>
</tr>
</tbody>
</table>

At 3 years of age, 18 children (53%) were classified as securely attached, and at 23 years of age a slightly larger proportion or 21 individuals (62%) were securely attached. In all, nine individuals (26%) changed attachment over time, and of these, six individuals changed from insecure to secure attachment. Three individuals, who were classified as securely attached at three years, were judged to be insecurely attached at 23 years.

Stressful life events before 18 years of age
Since significant stability was established across childhood and early adulthood attachment classifications, an inspection of possible reasons for attachment change was motivated. An examination of data revealed that the total number of stressful events that an individual had experienced before 18 years ranged from none to five life events. The most frequently occurring event was the death of a close relative, followed by parental divorce, and illness or injury of the individual, while the remaining events were relatively infrequent. Twenty-four individuals (71%) had experienced none (8 individuals or 24%) or only one (16 individuals or 47%) of the selected stressful life events before the age of 18 years.

To examine the relationship between attachment style and stressful life events before 18 years, participants were arranged in four groups: 1) child secure - adult secure (n=15), 2) child insecure – adult insecure (n=10), 3) child insecure – adult secure (n=6), and 4) child
secure – adult insecure (n=3). Since two of these groups were very small, only descriptive statistics are reported (Table 3).

Table 3.
Attachment style at 3 years and 23 years and stressful life events and number of stressful life events experienced before 18 years

<table>
<thead>
<tr>
<th>Attachment style at 3 years and 23 years</th>
<th>Number of stressful life events before 18 years of age</th>
<th>n</th>
<th>( \bar{x} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure/secure</td>
<td>0 1 2 3 4 5</td>
<td>15</td>
<td>.9</td>
</tr>
<tr>
<td>Insecure/insecure</td>
<td>1 6 1 2</td>
<td>10</td>
<td>1.4</td>
</tr>
<tr>
<td>Insecure/secure</td>
<td>1 3 2</td>
<td>6</td>
<td>1.2</td>
</tr>
<tr>
<td>Secure/insecure</td>
<td>1</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Table 3 shows that participants who were classified as securely attached at both time points had experienced few stressful life events before 18 years, 12 out of 15 individuals reported none or one life event. Two of the three individuals who changed from secure to insecure attachment had experienced the largest number of stressful life events that was reported from this sample (one individual reported four life events and one individual reported five events). The average number of life events that was reported by those who were classified as securely attached as young adults was less than one (\( \bar{x} = .9 \)). In comparison, the average number of life events reported by those who were insecurely attached both as children and as adults was 1.4. Although this is a small number of events, it is larger than the number of life events reported by the group who were securely attached at both time points. The average number of life events experienced by the group (n = 6) who changed from insecure to secure attachment was small (\( \bar{x} = 1.2 \)), while the group (n = 3) who changed from being securely to being insecurely attached reported the largest number of life events (\( \bar{x} = 3.3 \)).

The impact on adult attachment of childhood attachment and stressful life events

To account for the instability of attachment, regression analysis was used to determine the impact of childhood attachment and stressful life events during childhood on attachment at 23 years of age. Since the two groups who changed from secure to insecure attachment and vice versa were small, no inferences were possible about the association between the numbers of stressful life events and attachment change.

In the first analysis, the predictive power of the four-way classification was tested with linear multiple regression analysis. In the second analysis, the relationship between the independent variables and the two-way classification (secure versus insecure) was examined. Since the dependent variable (secure and insecure attachment at 23 years) is binary, logistic regression analysis was used.

In both analyses, attachment classification at three years was entered in the first step, and number of major, stressful events experienced before 18 years was added in the second step. The interaction term was entered into the equation in the third step.

The first regression analysis showed that attachment style at 3 years of age together with experiencing a close one’s death, parental divorce, or severe illness or injury experienced by the participant before the age of 18 years accounted for 28 % (total \( R^2 = .28 \)). When 3-year attachment was entered on the first step, \( R^2 \) change was .17, \( F[1, 32] = 6.52, p < .02 \). When the stressful life events’ variable was entered after 3-year attachment, it accounted for an additional portion of systematic variance in adult attachment (\( R^2 = .11 \), \( F[1, 31] = 4.92 \).
p < .03). The standardized beta coefficient for 3-year attachment was .41, which indicated that secure attachment at 3 years of age predicted secure attachment in adult age. A negative standardized beta (-.34) was obtained for the stressful life events' variable, which indicated that the probability that an individual is insecurely attached at 23 years increased with an increasing number of stressful life events before the age of 18 years and vice versa. The interaction term did not contribute significantly to the model.

The results from the logistic regression analysis, which used the two-way classification, showed that the overall model predicted 79.4% of adult attachment correctly. The model was significant according to the chi-square statistic (13.91, df=2, p < .001). To test the statistical significance of each coefficient ($\beta$) in the model, a Wald test was used. A Wald test calculates a $Z$ statistic, which is:

$$Z = \frac{\hat{B}}{SE}$$

This z value is then squared, yielding a Wald statistic with a chi-square distribution, with a df of 1. The variables that contributed significantly to the model were attachment style at three years and stressful life events before the age of 18 years ($\beta =2.63$, Wald = 6.69, p < .01 and $\beta = -.90$, Wald = 4.76, p < .03). The interaction term was insignificant.

Discussion

To our knowledge, the present study is the first longitudinal study done in Europe to examine associations between childhood attachment and early adulthood attachment. The findings indicated that there was a significant stability (74 %) of attachment classification. These results pointed in the same direction as the findings reported by Hamilton (2000) and Waters et al. (2000), who reported a correspondence of more than 70 percent between attachment classifications in infancy and attachment in young adulthood.

Our results showed that 53 % of the participants were classified as securely attached at 3 years of age, and at 23 years a slightly larger percentage (62 %) of securely attached participants was obtained. These findings indicated that the proportion of Swedish toddlers that are classified as securely attached is similar to the proportion observed in American children. For example, in one study of attachment in American children at 18 months of age, 48 % were classified as secure (Matas, Arend, & Sroufe, 1978). However, valid conclusions about cross-national differences cannot be drawn from single samples (cf. van Ijzendoorn & Kroonenberg, 1988), especially considering the fact that cultural differences have been reported as regards the proportion of infants classified as securely or insecurely attached (cf. Waters et al., 2000).

In this study, securely attached participants had experienced few stressful life events during childhood and adolescence. In contrast, the three participants that demonstrated a shift from being classified as securely attached in early childhood to being classified as insecurely attached as adults, had experienced at least one major life event before the age of 18 years. The results from the regression analyses indicated that childhood attachment and stressful life events explain a substantial amount of variation in adult attachment. While a secure childhood attachment was predictive of a secure adult attachment and vice versa, the probability that an individual is insecurely attached at 23 years increased with an increasing number of stressful life events before 18 years. This finding was in line with results reported in previous longitudinal studies (Vaughn et al., 1979; Waters et al., 2000) and supported our expectations.

In contrast to Davila and coworkers (Davila, Burge, & Hammen, 1997), the present study did not examine the impact of individual personality differences on attachment style.
change. The main reason for this limitation is that the groups of individuals who changed attachment style during the twenty years of the study were small. The findings reported here suggest that further studies of the correlates of attachment change in Swedish children are needed.

Overall, our findings suggested a relatively strong continuity between attachment behaviors at 3 year of age and representations in early adulthood. Stability of secure and insecure attachment was 74 %, which is comparable with the proportion (77 %) obtained by Hamilton (2000) in her study of continuity of attachment from infancy to adolescence. On the other hand, relatively large fluctuations in classifications of attachment type (secure, avoidant, anxious/ambivalent, disorganized/disoriented) were found in the present study - only 47 % of the children received the same attachment classification at 23 years of age) while for example Waters et al. (2000) reported a stability of 72 % of classification of attachment type.

Thus, the core distinction in our sample seems to be the one between secure and insecure attachment, not between different insecure attachment styles. A possible way of understanding this finding was offered by Feeney, Noller, & Hanrahan (1994) who reported that the results from a number of analyses based on data from several different samples indicated that, although there are different ways of being insecurely attached, some individuals combined all the ways of being insecure. These findings, as well as the researchers' conclusion, were in line with what we can learn from the present study.

In Ainsworth’s pioneer work (Ainsworth et al., 1978), attachment was conceptualized as a set of overt behaviors in children. Ainsworth’s “Strange Situation Procedure” has proved to be an excellent strategy for measuring differences in infant attachment, which in their turn are thought to predict subsequent attachment (Bretherton, 1985; Sroufe, 1988). While Ainsworth’s Strange Situation is the generally used strategy when classifying infant attachment (Rothard & Shaver, 1994), researchers have used observation methods for classifying attachment in toddlers, preschool children, and schoolchildren. In contrast, the strategies used in the study of adult attachment either use an attachment interview or a self rating questionnaire, and attachment is conceptualized as mental representations of close relationships. Moreover, Berman and Sperling (1994) declared that the relationship between children’s attachment and those of adults is not well understood, and that considerable research efforts will be needed before a thorough knowledge about attachment in later childhood and adulthood is available to us. The present study represents an attempt to address these challenging issues in a Swedish setting.

A weakness in this study was that no standardized strategy for classifying attachment was available. Interrater reliability has been estimated, and both the attachment classifications at 3 years of age and at 23 years of age had excellent interrater reliabilities. At the time of the study, the measures that were used had not been validated. However, the mother-infant play session that was constructed to permit observation and classification of attachment in the three-year old children built on the theoretical and empirical work presented by Bowlby and Ainsworth. Similar to Main’s “Adult Attachment Interview” (George, Kaplan, & Main, 1996), our interview asked the participant to present narratives about attachment-related experiences with parents and other attachment figures. These narratives were then analyzed and attachment classifications were made using the generally used four-category classification system.

To summarize, this study showed that childhood attachment was related to attachment representations in young adulthood. Attachment discontinuity was to some extent related to experiences and events during childhood and adolescence. The study represents a first step toward understanding stability and discontinuity of attachment in Swedish children and adults, and it contributes some knowledge to the understanding of cross-national similarities and differences.
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