Attachment Bonds Between Adult Daughters and Their Older Mothers: Associations With Contemporary Caregiving

Brian D. Carpenter

Case Western Reserve University, Cleveland, Ohio.

This study examined associations between attachment bonds and the care that daughters were providing to their community-dwelling mothers. Adult daughters (40 African American, 40 European American) completed assessments of adult attachment, instrumental and emotional caregiving, and caregiver burden. The author performed hierarchical linear regressions to examine the relationships between attachment dimensions (Security and Anxiety) and the provision of instrumental and emotional care. Both attachment dimensions were unrelated to the provision of instrumental care. In contrast, high scores on the Security dimension and low scores on the Anxiety dimension were associated with the provision of more emotional care to mothers. A final analysis revealed that high scores on the Security dimension were associated with less caregiver burden. These results suggest that practical care that daughters provide to their mothers may be independent of attachment patterns within the child–parent relationship, whereas affective, discretionary care may be promoted or hindered by attachment patterns. Moreover, the stress of caregiving may be mediated by a more secure attachment bond. The potential impact of adult attachment patterns has implications for both family intervention and public policy, given that more families are expected to participate in caregiving in coming decades.

A number of factors influence the degree to which adult children assist their older parents, such as obligation, affection, reciprocity, and other cultural norms (Blieszner & Hamon, 1992). More concrete factors are important as well and include geographical distance, size of the family, gender of caregiver and care recipient, and socioeconomic resources and constraints (Dwyer & Coward, 1991; Litvin, Albert, Brody, & Hoffman, 1995; Wolf, Freedman, & Soldo, 1997). In the current study I examined an additional factor, adult attachment patterns, to determine whether attachment-based emotional bonds between daughters and their older mothers were associated with (a) the amount and nature of care that daughters provide and (b) caregiving burden experienced by daughters.

Basic Concepts in Attachment Theory

Originating with the work of John Bowlby (1982), attachment theory describes a socioemotional behavioral system that guides how individuals manage their need for emotional security. This system is first evident early in life as children interact with their primary caregiver. When they are physically or psychologically threatened, children turn to their caregiver for comfort, and ideally their caregiver responds with immediate, positive, and consistent support. In reality, of course, caregivers do not always respond in ways that children expect. On the basis of their accumulated experiences with caregivers, children develop mental representations, or internal working models (Bowlby, 1988), that reflect their beliefs about the responsiveness of caregivers and the environment more generally. Seminal work by Mary Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) identified behavioral manifestations of internal working models in the form of attachment styles, secure versus insecure attachment being the most broad differentiation. Children with a secure attachment were likely to seek and savor contact with their caregiver, to use that person as a secure base for exploration. Meanwhile, children with an insecure attachment were likely to avoid their caregiver or demonstrate anxiety in contact with him or her. A broad array of research has suggested that a child’s initial attachment bond has an impact well beyond their first critical relationship and influences not only subsequent relationships but also a wide range of social and emotional outcomes later in life (Feeney & Noller, 1996; Rothbard & Shaver, 1994).

Despite a burgeoning empirical literature on attachment dynamics, significant conceptual issues remain. For example, it is unclear whether attachment patterns represent an aspect of individuals (i.e., attachment as a trait), a facet of specific relationships (e.g., types of attachment differing within an individual’s social network), or some combination of the two (Bartholomew & Shaver, 1998). Likewise, there is debate about whether attachments are categorical phenomena or are best thought of as graded entities (Feeney, Noller, & Hanrahan, 1994). Diversity of theory is also apparent in the variety of attachment taxonomies that exist, although a parsimonious nomenclature for attachment patterns is beginning to emerge (see Feeney et al., 1994; Griffin & Bartholomew, 1994).

Another issue is whether a construct originally validated with research on children is relevant to individuals at other ages. Although Bowlby first focused on the attachment dynamic between infants and their caregivers, he asserted that “attachment behaviour is held to characterize human beings from the cradle to the grave” (Bowlby, 1979, p. 129),
a life-span perspective shared by Ainsworth (1989). And indeed, research on attachment in childhood has been complemented by expanding attention to attachment in adults.

**Attachment in Adulthood**

Attachment patterns are hypothesized to persist across the life span through the reinforcing properties of internal working models (Bowlby, 1973; Main, Kaplan, & Cassidy, 1985). The first attachment relationship provides a template, a self-perpetuating schema that influences subsequent relationships. Mental representations from early attachment bonds thereby influence how individuals seek, anticipate, and interpret future interpersonal interactions (West & Sheldon-Keller, 1994). Reflecting its roots, attachment theory also has emerged as a framework for understanding the relationship between adult children and their parents.

Some theorists have suggested that adult children relinquish their parents as attachment figures (Weiss, 1982), whereas others have amassed secondary evidence that attachments to parents are sustained (Krause & Haverkamp, 1996). In a study of adult children whose parents were institutionalized, Crisi, Schiaffino, and Berman (1997) found that children’s attachment style predicted aspects of their well-being. Specifically, a secure attachment style was associated with less caregiving difficulty and less psychiatric symptomatology. Another study of children whose parents were in nursing homes found that children’s attachment was related to parent mood (Pruchno, Peters, Kleban, & Burant, 1994). Attachments were less intense when parents were depressed and no longer able to provide the emotional support that children expected from the relationship. It may be that attachment dynamics, forged in childhood, continue to influence child–parent relationships later in the life span. But even if attachment patterns in adult children are discontinuous from their earliest manifestation, contemporary attachment patterns may still be relevant to the way in which adult children interact with their parents via children’s capacity for self-reflectiveness, empathy, and their own needs for security (Crose, 1994).

Cicirelli (1991) has suggested that adult children provide care to their parents to forestall the dissolution of their attachment relationship. As parents age and weaken, their impermanence becomes more apparent to children. Anxious about the threatened loss of their attachment figure, children may provide support to bolster their parent and preserve the important attachment object. Cicirelli’s (1993) study of caregiving daughters revealed that attachment had a direct and positive relationship with the care that daughters were providing to their parents. Stronger attachment bonds were associated with greater amounts of care, independent of mothers’ level of functional dependency. Stronger attachment bonds also were associated with lower caregiver burden.

One limitation of Cicirelli’s (1993) work is that it employed a global index of attachment rather than an assessment of specific attachment styles or dimensions. Yet just as attachment styles are associated with different behavior patterns and outcomes in other realms (e.g., Crisi et al., 1997; Hazan & Shaver, 1990), they also may be associated with differences in parent care. Securely attached adult children, whose parents have been responsive and supportive, may be highly motivated to care for their parents to protect the valued attachment figure. They may continue to experience felt security (Sroufe & Waters, 1977) in the attachment relationships with their parents, and they may desire to preserve that secure base as long as possible. In contrast, insecurely attached children, whose parents have been unresponsive and unsupportive, may be less eager to care for their parents because the psychological rewards for sustaining that relationship are unreliable. Their anxiety, distrust, or unease may translate into a lack of contact compared with that of peers with more secure attachments. Thus, one question I pursued in the current study was whether specific attachment patterns are related to the amount of care children provide to older parents.

Another question was whether attachment patterns also are associated with the nature of parent care provided. Securely attached children may be comfortable providing a range of both emotional and practical care. Their stable, internal working models enable them to get close to their parents and offer a balance of pragmatic support as well as emotional availability. Also, because of their security and emotional flexibility they are likely to perceive caregiving as less burdensome. In contrast, insecurely attached children may be less willing to provide emotional support because of the psychological risks, although they may still provide practical assistance because of its relative emotional safety. Moreover, any care that insecurely attached children do provide is likely to be stressful because of underlying uneasiness in the dyad.

In summary, my purpose in this study was to examine the relationship between attachment dimensions and the nature of care that adult daughters were providing to their older mothers. In this initial study I chose to focus on this one type of family dyad given its commonality in caregiving, but future research will need to include the full range of family relationships. I explored whether attachment dimensions contribute to the explanation of instrumental and emotional caregiving above and beyond the influence of demographic and contextual factors that may be related to parent care. The following hypotheses were tested:

1. Securely and insecurely attached daughters provide comparable amounts of instrumental care to their older mothers.
2. Securely attached daughters provide more emotional care to their mothers than insecurely attached daughters.
3. Securely attached daughters experience lower caregiver burden than insecurely attached daughters.

**METHODS**

**Participants and Procedure**

Eighty adult daughters completed one semistructured interview. Participants were recruited from the greater Cleveland community via announcements in employee newsletters (29% of the sample) and local newspapers (19%), from agencies that provide social services (21%), and from recommendations made by other participants (31%). Inclusion criteria for the study were that daughters provided at least 5 hr of care each week to their mother and had been doing so for at least 2 months. In addition, mothers were required to
be aged 60 and older and living alone or with their daughters. The sample size reflected a desired power of .80, an alpha level set at .05, and a medium effect size of .61 based on Cicirelli’s (1993) findings.

Interviews were conducted by an advanced clinical psychology graduate student, lasted approximately 1–2 hr, and took place without the mother being present. After completing the interview daughters were provided with a description of the study, debriefed, and paid $10. Referrals were made to social services agencies (e.g., the Alzheimer’s Association, caregiver support groups) when appropriate.

The current sample expanded on Cicirelli’s (1993) European American sample and included 40 African Americans and 40 European Americans. Statistical comparisons between ethnic groups, however, revealed no significant differences on study variables. Daughters ranged in age from 28 to 77 (M = 50.19, SD = 10.77). Many were married (41%), a large majority had children (75%), and of them 63% had children currently living at home. As a group daughters were well educated, with 95% having completed at least high school and 69% having at least a college degree. Two thirds of the daughters were working, with most in sales, technical, or administrative support positions. Fifty-one percent of the daughters were residing with their mother. Daughters had been providing care for an average of 4.65 years (SD = 4.09). Mothers ranged in age from 60 to 99 (M = 78.60, SD = 9.30) and represented a broad range of functional dependence (activities of daily living [ADL] score M = 17.16, SD = 8.43, range = 0–28).

Measures

Care provided to mother.—The assessment of caregiving focused on two content areas, instrumental and emotional care. An inventory of 31 instrumental activities and 22 emotional activities was presented to daughters. Examples of instrumental activities included preparing meals, performing housework, assisting with grooming, and obtaining medical equipment and supplies. Examples of emotional activities included providing gifts, hugging and kissing, voicing one’s love, and offering comfort and sympathy. Daughters rated how often they had engaged in each activity with their mother in the past month on a 5-point scale: 1 (“not at all”), 2 (“once or twice”), 3 (“about once a week”), 4 (“several times a week”), and 5 (“about every day”). I summed ratings to provide two caregiving scores for each daughter: total frequency of instrumental care (α = .87) and total frequency of emotional care (α = .86), with higher scores representing more frequent caregiving.

Adult attachment.—I used two instruments to assess adult attachment. The Adult Attachment Scale (AAS; Cicirelli, 1993) contains 16 items about the relationship between daughter and mother. Items reflect the theoretical underpinnings of attachment behavior, such as distress upon separation, joy upon reunion, and felt security provided by the relationship. Daughters rate items on a 7-point Likert-type scale ranging from 1 (“not at all true, disagree completely”) to 7 (“definitely true, agree completely”). Items are summed to yield a total score that can range from 16 to 112, with higher scores indicating a stronger attachment to mother according to Cicirelli. Internal consistency reliability of the AAS has been reported as .95, with a 1-year test-retest reliability of .73 (Cicirelli, 1995). In the current sample, the coefficient alpha was .95.

The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) is based on Bartholomew’s theory of adult attachment (Bartholomew, 1990; Griffin & Bartholomew, 1994). Drawing on Bowlby’s (1988) theory of adult working models, Bartholomew has suggested there are two dimensions, or models, at work in an individual’s attachment style. The other model represents the degree to which other people are expected to be available when needed and the disposition to seek or avoid close relationships. The self model embodies the degree to which individuals possess an internalized sense of self-worth and experience anxiety in relationships. The other and self models interact to yield four attachment styles: Secure, Preoccupied, Fearful, and Dismissive. To complete the RQ, participants rate the extent to which descriptions of the four styles correspond to the relationship they have with a particular individual. In this study the text was modified so that descriptions pertained to mothers. Ratings are made on a 7-point Likert-type scale, ranging from 1 (“not at all like me”) to 7 (“very much like me”; see Appendix, Note 1). Scharfe and Bartholomew (1994) reported moderate stability of self-reported attachment patterns. In the current study internal consistency reliability among the four attachment style ratings was .81.

Mother’s level of functional dependency.—Functional dependence was measured with a 14-item scale from the Duke Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire (OARS; Fillenbaum, 1988). Each daughter was asked to rate her mother’s abilities on physical and instrumental ADLs using a 3-point scale: 2 (“able to perform the activity without help”), 1 (“able to perform the activity with some help”), or 0 (“completely unable to perform the activity”). Total ADL score was the sum of the 14 items, with higher scores representing greater functional independence. Internal consistency reliability for the scale was .95.

Caregiver burden.—The seven-item scale used by Cicirelli (1993) to measure caregiver burden was used in this study. Daughters rate the extent to which caring for mother interferes with their social life, relationship with partner, physical health, and mental health. Ratings are made on a 5-point Likert-type scale ranging from 1 (“not at all”) to 5 (“very much”). Ratings are summed, and higher scores indicate greater burden. Cicirelli reported an internal consistency for the scale of .83; in the current study coefficient alpha was .80. Daughters also were asked how many months they had been providing the level of care they were currently providing. Duration of caregiving was included because some studies have documented a relationship between length of caregiving and negative caregiver outcomes (Hannapel, Calsyn, & Allen, 1993).

Demographic and family structure.—Additional information that was collected included daughter’s age, ethnic-
ity, marital status, number of years of education, current or most recent occupation, number of children currently living with daughter, mother’s age, and whether mother was currently living with daughter. A rating of socioeconomic status (SES) was based on Duncan’s (1961) socioeconomic index (SEI), which was updated by G. Stevens and Cho (1985) to reflect the 1980 census. I calculated an overall SES score for each daughter by summing standard scores for SEI and education, with higher scores representing higher SES.

Data Analysis

I calculated descriptive statistics to examine the characteristics of the sample. Preliminary exploration of the relationships among demographic variables, functional dependence, attachment variables, caregiving, and burden were performed with bivariate Pearson product-moment correlations and analyses of variance (ANOVAs). I used post-hoc comparisons to examine mean differences in caregiving across attachment styles, with the Scheffe method used to control for Type I errors. Multivariate analyses included a series of hierarchical least squares linear regressions to examine the variance in caregiving accounted for by attachment. I performed two hierarchical regressions using the same demographic, contextual, and attachment independent variables. Instrumental caregiving was the dependent variable in the first regression; emotional caregiving was the dependent variable in the second. Independent variables were entered in four blocks. Demographic and contextual variables were entered in the first step, on the rationale that they are the least modifiable. I entered mother’s ADL score in the next step to account for caregiving driven by actual functional need. In the next step the amount of caregiving of the type complementary to the dependent variable was entered (emotional care when instrumental care was the dependent variable, and vice versa) in recognition of the probable overlap between types of care. In the last step I entered two attachment dimensions (discussed later) to examine their impact on caregiving independent of the preceding variables. I performed a final hierarchical regression using a similar logic to predict caregiver burden based on demographic and contextual variables, mother’s level of functional dependence, amount of instrumental and emotional caregiving, and attachment dimensions.

Table 1. Zero-Order Correlations Among Attachment Variables and Caregiving

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AAS</td>
<td></td>
<td>-.80**</td>
<td></td>
<td>-.49**</td>
<td></td>
<td>-.19</td>
<td></td>
<td>-.60**</td>
</tr>
<tr>
<td>2</td>
<td>RQ-Secure</td>
<td></td>
<td></td>
<td>-.60**</td>
<td></td>
<td>-.35**</td>
<td></td>
<td>.34**</td>
<td>-.65**</td>
</tr>
<tr>
<td>3</td>
<td>RQ-Fearful</td>
<td></td>
<td></td>
<td></td>
<td>.43**</td>
<td></td>
<td></td>
<td>.19</td>
<td>-.02</td>
</tr>
<tr>
<td>4</td>
<td>RQ-Preoccupied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.60**</td>
</tr>
<tr>
<td>5</td>
<td>RQ-Dismissive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Security dimension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Anxiety dimension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Instrumental care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Emotional care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: AAS = Adult Attachment Scale; RQ = Relationship Questionnaire.

*p < .05; **p < .01.

Results

Care Provided to Mothers

The possible range of scores for the instrumental caregiving scale was 31–115, and the mean in the current sample was 62.29 (SD = 16.81, range = 33–106). The possible range of scores for the emotional caregiving scale was 22–110, and the mean in the current sample was 64.51 (SD = 14.60, range = 27–98). Overall, daughters in this sample were providing a range of care in both domains. The bivariate correlation between the two types of caregiving was not significant (r = .22, p > .05).

Adult Attachment

AAS scores ranged from 29 to 112 and had a distribution (M = 81.13; SD = 24.01) similar to that reported by Cicirelli (1993; M = 81.23, SD = 20.86). As a group, daughters in this sample appeared to experience moderate to strong feelings of attachment toward their mother, although there was wide variability in the attachment scores. On the RQ, using the highest dimension rating as an indicator of dominant attachment style, I found that the distribution of attachment styles was as follows: Secure, 66%, n = 53; Fearful, 9%, n = 7; Preoccupied, 6%, n = 5; Dismissing, 19%, n = 15. These figures are consistent with the distribution of attachment styles found in other studies with adults (e.g., Collins & Read, 1990; Feeney & Noller, 1990).

Correlations among the AAS and RQ ratings appear in Table 1. Scores on the AAS were significantly positively correlated with self-ratings on the Secure style and significantly negatively correlated with self-ratings on the Fearful and Dismissive styles. Correlations within the RQ were also significant and in expected directions.

To maximize variance accounted for by the two highly correlated attachment measures and to maintain a concise number of variables, I combined the AAS and RQ ratings into factor scores from a principal components analysis. Factor scores were calculated with unit weighting. The first factor was composed of the following scores (rotated factor loadings are in parentheses): AAS score (.90), RQ Secure rating (.83), and RQ Dismissive rating (.82). The eigenvalue for the first factor was 2.91, which accounted for 58% of the variance. On the basis of its components, this factor seemed to represent the security of attachment to mother and a daughter’s tendency to seek or avoid a close relation-
ship with her. This factor was named the Security dimension, and it corresponds to Bartholomew’s other model of internal representations (Bartholomew & Horowitz, 1991).

Although the eigenvalue for the second factor (.97, 20% of the variance) was below the standard 1.0 cutoff, the factor accounted for a significant portion of variance and was therefore included. In addition, it mapped coherently onto Bartholomew’s (1990) two-dimension theory of internal attachment representations. The second factor was composed of RQ Fearful (factor loading = .67) and RQ Preoccupied (factor loading = .92) ratings and appeared to symbolize anxiety and self-doubt experienced by daughter in her relationship with her mother. This factor was named the Anxiety dimension, and it corresponds to Bartholomew’s self-model of internal representations.

### Univariate Analyses of Attachment and Caregiving

Estimated marginal mean caregiving levels and standard errors for each attachment style appear in Table 2. A one-way ANOVA revealed no significant differences between groups on instrumental care, $F(3,76) = 1.84, p = .15$, although the low sample size in the Fearful group limited the power to detect differences. Significant group differences were found among the groups in terms of emotional care, $F(3,76) = 13.64, p < .001$. Post-hoc comparisons revealed that daughters with a secure attachment style provided more emotional care than daughters with any of the insecure attachment styles. No significant differences were found among the insecure attachment styles.

A similar pattern of relationships among attachment dimensions and caregiving is apparent in the bivariate correlations in Table 1. The only attachment variable significantly associated with instrumental care was the RQ Fearful index ($r = -.26, p < .05$), with higher scores correlated with less instrumental care. Meanwhile, every attachment variable was significantly correlated with emotional care.

### Multivariate Analyses of Attachment and Caregiving

In the next set of analyses I used hierarchical linear regression to explore the relationship between caregiving and demographic, family structure, contextual, and attachment variables. Prior to the regressions, two cases with univariate outliers were identified: one daughter with a high instrumental caregiving score and one daughter with a high score on the Anxiety dimension. These cases were retained with their original data because they were not statistically influential cases, as indicated by a Cook’s distance less than 1.0 (Cook & Weisberg, 1982), and they did not produce a substantial change in the regression coefficients when they were dropped (J. Stevens, 1996). As a set, the independent variables were found to be neither singular nor adversely multicollinear. Residual scatterplots suggested adequate fulfillment of the assumptions of linearity, homoscedasticity, and independence of residuals. Bivariate correlations for the variables in these analyses appear in Table 3. The large number of correlations precluded direct interpretation because of the possibility of a Type I error, but relationships throughout the correlation matrix were in the directions expected.

Table 4 contains results from the three hierarchical regressions, the first with instrumental care as the dependent variable, the second with emotional care as the dependent variable, and the third with caregiver burden as the dependent variable. For each independent variable the table contains the unstandardized regression coefficient ($b$); the standard error of the regression coefficient ($SE$ $b$); the standardized regression coefficient ($\beta$); and the squared semi-partial correlation ($sr^2$), which represents the unique proportion of variance contributed by the variable. In the prediction of instrumental care, number of co-resident children emerged as a significant predictor; daughters living with more children provided more instrumental care. In the second step, mother’s level of functional dependence was a significant predictor; mothers with more impairment received more instrumental care. In the third step, amount of emotional care was a significant predictor, indicating the overlap between both types of care. In the final step, when the Security and Anxiety attachment dimensions were added, neither added significantly to the explanation of instrumental caregiving.

To summarize the interpretation of this first regression, demographic and family structure variables appeared unrelated to the amount of instrumental care daughters were providing to their mothers with the exception that daughters with more children in their household were providing more instrumental care. Mothers who were more functionally dependent also received more instrumental care. And mothers who were receiving more emotional care from their daughters tended to be receiving more instrumental care as well. Attachment dimensions were unrelated to the amount of instrumental care daughters were providing.

In the first step in the prediction of emotional care, work status was significant; working daughters provided less care. In subsequent steps mother’s functional dependence emerged as a significant predictor (more impaired mothers received more emotional care), as did instrumental care, again indicating overlap between types of care. In the final step, when the Security and Anxiety attachment dimensions were added to the regression equation, there was a significant change in the multiple correlation, $\Delta R^2 = .21, F(10,69) = 14.69, p < .001$. Both attachment dimensions contributed unique variance; Higher scores on the Security dimension were associated with more emotional care (15% of the vari-

### Table 2. Estimated Marginal Means and Standard Errors for Instrumental and Emotional Caregiving

<table>
<thead>
<tr>
<th>Attachment Style</th>
<th>Instrumental Care</th>
<th>Emotional Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Secure</td>
<td>.10</td>
<td>.14</td>
</tr>
<tr>
<td>Fearful</td>
<td>-.77</td>
<td>.35</td>
</tr>
<tr>
<td>Dismissive</td>
<td>.12</td>
<td>.40</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>.01</td>
<td>.25</td>
</tr>
</tbody>
</table>

Note: Scores are standardized because of different scales of measurement for instrumental and emotional caregiving.
ance), and higher scores on the Anxiety dimension were associated with less emotional care (6% of the variance). Three other independent variables made significant contributions: work status (3% of the variance), mother’s functional dependence (6%), and instrumental care (11%).

To summarize the results of this second regression, the only demographic variable that added significantly to the explanation of emotional care was work status, where working daughters tended to provide less emotional care. Mothers who were more functionally dependent were receiving more emotional care, which also accompanied larger amounts of instrumental care. Finally, daughters high on the Security dimension and low on the Anxiety dimension provided more emotional care (see Appendix, Note 2).

In a final regression to predict caregiver burden, only two independent variables emerged as significant at the end of the sequence. The number of children currently living with daughters accounted for 6% of the variance in caregiver burden; daughters with more children at home reported more burden. The Security attachment dimension accounted

Table 3. Correlations Among Demographics, Attachment Dimensions, Caregiving, and Burden

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Instrumental Care</th>
<th>Emotional Care</th>
<th>Caregiver Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE b</td>
<td>β</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.24*</td>
<td>0.16</td>
<td>0.28*</td>
</tr>
<tr>
<td>SES</td>
<td>-0.13</td>
<td>0.07</td>
<td>-0.02</td>
</tr>
<tr>
<td>Work status</td>
<td>-0.20</td>
<td>0.05</td>
<td>-0.25*</td>
</tr>
<tr>
<td>Marital status</td>
<td>-0.34**</td>
<td>-0.10</td>
<td>0.06</td>
</tr>
<tr>
<td>No. of coresident children</td>
<td>-0.06</td>
<td>-0.04</td>
<td>-0.06</td>
</tr>
<tr>
<td>Mother’s coresidence</td>
<td>-0.66*</td>
<td>-0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>ADL score</td>
<td>-0.19</td>
<td>0.02</td>
<td>0.06</td>
</tr>
<tr>
<td>Duration of caregiving</td>
<td>-0.10</td>
<td>0.04</td>
<td>-0.21</td>
</tr>
<tr>
<td>Security dimension</td>
<td>-0.01</td>
<td>-0.15</td>
<td>0.51**</td>
</tr>
<tr>
<td>Anxiety dimension</td>
<td>-0.13</td>
<td>-0.30**</td>
<td>0.00</td>
</tr>
<tr>
<td>Emotion dimension</td>
<td>-0.22*</td>
<td>-0.49**</td>
<td></td>
</tr>
<tr>
<td>Caregiver burden</td>
<td>-0.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Ethnicity, 1 = African American, 2 = European American; work status, 0 = not working, 1 = working; marital status, 0 = unmarried, 1 = married; coresidence, 0 = no, 1 = yes. ADL = activities of daily living; SES = socioeconomic status.

*p < .05; **p < .01.

Table 4. Summary of Hierarchical Regression Analyses of Demographic, Caregiving, and Attachment Dimensions on Instrumental Care, Emotional Care, and Caregiver Burden

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>0.73</td>
<td>-1.64</td>
<td>0.41</td>
<td>-0.06</td>
</tr>
<tr>
<td>SE b</td>
<td>0.24</td>
<td>0.19</td>
<td>0.10</td>
<td>1.40</td>
</tr>
<tr>
<td>β</td>
<td>0.02</td>
<td>-0.82</td>
<td>0.35</td>
<td>-0.00</td>
</tr>
<tr>
<td>sr²</td>
<td>0.00</td>
<td>0.32***</td>
<td>0.07***</td>
<td>0.00</td>
</tr>
</tbody>
</table>

| Emotional Care       |        |        |        |        |
| b                   | 3.92   | 0.82   | 0.49   | -0.00  |
| SE b                | 2.61   | 0.28   | 0.12   | -0.03  |
| β                   | 0.14   | 0.48   | 0.57   | -0.00  |
| sr²                 | 0.01   | 0.06** | 0.11***| 0.00   |

| Caregiver Burden     |        |        |        |        |
| b                   | 0.42   | -0.24  | 0.07   | 0.58   |
| SE b                | 1.16   | 0.13   | 0.06   | 0.59   |
| β                   | -0.04  | -0.35  | 0.22   | 0.10   |
| sr²                 | 0.00   | 0.03   | 0.07   | 0.01   |

Notes: Coefficients are from the final Step 4 model. Only two significant differences in coefficients were noted from the final results: In the regression on instrumental care, coresidence was significant in Step 2 but in no subsequent steps, and in the regression on caregiver burden, coresidence was significant in Step 1 and ADL score was significant in Step 2, but neither was significant in subsequent steps. ADL = activities of daily living; SES = socioeconomic status; sr² = squared semi-partial correlation.

*aFor the regression on instrumental care, R² = .33 for Step 1 (p < .001); ΔR² = .29 for Step 2 (p < .001); ΔR² = .11 for Step 3 (p < .001); ΔR² = .00 for Step 4 (p = .94).

*bFor the regression on emotional care, R² = .08 for Step 1 (p = .48); ΔR² = .01 for Step 2 (p = .30); ΔR² = .25 for Step 3 (p < .001); ΔR² = .21 for Step 4 (p < .001).

*cFor the regression on caregiver burden, R² = .21 for Step 1 (p < .05); ΔR² = .17 for Step 2 (p < .001); ΔR² = .02 for Step 3 (p = .41); ΔR² = .06 for Step 4 (p < .05).

*p < .05; **p < .01; ***p < .001.
for 6% of the variance in caregiver burden; daughters with a higher degree of security reported less burden.

Discussion

In the current study I used the life-span developmental framework of attachment theory to examine associations between socioemotional bonds and the caregiving that daughters were providing to their older mothers. As predicted, attachment patterns are unrelated to the amount of instrumental care daughters provide. In contrast, attachment patterns are significantly associated with the amount of emotional care daughters provide, with securely attached daughters providing more emotional care than insecurely attached daughters. Daughters with a more secure attachment bond to their mothers also report less caregiver burden. Attachment patterns appear to play a role in the amount and nature of care provided to parents and in the psychological outcomes for caregiving children, although there are important theoretical and methodological issues that remain to be addressed in future research.

Attachment and Caregiving

In the current study I extend work on attachment and parent care by exploring the relationship between specific attachment dimensions, Security and Anxiety, and two types of care, instrumental support and emotional support. First, adult daughters’ attachment patterns are unrelated to the provision of instrumental care to their older mothers. Assistance with shopping, housework, medication management, and social service arrangement are offered to mothers regardless of the quality of the attachment bond between daughter and mother. This finding is consistent with research that has shown a continued provision of instrumental care despite its sometimes overwhelming physical and psychological burden (Cantor, 1983). One explanation for this finding may be that genuine functional needs supersede attachment dynamics. A daughter in the current study admitted, “I know what I have to do, and I don’t mind doing it, but sometimes it stresses me out . . . . She and I were never really close, but you have to do what you have to do.” Social and familial norms may propel instrumental caregiving regardless of the quality of the child–parent relationship (ikkink, Van Tilburg, & Knipscheer, 1999). In fact, practical support may be just the kind of care that enables some daughters to be involved yet emotionally safe. Concrete, task-focused activities such as picking up prescriptions and doing laundry require relatively little direct contact with a parent and can be managed so that they involve minimal emotional exchange and, consequently, minimal risk of friction or disappointment.

In contrast, in the current study the provision of emotional care is associated with two attachment dimensions, Security and Anxiety. Higher scores on the Security dimension correspond to a more secure attachment to mother, an internalized sense of her supportiveness, and a willingness to seek intimacy with her. Daughters who score high on this dimension provide more emotional care. As Cicirelli (1991) has suggested, secure daughters may provide emotional support as a way to protect their mother as old age compromises health and hints at the attachment relationship’s inevitable end. Insecure daughters, on the other hand, may be less motivated to invest emotional energy in a relationship that has been unsupportive or painful and whose end may be unremarkable or even a relief.

A converse relationship exists between attachment Anxiety and emotional care. Higher scores on this dimension represent feelings of poor self-worth and apprehension in relationship with mother, and daughters who score high on this dimension provide less emotional care. They may be fearful of providing emotional care because they doubt whether they can do so effectively or whether they deserve to be in a supportive relationship. One daughter commented, “It never seems like I can do enough. And if I don’t go over there for a couple days I end up feeling guilty . . . . It’s like I’m still trying to please her.” With their precarious self-esteem, insecurely attached daughters may withdraw from their mothers rather than risk conflict or rejection.

Overall these results are consistent with Cicirelli’s (1991, 1993) contention that adult children may provide care to preserve the attachment relationship. Yet the current study also provides evidence that attachment patterns may have more complex associations with caregiving than previously considered. Namely, the provision of care appears to depend on the nature of the attachment bond with parents (i.e., whether it is characterized by security or insecurity). Moreover, the current study clarifies that different types of care (instrumental vs emotional) have different associations with attachment patterns. Instrumental care is provided regardless of attachment patterns, yet the amount of emotional care depends on attachment, with more care provided by securely attached children who want to prolong the nurturance they receive back from their parent (Kramer, 1997). Indeed, this study demonstrates that daughters with more secure attachment bonds report lower levels of caregiver burden, as have other studies (Crispi et al., 1997). The correlational nature of these data do not allow causal conclusions, but the data do suggest that secure attachment bonds may be associated with positive psychological outcomes for adult children, adding to a broader literature of similar findings (Main, 1996). Altogether, adult attachment patterns appear to have a dual impact on child–parent caregiving interactions: an impact on the nature of care that older adults receive and an influence on how successfully children cope with parent care responsibilities.

To conclude the findings from this study, two other factors also are related to parent care. First, there is a significant association between caregiving and daughter’s work status, although that relationship differs depending on the domain of care: Working daughters provide less emotional care, but work status is unrelated to instrumental care. This result suggests that when daughters experience multiple demands on their time emotional care for a parent may seem secondary to pragmatic needs. Sitting with mother, reminding with her, listening to her talk about things that are important to her—these activities may seem less essential than more conspicuous needs such as dinner that must be provided or laundry that must be done. One indirect effect of the multiple burdens on caregiving children may be, then, that parents experience a qualitative difference in how their children interact with them.
Second, the only family structure characteristic that is significantly associated with caregiving is the number of children living with daughters: Daughters with more children at home provide more instrumental care (no systematic relationship emerged for emotional care). With children at home daughters may have the liberty to devote more time to caring for their mother as they delegate responsibilities in their own household to their children. More children at home, however, was also associated with greater caregiver burden, suggesting that the stress of caring for a parent may exist regardless of the supports a woman has in her own home.

It is important to return for a moment to review the effect sizes of factors that are associated with caregiving (Rosenthal & Rosnow, 1991). Demographic factors have small effect sizes (number of children at home, $r^2 = .03$ for caregiving, $r^2 = .06$ for burden; work status, $r^2 = .03$ for caregiving). Mother’s functional dependence has an effect size that is large in regard to instrumental care ($r^2 = .32$) but small to medium in regard to emotional care ($r^2 = .06$). Finally, the Security and Anxiety attachment dimensions have small to medium effect sizes for emotional caregiving ($r^2 = .15$ and .06, respectively) and a small effect size in relation to burden ($r^2 = .06$). In terms of clinical significance, then, changes in functional dependence can be associated with quite substantial shifts in the amount of instrumental care that is provided to mothers. When an older parent develops incontinence, for instance, a substantial increase in caregiving time and energy may occur. In addition, even small variations in attachment patterns are associated with significant differences in emotional care and burden. The effect sizes for attachment dimensions are particularly noteworthy because those factors represent possible points of intervention.

Implications and Limitations

Results from this study suggest that attachment patterns may provide some indication of how likely daughters are to provide emotional care to their mothers, thereby making it possible to identify older adults who may be at risk for receiving less emotional support from their families. What to do with that information is, of course, another question. The extent to which adult children’s attachment patterns can be changed is unclear (Slade, 1999). Yet Bowlby’s term, internal working model, was carefully chosen to reflect its nature as a “dynamic representation” (Bretherton, 1993, p. 239) that could be modified by direct intervention or in response to reparative attachment relationships. Other authors have described earned attachments and the positive modification of attachment representations suggesting the possibility of creating adaptive relationships between adult children and their parents even when before they were contentious (Byng-Hall, 1999; Krause & Haverkamp, 1996). Even if attachment modification is not a primary goal, family education programs that examine interpersonal dynamics before caregiving becomes a necessity might offer families an opportunity to discuss caregiving expectations and address discrepancies across generations before they evolve into disappointment or conflict.

Results of the current study also have implications for policy efforts that address the division of responsibility for caregiving between families and other sources. Cicirelli (1991) has suggested that interaction between adult children and older parents is an important, ongoing developmental process with benefits for both sides, and policy “should be formulated to assist adult children to maintain attachment and protective behavior toward the parent” (p. 38). How might this proposition be met by children who do not get along with their parents, children with less secure and more anxious attachments? To encourage extensive caregiving in those circumstances, and to expect that care to have a positive emotional tone, may be unrealistic. Strategies that address family involvement in caregiving will need to recognize that not all families want or can tolerate close, emotionally focused interactions (Magai & Cohen, 1998). In their recent work on long-term care, Kane, Kane, and Ladd (1998) stated that some family members should not be caregivers and that public policies should recognize the contribution of informal caregivers but not rely on them exclusively.

The current study also brings into relief questions that require further empirical attention. First, the theoretical and measurement questions in adult attachment remain numerous and complex. The psychometric properties of the AAS and the RQ are not firmly established, and what they measure remains open to a certain degree of speculation. For instance, the AAS and RQ were worded to measure daughters’ attachments to their mothers, but it is possible that an overarching attachment representation rather than a relationship-specific one might be more directly responsible for daughters’ behavior (Cicirelli, 1998). Future applications of attachment theory to the study of adult child–parent relationships also will require consideration of how those relationships differ in adulthood from their earlier incarnation: changes in the power dynamic, differences in resources and the direction in which they are shared, the newly real potential end of the relationship, and the host of intervening events and relationships both inside and outside the family that can influence contemporary interactions. Another limitation of the current study is that it did not include the perspective of mothers receiving care. Attachment has always been conceived of as a behavioral system, with one party influencing the other in mutual feedback. The reciprocal nature of the caregiving dynamic demands a transactional approach in future research (Magai & Cohen, 1998). In fact, it is probably important for investigators to examine the entire system of attachments within a family to understand how attachments influence relationships across and within generations.

Some additional caveats deserve mention. The conceptual overlap between the questions I used to measure mother’s level of functional dependence and those that assessed instrumental caregiving might explain their relationship in the regressions. In addition, researchers have pointed out the potential error inherent in self-reports of caregiving (Brody, Litvin, Albert, & Hoffman, 1994). Regarding the sample itself, this was a group of homogeneous daughters who volunteered to discuss their caregiving and family relationships and therefore may represent a particular kind of
family, one with relatively positive relationships. Missing, of course, were daughters who refused to participate and might have more troubled relationships and different patterns of attachment and caregiving. Future research will need to include more diverse caregiving dyads and will need to use creative strategies to recruit families in which caregiving takes place in the context of more overt discord.

Final considerations are the cross-sectional nature of these data and the reality that hierarchical regression is not a substitute for experimental control. Variables in the hierarchical regression are entered in a logical sequence, but the technique does not preclude the possibility of reciprocal causality. Attachment may influence caregiving, but caregiving also may influence attachment. At the beginning of caregiving a daughter may feel relatively comfortable with the situation, but her attitude may change if the demands of caregiving become unmanageable (Walker, Acock, Bowman, & Li, 1996). Conversely, a daughter who spends more and more time helping her mother may experience burgeoning affection for her, a stronger sense of security, and a more positive attachment bond (Davila, Burge, & Hammen, 1997). The possible bidirectional influence of attachment patterns points to the importance of longitudinal designs in clarifying the role of attachment across the caregiving history.

Despite these limitations, the current study does suggest that attachment theory is a useful framework for understanding caregiving in adult family relationships. In approaching decades families are likely to experience expanded responsibility caring for older adults, and research that explores connections between emotional and behavioral family patterns will continue to be vital.

ACKNOWLEDGMENTS

Brian D. Carpenter is now at the Department of Psychology, Washington University in St. Louis.

Support for this research was provided by a grant from the Retirement Research Foundation and Division 20 of the American Psychological Association. Generous cooperation was provided by Linda Noelker and Mary-Anne Caston at the Benjamin Rose Institute, Cleveland, OH. This study was the dissertation research of the author, conducted at Case Western Reserve University under the guidance of Milton E. Strauss. Portions of these data were presented at the 1997 Annual Meeting of the Gerontological Society of America.

Address correspondence to Brian D. Carpenter, Department of Psychology, Washington University, Box 1125, St. Louis, MO 63130. E-mail: bcarpent@artssci.wustl.edu

REFERENCES


Received March 6, 2000
Accepted March 28, 2001
Decision Editor: Margie E. Lachman, PhD

**Appendix**

**Notes**

1. In a complementary method of administration, respondents can indicate which one description best represents the relationship they have with their mother. In this study the categorical ratings were uniformly consistent with the highest dimensional rating. Because the dimensional ratings provide more detail about the interplay among attachment styles, they were used in analyses.

2. In follow-up analyses potential interaction effects between the attachment dimensions and mother’s functional dependence were explored, on the basis of Cicirelli’s (1993) findings. No significant interactions were found.