

# Parental Attachment, Self-Worth, and Depressive Symptoms Among Emerging Adults

Maureen E. Kenny and Selcuk R. Sirin

The characteristics of parental attachment were assessed for a sample of 81 emerging adults (ages 22–28 years) and their mothers. Emerging adults' reports of self-worth were found to mediate the relationship between their reports of parental attachment and depressive symptoms. The emerging adults' unique perspectives of the attachment relationship were more predictive of their self-reported self-worth and depressive symptoms than were the mothers' perspectives of the relationship.

Efforts to evaluate the tenets of attachment theory have contributed to a growing body of research documenting the contributions of the parent–child relationship to emotional well-being and social competence across the life span. Although attachment research focused initially on the observation of mother–child attachment relationships in early childhood, Bowlby (1982) maintained that attachment processes were central to personality functioning from “cradle to grave” (p. 172). Over the past decade, attachment researchers have increased their attention to articulating the distinct qualities of adult–child and adult–adult attachment and delineating the cognitive and affective processes underlying attachment across the life span (Crowell & Treboux, 1995).

One way in which attachment relationships are theorized to affect well-being across the life span is by providing a secure base of support. Through their availability as a source of support, secure attachments can reduce anxiety, increase environmental exploration, and contribute to competence in interacting with the world (Kobak & Sceery, 1988). Among young children, for example, the responsive and sensitive caretaker is believed to contribute to child feelings of security, confidence in exploring the environment, and the development of instrumental competence (Bowlby, 1988; Kobak & Sceery, 1988). For the late adolescent leaving home for college, Kenny (1987) suggested that secure parental attachments provide a secure base by supporting student exploration and mastery of the college environment and by remaining available as a source of advice and comfort when needed. Main (1999) proposed that proximity seeking or secure base behavior often increases in the later stages of the life span

when older adults are less able to care for and protect themselves and experience heightened feelings of vulnerability.

Beyond the role as a source of actual assistance, parental attachments are also theorized to exert an enduring influence on development through the formation of internal working models. Sensitive and consistently available caretaking may contribute to an internal working model of self as worthy of love and a model of others as trustworthy and predictable. Conversely, insensitive and unreliable caretaking may result in a view of self as unworthy and a view of others as untrustworthy (Bowlby, 1982). These internal working models of self and others are believed to serve as cognitive filters through which current experiences are interpreted and ongoing expectations of self and others are formulated (Bowlby, 1982; Bretherton, 1985, 1992). Positive internal working models are theorized to enhance an individual's ability to adapt to stress over time, because the individual has confidence in the self and trust in reaching out to others for help. Conversely, and consistent with Beck's (1967) model of depression, a negative view of self and others, associated with insecure attachment, may increase vulnerability to depression (Carnelley, Pietromonaco, & Jaffe, 1994; Kenny, Moilanen, Lomax, & Brabeck, 1993; Kernis, Grannemann, & Mathis, 1991).

Characteristics of secure parental attachment have been associated empirically with indices of adaptive social and psychological functioning across a variety of developmental periods (Kenny & Barton, 2002). For the adolescent, secure parental attachments have been conceptualized as providing a source of security and support as the adolescent negotiates the numerous transitions and challenges of this

**Maureen E. Kenny** and **Selcuk R. Sirin**, Department of Counseling, Developmental, and Educational Psychology, Boston College. Selcuk R. Sirin is now in the Department of Applied Psychological Studies, The Steinhardt School of Education, New York University. The authors wish to thank Penny Hauser-Cram, Martha Bronson, Judith Palfry, Matthew Jans, Janet Morganelli, Lauren Rogers-Sirin, and Ted Wall for their contributions in the development of the project and Penny Hauser-Cram for helpful comments on drafts of the manuscript. This research was supported in part by the Robert Wood Johnson Foundation, which provided partial funding of a larger study from which these data were drawn. The data presented, the statements made, and the views expressed are solely the responsibility of the authors. Correspondence concerning this article should be addressed to Maureen E. Kenny, Department of Counseling, Developmental, and Educational Psychology, Campion Hall 307, Boston College, Chestnut Hill, MA 02467 (e-mail: kennym@bc.edu).

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developmental period. Among early and middle adolescents, secure parental attachments have been found to buffer life stress and to be associated with positive self-worth and low levels of depressive symptoms (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Kenny et al., 1993; Kobak, Sudler, & Gamble, 1991; Papini & Roggman, 1992). Among college students, secure parental attachments have been positively associated with college adjustment (Larose & Boivin, 1997; Rice, FitzGerald, Whaley, & Gibbs, 1995), assertiveness in social relationships (Kenny, 1987), enhanced resources for coping with stress (Brack, Gay, & Matheny, 1993), and career exploration and commitment (Blustein, Walbridge, Friedlander, & Palladino, 1991).

Despite the substantive body of research generated in recent years focusing on parental attachments among adolescents and college students, research has not assessed the role of parental attachments among young people beyond college age. Arnett (2000a, 200b) defined the years between late adolescence (ending at age 18) and young adulthood (beginning at age 30) as encompassing *emerging adulthood*, a period of experimentation, instability, and diverse possibilities in love and work. An increase in the years of formal schooling and a delay in the age of marriage and parenthood, which are common in industrialized societies, have contributed to extended personal and career exploration, with enduring commitments to career and relationships often being postponed until the late 20s (Arnett, 2000a). Arnett (1998) noted that although studies of college students are plentiful, research has largely ignored the decade of the 20s, despite recent evidence suggesting that the years from 21 to 28 are characterized by considerable stress and engagement in high-risk behaviors. After college graduation, stress may accrue as relationships with friends and family change and opportunities for participation in peer and educational activities shift from school to the community and workplace (Bemporad, Ratey, & Hallowell, 1986). Culturally prescribed pressures for career choice and entry and financial independence also begin to increase (Gould, 1978).

In conjunction with the transitional stressors of the emerging adult years, feelings of loneliness and depression can arise (Hallowell, Bemporad, & Ratey, 1989), with the median age of onset for depression occurring during the 20s (Weiner, 1992). Approximately 25% of late adolescents and young adults have experienced a major depressive episode (Hart, Craighead, & Craighead, 2001), with a 1-year prevalence rate of approximately 3% occurring across the 18- to-29-year-old age group (Weissman, Bruce, Leaf, Florio, & Holzer, 1991). This is of particular concern because the experience of a major depressive episode during the emerging adult years presents a substantial risk for the recurrence of depression in later years (Hart et al., 2001). Although developmental researchers have largely neglected the decade when individuals are in their 20s, it is a period of substantive stress and risk for depression. Increased knowledge of the relevance of parental attachment to psycho-

logical distress during these transitional years could have importance for prevention and intervention.

In contrast with traditional developmental (e.g., Blos, Erikson) models that emphasize autonomy as the primary criterion for successful adult status, contemporary research suggests that separation from the family of origin occurs most adaptively within the context of a caretaker relationship that is transformed, rather than broken (Allen, Moore, & Kuperminc, 1997; Hill & Holmbeck, 1986). Although contemporary perspectives suggest that continuity in the valuing of parental attachment while gaining in autonomy is a desirable developmental outcome (Ainsworth, 1989), the relative importance of parental attachments as a secure base of support or as a source of internal working models during the emerging adult period has not been investigated. For the 22- to 29-year-old, the importance of parental attachments as a source of internal working models may surpass the importance of the attachments as a direct source of emotional or financial support. A hypothesized adaptive outcome of secure attachment is the development of effective coping skills, such that, with increasing maturation, the child becomes less directly reliant on the attachment figure as a source of help (Rice & Cummins, 1996). For example, the emerging adult, equipped with cognitive maturity, problem-solving abilities, and social relationships beyond the family, may not seek direct contact with the attachment figure for comfort, yet might still experience the ongoing effects of the relationship through the internal working models. Although research to date has not examined the role of parental attachments as a source of working models of self among emerging adults who are beyond traditional college age, this knowledge may inform intervention. Such knowledge may have implications, for example, as to whether counselors should focus on current patterns of interaction with parents or on cognitive internal working models. Knowledge of whether parental attachment is associated with secure base characteristics, such as frequency of contact and financial support, may have implications for the ways that parents can be most helpful in supporting their children during the often stressful transitional decade of the 20s.

In order to evaluate the role of the attachment figure as a source of internal working models, researchers (e.g., Carnelley et al., 1994; Kenny et al., 1993) have compared models of direct and mediated effects. Mediators "explain how external physical events take on internal psychological significance" (Baron & Kenny, 1986, p. 1176). Findings have provided support for the hypothesized role of internal working models as mediators of parental attachment and the social and emotional functioning of offspring. In a study of high school seniors, for example, Davila, Hammen, Burge, Daley, and Paley (1996) found that self-worth mediated the relation between attachment and interpersonal problem solving. Self-worth is conceptually related to the internal working model, because models of self developed in the context

of secure attachment relationships are theorized to contribute to feelings of positive self-worth and self-confidence (Bowlby, 1980; Simons, Paternite & Shore, 2001). Among early adolescents, view of self was found to partially mediate the relation between perceived parental attachment and level of depressive symptoms (Kenny et al., 1993). Although low self-worth has been conceptualized as both a cause and consequence of depression, it is not synonymous with depression, which includes a variety of other features (Harter, 1999). In research assessing depressive affect among college students, self-worth and dysfunctional attitudes were identified as mediators of attachment and dysphoria (Roberts, Gotlib, & Kassel, 1996).

Prior research has also evaluated internal working models by comparing the perspective of the attachment relationship as reported by the parents and offspring. To the extent that internal working models are a more powerful determinant of the well-being of offspring than are current parental interactions, their perspective is likely to be more important than the parents' perspective in explaining well-being. In one of the few existing studies to include reports from both parents and offspring, Rice and Cummins (1996) found that the unique perspectives of the attachment relationship as held by late adolescent college students were more important in predicting their current view of self than were the unique parental perspectives. The importance of the late adolescents' unique perception of the attachment relationship was interpreted as evidence of the importance of the internal working model. The attachment ratings provided both by students and parents in the Rice and Cummins study were, however, retrospective, based on recollections of the first 16 years of life, and thus did not assess the current attachment relationship. The relative importance of parents' and emerging adults' perceptions of current attachment relationships has not been examined to date, perhaps because of assumptions that relationships with family of origin have little importance after the leaving-home transition as well as because of the challenges in obtaining data from parents when children are no longer living at home. Reports by parents, however, could help to identify the unique importance of parents' and offsprings' perceptions of attachment and help to assess the importance of internal working models among emerging adults.

The current study seeks to increase knowledge of the characteristics of the parental attachment of emerging adults and to explore the role of parental attachment as a source of internal working models during the transitional years of emerging adulthood. With regard to the role of the attachment figure as a secure base among emerging adults, we assess whether financial support from parents and frequency of communication with them are associated with perceptions of parental attachment and emerging adults' self-reports of self-worth and depressive symptoms. If parents continue to provide a secure base, they may be sought out to provide emotional and financial support when needed and that support may be positively associated with self-worth and negatively associated with depressive symptoms. With

regard to internal working models, we next examine self-worth as an internal factor that may mediate the relationship between parental attachment and the experience of depressive symptoms. Consistent with evidence that self-worth, as a component of the working model of self, mediates the relationship between parental attachment and well-being among early and late adolescents, we expected that self-worth would mediate the relationship between parental attachment and depressive symptoms among emerging adults. Finally, by including the parent perspective, we evaluated the relative importance of parent and emerging adult perceptions of attachment in explaining self-esteem and depressive symptoms. To the extent that working models of self are more salient than direct interaction and support from parents at this age, we expected that emerging adult perceptions would add to the explanation of their functioning after accounting for the parent perspective.

## Method

### Participants

The participants in this study were 81 pairs of emerging adults and their mothers. The 81 emerging adults (49 men and 32 women) ranged in age from 22 to 29 years ( $M = 25.98$  years,  $SD = 1.42$ ). In terms of self-reported ethnicity, 64.2% were Euro-American, 14.8% were African American, 7.4% were Asian American, 6.2% were Hispanic/Latino, and 7.4% reported other ethnic background. In terms of highest level of education, 1% had completed some high school, 6.5% had a high school degree, 21.3% had completed some college or technical school, 2.5% had completed an associate's degree, 55% had completed college, 10% had completed a master's degree, and 3.8% had an advanced graduate degree beyond the master's degree. Forty-six percent of the emerging adults were currently attending some type of educational or training program, and 76.5% were employed at least part-time, with incomes ranging from less than \$10,000 to over \$60,000 per year. Sixty percent earned \$20,000 or less. Forty percent reported receiving some contributions from parents toward their living expenses, with 60% reporting no financial assistance from parents. Twenty-three percent lived with a parent or stepparent, with the remainder living apart from their family of origin. Seventy-two percent of the emerging adult participants were single and not living with a partner, 9% were married, 18% were living with a partner, and 1% were separated from spouse; 11% indicated that they had children of their own. Twenty (24.7%) emerging adults reported that their parents were divorced; 13% of their fathers and 11% of their mother had remarried.

The sample of mothers, composed of the 81 biological mothers of the emerging adults, had a mean age of 54.09 years ( $SD = 5.25$ ). Sixty-six percent self-reported as Euro-American, 12.4% as African American, 6.7% as Hispanic, 3.4% as Asian American, and 11.5% reported other ethnic background. In terms of achieved education, 4.9% had com-

pleted grade school, 3.7% had some high school, 6.2% had a high school degree, 7.4% had completed some college or technical school, 12.3% had an associate degree, 24.7% had completed college, 33.3% had a master's degree, and 7.4% had completed an advanced graduate degree beyond the master's degree.

### Procedure

Volunteers were recruited by a mail solicitation of individuals who had attended (but not necessarily graduated from) high schools in an urban community and an adjacent suburban community from 1990 through 1993 and by responses to signs posted in local health centers. A total of 182 emerging adults volunteered and were paid \$50 for their participation. If agreeable to the participant, their parents were contacted by mail and invited to participate, and the parents also received \$50 for their participation. Out of 169 parents who were contacted, 92 (89 mothers, 3 fathers) returned questionnaires. The sample presented here consists of the adult-mother pairs for whom complete data were available. Although we believe research needs to more actively focus on the perspectives of fathers, we focused only on mothers in this study because of the small number of fathers who responded. In order to determine whether the 89 emerging adults whose mothers completed questionnaires were different from the 93 emerging adults in our sample whose mothers did not complete questionnaires, *t* tests were completed that compared the two samples on emerging adult measures of parental attachment, self-worth, and depressive symptoms, as well as frequency of communication with mother and father and mothers' level of education. No significant differences were found with the exception of mothers' level of education, which was higher for the group with maternal data ( $t = 2.8$ ,  $p < .01$ ), suggesting that the sample with maternal data was similar to our overall sample in most apparent ways.

### Measures

The emerging adults who participated in this study completed a demographic questionnaire, the General Self-Worth scale of the Adult Self-Perception Profile (ASPP; Messer & Harter, 1986), the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), and the Parental Attachment Questionnaire (PAQ; Kenny, 1987). Mothers completed a demographic questionnaire and a parent version of the PAQ (PAQ-P), as well as the Family Cohesion subscale of the Family Adaptability and Cohesion Evaluation Scale (FACES III; Olson, Portner, & Lavee, 1985) and the Parental Burden Scale (M. Windle, personal communication, February 15, 2002), both of which contributed to the validation of the PAQ-P. The measures are described below.

The demographic questionnaires elicited background information concerning the participants. In addition, some information that was obtained from answers to the demographic questionnaire was included in the preliminary and main analyses. For example, emerging adults and their

mothers were asked to indicate the highest level of education that they had completed by checking one of eight categories. For purposes of data analysis, the eight categories were coded in the following manner: *grade school/less than 9th grade* = 1, *some high school/less than 12th grade* = 2, *high school degree or equivalent* = 3, *some college or technical school* = 4, *2-year college/associate's degree* = 5, *4-year college degree* = 6, *master's degree* = 7, *advanced degree (e.g., PhD, MD)* = 8. Emerging adults were also asked to respond to the question, "How often do you usually communicate with your mother?" by checking one of the following response options: *every day*, *every week*, *every month*, *a few times a year*, *once a year*, *every few years*, *never*. The responses were coded for purposes of data analysis on a 7-point, Likert-type scale, ranging from *never* = 1 to *every day* = 7. Emerging adults were asked to check yes or no to the question, "Did your parents (or the people who raised you) contribute to your living expenses in the current year?"

The CES-D (Radloff, 1977) is a 20-item instrument that assesses the frequency of depressive symptomatology during the previous 7-day period. Response options for each item range from *rarely or none of the time* (scored as 0) to *most or all of the time* (scored as 3). The reported reliability and validity of the CES-D are strong (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). For a community sample, the CES-D was found to correlate with diagnosis of depression based upon a structured clinical interview (Roberts & Vernon, 1983). In this study, an internal consistency analysis yielded a Cronbach's alpha of .91.

The ASPP (Messer & Harter, 1986) was designed to measure several dimensions of perceived competence as well as general self-worth. For this study, we used the six-item General Self-Worth scale. Participants respond to each item by first selecting which of two given descriptions is more like them and then rating whether that description is "really true of me" or "sort of true of me." Each item is scored on a scale of 1 to 4, with a 1 indicating low self-worth and a 4 indicating high self-worth. Internal consistency as measured by Cronbach's coefficient alpha was reported by Harter (1990) as ranging across varied samples from .87 to .92. For the current sample, Cronbach's alpha was .85.

The PAQ (Kenny, 1987) was designed to assess security of attachment by adapting Ainsworth, Blehar, Waters, and Wall's (1978) conceptualization of attachment for use in a self-report format with adolescents and young adults. Participants are asked to rate their perceptions of their parents, their relationships with their parents, and their experiences and feeling about their parents using a 5-point, Likert-type scale ranging from 1 (*not at all*) to 5 (*very much*).

As in previous research (Hinderlie & Kenny, 2002), two subscales of the PAQ, Affective Quality of Attachment and Parental Fostering of Autonomy, were combined to yield a single score based on the strong correlation between the two subscales and the conceptual association between the

parental-affect and autonomy-facilitating components of attachment (Ainsworth et al., 1978). The .65 correlation found between the two subscales in this study is consistent with previous findings (e.g., Hinderlie & Kenny, 2002; Holmbeck & Wandrei, 1993; Holtzen, Kenny, & Mahalik, 1995). Kenny (1987) reported test-retest reliability of the PAQ over a 2-week interval of .92 for the measure as a whole. Examination of the validity of the PAQ in other research (Holmbeck & Wandrei, 1993; Kenny & Donaldson, 1991) revealed moderate correlations with conceptually relevant subscales of the Family Environment Scale (Moos & Moos, 1986), the Family Cohesion subscale of the FACES III (Olson et al., 1985), and the Parental Scale of the Inventory for Peer and Parental Attachment (Armsden & Greenberg, 1987). The internal consistency (Cronbach's alpha) for the current study was .94.

The PAQ-P is a newly developed 16-item scale that measures parents' perceptions of their attachment relationship with one of their children. In developing the parent version, items that had the highest factor loadings on the Affective Quality of Attachment and Parental Fostering of Autonomy subscales of the PAQ were selected and reworded to be answered from the parent's perspective. Each mother was asked to describe her relationship with the focus child by rating each item using a 5-point, Likert-type scale ranging from 1 (*not at all*) to 5 (*very much*). Examples of items are "In general as a parent, I let my child try out new things and learn on his/her own," reflecting the Parental Fostering of Autonomy subscale, and "During recent visits or time spent together, I felt relaxed and comfortable with my child," reflecting the Affective Quality of Attachment subscale.

Because the PAQ-P is a new measure, we examined its validity by assessing relationships with two other scales that are designed to assess relevant aspects of family relationships. We expected the Family Cohesion scale of the FACES III (Olson et al., 1985), which assesses emotional bonding and support among family members, to be positively associated with maternal ratings of attachment. We expected the Parental Burden Scale (M. Windle, personal communication, February 15, 2002), which assesses the parent's view of the child as overly dependent and lacking in self-reliance, to be negatively correlated with PAQ-P scores. The PAQ-P is positively correlated with scores on the Family Cohesion subscale ( $r = .34, p < .01$ ) and negatively correlated with scores on the Parental Burden Scale ( $r = .55, p < .001$ ), providing support for the convergent validity of the PAQ-P as assessing related, but not identical, constructs as measured by the Family Cohesion subscale and the Parental Burden Scale. The internal consistency (Cronbach's alpha) for the PAQ-P in the current study was .82.

## Results

### Preliminary Analyses

Table 1 presents the means and standard deviations of the study variables, and Table 2 presents Pearson correlation

**TABLE 1**  
Means and Standard Deviations  
for the Study Measures

Measure	<i>M</i>	<i>SD</i>	Range
Emerging adults			
General Self-Worth Scale	3.28	0.67	1–4
CES-D	11.73	9.85	0–52
PAQ	3.93	0.58	2.45–4.47
Mothers			
PAQ-P	4.44	0.45	3.13–5.00
Parental Burden Scale	10.66	4.79	8–32
Family Cohesion subscale	37.99	6.48	18–50

*Note.* CES-D = Center for Epidemiological Studies Depression Scale (Radloff, 1977); PAQ = Parental Attachment Questionnaire (Kenny, 1987); PAQ-P = parent version of PAQ.

coefficients. Overall, scores on the emerging adult measures indicate positive perceptions of parental attachment (item  $M = 3.93$  on a 5-point scale), positive self-worth (item  $M = 3.28$  on a 4-point scale), and, as would be expected for a community sample, overall levels of depressive symptoms ( $M = 11.73$ ) well below the cutoff score of 16, which is indicative of clinical depression. Mothers' reports of attachment were also highly positive (item  $M = 4.44$ ).

On the basis of evidence that education is related to emotional well-being (Johnson, Cohen, Dohrenwend, Link, & Brook, 1999) and knowledge that the mothers who participated in our study were more highly educated than mothers of emerging adults who did not participate, we examined the relation between emerging adults' and mothers' education levels and study variables. As presented in Table 2, both emerging adults' and mothers' levels of education were significantly related to the well-being of the emerging adults and parental attachment. On the basis of these findings, the education levels of the mothers and emerging adults were considered in the main analyses of this study. In addition, because research has commonly noted gender differences in levels of self-worth and depressive symptoms (Nolen-Hoeksema, 1987) and in closeness to family (Josselson, 1988; Kenny & Donaldson, 1991), we examined gender differences for the study variables. The results of *t* tests revealed no significant gender differences for the measures completed by the emerging adults or for the mothers' ratings of attachment. As a result, gender was not considered in subsequent analyses.

### Secure Base Characteristics of Emerging Adult Attachment

The descriptive data indicate that among the emerging adults in this sample, proximity seeking and secure base behavior with mothers were high, with emerging adults reporting frequent contact and communication with their mothers. Most participants (54%) reported that they communicated with their mothers once a week, with many (33%) reporting daily contact. Forty-one percent reported receiving at least some

**TABLE 2**  
Zero-Order Correlations for Study Measures

Measure	1	2	3	4	5	6	7	8	9	10
1. General Self-Worth scale	—									
2. CES-D	-.63**	—								
3. PAQ	.49**	-.45**	—							
4. PAQ-P	.28*	-.32*	.56**	—						
5. Parental Burden Scale	-.41**	.31**	-.41**	-.56**	—					
6. Family Cohesion subscale	.02	-.04	.26*	.34**	-.07	—				
7. Mother education	.19	-.33	.37**	.22*	-.28*	.41**	—			
8. Communication with mother	-.08	.09	.20	.27*	-.32**	.03	.10	—		
9. Emerging adult age	.12	.05	.08	-.02	.08	.18	.10	.11	—	
10. Emerging adult education	.33**	-.40**	.32**	.29*	-.39**	.14	.32**	-.03	-.01	—

Note.  $N = 81$  pairs. CES-D = Center for Epidemiological Studies Depression Scale (Radloff, 1977); PAQ = Parental Attachment Questionnaire (Kenny, 1987); PAQ-P = parent version of PAQ.

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

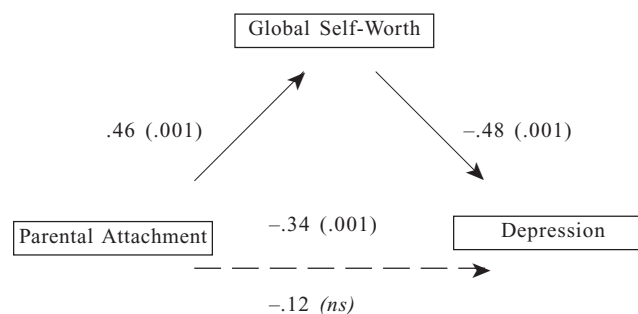
contribution from their parents toward their living expenses in the last year. These characteristics of proximity seeking and support were found to be unrelated to perceptions of parental attachment, however. Correlational analyses revealed no significant associations between emerging adults' self-reports of frequency of communication with mothers and emerging adults' reports of parental attachment, depression, or self-worth, although mothers' perceptions of attachment were positively associated with the frequency of communication (see Table 2). The results of  $t$  tests revealed no significant relationship between emerging adults' financial independence and their self-reports and mothers' reports of attachment, their self-worth, or their depressive symptoms.

#### Self-Worth as a Mediator of Parental Attachment and Depressive Symptoms

In the next series of analyses, we examined whether or not global self-worth mediates the relationship between parental attachment and the experience of depressive symptoms. According to Baron and Kenny (1986), mediation is established when (a) the independent variable significantly predicts the dependent variable, (b) the independent variable significantly predicts the mediator variable, and (c) the effect of the independent variable on the dependent variable is diminished when the mediator variable is controlled for (entered simultaneously in the regression equation). More specifically, mediation is said to occur if the independent variable in the third step is either no longer significant (full mediation) or is reduced in comparison with the first equation (partial mediation).

We conducted three two-step hierarchical regression equations, following the Baron and Kenny (1986) procedure, in order to examine whether or not self-worth mediates the relation between parental attachment and depressive symptoms after accounting for emerging adults' and mothers' lev-

els of education. The results of the regression analyses are depicted in Figure 1. In the first analysis, emerging adults' and mothers' levels of education were entered in Step 1 as control variables, and emerging adults' perceptions of parental attachment were entered in Step 2 as the independent variables, with emerging adult depression as the dependent variable. Emerging adults' perception of parental attachment predicted a significant amount of variance in depression,  $F(1, 76) = 17.39$ ,  $p < .001$ , beyond the variance accounted for by emerging adults' and mothers' education levels. In the second regression analysis, emerging adults' and mothers' education levels were again entered as Step 1, and emerging adults' perceptions of parental attachment were entered as Step 2, with emerging



**FIGURE 1**

#### Mediation Role of Self-Worth in the Relation Between Parental Attachment and Depression

Note.  $N = 81$  pairs. Standardized regression coefficients are displayed on each path with corresponding probability values in parentheses. The dotted line indicates that the once significant direct path from Parental Attachment Questionnaire (Kenny, 1987) to the Center for Epidemiological Studies Depression Scale (Radloff, 1977;  $-.34$ ) fell to nonsignificance ( $-.12$ ) when the mediating variable (self-worth) was entered into the equation after controlling for emerging adult and mother education variables.

adult self-worth as the dependent variable. Emerging adults' perceptions of parental attachment added to the effects of emerging adult and maternal education level in explaining self-worth,  $F(1, 76) = 26.15, p < .001$ . In the third analysis, emerging adults' and mothers' levels of education were again entered as Step 1, and self-worth and parental attachment were simultaneously entered as Step 2 to predict depression,  $F(2, 75) = 30.93, p < .001$ . In the third analysis, the contribution of parental attachment was reduced, in comparison with the first analysis, from a significant beta of  $-.34$  to a nonsignificant beta of  $-.12$ . The significance of the reduction in beta was examined further using Sobel's test (Baron & Kenny, 1986; Sobel, 1982). The decrease in beta was significant,  $z = -3.25, p < .001$ , indicating full mediation.

### Contributions of Emerging Adult and Parent Perceptions of Attachment

In order to evaluate the relative importance of mothers' and emerging adults' perceptions of attachment in explaining emerging adult self-worth and depressive symptoms, we conducted another set of regression analyses. These analyses assessed the reduction in explained variance after removal of each attachment measure, thus providing an indicator of the unique contribution of each measure to the dependent variable (see Cutrona, 1989, and Rice & Cummins, 1996, for other examples of this method). More specifically, on the basis of the results of the regression analyses, an assessment is made about the relative importance of shared variance (i.e., parent-emerging adult agreement on attachment) versus unique variance (i.e., distinctive perceptions of attachment by emerging adults and by parents). The unique variance as a percentage of the total explained variance is calculated by dividing the  $R^2$  change to remove score by the cumulative  $R^2$  score.

In the current study, self-worth was the dependent variable in one set of analyses, whereas depressive symptoms served as the dependent variable in the other set of analyses (see Table 3). The combined effects (cumulative  $R^2$ ) of emerging adult and mother attachment accounted for 21% of the variance in depressive symptoms. Of that 21%, 48% (.10/.21) of the explained variance could be attributed to the unique contribution of emerging adults' ratings of attachment, whereas only 5% (.01/.21) of the explained variance was attributed to the unique contribution of mothers' ratings of attachment. The remaining explained variance, approximately 47%, was accounted for by perceptions of the attachment shared by the emerging adult-mother pairs. Thus, the shared perceptions of attachment and the emerging adults' unique perceptions of attachment surpassed mothers' perceptions of attachment in explaining depressive symptoms.

For the self-worth analysis, the combined effects of emerging adults' and mothers' attachment scores accounted for 24% of the variance. Emerging adults' perceptions of attachment contributed a significant and unique 71% (.17/.24) of the explained variance. Mothers' unique perceptions of attachment, on the other hand, accounted for less than 1%

TABLE 3

Multiple Regression Results for the Prediction of Self-Worth and Depressive Symptoms

Criterion Predictors	Standardized $\beta$	$R^2$ Change to Remove	F of Change
Depressive symptoms			
Attachment/offspring	-.39	-.10	10.23, $p < .01^a$
Attachment/mother	-.10	-.01	0.73, $p < .40^a$
Self-Worth			
Attachment/offspring	.49	-.17	16.97, $p < .001^b$
Attachment/mother	.01	-.01	0.01, $p < .99^b$

<sup>a</sup>Cumulative  $R^2 = .21$ . <sup>b</sup>Cumulative  $R^2 = .24$ .

(.01/.24) of the explained variance predicting emerging adult self-worth. Approximately 29% of the total explained variance was accounted for by the shared variance between mothers' and emerging adults' perceptions of attachment. Thus, in explaining self-worth, the emerging adults' unique perceptions considerably exceeded the contributions of the mothers' unique perspectives and the shared perceptions of mothers and emerging adults.

## Discussion

The findings of this study extend the growing body of research indicating that parental attachment bonds are generally positive and enduring throughout adolescence (Kenny & Rice, 1995) and beyond (Levitt, 1991). The emerging adults and mothers in this study provided highly positive perceptions of the quality of their attachment relationships.

Our findings suggest, more specifically, that the quality of parental attachment as perceived both by the emerging adult and the mother is not simply related to external markers of the relationship, such as the frequency of communication or financial support. Although the mothers and emerging adult offspring in this study tended overall to communicate frequently, our findings are consistent with prior evidence suggesting that the amount of contact is not a good indicator of the quality of the parent-child bond (Lee, 1985). More research is clearly needed to understand the secure base functions of parental attachment for emerging adults, including the circumstances under which different types of support are accessed and the level of comfort and security derived from parental support. Waters and Cummings (2000) suggested that patterns of contact in emergency situations, as opposed to ordinary contact, might be a critical attachment function across the life span.

Our findings add to the body of research supporting the adaptive value of parental attachments beyond childhood (e.g., Cutrona, Cole, Colangelo, Assouline, & Russell, 1994; Kenny, Lomax, Brabeck, & Fife, 1998; O'Brien, Friedman, Tipton, & Linn, 2000; Vivona, 2000). More specifically, they indicate that a significant relationship exists between parental attachment and depressive symptoms in the emerg-

ing adult years. Furthermore, the findings suggest, consistent with a growing body of research (e.g., Davila et al., 1996; Kenny et al., 1993; Roberts et al., 1996; Simons et al., 2001), that parental attachments contribute to internal working models of self. In the current study, emerging adults' perceptions of parental attachment were associated positively with perceived self-worth and negatively with levels of depressive symptoms. In addition, and in line with our expectations concerning the internal working model of self, we found that parental attachment contributes indirectly to depressive symptoms through self-worth. It appears that how emerging adults feel about themselves, although related to their perception of attachment, is more important in determining whether they will experience depressive symptoms than their current perceptions of the parental attachment relationship. Thus, although contributing to the body of literature suggesting that parental attachments are important beyond childhood, these findings suggest that the influence of parental attachments may be primarily indirect through the internal working model of self rather than through direct mechanisms, such as amount of contact or financial support.

Support for the salience of internal working models of self among late adolescents was also provided by analyses evaluating the relative contributions of parents' and emerging adults' perceptions of attachment in explaining emerging adults' well-being. As expected for this age group, it was emerging adults' unique perceptions, not their mothers' perceptions, that contributed most to their self-esteem and depressive symptoms. The emerging adults' unique perceptions and the perceptions shared by the emerging adult and mother both contributed to the explanation of emerging adult depression and self-worth. Shared variance represents congruence between mothers' and emerging adults' perceptions of their relationship, with incongruence reflecting a difference in perceptions often associated with conflict (Holmbeck & O'Donnell, 1991). It is thus not surprising that both the shared perspective and the emerging adults' unique views of the relationship were significantly associated with their well-being. In their study of undergraduate students, Rice and Cummins (1996) found, consistent with the current findings, that the unique variance associated with college students' reports of attachment contributed most strongly to self-esteem. As in our findings, the unique perspective of the adolescent was a stronger predictor than the unique perspective of the mother, although the mother perspective was a stronger predictor in the Rice and Cummins study than in our study. Although our findings require replication, it appears that mothers' perceptions of attachment are less significant contributors to the self-worth of emerging adults in the period after college graduation than during the college years. To the extent that self-worth reflects, as conceptualized for this study, the emerging adult's internal working model of self, it makes sense that emerging adults' unique perceptions of the attachment relationship would contrib-

ute most significantly to their self-worth as reliance on the family of origin as a source of security diminishes with maturity (Waters & Cummings, 2000).

### Limitations

Although our findings contribute to knowledge regarding the roles of parental attachment as perceived by emerging adults and their mothers, the results must be interpreted with recognition of the study's limitations. One area of limitation pertains to our sample, which consists of volunteers who are likely to differ from nonvolunteers. Our participants were recruited from lists of local high school alumni, and we do not know how representative our sample is of alumni from those schools. The generalizability of our findings is also limited by known sample characteristics, including a generally high level of education and residence in one urban, northeastern center. Our participants, however, were similar in a number of ways to Arnett's (2000a) characterization of emerging adults as immersed in a period of instability and diverse possibilities in love and work. Although half were still enrolled in school at least part-time, three quarters were also working. Most were still single, and only 11% had children of their own. Although the sample in our study included participants from several ethnic/racial backgrounds, it was not large enough to allow the examination of ethnic groups separately. Although some research (Hinderlie & Kenny, 2002; Kenny, Gallagher, Alvarez, & Silsby, 2002) has begun to examine the correlates of parental attachment among specific ethnic/racial groups, research examining parental attachments among late adolescents and emerging adults of ethnically diverse groups has been largely neglected. The need for culture-specific studies is warranted, given that ethnic minority families are often described as cohesive, interdependent, and collective in ways that might affect attachment relationships (Harrison, Wilson, Pine, Chan, & Buriel, 1990). Our study is also limited by the inclusion of only mothers. The fact that only a few fathers completed questionnaires did not provide for the study of paternal attachment, which is a neglected and needed area of research (Lamb, 1997).

Our study is also limited by the use of self-report measures. The finding of a moderate correlation between emerging adults' and mothers' reports of parental attachment and the finding that the shared variance between mothers' and emerging adults' reports was related to emerging adult self-worth and levels of depressive symptoms provide some check for self-report bias. Common method variance should be considered in accounting for some of the correlation among measures, particularly those completed by the same informant. The measures that we used could also have led to limitations in our study. The nuclear family context assumed by the attachment measure (PAQ) may not be relevant for those emerging adults who grew up in extended, nontraditional families, in which attachment to a grandparent, aunt/uncle, foster parents, or guardian might be more relevant. Our maternal attachment measure (PAQ-P) is newly devel-

oped for the emerging adult age group, but it did demonstrate good evidence of construct-related validity through correlations with conceptually related measures.

Our data are correlational, and thus we cannot assume causal links between parental attachment, internal working models, and psychological well-being. Longitudinal research is needed to assess whether changes in attachment contribute to changes in self-worth or depression or whether self-worth is independent of changes in the parental attachment relationship.

#### Implications for Counselors and Recommendations for Future Research

Despite methodological limitations, our study provides overall support for the role of parental attachment as a contributor to the internal working model of self among emerging adults. Our results suggest, furthermore, that the internal working model of self/self-worth contributes directly to depressive symptoms, mediating the relationship between parental attachment and depressive symptoms. Although further research is needed to address limitations and replicate our findings, tentative implications can be drawn. For the emerging adult who may experience insecure parental attachments, for example, the enhancement of self-worth could be important as a source of protection from depressive symptoms. Preventive and counseling interventions that focus on developing self-worth may be more feasible and salient for emerging adults than seeking to modify current parental relationships. Cognitive-behavioral interventions that focus on modifying internal working models of self and others and identifying alternate sources of security may thus be sufficient for some clients. Lengthier, insight-oriented, and emotionally corrective therapeutic experiences that alter perceptions of parents and compensate for faulty early relationships may be turned to when briefer cognitive approaches do not suffice (Kenny & Rice, 1995). Evidence from our study that emerging adults' perception of the parental attachment contributes more to self-worth and depression than does the parental perspective also supports the use of cognitive or insight-oriented interventions that seek to modify understanding of the self or the parental relationship. Our data suggest that focusing on the emerging adult's understanding of self and of parental relationships might be reasonable as an initial intervention strategy. To the extent that the shared emerging adult-parent perspective reflects congruence in the relationship and was positively associated with the well-being of emerging adults, family-based interventions may be necessary in some cases to improve communication or modify patterns of interaction.

According to our findings, the benefits of secure parental attachments are not derived simply from proximity to parents or financial support, although some evidence for the benefits of frequent communication with mothers was revealed. Research that seeks to identify additional factors

that contribute to the protective value of parental attachments could further inform preventive and counseling interventions. Future research might also seek to systemically examine the vast array of sources of security that might diminish emerging adults' reliance on parents as a source of self-worth or serve to compensate for insecure parental attachment relationships among emerging adults (Waters & Cummings, 2000). Research that assesses the characteristics and value of kinship attachment across the life course for specific ethnic/cultural groups is needed to more fully understand the function of attachments in multicultural contexts. Future research might also systematically examine the situations in which use of parents as a safe haven of support promotes adaptive development among emerging adults and when parental contact and financial assistance are developmentally counterproductive. Our findings suggest that the internal working model may be more relevant in emerging adulthood than the quality of the current relationship, yet the relationship between internal working models and the quality of parental relationships beyond childhood has received little attention. Future research, thus, might seek to identify when developmentally, if ever, an individual's internal working model of self becomes stable, not influenced by the quality of the current attachment relationship (Allen & Land, 1999). Further research might also seek to identify when family-based interventions are warranted for the prevention and treatment of depression during the emerging adult period. Through the current study, we have begun to examine the role and function of parental attachment among emerging adults and have identified challenging next steps in meeting methodological limitations and expanding the conceptual model in ways that inform counseling practice.

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