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## Resilient parenting: Overcoming poor parental bonding

W. Travis

Terri Combs-Orme

University of Tennessee, Knoxville, [tcombs-orme@utk.edu](mailto:tcombs-orme@utk.edu)

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This study identified groups of mothers with varying patterns of adaptive functioning and bonds with their own parents. These patterns were related to mothers' parenting of their own children to understand how some mothers avoid repeating the cycle of poor parenting. Data from 210 new mothers were analyzed before hospital discharge about bonding with their caregivers during childhood and six to 12 months later about adaptive functioning, life circumstances, and parenting. Latent cluster analysis identified four distinct groups of mothers with regard to parental bonds and adaptive functioning: positive-adaptive mothers (good bonding and good adaptive functioning), positive-maladaptive mothers (good bonding and poor adaptive functioning), resilient mothers (poor bonding and good adaptive functioning), and vulnerable mothers (poor bonding and poor adaptive functioning). Despite poor parental bonds, resilient mothers were coping as well as the positive-adaptive mothers and were significantly less likely to experience parenting stress related to the parenting role, unsatisfying interactions with their infants, and attributions of their children as difficult to care for. Some mothers were able to overcome poor bonds with their own caregivers to develop good adaptive functioning in adulthood and provide good parenting to their own children.

KEY WORDS: infants; latent cluster analysis; parenting; resilience

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It is widely accepted that parenting behaviors and styles are transmitted across generations (Belsky, Jaffee, Sligo, Woodward, & Silva, 2005). Child abuse and harsh discipline, for example, are frequently linked to parents' childhood experiences, and childhood abuse or harsh parenting is considered to be a risk factor for engaging in similar parenting (Dixon, Browne, & Hamilton-Giachritsis, 2005a, 2005b). Less research has examined continuity of positive parenting, but recent evidence has suggested that it, too, is transmitted from one generation to the next (Chen & Kaplan, 2001).

Discontinuity of parenting styles and behavior has received less attention, but it has also been of interest in the study of abused children because a significant proportion of abused or harshly parented individuals grow up to be nonabusing parents (for example, Egeland, Jacobvitz, & Sroufe, 1988). Egeland and associates found that mothers who broke the cycle of abuse reported supportive relationships with nonparental adults during childhood and supportive relationships with their mates. Caliso and Milner (1992) also reported that having a supportive relationship with a partner predicted breaking the cycle of abuse and that parents who had been abused as children but did not abuse their own children had different parenting attitudes than those who continued the pattern of abusive parenting.

Examining recollections of parenting received by mothers, some authors have found correlations with those mothers' parenting of their own children (Hammond, Landry, Swank, & Smith, 2000). In contrast, Adler and colleagues (1991) did not find such an association in a low-risk sample. They suggested that stress may mediate the relation between parental bonds and quality of parenting, so the absence of risk factors and high stress in their sample might explain their findings.

Phelps and colleagues (1998) used the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985) to investigate the role of stress, comparing the parenting of mothers who reported secure parental bonds, those who reported insecure bonds, and those described as "earned secures," who reported insecure bonds but articulated resolution of their feelings about the relationships. Under both high and low stress, the parenting of earned secure mothers did not differ from that of continuously secure mothers. The parenting of mothers who reported insecure bonds, on the other hand, was dependent on stress level. Under low stress, insecure mothers' parenting was similar to that of secure mothers; however, under high stress, insecure mothers' parenting was significantly less positive than the parenting of both groups of secure mothers. Phelps and colleagues' findings can be understood in the context of attachment and resilience.

## ATTACHMENT AND RESILIENCE

Attachment theory (Bowlby, 1977) posits that the early infant-caregiver relationship forms a mental representation that is a blueprint for future relationships, including later parenting, often called an "internal working model." The infant whose needs

are met consistently comes to feel worthy of love, trustful, and secure in that and future relationships, whereas the infant who is neglected, abused, or parented inconsistently carries insecurity into future relationships and particularly into his or her own parenting. Bowlby also theorized that early poor attachment was linked to the development of mental disorders such as anxiety and depression. Bringing together the growing body of research about attachment theory and the prevalence of abuse and neglect by parents who were themselves mistreated, and following Page (1999), it is reasonable to conclude that poor attachment and bonding may be the mechanism through which child maltreatment and harsh parenting are transmitted from one generation to the next.

Yet, as described earlier, many individuals who were abused themselves do not abuse their own children, and research has also shown that individuals who were insecurely attached to their own parents can go on to have good attachment relationships with their own children. Research on resilience provides some suggestions for how this might occur.

Ego resiliency was first defined in research with children as the ability to respond flexibly, persistently, and resourcefully, especially in changing situations and environments, whereas ego brittleness implied a lack of adaptive flexibility and an inability to respond to the changing requirements of different situations (Block & Block, 1980). Thus, the ego-resilient individual is able to solve problems and successfully meet his or her responsibilities, even in the face of stress and unexpected events.

Early research with children suggested a link between attachment and subsequent ego resilience. Both Bowlby (1977) and Ainsworth and associates (1975) suggested that resilience might result from the securely attached infant's use of the caregiver as a secure base from which to explore his or her surroundings and the knowledge that the parent will be available if comfort is needed. That is, the securely attached child is able to venture out to explore the environment, confront new situations, and solve problems effectively (Arend, Gove, & Sroufe, 1979), thus developing the necessary resilience to cope successfully with adverse life events and prevent the development of psychiatric problems in adulthood (Svanberg, 1998). More than 25 years of research on attachment has produced an extensive body of literature and empirical findings that are largely consistent with these hypotheses (Shaver & Mikulincer, 2004), demonstrating the relation between secure attachment and good mental health, social competence and interpersonal relationships, achievement in school and life, and parenting.

Yet, just as some individuals who were abused as children go on to be nonabusive parents, it is possible to overcome poor early attachment and develop resilience. For example, Rak and Patterson's (1996) review found that positive temperamental characteristics of the child, family support and compassionate alternate caregivers, role models outside the home, and positive self-esteem allowed at-risk youths to overcome adverse circumstances (to be "resilient"). Moreover, in keeping with Bowlby's (1977) theory that the link between early attachment experiences and

adult relationships can be broken, recent studies have identified several specific factors that may act as corrective emotional experiences for adults with insecure attachment styles, including supportive marital and therapeutic relationships and the ability to articulate a coherent narrative and acknowledge the poor parenting received and integrate that knowledge into motivation to do better as a parent (Wahler & Castlebury, 2002). Dixon and associates (2005a, 2005b) provided an example of how this could happen in their analyses demonstrating that living with a violent partner partly mediated the intergenerational transmission of abuse, noting that mothers who acknowledge their childhood abuse might choose to reduce their risk of abusing their own children by avoiding violent relationships. Such a process may account for the different findings across studies.

Moreover, other variables have been associated with parenting, some with conflicting results. Low income, young maternal age, and more children in the home have all been associated with higher parenting stress (Pipp-Siegel, Sedey, & Yoshinaga-Itano, 2002), whereas being employed has been negatively associated (Jackson & Huang, 2000). Others have suggested that the effect of income on parenting stress is moderated by self-efficacy (Raikes & Thompson, 2005). However, the use of fairly homogeneous samples in these studies may have made significant effects difficult to detect. Thus, the role of income and other demographic characteristics on parenting needs to be examined more closely.

Discontinuity in the intergenerational transmission of poor parenting may indicate the development of general resilience in some individuals through one of the processes discussed earlier. If so, that resilience should be indicated in various aspects of functioning, such as mental health and coping. That is, we would expect to see varying combinations of reported parental bonds and adult functioning revealing both expected patterns (good parental bonds and good adult functioning, poor parental bonds and poor adult functioning) as well as discontinuous patterns (good parental bonds and poor adult functioning, poor parental bonds and good adult functioning). In the current study of mothers of infants, we were most interested in this last group, whom we call "resilient mothers." We asked three questions:

1. Are there distinct patterns of parental bonding and adult functioning?
2. How do resilient mothers differ in their life circumstances from the other mothers?
3. How do resilient mothers differ from other mothers with respect to their parenting?

## METHOD

### Sample

We recruited 246 new mothers (not limited to first-time mothers) between February and November 1999 from the Mother-Baby Unit of a university-affiliated hospital in a midsized city in Tennessee. The surrounding area is urban, but the hospital also serves a number of remote mountainous counties without delivery facilities.

Random sampling was not possible, and new mothers were approached without regard to risk factors or parity. There were few refusals to participate, and those were related to early discharge, mothers being sleepy or in pain, or the presence of visitors in mothers' rooms.

We did not seek mothers with particular risk characteristics. However, African American mothers were approached first, and only African American mothers were interviewed in the last weeks of the study to increase their number. Comparisons to the birth population at the hospital indicate that the sampling procedure was effective in increasing the proportion of African American mothers to 43.2% compared with the delivering population during this time (22.0%) and with the African American population in this part of the state (16.2%) (U.S. Census Bureau, 2000). Tennessee's TennCare program permits mothers on Medicaid to deliver at any hospital, but this hospital is known to provide excellent, sensitive care to poor and racial and ethnic minority individuals, and so it draws patients disproportionately from those groups. The resulting sample is diverse but skewed toward those who are disadvantaged. The Institutional Review Board at the University of Tennessee and the University of Tennessee Medical Center approved the study.

## Procedures

**Recruitment and Baseline Interviews.** Three female master's-level interviewers (one African American psychology student and two white social work students) participated in eight hours of training, practice, and feedback in administering the standardized questionnaire. They approached mothers without visitors unless nurses had identified them as too ill, psychotic, or intellectually limited to give informed consent. We excluded the small number of mothers whose babies had died or were not expected to survive and those who were relinquishing custody. Mothers of babies in intensive care were included unless they were categorized in one of these groups. To reduce follow-up expenses, the sample was restricted to residents of counties within approximately 30 minutes' drive (although those who moved after delivery were retained).

Interviewers first explained the nature and purpose of the study, the incentive (a \$10 gift certificate), and the requirement that the interview be conducted in private and then completed written informed consent. If mothers were groggy as a result of medication, we made arrangements to return later, but this was rare. The standardized baseline interview required approximately 20 minutes.

**Follow-Up Interviews.** Follow-up interviews were completed in respondents' homes when infants were six to 12 months of age in interviews of 1.5 to 2 hours. As a result of extensive tracking, we reinterviewed 92% (n = 227) of the original sample at follow-up, although data were sometimes incomplete because infants were absent or unavailable or mothers terminated interviews before completion. In the end, analyses were conducted for the 210 mothers for whom data were complete on all the measurement instruments.

To test for response bias, we first compared mothers interviewed at follow-up ( $n = 227$ ) with those who were not interviewed ( $n = 19$ ) using logistic regression to predict follow-up participation status. Race, marital status, age, and highest education were entered simultaneously in the regression equation. Results showed no difference between participants and nonparticipants on race, marital status, age, or highest education (data not shown). We also compared the final sample of 210 mothers with complete data to the original recruitment sample of 246 on the above variables and the Parental Bonding Inventory (PBI) (described in the following section). Mothers in the final sample were significantly more likely to live with partners (39.5% compared with 16.7%,  $p < .01$ ). There were no differences on the other variables.

**Constructs and Instruments.** We measured the parenting received by mothers through reports of parental bonding. Derived from attachment theory, Rutter's (1987) research about parental qualities associated with normal development, and Ainsworth and colleagues' (1975) work on maternal behaviors, parental bonding is a construct that describes adult perceptions of parenting they received as children. The parental bond has recently been defined as the quality of a parent's emotional relationship with and behavior toward a child as appraised by the child as an adult (Hall, Peden, Rayens, & Beebe, 2004). "Parental bonding" does not refer to actual parenting received but rather to adult memories of parenting received, filtered through years of experience (referred to as the adult's internal working model).

The PBI (Parker, Tupling, & Brown, 1979) was used at delivery to measure mothers' perceptions of their bonds with their major caregivers in the first 16 years of life. The PBI was conceptualized to measure two dimensions, with subscales of 12 items that measure parental care (Care subscale) and 13 items that measure parental overprotection (Overprotection subscale). Care is the level of affection, emotional warmth, empathy, and closeness provided by the parent (as reported by the adult) as opposed to emotional coldness, indifference, and neglect. Overprotection is the level of control, overprotection, intrusion, excessive contact, and prevention of independent behavior provided by the parent (as reported by the adult) as opposed to the allowance of independence and autonomy.

PBI items are scored on a scale ranging from 0 to 3, with maximum scores of 36 on the Care subscale and of 39 on the Overprotection subscale (Parker et al., 1979). Higher scores on the Care subscale are interpreted as more optimal, whereas lower scores on the Overprotection subscale are optimal. Coefficient alphas have been reported ranging from .76 to .92 for the Care subscale and from .63 to .78 for the Overprotection subscale (Kraaij et al., 2003; Parker et al.). We obtained coefficient alphas of .93 for the Care subscale and .78 for the Overprotection subscale ( $n = 246$ ).

Although the reliability of the Overprotection subscale is lower than that of the Care subscale, the reliability of the measure has been well established in more than 20 years of research (Wilhelm, Niven, Parker, & Hadzi-Pavolovic, 2005). In addition, for a nonclinical, well-educated population, the perception of parenting as measured

by the PBI has shown good stability over a 20-year interval. That is, there were no significant differences found in PBI scores over time related to gender, lifetime depression diagnosis, or life events (Wilhelm et al.). Validity of both the parental bonding construct and particularly the PBI is supported by relations between PBI scores and frequency of psychological distress among adolescents and adults in clinical and nonclinical populations (for example, Hall et al., 2004; Kraaij et al., 2003; Love & Murdock, 2004; Wark, Kruczek & Boley, 2003; Willinger, Heiden, Meszaros, Formann, & Aschauer, 2002).

Although the PBI has been used extensively in studies of parental bonding, the AAI (Bakermans-Kranenburg & van IJzendoorn, 1993), an hour-long semistructured interview that requires extensive training and coding, has been called the "gold standard" for measuring the construct (Manassis, Owens, Adam, West, & Sheldon-Keller, 1999). Lack of resources required that we use the less expensive, but widely used self-report PBI. Moreover, we were concerned about the relatively low reliability of the Overprotection subscale. Others (Heider et al., 2005) have suggested that there may be more than one construct measured by this subscale, and further development of it is continuing. Nevertheless, it was correlated with other measures as expected, and we used it with caution.

Adaptive functioning or psychological adjustment was measured using the Young Adult Self-Report (YASR) (Achenbach, 1997). The YASR has 116 problem items (for example, "I get in many fights"), and respondents rate how like them ("not at all," "somewhat," or "a lot") each item is on a three-point response scale. Eight problem syndromes (for example, anxious or depressed, aggressive behavior) are constructed by summing appropriate items and combined into Internalizing and Externalizing subscales.

Both the Internalizing and Externalizing subscales have shown good test-retest reliability; we obtained coefficient alphas of .91 and .82, respectively. Achenbach (1997) reported support for criterion-related validity with analyses showing significant differences between clinically referred and nonreferred participants. Moreover, all scales' clinical cutpoints (except that for Alcohol) discriminate significantly between referred and nonreferred adults. Finally, significant correlations between the YASR and other theoretically meaningful measures of mental health demonstrate construct validity (Achenbach).

Long-term stability of the YASR is important, because we administered it at follow-up to measure psychological functioning throughout the time period of the study. The YASR's stability was assessed in 484 respondents over a mean interval of 39 months; Achenbach (1997) reported Pearson correlations of .62 for the Internalizing subscale and .63 for the Externalizing subscale. Ferdinand and associates (1995) also demonstrated excellent stability over eight months for the Internalizing and Externalizing subscales, with coefficient alphas of .79 and .77, respectively.

Cutpoints (t scores) on the YASR Internalizing and Externalizing subscales



describe those higher than the 98th percentile as experiencing significant clinical symptoms and those higher than the 95th percentile as experiencing symptoms that are considered borderline clinically. As recommended by Achenbach (1997) for research, we used raw scores in our analyses to represent the full range of scores.

Parenting is undoubtedly a difficult role. Successful parents feel a sense of satisfaction about parenting, which in turn should have a positive effect on the child. "Parenting stress," a term used frequently in the research on parenting, does not refer simply to the daily hassles or irritations related to the difficult job of parenting. Rather, the term has been defined by Abidin (1995) to refer to the attitudes and beliefs that parents have about their children and their abilities to perform their responsibilities as parents. Negative attitudes, termed "parenting stress," especially during the first three years of life, can critically affect a child's emotional and behavioral development (Abidin).

The Parenting Stress Index Short Form (PSI/SF) (Abidin, 1995) is a widely used 36-item measure based on the original 120-item self-report questionnaire that was developed to identify parent-child relationships that are at risk of developing future parenting or child behavior problems. It contains three scales measuring three types of parenting stress:

1. The Parental Distress scale measures stressors attributed by a parent to the parenting role itself, including sense of competence, restrictions imposed by the demands of parenthood on other aspects of life, conflict with the other parent, lack of social support, and depression.
2. The Difficult Child scale measures parents' ascription of their children as especially difficult or hard to care for.
3. The Parent-Child Difficult Interaction scale measures perceptions that children are not meeting parents' expectations and that parent-child interactions are unsatisfying.

The PSI/SF is standardized for use with parents of children from one month to 12 years old. Items have five response categories ranging from "strongly agree" to "strongly disagree" concerning child-related ("My child gets upset easily over the smallest thing") and parent-related ("I feel trapped by my responsibilities as a parent") stressors. Coefficient alphas ranging from .70 to .84 have been reported for the subscales (Abidin, 1995). Construct validity is supported by theoretically meaningful correlations between PSI/SF scores and other constructs such as child adjustment. Studies have shown higher (more stressed) PSI/SF scores among neglectful, drug-addicted, maladjusted, and abusive parents (Abidin; Ethier, Lacharite, & Couture, 1995). As prescribed by Abidin, scale scores higher than the 85th percentile of the norms indicate clinically significant parenting stress. Coefficient alphas for the subscales in the current study were .84 for the Parental Distress scale, .79 for the Difficult Child scale, and .80 for the Parent-Child Difficult Interaction scale.

We also used the Home Observation for Measurement of the Environment (HOME) Inventory for Families of Infants and Toddlers (Bradley, Mundfrom, Whiteside, Casey, & Barrett, 1994) to collect observational data on quality of parenting in the home. The HOME is a naturalistic observational measure, and scoring is based on a minimum of an hour of observation, along with information gleaned during the interview. Three HOME subscales were used as dependent variables: Responsivity (emotional and verbal), Acceptance, and Involvement (parental). Scores are based on dichotomous responses (present or not present) for each question, and summated scores are compared with norms, with respondents in the lowest quartile considered at risk of poor child development related to poor parenting.

Published internal consistency estimates summarized by Bradley (1994) are consistently greater than .80 for total scores, with subscale coefficients ranging from .30 to .80. Interrater reliability has been consistently reported to be .80 or greater. A review of research of the HOME showed significant concurrent and predictive validity to children's intellectual level and cognitive development (Bradley). We obtained coefficient alphas of .70 for Responsivity, .52 for Acceptance, and .78 for Involvement.

Sociodemographic variables measured at delivery and follow-up included maternal age and race, highest grade, number of children parented, and annual income recorded as an ordinal variable ranging from 1 (\$10,000 or less) to 5 (\$60,000 and more; see Table 1 for descriptive information about the participants). We also measured contextual variables related to adult functioning, including family relationships, life stress, and maladaptive coping mechanisms. Family relationships were measured by the Adaptive Functioning subscale of the YASR, which contains 16 items that measure adaptive functioning in social relationships, at work, and at home. We used a summative scale of self-reported relationships with mothers, fathers, and siblings. Respondents rated each relationship as "worse than average" (-1), "about average" (0), or "better than average" (1), so higher scores indicate more positive relationships. "Deceased" and "no contact" were coded as 0, and a zero was added for respondents with no siblings. As noted by Achenbach (1997), this scoring method results in a scale that is truncated at the top; that is, it does not discriminate well among those who report good family relationships. Although coefficient alpha for this three-item scale was .53 in our sample, it was significantly positively correlated with the PBI/SF Care and Overprotection subscales ( $r$ s ranging from .23 to .30) as well as significantly negatively correlated with the YASR Internalizing and Externalizing subscales ( $r$ s = -.20 for both scales).

## JPEGF

We measured total life stress at follow-up with the 39-item Life Events Inventory (LEI) (Egeland, Breitenbucher, & Rosenberg, 1980), a sum of stressful life events constructed specifically for low-income mothers. Mothers reported occurrences in the preceding six months of events such as significant loss of income, being arrested, being the victim of a crime, and so forth. Egeland and colleagues also

scored the disruptiveness of each event, but time pressures mitigated against our using these scores. Although internal consistency data have not been published for this scale, coefficient alpha for our sample was .76.

Maladaptive coping mechanisms were measured using three questions on the YASR about the use of alcohol, tobacco, and drugs. Respondents indicated how many days in the preceding six months they had been intoxicated and used drugs for nonmedical purposes, including marijuana, glue, cocaine, and other drugs, and on how many occasions per day they had used tobacco. (See Table 2 for internal consistency reliabilities for the measures used in this study.)

## RESULTS

### Are There Distinct Patterns of Parental Bonding and Adult Functioning?

As Belsky (1984) originally demonstrated in his determinants of parenting model, the forces that influence parenting, from the historical to the psychological and social levels, are circular in nature and may not be identified by correlational or regression techniques, which assume a dose-response mechanism (Belsky & Pasco Fearon, 2004). If poor parental bonds can be overcome by some individuals through the development of resilience, that process might be hidden by group analyses of correlations between parental bonding and subsequent parenting.

To overcome this difficulty, we used latent cluster analysis (Magidson & Vermunt, 2004), which groups people (or objects) from a heterogeneous population into a limited number of categories of a latent variable on the basis of patterns among independent variables. Each of these latent clusters contains individuals whose independent variables are similar to each other and different from individuals in other categories. Latent cluster analysis is similar to cluster analysis, but it has the advantage of allowing model testing and providing statistical criteria for selecting the best models (Magidson & Vermunt).

Models with different numbers of clusters are compared using the Bayesian information criterion (BIC), and usually the model with the lowest BIC is preferred, indicating the best balance of fit and parsimony. Classes are interpreted using graphs of the conditional means of observed variables for the best-fitting model (that is, the mean of each variable computed separately for each class); conditional means characterize latent classes in much the same way as factor loadings characterize factors in factor analysis.

Results of bivariate correlations among the two PBI subscales and the two YASR subscales reveal moderate significant correlations among all in the expected direction (Table 3). Next we examined latent class models containing one through five clusters. The four-cluster model was the most parsimonious as demonstrated by the lowest BIC and a reasonable entropy [R.sup.2] value (Table 4).

The four-cluster model describes four distinct groups on the basis of the

combination of parental bonding and current adaptive functioning (see Figure 1). Class 1 (n = 62, or 30% of the sample) was designated "positive-adaptive" because they reported the most optimal levels of parental bonding and the most adaptive psychological functioning. Class 2 (n = 49, 23%), labeled "positive-maladaptive," reported levels of parental bonding that were similar to those of the first group, but significantly poorer current functioning. Class 3 (n = 48, 23%) was designated "resilient" because although they reported poor parental bonding, their current functioning did not differ from that of the positive-adaptive cluster. Finally, Class 4 (n = 51, 24%) was labeled "vulnerable" because they reported poor parental bonding (not statistically different from the resilient class) and the poorest adaptive functioning of the four groups.

Finally, we conducted a multivariate analysis of variance (MANOVA) with post hoc comparisons for the two PBI and two YASR subscales on the four-cluster model (Table 5). Results were in the expected direction with significant differences between groups, as anticipated. However, there were additional differences that were not expected. Resilient mothers exhibited significantly more internalizing symptoms compared with positive-adaptive mothers. Likewise, vulnerable mothers exhibited significantly more externalizing symptoms compared with positive-maladaptive mothers.

How Do Resilient Mothers Differ in Their Life Circumstances from Other Mothers?

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Separate statistical analyses describe the relation between mothers' resilience and the contextual variables. For these analyses, mothers' age, race, and income were treated as independent variables to identify significant differences among the clusters, not to explain causal relations. Race was analyzed using a cross-tabulation table with chi-square statistic. Age and income were analyzed using multinomial logistic regression. Education level, family relationships, and total life stress were compared using analysis of variance (ANOVA). Post hoc analyses were used to determine the nature of significant differences. Finally, the maladaptive coping variables (tobacco per day, drunk days, and drug days) were dichotomized into "no use" (coded as 0) and "use on one or more days [or occasions, for tobacco] over the past six months" (coded as 1). The dichotomized maladaptive coping variables were then analyzed using a cross-tabulation table with chi-square statistic.

Groups did not differ significantly by race, age, education, or drunk days reported (Table 6 summarizes means, standard deviations, and significant findings on the life circumstances variables). Because of the large number of possible comparisons and because resilient mothers were of primary interest in this study, significant post hoc findings relative only to resilient mothers are reported.

Resilient mothers differed from other mothers on four life circumstances variables. First, resilient mothers had significantly higher incomes compared with vulnerable

mothers; for every one standard deviation increase in income, the odds of being resilient versus vulnerable were 1.7 times greater. Second, there were significant differences among the groups with respect to evaluations of family relationships [ $F(3,205) = 5.97, p = .001$ ]. Resilient mothers rated family relationships significantly poorer compared with positive-adaptive mothers, but not significantly different from vulnerable mothers.

Third, positive-adaptive mothers and resilient mothers reported significantly lower levels of life stress compared with vulnerable mothers [ $F(3,199) = 10.93, p < .001$ ]. Vulnerable mothers reported more than twice as many life stressors as positive-adaptive mothers. Finally, vulnerable mothers were less likely to report abstaining from illegal drugs than were resilient, positive-maladaptive, and positive-adaptive mothers, 76.5% compared with 97.9%, 87.8%, and 100%, respectively [ $\chi^2(3, N = 210) = 22.60, p < .001$ ].

To summarize, compared with vulnerable mothers who reported similar levels of parental bonding, resilient mothers appeared to demonstrate adaptive functioning and ability to overcome reported poor familial relationships. In addition, resilient mothers experienced less life stress and demonstrated fewer maladaptive coping behaviors, especially when compared with vulnerable mothers. In fact, vulnerable mothers showed less favorable life circumstances overall. Furthermore, these observed differences do not seem to result from differences in education level, age, or race (data not shown).

#### How Do Resilient Mothers Differ from Other Mothers with Respect to Their Parenting?

Finally, we compared the parenting of the four clusters, conducting an ANOVA for each parenting subscale separately and then a MANOVA for the three subscales of each measure of parenting (PSI/SF and HOME) together. Significant differences were subjected to post hoc analyses to discern the nature of the differences. (Figure 2 illustrates the parenting of the four clusters on the PSI/SF and HOME subscales, and Table 7 shows the means and standard deviations for each group on each subscale.) The three subscales of the PSI/SF were statistically significantly related to parenting cluster [ $F(9,608) = 10.22, p < .001$ ]. However, contrary to prediction, cluster membership was not related to the three HOME subscales [ $F(9, 524) = 1.56, p = .123$ ]. Results of the ANOVA confirmed these results.

Because the PSI/SF subscales were significantly related to parenting clusters, we conducted post hoc analyses using the Tukey procedure to determine the nature of the differences. Once again, owing to the large number of possible comparisons and because resilient mothers were of primary interest in this study, only significant post hoc findings relative to resilient mothers are reported. Resilient mothers were not statistically different from positive-maladaptive mothers with respect to parental distress but were significantly different from vulnerable mothers.

JPEGF

Comparisons among groups regarding difficult interaction revealed the vulnerable mothers to be statistically different from both positive-adaptive and resilient mothers, but not from positive-real-adaptive mothers. It appears, on the basis of these results, as though resilient mothers are less likely to report difficult interactions with their children as compared with vulnerable mothers, but these differences do not hold when comparisons are made with positive-maladaptive mothers.

Finally, the four parenting clusters were compared on the Difficult Child subscale. Once again, vulnerable mothers were statistically different from both positive-adaptive and resilient mothers, but not from positive-maladaptive mothers. As in earlier contrasts, although resilient mothers were less likely to perceive their children as difficult to care for compared with vulnerable mothers, this difference disappears when compared with positive-maladaptive mothers.

## DISCUSSION

Conventional wisdom emphasized the importance of the parenting one receives to the parenting one provides even before Belsky (1984) included developmental history in his determinants of parenting model. In the current study, we sought further understanding of this correlation by taking an approach not previously used: focusing on two groups of mothers who report poor bonding with their parents, one group that is predictably vulnerable and one that is functioning adaptively and apparently providing good parenting to their own infants.

As expected, two groups of mothers in our sample exhibited continuity in parenting: those who recollected warm, uncontrolling parenting were functioning well on all measures (positive-adaptive mothers), and those who reported poor parenting were not functioning well (vulnerable mothers). This is consistent with other research demonstrating correlations between parental bonding and diverse outcomes such as mental health, coping with stress, and happiness (for example, Cheng & Furnham, 2004; Gittleman, Klein, Smider, & Essex, 1998). More enlightening, however, are findings for the mothers we labeled resilient: those who reported poor bonding with their caregivers but whose functioning at follow-up did not differ from mothers who reported warm bonds. Resilient mothers had levels of internalizing and externalizing symptoms, education and income, and life stress similar to those of positive-adaptive mothers, and their use of maladaptive coping mechanisms (alcohol, drugs, and tobacco) was also similar. As we might expect, given their reports of poor bonding with their caregivers, they reported poor current relationships with their families of origin.

Moreover, resilient mothers' parenting was consistent with their adaptive functioning. They were not overwhelmed by the parenting role, and they did not report unsatisfying interactions with their infants or define their children as difficult. Like the positive-adaptive mothers, they appeared to be satisfied with parenting, and the research suggests that this lack of parenting stress portends good attachments and healthy development for their infants (for example, Abidin, 1995).

## JPEGF

Our study takes its place in a stream of research in which some studies have found strong relationships between recollected parenting and various aspects of adult functioning, whereas others have not. We may consider two explanations for the inconsistent findings among studies. First, Adler and colleagues (1991) suggested that these inconsistencies may be a result of the use of different kinds of samples, hypothesizing that recollected parenting may only be crucial for high-risk groups who face adverse circumstances and low levels of personal and social resources. Indeed, our study design does not allow us to rule out the possibility that resilient mothers were functioning so much better than we might expect because their life circumstances had improved. Such an explanation treats stressful life circumstances as extrinsic to mental representations of parenting, however. Belsky and associates (1995) pointed out that life events are not randomly assigned to individuals, but rather are partly the result of individual agency. For example, our measure of life stress involved many items such as being arrested and being involved in violence. Given that resilient mothers were also using less alcohol and fewer drugs as well as experiencing fewer such events, partially creating their own environments according to their own needs and characteristics (Scarr, 1996), we think that resilience is a reasonable explanation for their improved functioning and parenting, particularly given the high levels of education they were able to achieve. As we have suggested elsewhere (Page, Combs-Orme, & Cain, 2007), stressful life experiences may be part of a constellation of factors that also includes representations of parenting.

Second, we believe that contradictory findings may be a result instead of the failure of most studies using the PBI to account for individuals who have overcome poor parenting to develop resilience that allows them to succeed at life tasks, cope successfully with adversity, and provide good parenting to their children. Bowlby's (1977) assertions that the link between early attachment experiences and adult attachment status could be disrupted have been supported in several studies (see discussions in Sroufe, Egeland, Carlson, & Collins, 2005, and Gittleman et al., 1998).

Failure of the PBI to account for resilience may distort the relation between representations of parenting and adult functioning in many domains, including parenting. The AAI is less subject to this problem, coding as autonomous those with highly coherent discourses representing both optimal attachment and resolution of suboptimal attachment. Reliability and validity of coding is high (Bakermans-Kranenburg & van IJzendoorn, 1993).

## JPEGF

A separate issue in our findings concerns the fact that the clear differences among the four clusters of mothers on self-reported stress in relationships with their infants (as measured by the PSI/SF) were not replicated on the HOME, an observational

measure of mother-infant interactions. This measure, too, has been shown to be related to a broad range of developmental outcomes (Bradley, 1994).

It is tempting to attribute discrepancies between the PSI/SF and the HOME to method variance, given that the PBI and the PSI/SF are both self-report measures, whereas the HOME is observational. Yet only one of the six correlations between the two self-report subscales (PBI and PSI/SF) is significant at the bivariate level, whereas eight of the nine PSI/SF-HOME subscale correlations are statistically significant. This would argue against the presence of significant method variance, particularly given that the two self-report measures were administered months apart and in different settings.

Earlier research has also found low or no (Jackson, 2000; Diener, Nievar, & Wright, 2003) or inconsistent (Willinger et al., 2002) correlations between shortened versions or some subscales of the HOME and versions of the PSI. Zaslow and associates (2006) suggested that the two types of measures provide different perspectives on parenting that may not necessarily be correlated. Self-reports draw from memories and reflect parental interactions and attitudes across time and context; single-occasion observation is based on a limited sample of behavior. Indeed, self-report data about both parental bonds and maternal-infant relationships may be part of mothers' internal working models of parenting. Nonetheless we would expect parenting stress to be correlated with maternal-infant interaction, so this issue should be investigated.

The current study has methodological limitations that should be considered in interpreting the findings. First, we were unable to sample randomly from the delivery unit. Although the study sample is diverse, it is clear that the site's greater ethnic minority population and our oversampling of African American mothers resulted in a sample that is more disadvantaged than the general population. It is not clear how this limitation might affect interpretation of these results, but it seems likely that the greater representation of disadvantaged parents makes the findings more pertinent to social work practice.

Finally, this article did not focus on positive-maladaptive mothers who reported good parental bonding, but nevertheless functioned more like the vulnerable mothers, as shown by their internalizing and externalizing symptoms, maladaptive coping, life stress, and parenting. Future research should also examine this type of discontinuity, particularly given that these mothers were nearly one-quarter of our sample and may be a significant proportion of mothers with parenting problems.

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In conclusion, these findings support earlier research by Egeland and associates (1988), Phelps and associates (1998), and others showing that individuals who report poor bonds with their parents can overcome their experiences to become resilient individuals and successful parents. We did not collect data to allow us to speculate how the resilient mothers in our sample were able to achieve this state,



but the consistency across indicators provides convincing evidence of resilience.

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Wendy, J. Travis, PhD, LCSW, is behavioral health flight commander, Robins Air Force Base, Warner Robins, GA. Terri Combs-Orme, PhD, is professor, University of Tennessee, 204 Henson Hall, Knoxville, TN 37996; e-mail: tcombs-orme@utk.edu. The views expressed in this article are those of the authors and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.

Table 1: Description of Recruitment Sample of Mothers and Sample for Current Study

Variable and Category	Recruitment Sample (N = 246)		Current Sample (N = 210)	
	n	%	n	%
Race				
White	143	58.13	120	57.14
African American	103	41.87	90	42.86
Age				

16 or younger	9	3.66	8	3.
16-19	66	26.83	58	27.
20-24	86	34.96	70	33.
25-29	42	17.07	35	16.
30 and older	43	17.48	39	18.
First-time mothers	103	41.87	87	41.
Education				
Less than high school	78	31.71	61	29.
High school/GED	67	27.24	56	26.
Vocational training	31	12.60	30	14.
[greater than or equal to] 1 year college	70	28.45	63	30.
Annual income				
<%10,000	98	39.83	86	40.
\$10,000-\$19,999	54	21.95	49	23.
\$20,000-\$34,999	47	19.11	36	17.
\$35,000-\$59,999	27	10.98	24	11.
[greater than or equal] \$60,000	16	6.50	12	5.
Missing	4	1.63	3	1.

Note: GED = general equivalency diploma.

Table 2: Means, Standard Deviations, Ranges, and Reliability of Variables Measuring Parenting Styles

Construct and Scale	M	SD
Parental bonding		
Care	29.34	7.98
Overprotection	16.39	7.66
Parental stress		
Parental Distress	27.55	8.54
Parent-Child Difficult Interaction	18.34	5.42
Difficult Child	22.60	6.41
Home environment		
Acceptance	6.06	1.35
Responsibility	8.83	1.96
Involvement	4.60	1.72
Psychological problems		
Internalizing	10.83	7.42
Externalizing	7.52	5.65
Stressful life events: Total LEI score	3.26	2.87
Family relationships: YASR Family subscale	0.899	1.24
Maladaptive coping (a,b)		
Tobacco per day	4.92	8.25
Drunk days	0.54	1.46
Drug days	2.92	19.13
	Potential Range	Observed Range
Construct and Scale		
Parental bonding		
Care	0-36	0-36
Overprotection	0-39	0-38
Parental stress		

Parental Distress	12-60	12-53
Parent-Child Difficult Interaction	12-60	12-41
Difficult Child	12-60	12-44
Home environment		
Acceptance	0-8	0-8
Responsibility	0-11	1-11
Involvement	0-6	0-6
Psychological problems		
Internalizing	0-96	0-28
Externalizing	0-56	0-29
Stressful life events: Total LEI score	0-26	0-14.6
Family relationships: YASR Family subscale	-3-+3	-2-+3
Maladaptive coping (a,b)		
Tobacco per day	0-40	0-40
Drunk days	0-180	0-9
Drug days	0-180	0-180

Construct and Scale [alpha]

Parental bonding	
Care	.93
Overprotection	.78
Parental stress	
Parental Distress	.84
Parent-Child Difficult Interaction	.79
Difficult Child	.80
Home environment	
Acceptance	.53
Responsibility	.70
Involvement	.76
Psychological problems	
Internalizing	.91
Externalizing	.82
Stressful life events: Total LEI score	.76
Family relationships: YASR Family subscale	.53
Maladaptive coping (a,b)	
Tobacco per day	N/A
Drunk days	N/A
Drug days	N/A

Note: LEI = Life Events Inventory; YASR = Young Adult Self Report.  
 (a) Items have no upper range. (b) Each subscale is a single item.

Table 3: Intercorrelations of Study Variables Measuring Parenting Styles among Recent Mothers

Measure	1	2	3
1. Care	--	-.34 **	-.22 **
2. Overprotection		--	.23 **
3. Parental Distress			--
4. Parent-Child Difficult Interaction			
5. Difficult Child			
6. Responsivity			

- 7. Acceptance
- 8. Involvement
- 9. Internalizing
- 10. Externalizing

Measure	4	5	6
1. Care	.02	-.16 *	-.08
2. Overprotection	.03	.15	.02
3. Parental Distress	.44 **	.56 **	-.04
4. Parent-Child Difficult Interaction	--	.62 **	-.30 **
5. Difficult Child		--	-.22 **
6. Responsivity			--
7. Acceptance			
8. Involvement			
9. Internalizing			
10. Externalizing			

Measure	7	8
1. Care	-.08	.04
2. Overprotection	-.07	-.10
3. Parental Distress	-.19 *	-.19 *
4. Parent-Child Difficult Interaction	-.25 **	-.23 **
5. Difficult Child	-.27 **	-.20 **
6. Responsivity	.25 **	.49 **
7. Acceptance	--	.29 **
8. Involvement		--
9. Internalizing		
10. Externalizing		

Measure	9	10
1. Care	-.21 **	-.23 **
2. Overprotection	.20 **	.17 *
3. Parental Distress	.64 **	.48 **
4. Parent-Child Difficult Interaction	.27 **	.25 **
5. Difficult Child	.41 **	.43 **
6. Responsivity	-.02	-.01
7. Acceptance	-.06	-.06
8. Involvement	-.11	-.18 *
9. Internalizing	--	.70 **
10. Externalizing		--

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

Viable 4: Latent Class Model Comparison and Selection

Model	LL	BIC	Class Error	Entropy [R.sup.2]
1 clusters	-2,824.97	5,692.72	.00	1.00



2 clusters	-2,692.15	5,475.20	.06	.78
3 clusters	-2,649.42	5,437.87	.09	.79
4 clusters	-2,621.27	5,429.69	.11	.79
5 clusters	-2,607.47	5,450.23	.14	.79

Note: LL = log likelihood; BIC = Bayesian information criterion.

Table 5: Means and Standard Deviations of PBI and YASR Subscales, by Parent Type

Variable	F(3, 206)	Parenting Cluster			
		t (n = 62)		2 (n = 49)	
		M	SD	M	SD
PBI subscales					
Care	65.93 ***	34.66	1.58	34.47	1.54
Overprotection	13.51 ***	12.93	5.70	13.76	5.21
YASR subscales					
Internalizing	173.24 ***	4.60	2.84	12.04	4.43
Externalizing	95.55 ***	3.05	2.03	9.02	3.39

  

Variable	Parenting Cluster				Post Hoc Findings
	3 (n = 48)		4 (n = 51)		
	M	SD	M	SD	
PBI subscales					
Care	23.05	5.97	23.61	8.04	1, 1 > 3 ***, 4 ***
Overprotection	18.67	7.11	19.78	8.95	1 < 3 ***, 4 *** 2 < 3 **, 4 ***
YASR subscales					
Internalizing	7.04	3.58	20.22	4.46	1 < 3 ** < 2 *** < 4 ***
Externalizing	4.83	3.49	14.02	5.28	1, 3 < 2 *** < 4 ***

Note: Parenting clusters are coded as 1 = positive-adaptive; 2 = positive-maladaptive; 3 = resilient; 4= vulnerable. PBI = Parental Bonding Inventory; YASR = Young Adult Self-Report.

\*\* p < .01, two-tailed. \*\*\* p < .001, two-tailed.

Table 6: Contextual Variables, by Parent Type

Parenting Cluster

Life Circumstances Variable	[chi square]	df	M	SD
Mother's age	5.44	3	25.45	6.82
Race (% white)	2.93	3	30.8	
Income	8.22 *	3	4.25	2.77

Parenting Cluster

	F	dfs	M	SD
Education	2.21	3,209	14.95	4.81
Family relationship	5.97 **	3,208	1.44	1.17
Total life stress	10.93 ***	3,202	2.20	2.42
Maladaptive coping				
Tobacco	3.65 *	3,207	2.73	5.44
Drunk	4.97 **	3,209	0.40	1.22
Drugs	4.89 **	3,209	0.00	0.00

Parenting Cluster

Life Circumstances Variable	M	SD	M	SD
Mother's age	21.72	4.63	25.09	6.37
Race (% white)	19.2		23.3	
Income	2.81	1.81	4.47	2.89

Parenting Cluster

	M	SD	M	SD
Education	13.37	3.17	14.71	4.19
Family relationship	0.73	1.27	0.79	1.20
Total life stress	3.58	2.25	2.62	1.78
Maladaptive coping				
Tobacco	6.45	10.06	3.72	7.07
Drunk	0.35	1.16	0.23	0.63
Drugs	0.51	1.65	0.06	0.43

Parenting Cluster

Life Circumstances Variable	M	SD	Post Hoc Findings

Mother's age	23.88	5.86	ns
Race (% white)	26.7		ns
Income	3.16	2.39	3 > 4 *
Parenting Cluster			
4			
	M	SD	
Education	13.59	3.71	ns
Family relationship	0.55	1.19	4 < 1 **, 3 < 1 * 2 < 1 **
Total life stress	4.98	3.86	4 > 1 ***, 3 **
Maladaptive coping			
Tobacco	7.16	9.73	4 > 1 *
Drunk	1.22	2.25	4 > 1 *, 2 *, 3 **
Drugs	11.80	38.28	4 > 1 **, 2 *, 3 *

Note: Parenting clusters are coded as 1 = positive-adaptive; 2 = positive-maladaptive; 3 = resilient; 4 = vulnerable.

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

Table 7: Multivariate and Univariate Analyses of Variance for PSI/SF and HOME on Parenting Clusters

Measure	Multivariate		Parenting Cluster	
	dfs	F	1	
PSI/SF scales	9,608	10.32 ***		
HOME scales	9,524	1.56		
	Univariate		2	3
	dfs	F	M	SD
PSI/SF Parental Distress	3,206	29.07 ***	22.02	6.45
PSI/SF Parent-Child				
Difficult Interaction	3,206	5.28 **	16.79	5.06
PSI/SF Difficult Child	3,206	14.32 ***	19.02	4.93
HOME Responsivity	3,178	0.82	8.73	1.94
HOME Acceptance	3,178	2.01	6.30	0.92
HOME Involvement	3,178	0.66	4.56	1.84

	M	SD	M	SD
PSI/SF Parental Distress	28.38	7.67	26.23	6.57
PSI/SF Parent-Child Difficult Interaction	19.59	5.95	17.21	4.60
PSI/SF Difficult Child	23.50	5.34	22.33	5.88
HOME Responsivity	9.23	1.43	8.63	2.36
HOME Acceptance	5.63	1.39	6.09	1.76
HOME Involvement	4.73	1.73	4.66	1.76

Parenting Cluster

	M	SD	4	Significant Post Hoc Findings
PSI/SF Parental Distress	34.47	7.92		\$ > 1 ***, 2 ***, 3 ***, 3 < 1 *
PSI/SF Parent-Child Difficult Interaction	20.12	5.62		4 > 1 **, 3 *
PSI/SF Difficult Child	26.16	7.25		4 > 1 ***, 3 ** 3 < 1 *
HOME Responsivity	8.93	1.85		ns
HOME Acceptance	6.04	1.28		ns
HOME Involvement	4.24	1.68		ns

Note: Parenting clusters are coded as 1 = positive-adaptive; 2 = positive-maladaptive; 3 = resilient; 4 = vulnerable.

\* Multivariate F ratios were generated from Wilks's approximation of Fs. PSI/SF = Parenting Stress Index Short Form; HOME = Home Observation for Measurement of the Environment.

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

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