

Adolescent Mothers and Internal Representational Models: Abuse, Neglect, and Romantic Relationships

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ABSTRACT

The purpose of this study was to explore risk and protective factors associated with internal representation models of adolescent mothers. The study also looked at the role the mothers' internal representational models play in their interaction with their romantic partners. The proposed model of abuse and neglect differentiated mothers with adequate internal models from those with abusing or neglecting models. The study was based on data analyses of self-report measures from 28 adolescent mothers from an ongoing longitudinal study. Results confirmed the hypothesis that adolescent mothers with neglecting and abusing internal models, which include a mistrust of self and others, report more depression, lower self-esteem, ineffective problem-solving approach, and pessimism. The results supported the hypothesis that mothers with a history of childhood maltreatment are more likely to have inadequate models. However, mothers who reported maltreatment as a child, but who had an effective problem-solving orientation and trusted themselves, were at less risk for child maltreatment. The results also supported the hypothesis that mothers' internal models are associated with their romantic attachment style and their interaction with their romantic partners.

I. ADOLESCENT MOTHERS AND INTERNAL REPRESENTATIONAL MODELS

According to the National Clearinghouse on Child Abuse and Neglect, in 1999 there were approximately 826,000 victims of maltreatment in the United States, or 11.8 victims per 1,000 children (DHHS, 1999). Mothers or stepmothers acting alone victimized over 44% of these children. Although physical abuse and its effects on children can easily be identified, a clear definition of neglect is difficult to produce because it encompasses a diverse range of behavior. However, a broad definition of neglect includes the following forms of maltreatment: failure to provide timely mental and physical health care, proper nutrition, supervision, and hygiene; failure to provide permanent residency; failure to meet the child's educational needs; failure to

prevent the child from encountering hazards within the home; abandonment; and custody-related neglect (Azar, Povilaitis, Lauretti, & Pouquette, 1998).

There is considerable research about why some mothers abuse or neglect their children. Crittenden (1985) posited the importance of mothers' internal representational models in causing maltreatment. Internal representational models organize past experience to form a generalized model of the way relationships work, which includes assumptions about the self and others, as well as the accompanying affect associated with interacting with others (Bowlby, 1980). According to Crittenden, these relational models vary according to the type of maltreatment and are reflected in the mother's interaction with both her children and members of her social support group. Mothers with adequate representational

models viewed others as meeting their emotional and material needs and themselves as able to elicit help from others in order to meet their needs. For these mothers, interaction with others involved pleasure, and their primary affect in relationships was satisfaction.

Abusing mothers' models involved a need for power and coercion, implying that they saw their needs as being met only when they had power in the relationship and could force others to meet them. Abusing mothers' primary affect in relationships was anger because they saw others as unwilling to satisfy their needs and themselves as unable to meet their needs. Neglecting mothers did not believe others could meet their needs or that they could elicit help from others in meeting their needs. Neglecting mothers' primary affect in relationships was feelings of emptiness and despair. Mothers' internal models were reflected in their interaction with others (Crittenden, 1981). Abusing mothers were hostile and coercive, while neglecting models were passive and withdrawn.

Crittenden (1992) supported the idea that mothers' models influence their interactions with and are passed on to their children. Her study assessed a sample of low-income, African American mothers who were receiving child protective services. The results imply that children's internal representational models reflect their mothers' internal representational models and can be predicted based on type of maltreatment. Abused children used coercion in situations in which they had power (i.e., sibling interaction), but were cooperative in situations in which they had little power (i.e., mother-child interaction). Children who were neglected displayed withdrawal with both the mother and siblings and acted as if they were helpless. Thus, abused and neglected children's beliefs and affect were similar to those of abusing and neglecting mothers in the previous study.

A longitudinal study conducted by de Paul and Domenech (2000) found a relationship between childhood abuse and child abuse potential. Using the Child Abuse Potential Inventory (Milner, 1977), a sample of twenty-four Caucasian adolescent and twenty-four Caucasian adult mothers were compared. The study tested the hypothesis that adolescent mothers would be at a

higher risk for child abuse and that adolescent mothers who remembered being maltreated as a child would be at higher risk than adult mothers with the same memories. The results supported the hypotheses, with adolescent mothers showing higher overall child abuse potential scores and depression scores than adult mothers, even though the two groups did not differ on memories of childhood abuse. Also, for mothers who had their first child in adolescence, memories of severe physical abuse significantly increased their child abuse potential, whereas for mothers who had their first child in adulthood, these same memories did not increase their abuse potential.

The finding that teenage mothers had higher child abuse potential despite similar memories suggests that teenage pregnancy may be a risk factor in child abuse and neglect. The finding that teenage mothers had higher rates of depression suggests that depression may be a mediating variable. This conclusion is supported by Herrenkohl, Herrenkohl, Egolf, & Russo (1998), who report that low self-esteem is related to teenage pregnancy. Given the high correlation between low self-esteem and depression (Clark & Beck, 1999), it may be that both depression and low self-esteem mediate the relationship between teenage pregnancy and abuse potential.

Although previous research has not established a clear relationship between depression and child abuse, Field, Healy, Goldstein, and Guthertz (1990) reported that depressed mothers were more likely to engage in negative interaction with their children. Forty-two percent of depressed mothers acted angrily, such as poking or speaking in an angry manner, 29% were withdrawn and did not engage in interaction, 21% showed both anger and withdrawal, and only 8% interacted positively with their children. These depressed mothers displayed similar behavior to abusing and neglecting mothers in Crittenden's (1985) study.

Mothers with depression may be more likely to have inadequate internal representational models. Beck's cognitive theory of depression includes a negative view of the self, world, and future (Clark & Beck, 1999). Crittenden's (1985) internal model includes negative views of the self

and others, in addition to a lack of pleasure in interaction. Symptoms of depression include a loss of interest and pleasure in activities such as social interaction (Cicchetti & Toth, 1998). Therefore, mothers who have negative views of themselves and others and who do not experience pleasure in their relationships may be more likely to have inadequate internal models. Mothers with depression who experience more anger toward others may be likely to have abusing affect, and mothers who experience more sadness may be more likely to have neglecting affect.

Since depression and related low self-esteem may be associated with both teenage pregnancy and inadequate internal models, adolescent mothers with inadequate models may be at high risk for abusing or neglecting their children. Thus, teenage mothers who were abused or neglected as a child are likely to have the highest risk for abusing or neglecting their children if they maintain the inadequate models that were passed on to them from their caregivers.

There may be factors that decrease the likelihood that teenage mothers will abuse or neglect their children. Scheier, Carver, and Bridges (1994) reported that people with more positive attitudes toward life report more positive affect and cope better with stress, while people with more pessimistic views reported more avoidance and dissatisfaction. Since mothers with inadequate models have negative thoughts and do not find satisfaction in their relationships, these mothers should report a pessimistic life orientation. Mothers who are optimistic are less likely to have inadequate models of relationships.

Heppner, Hibel, Neal, Weinstein, and Rabinowitz (1982) reported that people who perceive themselves as effective problem solvers are more confident and feel more in control of their lives. Mothers with inadequate models see themselves as incapable of meeting their own needs. Abusing mothers see their relationships as struggles for power and resort to coercion to meet their needs. Mothers with neglecting affect simply give up and make no attempt to elicit help from others; they see themselves as powerless. Thus, mothers with inadequate models feel they have little control over their lives and others. Mothers

with adequate models have more confidence in their problem-solving abilities.

Based on a review of the literature, a model of characteristics that will predict which adolescent mothers are likely to abuse, neglect, or both, their children will be developed. The first hypothesis is that mothers with low self-esteem, depression, and a history of childhood maltreatment will be more likely to have inadequate internal representational models. Although all inadequate models include a mistrust of self and others, mothers with abusing models have abusing affect and mothers with neglecting models have the accompanying neglecting affect. Teenage mothers with a history of neglect or abuse will be more likely to have inadequate internal representational models, which were passed on to them from their mother or another caregiver. Low self-esteem and depression are expected to be mediators between childhood maltreatment and abuse potential.

The second hypothesis is that protective factors, such as effective problem-solving orientation and optimism, will decrease the likelihood that teenage mothers will have inadequate internal models, and therefore decrease the likelihood that they will abuse or neglect their children. Mothers with dysfunctional models will be less likely to report positive problem solving skills and more likely to report pessimism.

There should be two paths that an adolescent mother who has been neglected or abused in the past may take. Mothers with a positive life orientation and approach to problem solving should be more likely to develop adequate internal representational models, and, therefore should be at lower risk for abusing or neglecting their children. Mothers without these coping skills should be more likely to maintain their existing inadequate models and, therefore, should be more at risk for neglecting or abusing their children.

Internal models based on parent-child interaction influence behavior in a variety of relationships, including romantic relationships (Owens et al., 1995). Bartholomew (1998) described four attachment styles, one secure and three insecure, based on whether a person trusts themselves and others. Classification as secure implies a trust of both self and

others, classification as preoccupied implies a trust of others but not self, classification as dismissive-avoidant implies a trust of self but not others, and classification as fearful-avoidant implies a mistrust of both self and others. Since inadequate models include both a mistrust of self and others, mothers with inadequate internal models should have insecure romantic attachment styles. In addition, it is hypothesized that mothers with inadequate models will report more avoidance and anxious behavior in their romantic relationships.

II. METHOD

a. Participants

The sample included 28 adolescent mothers who participated in a longitudinal study called the Notre Dame Parenting Project. A complete description of the sample and methods may be found in Whitman, Borkowski, Keogh, and Weed (2001). Participants were recruited in a local hospital or health department in Aiken, South Carolina. The majority of the mothers were African American, single, and had lower middle class socioeconomic status. The mothers' average age at the time they gave birth was 17 years ($M = 17.6$, range 13.9 – 19.9). The mothers' average grade at the time they gave birth was 11th grade, ranging from seventh grade to college. Sixteen of the 28 children (57.1%) were male and 12 (42.9%) were female.

b. Measures

- *Internal Representational Model.* The internal representational model of adolescent mothers was assessed with the Child Abuse Potential Inventory (CAPI; Milner, 1977). The CAPI is a 160-item questionnaire used to identify populations at-risk for child abuse. Items consist of both negatively and positively worded statements to which the respondent agrees (scored as a one) or disagrees (scored as a two). Answers to all questions in the model subscales were coded so that a higher score indicated a negative response, and, therefore, an inadequate internal representational model. The CAPI items are based on previous research identifying personality traits of maltreating individuals. The questionnaire was administered to the

mothers at child age 10. Based, in part, on research by Crittenden (1985), four dimensions were identified.

Mistrust-of-Others measured the mother's ideas about whether relationships can meet their physical and emotional needs. A set of 11 items from the CAPI was selected that measured how the adolescent mothers viewed others. Criteria for selecting the items included trust of others, how well they felt understood by others, and how others affected their lives. Items included statements such as "You cannot depend on others" and "Other people have made my life unhappy." Scores for this scale could range from a low of 11, indicating little Mistrust-of-Others, to a high of 22, which signified high Mistrust of Others. The alpha coefficient for these items was .85.

Mistrust-of-Self measured mother's satisfaction with her own behavior and whether she believed she could meet her own and her child's needs. Criteria for the six items selected included thoughts about own behavior (e.g., "Sometimes my behavior is childish") and beliefs about self-efficacy in meeting own and others' needs (e.g., "I sometimes worry that I cannot meet the needs of a child"). Scores could range from a low of six, indicating little Mistrust-of-Self, to a high of 12, indicating high Mistrust. The alpha coefficient was .67.

Affect-in-Relationships included three sets of items chosen to reflect mothers' affect in their relationships. According to Crittenden (1985), maltreating mothers can be differentiated based on type of maltreatment, with neglecting, abusing, and adequate mothers displaying different affect in relationships. Neglecting mothers' primary affect is emptiness and despair. Abusing mothers' primary affect involves anger and frustration. Adequate mothers' primary affect is pleasure and fulfillment.

Ten items were chosen to differentiate *neglecting* mothers from mothers with abusing or adequate affect. Criteria for these items included negative feelings, such as sadness, loneliness, worthlessness, uselessness, and rejection. Items included statements such as "Life often seems useless to me" and "I often feel rejected." Scores could range from a low of 10 to a high of 20. The alpha coefficient for these items was .89. Four items were chosen as indicative of *abusing* mothers'

affect. Criteria for these items were feelings of anger, frustration, and fear of losing control of self. Items included statements such as "Many things in life make me angry" and "Sometimes I fear that I will lose control of myself." Scores could range from a low of four to a high of eight. The alpha coefficient was .83. Four items were chosen to measure *adequate* affect in relationships, or mothers' general level of happiness in life and relationships. Criteria for these items were feelings of satisfaction about life and self. Items included statements such as "I am a happy person" and "My life is good." Scores could range from a low of four to a high of eight, with higher scores signifying more adequate affect. The alpha coefficient for these items was .77.

- *History of Childhood Maltreatment.* Six items from the CAPI were chosen to measure whether the mother reported being abused or neglected as a child. Items selected measured whether the mother felt loved, understood, and wanted, and whether she recalled being abused as a child. Items included statements such as "As a child I was abused" and "My parents did not really want me." Scores could range from a low of six to a high of 12. The alpha coefficient was .85. Participants who marked one or more of these items as true ($n = 16$) were considered to have a history of maltreatment.
- *Romantic Attachment.* The Multi-Item Measure of Adult Romantic Attachment (Brennan, Clark, & Shaver, 1998) was used to measure mothers' anxiety and avoidance in romantic relationships and to determine their romantic attachment style. The questionnaire consists of 36 self-report items about the person's interactions with their romantic partners. Each item was rated on a seven-point Likert-type scale. The measure is used in the identification of Bartholomew's four attachment styles, secure, preoccupied, dismissive-avoidant, and fearful-avoidant, and consists of two subscales, anxiety and avoidance. One-half of the items were included in the avoidance subscale (e.g., I try to avoid getting too close to my partner) and one-half reflected anxiety about relationships (e.g., I worry a lot about my relationships). Participants were classified into attachment styles following the procedure described in Brennan et. al. (1998). Linear discriminant functions based

on participants' scores for the anxiety and avoidance subscales, using coefficients provided by Brennan et al. (1998), were computed to derive a score for each participant for each of the four classifications: (secure, preoccupied, dismissive-avoidant, and fearful-avoidant). Participants were then classified into the attachment style depending on which category they received the highest score. The questionnaire was administered to the mothers when their children were 10 years of age and was used to test the hypothesis that mothers with inadequate models have insecure romantic attachment, and, therefore, report more avoidance and anxiety.

- *Self-Esteem.* The Coopersmith Self-Esteem Inventory (Coopersmith, 1981) was used to measure mothers' general self-esteem. This questionnaire consists of 25 true or false items, which measure beliefs in specific situations, such as in family and peer interactions, as well as general beliefs about the self. The inventory consists of items such as "People usually follow my ideas" and "My family usually considers my feelings." Participants' self-esteem score is the number of items marked indicating positive self-esteem, with possible scores ranging from zero to 25. This questionnaire was administered at child age eight and 10 and was used to test the hypothesis that mothers with inadequate models have low self-esteem.
- *Depression.* The Beck Depression Inventory (BDI; Beck & Steer, 1987) was used to measure mothers' levels of depression. The BDI consists of 21 sets of items. Each set includes four items and more than one item in each set may be chosen. Each item is scored from zero to three with a high score indicative of more depression. The lowest possible score is zero and the highest is 63. This test measures symptoms such as pessimism, guilt, crying, insomnia, sense of personal failure, and social withdrawal. Items include statements such as "I do not feel sad," "I feel sad," "I am sad all the time and I can't snap out of it," and "I am so sad or unhappy that I can't stand it." This questionnaire was administered at child age eight and 10 and was used to test the hypothesis that mothers with inadequate models have higher depression.

- *Problem Solving.* Four items from the Problem Solving Inventory (Heppner, 1988) were used to measure mothers' self-efficacy in problem-solving situations. Participants marked the items as true or false rather than the original Likert-type responding. The number of items indicating effective problem solving constituted participants' scores, which could range from zero to four. Items include statements such as "I make snap judgments and later regret them" and "Even though I work on a problem, sometimes I feel like I am groping or wandering, and am not getting down to the real issue." This questionnaire was administered at child age 10. It was used to test the hypothesis that mothers with inadequate models are less likely to report ineffective problem-solving and that mothers who experienced childhood maltreatment, but who seem themselves as effective problem-solvers, are less likely to have inadequate models.

- *Optimism.* The Life Orientation Test (Scheier & Carver, 1985) was used to determine mothers' general attitude toward life. The questionnaire consists of eight Likert-type items, with responses ranging from Strongly Agree (scored as one) to Strongly Disagree (scored as five). The questionnaire includes items such as "In uncertain times, I usually expect the best" and "I hardly expect things to go my way." This questionnaire was administered at child age 10. It was used to test the hypothesis that pessimistic mothers are more likely to have inadequate models and that mothers who experienced childhood maltreatment, but who are optimistic, are less likely to have inadequate models.

III. PROCEDURES

Mothers were interviewed individually in a laboratory setting at the University of South Carolina Aiken. Mothers were initially seen during their pregnancy; subsequent interviews were conducted at six-months, one-year, three-years, five-years, eight-years, and 10-years postpartum. Results analyzed in this paper are from the eight- and 10- year interviews. An experimenter sat with the mother while taking the tests and answered any questions the mothers had. The questions were read aloud by the experimenter if the mother

needed help reading the items. Mothers were paid for their participation.

IV. RESULTS

Means and standard deviations for the five aspects of mothers' internal representation models are presented in Table 1. Table 1 also shows intercorrelations among the model components. Results were considered significant if $p < .05$.

a. History of Childhood Maltreatment

T-test analyses were used to test the hypothesis that a history of childhood maltreatment would be related to the internal representational model (see Table 2). Mothers who reported a history of maltreatment as children were significantly different from those without a history of maltreatment on all of the model components. Those with a history of maltreatment reported more abusing and neglecting affect, less adequate affect, less trust of others, and less trust of themselves. Further, mothers with a history of maltreatment scored significantly lower on self-esteem and problem-solving, and higher on depression than those without a history of maltreatment.

b. Romantic Attachment

Each model subscale was correlated with the anxiety and avoidance scales of the Multi-Item Measurement of Adult Romantic Attachment Inventory. Mothers who reported abusing affect and neglecting affect reported more anxiety in their romantic relationships, but not more avoidance. Mothers who mistrusted themselves and mistrusted others also reported more anxiety (see Table 3). Further, one-way analyses of variance were used to analyze the relationships between Bartholomew's four attachment styles, secure, dismissive-avoidant, preoccupied, and fearful-avoidant, with mothers' scores on the internal representational model subscales. Attachment style was considered the independent variable and model subscales as the dependent variables. Following the procedure specified in Brennan et al. (1998), participants were classified into the four styles depending on

Table 1. Correlations, Means and Standard Deviations of Internal Representational Model Subscales and Childhood Maltreatment

Subscale	1	2	3	4	5	6
Adolescent mothers (N = 28)						
1. Mistrust of Others	—	.60***	.75***	.64**	-.35	.33
2. Mistrust of Self		—	.73***	.63**	-.40*	.36
3. Abusing Affect			—	.76***	-.47*	.53**
4. Neglecting Affect				—	-.60***	.43*
5. Adequate Affect					—	.34
6. Childhood Maltreatment						—
Mean	15.89	8.86	5.21	12.50	7.39	7.25
Standard deviation	3.36	1.86	1.50	3.11	1.10	1.90
Range	11 – 22	6 – 12	4 – 8	8 – 19	4 – 8	6-12

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 2. T-test Analyses Comparing Adolescent Mothers With and Without a History of Maltreatment

	History of Maltreatment	
	<u>Yes</u>	<u>No</u>
Abusing affect	5.88 _a	4.33 _b
Neglecting affect	13.75 _a	10.83 _b
Adequate affect	7.13 _a	7.91 _b
Mistrust others	17.13 _a	14.25 _b
Mistrust self	9.50 _a	8.0 _b
Self-esteem	14.38 _a	18.75 _b
Depression	12.31 _a	4.17 _b
Problem solving	1.88 _a	3.00 _b
Optimism	2.67 _a	2.67 _a

Note. Means in the same row that do not share sub-scripts differ at $p < .05$ in the t-test comparison.

Table 3. Correlations Between Model Subscales and Other Measures

	Avoidance	Anxiety	Self-esteem at 8	Self-esteem at 10	Depression at 8	Depression at 10	Problem-solving	Optimism
Neglecting affect	.29	.66***	-.42*	-.66***	.44*	.55**	-.66***	-.66***
Abusing affect	.20	.56**	-.39*	-.70***	.33	.62***	-.70***	-.64***
Adequate affect	-.36	-.34	.48**	.42*	-.55**	-.71***	.33	.42*
Mistrust others	.31	.38*	-.24	-.55**	.19	.31	-.62**	-.52**
Mistrust self	.03	.45*	-.19	-.49**	.09	.45*	-.70***	-.57**
History of maltreatment	.17	.32	-.17	-.40*	.19	.53**	-.21	-.35
Mean	3.34	3.15	18.18	16.25	9.79	8.82	2.36	27.93
Standard Deviation	1.22	1.24	3.98	4.70	8.34	7.02	1.52	5.04
Range	1.4 – 5.7	1.1 – 5.7	8 – 25	6 – 24	0 – 37	0 – 29	0 – 4	20 – 37

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

their highest-ranking coefficient-based attachment category. Nine mothers were classified as secure in their romantic relationships, nine as dismissing-avoidant, six as fearful-avoidant, and four as preoccupied. Analyses of variance yielded significant results for neglecting affect, $F(3,24) = 6.27$, $p < .01$, and for abusing affect, $F(3,24) = 4.25$, $p < .02$. Post-hoc comparisons showed that mothers who were classified as fearful-avoidant or as preoccupied had higher levels of neglecting and abusing affect than those classified as secure or as dismissing-avoidant. None of the other model subscales were significantly related to attachment style.

The relationship between a history of childhood maltreatment and romantic attachment styles was tested with chi-square analysis. Results revealed a significant association, $\chi^2(3, N = 28) = 9.17$, $p = .03$. Seventy-eight percent of the

mothers classified as secure reported no history of childhood maltreatment. These mothers reported low neglecting and abusing affect. All of the mothers classified as preoccupied reported a history of maltreatment, and 50% of mothers classified as fearful-avoidant reported maltreatment. Mothers who were both preoccupied and fearful-avoidant reported high abusing and neglecting affect. Seventy-eight percent of mothers classified as dismissive-avoidant reported a history of maltreatment. These mothers reported low neglecting and abusing affect.

Risk Factors

The hypothesis that mothers with low self-esteem and depression would be more likely to have inadequate internal representational models was tested with correlational analyses (see Table 3). Maternal affect in relationships when their children were age 10 was significantly related to their self-esteem two years earlier.

Mothers with low self-esteem when their children were eight had higher levels of neglecting and abusing affect and lower levels of adequate affect two years later. Concurrent correlations between self-esteem and Affect in Relationships at child age 10 were even stronger. In addition, the relationships between self-esteem and Mistrust of Others and Mistrust of Self at child age 10 were significantly, and negatively correlated. Significant correlations were also obtained between maternal depression at child age eight and Affect in Relationships at child age 10 (see Table 3). Mothers with neglecting affect and, to some extent, abusing affect at child age 10 reported more depression at child age eight. Mothers with adequate affect reported less depression. The concurrent correlation with Mistrust of Self and depression was also significant at child age 10.

c. Protective Factors

The hypothesis that protective factors, such as an effective problem-solving orientation and optimism, would decrease the likelihood that teenage mothers would have inadequate internal models, and therefore decrease the likelihood that they would abuse or neglect their children, was also tested with correlational analyses (see Table 3). Mothers with positive perceptions of their problem solving abilities were less likely to have abusing affect and neglecting affect, and were also more likely to trust themselves and others. Mothers who were more optimistic were less likely to have abusing and neglecting affect, and more likely to have adequate affect. Mothers who were more optimistic were also more likely to report that they trusted others and trusted themselves.

V. DISCUSSION

The main purpose of this study was to determine risk factors that increase the likelihood that teenage mothers will have abusing or neglecting internal representational models, as well as protective factors that decrease the mothers' likelihood of having these models. By determining risk factors and protective factors associated with dysfunctional

models, the author hoped to also determine the factors associated with actual maltreatment.

Affect in relationships was significantly related to the hypothesized risk and protective factors. Although the strength of the correlations varied, the overall pattern suggested that self-esteem, depression, problem solving, and optimism were consistently related to maternal affect at child age eight and 10. In general, mothers at-risk for abusing or neglecting their children were more likely to have risk factors and less likely to have protective factors to prevent them from harming their children. The stability of the relationship between the risk and protective factors and affect over the two-year period indicates that this relationship persists over time.

The risk factors of low self-esteem and depression were not as strongly associated with mistrust of self or mistrust of others. Neither self-esteem nor depression at child age eight predicted mistrust two years later. However, mothers who mistrusted others and who mistrusted themselves had lower self-esteem when their children were age 10, and those who mistrusted themselves also tended to be more depressed. The protective factors, however, were strongly associated with mistrust. Mothers who had better problem solving skills and who were more optimistic tended to trust others and themselves. These findings suggest that effective problem solving skills and optimism may decrease the risk of child abuse potential in adolescent mothers through the association with more adequate internal models.

The results supported the hypothesis that mothers with a history of childhood abuse or neglect would have more negative internal representational models. This implies that the parent-child model the mother developed as a child was carried into adolescence and is likely to be maintained through adulthood. Mothers with a history of childhood maltreatment were significantly different from mothers without previous abuse or neglect. Mothers with a history of maltreatment scored higher on all of the inadequate model components. These mothers also reported lower self-esteem, more depression, and less effective problem-solving. However, the two groups reported the same amount of optimism. The

association between self-efficacy and mothers' childhood experiences may be explained by the fact that internal models of relationships are associated with mothers' beliefs about whether their needs will be met (Crittenden, 1985). Mothers with inadequate models derived from childhood do not believe their needs will be met in problem situations, or situations where their needs are not being met. Optimism may be more closely associated with individual personality style, as opposed to more general beliefs about the self and others.

Mothers with a history of childhood abuse or neglect were also more likely to have insecure romantic attachment. The majority of the mothers who were classified as secure (78%) did not report neglect or abuse as a child. These mothers also reported adequate internal models, and, therefore, low risk for child abuse or neglect. However, all of the mothers classified as preoccupied reported a history of childhood maltreatment, and 50% of mothers classified as fearful-avoidant reported childhood abuse or neglect. These mothers, who reported a higher risk for child abuse and neglect, seem to have carried their inadequate models from childhood into adulthood, which were reflected in their relationships with their romantic partners.

Perhaps most interestingly, the romantic attachment results support the hypothesis that mothers with a history of childhood maltreatment can change their existing models if they are able to gain a sense of self-efficacy in problem-solving situations. Seventy-eight percent of mothers classified as dismissive-avoidant reported neglect or abuse as a child, but did not report neglecting or abusing affect. These mothers also reported more effective problem-solving, and although they did not trust others, they did trust themselves. Thus, self-efficacy in problem situations and a trust of self may predict which mothers with inadequate models from childhood will abuse or neglect their children.

Anxiety in relationships was related to all of the model components, except for adequate affect. Relationship avoidance was not related to any of the subscales. The strong relationship between anxiety and internal models suggests that although these mothers experience anxiety and are dissatisfied with themselves and their

relationships, they continue to seek close relationships. These mothers may seek comfort and pleasure in their romantic relationships, but because of their insecure attachment style, they may not find relationships truly satisfying.

Overall, the results of this study did not differentiate mothers with abusing affect from those with neglecting affect. Both abusing and neglecting affect were associated with a mistrust of self and others. Both types of affect were associated with risk factors, depression and low self-esteem, and with a lack of protective factors, optimism and effective problem solving. In addition, mothers with both neglecting affect and with abusing affect reported more anxiety in their romantic relationships. Thus, although Crittenden (1985) suggested that abusing and neglecting mothers have different sets of beliefs and coping styles in relationships, the results of this study suggest that these mothers have similar beliefs and behavior.

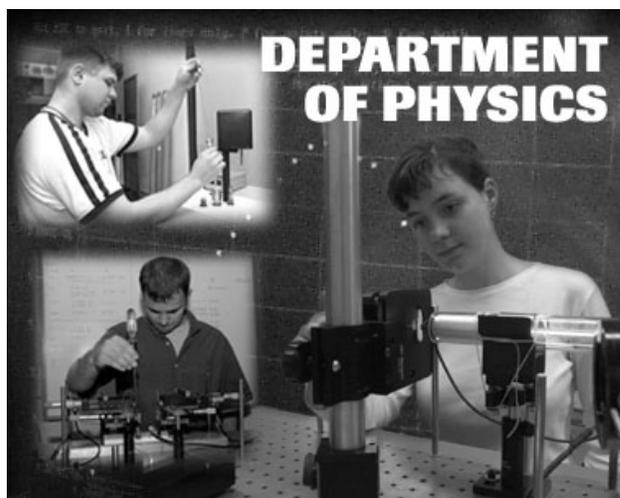
This study's major limitation was its lack of external validity. Although the results supported the model, the study would have more significant implications if it included mothers who actually engaged in child maltreatment. Another factor that limited this study's external validity was sample size. Certain characteristics may or may not be associated with negative affect and beliefs in a larger sample of teenage mothers. In addition to limiting external validity, the small sample size limited the range of hypotheses that could be tested. The hypothesis that low self-esteem and depression are mediators between childhood maltreatment and actual child maltreatment should be tested in the future with a larger sample.

This study has important implications for researchers and therapists who want to prevent child abuse and neglect. Now that we know some of the factors associated with dysfunctional internal models, therapists should focus on lowering rates of depression, increasing self-esteem, and teaching more effective problem-solving skills. By changing the mothers' beliefs and affect in relationships, perhaps we can prevent them from passing these dysfunctional models on to the next generation.

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