

The Impact of Stress on Cognitive Components of Child Abuse Potential

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The purpose of the present research was to test the effects of situational stress on the components of the cognitive behavioral model, including expectations, interpretations, and behavioral responses to child behaviors (Twentyman et al., 1985). It was predicted that parental abuse potential would be positively related to inappropriate expectations, to negative and internally caused interpretations of child behavior, and to negative parental responses. Second, it was expected that interpretations and responses would be more negative as child abuse potential increased. Sixteen mothers from a child abuse prevention and treatment program completed the Child Abuse Potential Inventory (Milner and Wimberly, 1980) and provided interpretations, evaluations, and responses to a set of vignettes depicting normal child behaviors. The data supported the hypotheses. As abuse potential increased, parent responses were judged as more controlling, punishing, rejecting, and aroused. High stress strengthened the magnitude of these responses. These findings were interpreted within the context of a cognitive behavioral model.

KEY WORDS: stress; child abuse potential.

INTRODUCTION

A review of the literature on child abuse reveals much progress in the development of theories to account for the origins and etiology of child maltreatment. The most widely accepted theories of child abuse range from personal functioning theories, such as psychoanalytic and learning theories, to systemic and social explanations, as suggested by theories of sociological

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stress and poverty. More recent conceptual work suggests that single-factor theories are inadequate to explain the complex etiology of child maltreatment. For example, another model postulates that it is the interaction of social stress (e.g., poverty) and a relatively low level of child development knowledge and parenting skill that is at the root of child maltreatment. The development of abuse cannot be understood without reference to the context (both social and situational) in which the abuse occurs (Garbarino, 1977). This concept has been extended to research that suggests that environmental factors (e.g., situational stress) interact with individual factors (e.g., cognitive interpretations) to provide the conditions for abusive behavior.

Individual cognitive interpretations and expectations are emphasized in the cognitive behavioral model of abuse developed by Twentyman *et al.* (1985). These researchers suggest a four-step sequence that accounts for the development of abusive behavior. First, the parent holds unrealistic expectations regarding developmentally appropriate behavior of children (Milner and Wimberly, 1980; Plotkin and Twentyman, 1982). Second, the child disconfirms the parent's expectations through normal childhood misbehaviors. Evidence in support of this assertion suggests that abused children showed more physical aggression and less compliance to parental requests than children in groups of neglectful and control families (Bousha and Twentyman, 1984). Third, the parent makes idiosyncratic interpretations of the child's behavior. Larrance and Twentyman (1983) reported evidence consistent with this assertion, in that abusive mothers judged their own children's behaviors more negatively than the behaviors of other children. Abusive mothers also tended to make faulty attributions about their children's successes and failures. For example, abusive mothers tended to attribute their children's successes to external sources while they attributed their children's failures to internal causes. Plotkin and Twentyman (1982) found that abusive mothers judged their children's behavior as significantly more aversive in comparison to judgments of a group of control mothers. Fourth, the parent engages in abusive behavior toward the child.

The abusive parent's aversion to child behavior may be further exacerbated by the high levels of structural and situational stress experienced by abusive families. There is a clear association between the experience of socioeconomic stress and child abuse (Steinberg *et al.*, 1981). Abusive families also report a higher level of stress associated with life events, such as relocations, employment changes, and family crises (Gaines *et al.*, 1978; Egeland, *et al.*, 1988). The impact of such life event stresses may be even stronger since they tend to occur in the absence of support from the community (Garbarino, 1976). These data present a picture of high levels of socioeconomic and life stress in the context of poor social support.

High levels of situational stress may also be implicated in the development of abusive behavior. Herrenkohl *et al.* (1983) reported that the circumstances that are associated with an abusive incident are most often of a short-term situational nature. Patterson and his colleagues refer to this acceleration as the cycle of coercion. Furthermore, Vasta (1982) suggested that the abusive parent's level of arousal (or situational stress) at the time of the incident serves as an initiator for escalating the intensity of punishment inflicted on a child. With respect to specific parental responses to child behaviors, Bauer and Twentyman (1985) reported that abusive mothers demonstrated stronger annoyance to all types of stressful situations (both child and non-child situations). These mothers did not respond more quickly but did respond with stronger negative reactions to stressful situations. Based on these data, the impact of stress and cognitive factors in a potentially abusive situation warrants further investigation.

The purpose of this research was to assess the effects of situational stress on the expectations, interpretations, and responses of a group of abusive mothers. Four hypotheses were tested. First, it was predicted that parental expectations of child behavior would be more rigid as potential for abuse increased. Second, it was suggested that interpretations of child behavior would be more negative as child abuse potential increased. Third, it was suggested that parent responses would be more controlling, punishing, rejecting, negative, and aroused as child abuse potential increased. Fourth, it was predicted that stress would affect parents differentially such that parental expectations, interpretations, and responses would become negative as child abuse potential increased. Thus, situational stress functioned as a risk factor that increased the strength of the hypothesized relationship. As an additional confirmation of the abuse status of the sample, the relationship of the number of child abuse risk factors and child abuse potential was assessed.

METHOD

Subjects

Fifteen Caucasian mothers and one African-American mother from a child abuse program participated in the study. The group was operated as an outreach program of a local child abuse and neglect service agency. Criteria for group participation were: (1) parental involvement in substantiated abuse cases, or (2) child discipline problems of such a serious nature that the parents were considered by professionals to be at high risk for abuse or self-referred. The purpose of the group was to provide social

support and parenting skills information to enhance parental ability to cope with common child care problems. The sample chosen for the study ranged from persons seeking help and referrals from professionals to substantiated abusers. Thus, the sample was predominantly a group of "at risk" mothers who varied from low to high in their child abuse potential.

Most of the mothers had not completed high school (mean educational attainment of 11.7 years) and had low incomes (mean annual income of \$12,188). The mean age of the mothers was 30.8 years. The majority of the mothers had small families, containing a mean number of 2.25 children who ranged in age from 6.9 years to 9.4 years. Of the sixteen mothers who participated in the study, three were married and 13 were single. Their scores on The Child Abuse Potential Inventory ranged from 54 to 382 which indicated a broad range of scores from minimal abuse potential to substantial abuse potential.

Instruments

The Child Abuse Potential Inventory

The Child Abuse Potential Inventory (Milner and Wimberly, 1979, 1980) was the primary measure of child abuse potential. The Child Abuse Potential Inventory (CAP) is a client-administered screening instrument that consists of 160 items structured in a forced-choice format. Mothers were asked to agree or disagree on a four-point scale with items presented. The CAP Inventory was appropriate for this sample of mothers because of the instrument's third-grade reading comprehension level (Fry, 1963; Milner and Wimberly, 1980). Scores are weighted and can range from 0 to 486. Research suggests that the instrument correctly classified 96% of a sample of 130 cases as abusers or non-abusers (Milner and Wimberly, 1980). The remaining proportion of cases from this sample were mislabeled as false negative classifications. Supportive predictive validity data from a longitudinal study are available (Milner *et al.*, 1984). Estimates of reliability appear to be adequate on the basis of psychometric properties cited in Milner (1986). Internal consistency reliabilities for the abuse scale range from 0.92 to 0.96 for groups of abusive ($n = 152$) and comparison parents ($n = 2062$). Estimates of test-retest reliability for 1-week (0.90), 1-month (0.83), and 3-month (0.75) intervals were acceptable. Sample items from the CAP Inventory included "Spanking that only bruises a child is okay," and "People expect too much of me," or "A crying child will never be happy."

Risk Criteria

A second measure used to confirm child abuse potential was an interview based on a checklist of risk factors designed and employed by Ayoub and Pfeifer (1977; Ayoub *et al.*, 1983). On the basis of past research, presence of such risk factors is likely to have a negative impact on family functioning. In fact, past research has supported a link between risk factors and the incidence of child abuse and neglect. Mothers were screened for risk factors such as biological risk, psychological risk, and social or interactional risk. Biological risks for the children included premature birth, handicaps, or developmental delay. Psychological risks included parental history of emotional problems, substance abuse, or social isolation. Social risks included factors such as unemployment, poverty, or overcrowding in the home environment. Adolescent parenthood at the birth of the child also placed the mother-child dyad at risk for maltreatment. Interactional risks included marital or family conflict or problems with family of origin.

Parenting Situations Vignettes

The Parenting Situations Vignettes were constructed to represent a factorial structure containing two levels of parental stress at the time of interaction with the child (high and low), two levels of perceived intentionality of child behavior (accidental and intentional), and two levels of evaluation (positive and negative). The procedure for developing the vignettes is described below.

Monroe and Merluzzi (1983) interviewed nonabusive mothers who were not members of the research sample to generate a list of child behavior situations that would be typical of school-aged children. Two questionnaires, the Rating Parent Behavior Questionnaire and the Rating Children's Behavior Questionnaire, were developed on the basis of these data. The Rating Parent Behavior Questionnaire consisted of 64 items which presented typical behaviors of parents. Subjects were asked to rate on a scale from 1 (low stress) to 8 (high stress) the level of perceived stress associated with each behavior. The Rating Children's Behavior questionnaire consisted of 81 child behaviors that subjects were asked to rate the intentionality (accidental to intentional) and evaluation of the child behavior.

Twenty mothers completed both (positive and negative) questionnaires. Those items with mean ratings that fit the conditions of being less than or equal to 2 or greater than or equal to 6, and also had standard deviations of 2.0 or less, were selected for inclusion. Selected parent and child behaviors were then combined into parent-child vignettes, producing

a factorial structure of two levels of parental stress (high and low), two levels of perceived intentionality of the child's behavior (accidental intentional), and two levels of evaluation of child behavior (positive and negative).

Finally, two lists of the Parenting Situations Vignettes (Monroe and Merluzzi, 1983) were formed by randomly assigning the two vignettes representing each cell of the Stress \times Intentionality \times Evaluation design to separate lists. The four pilot vignettes in which the child's behavior was rated neutral and only parental stress varied were also randomly assigned to the separate lists, so that one high stress and one low stress child-neutral item was included in each of the two lists. The order of vignettes within each list was also determined by random assignment. An additional vignette was chosen as a warm-up item to appear first in both lists. Responses to this vignette were considered practice responses and not scored. Thus, 11 vignettes were included in each list. In an effort to increase the authenticity of the vignettes, these were presented to the mothers by a child actor on an audiotape. An example of an item in which situational stress is low, and the child behavior is intentional and positive is: "You are relaxing outside enjoying the sun and cool breezes. Your child comes by and asks you to take him or her to a nearby park to play. Child: Mommy, will you take me to the park?" In contrast, an item in which situational stress for the parent is high, and the child behavior is accidental and negative is: "You have a splitting headache and haven't been able to get rid of it in spite of taking aspirin. Suddenly you hear glass shattering. You go out to look only to find that your child has hit a baseball through the window while playing outdoors. Child: The ball broke the window!" Following is an example of an item in which situational stress is high, and child behavior is intentional and positive. "You have just lost your job. You pull in the driveway and start walking toward the house. Your child sees that you've arrived home and comes running to meet you because he or she is glad to see you. Child: I'm glad you're home, Mommy!"

Parental Expectations

The mothers' expectations of the children's behavior were assessed by the Parental Expectations questionnaire (Monroe *et al.*, 1984). The Parental Expectations Questionnaire consisted of 20 items which depict expectations which are implicit in the Parent Vignettes. For example, in the item "You have a splitting headache and haven't been able to get rid of it in spite of taking aspirin. Suddenly you hear glass shattering. You go out to find that your child has hit a baseball through the window while playing outdoors."

The expectation that is derived from this item is that children *should not* break or damage things. An expectation was derived for each situation presented in the vignettes.

Three types of parental expectations were extracted from this measure: general expectations, situational expectations, and expectation change. General expectations were assessed in a pretest administration of the Parental Expectations Questionnaire. Situational expectations were presented one at a time so that mothers could provide an expectation of child behavior as situational stress level varied. Expectations were scored by assessing the appropriateness of a given child behavior defined as the number of millimeters away from the left (appropriate) endpoint and toward the right (inappropriate) endpoint a subject placed an \times . The mid-point of the line was defined as the cutoff point for appropriate/inappropriate child behavior. General expectations were assessed in a pretest measure of the appropriateness of behavior derived from the Parental Expectations Questionnaire. Situational expectations were assessed by rating the appropriateness of behavior in the context of varying levels of stress (high or low). Expectation change was defined as the difference between general expectations and situational expectations for each Parenting Situation Vignette.

Parental Interpretations

The mothers' interpretations of the children's behavior in the vignettes was assessed by asking the mothers why the child was behaving in such a way. These responses were audiotaped. Maternal explanations for child behavior were scored on four dimensions including evaluation (positive vs negative), intentionality (accidental vs intentional), stability (situational vs stable), and attribution of control (external vs internal). Each dimension was rated on an 8-point scale. For example, the rating scale for evaluation of behavior ranged from positive, extremely favorable (1) to more positive than negative (4) and more negative than positive (5) to negative or extremely unfavorable (8).

Parent Responses

Mothers were asked to imagine that the child in the audiotape was the subject's own child, and that this child was about 6 years old. Parents were asked to respond verbally by saying exactly what they would say and do if they experienced a similar situation.

Two trained raters coded parental verbal responses to the audiotaped vignettes on five dimensions designed to assess potential for abusive parenting: noncontrol vs control, reward vs punishment, positive vs negative affect, low vs high arousal, and acceptance of child vs rejection of the child. All five dimensions were rated on 8-point scales ranging from very weak to very strong on the characteristic. For example, the rating scale for the non-control vs control dimension was defined as follows:

1. Laissez-faire (no intervention), e.g., "I wouldn't say anything about it."
2. Verbal intervention of any kind, e.g., "Now is not the time for jumping."
3. Polite request, e.g., "Please settle down."
4. Request for compliance, e.g., "I need for you to sit on the couch without jumping."
5. A directive in authoritarian tone, e.g., "Quit jumping right now. I don't want to hear any excuses."
6. A directive delivered firmly, as an order, e.g., "No jumping or else."
7. Directive and mild threat for implementing punishment, e.g., "Stop jumping or you're going to get it."
8. Directive and threat, e.g., "If you don't quit jumping, you'll get a spanking you won't forget."

Raters were blind to the number of child abuse risk factors and CAP scores of the participants. The remaining categories, rating scales, and their definition are listed in the appendix. For the purposes of determining inter-rater reliability, 20% of the transcripts of the total subject pool were recoded independently. Raters were unaware of the purpose for recoding the sample of transcripts chosen for assessment of reliability. Following an assessment on each dimension, raters reviewed the coding scheme and attempted to resolve any points of misinterpretation. Reliability estimates were calculated on a point-by-point agreement method. Specifically, the method involved calculating the number of occasions on which both observers agreed on a rating for the dimension divided by the total number of occasions $\times 100$. The percentage of agreement between the two independent raters ranged from 0.77 for the affect dimension to 0.86 for the control dimension.

Data Collection Procedures

Session 1

At the first session, demographic data were collected and the CAP Inventory was administered. The Parental Expectations Questionnaire was also administered.

Session 2

The second session was conducted individually in a home interview format. First, mothers were interviewed to assess presence of risk factors contained in the checklist based on criteria developed by Ayoub *et al.* (1983). Second, a set of the dramatized Parenting Situations Vignettes was presented one item at a time by audiotape. Mothers were instructed to imagine that the child in the situation was the subject's own child, and that this child was about six years old. Mothers were asked to respond by saying exactly what they would say and do if they experienced the same situation. Third, each vignette was replayed one at a time so that mothers' interpretations and expectations could be assessed. Interpretations were assessed by asking the mother why the child was behaving the way presented in the vignette. These responses were audiotaped. The items derived from the Parental Expectations Questionnaires were repeated, and mothers were asked to rate their expectations of the child's behavior given the level of stress specified in the Parenting Situations Vignettes. The assessments of interpretations and expectations were presented in random order for the mothers.

Design

The design was a $2 \times 2 \times 2$ factorial mixed plot design with two levels of stress, two levels of intentionality, and two levels of evaluations. CAP Inventory scores were used as covariates. A repeated measures approach was employed to assess expectations, with two levels of time (Time 1 and Time 2). Time 1 was a measure of general expectations and Time 2 was a measure of situational expectations.

RESULTS

In order to confirm the abuse status of the subjects, the relationship of child abuse potential scores to total number of child abuse risk factors was assessed. Child abuse potential (CAP) scores were significantly related to total number of risk factors present, using Milner and Ayoub's (1980) criteria for risk [$r(16) = 0.7411, p < 0.001$]. These results confirmed that the greater the number of risk factors, the higher the CAP scores. Mothers reported presence of multiple child abuse risk factors ($x = 10.31$) at the time of the interview. The range of the CAP Inventory scores was adequate to permit the data analyses. (The range of the scores on the CAP Inventory was from 54 to 382.)

Delaney and Maxwell (1981) have shown that analysis of covariance (ANCOVA) is appropriate with repeated measures designs and allows for more sensitive analyses compared to procedures that artificially dichotomize continuous variables. The present study employed a statistical approach that is mathematically equivalent to ANCOVA in which the correlation of each effect with the covariate was computed.

Expectations

General Expectations

Scores from the Parental Expectations Questionnaire were transformed into Z scores to provide a measure of how extreme parental ratings were regarding whether a child generally should or should not engage in a specific behavior. The Z scores were then correlated with the CAP to test the hypothesis that general expectations become more extreme as child abuse potential scores increase. There was no tendency among this sample of mothers for high child abuse potential scores to be related to extreme general expectations ($r(16) = -.2591, p = 0.16$).

Situational Expectations

When expectations were analyzed in context of situational stress, there were main effects of stress and intentionality. The effect of stress [$F(1,15) = 57.048, p < .0001$] indicated that the mothers' expectations were more restrictive in higher stress situations and more permissive in lower stress situations. The intentionality effect [$F(1,15) = 62.89, p < .001$] suggested that they had stronger expectations that the child perform the given behavior in intentional situations compared to situations in which the behavior was accidental. This effect was stronger as abuse potential increased [$r(16) = .477, p < .05$]. The three two-way interaction effects were all found for situational expectations. The stress by intentionality effect ($F(1,15) = 7.518, p = .015$), the stress by evaluation effect ($F(1,15) = 5.073, p = .040$), and intentionality by evaluation effect ($F(1,15) = 28.477, p < .0001$) were all submitted to tests of simple effects.

As can be seen in Table I, each of the interaction effects was the result of one cell differing from the others. Low stress intentional behaviors were expected to occur (more toward "should" endpoint) than high stress intentional, high stress accidental, or low stress accidental behaviors. High stress negative behaviors were more restricted than high stress positive, low stress positive, or low stress negative behaviors. Accidental negative be-

haviors were also less expected to occur than other combinations of intentionality and evaluation.

Expectations Difference Scores

Difference scores were computed for the situational expectations minus corresponding general expectations scores. The ANCOVA revealed a stress effect on changes in expectations of child behavior [$F(1,15) = 7.803, p < 0.01$]. The direction of the stress effect indicated that low stress situations resulted in greater differences between situational and general expectations compared to high stress situations. In comparison to general expectations (expectations of child behaviors out of situational context), mothers tended to show more permissive expectations in the context of low stress and more restrictive expectations in the context of high stress.

In summary, the most restrictive expectations were reported for two contexts: accidental negative behaviors and negative behaviors in context of high stress. Low stress situations in which the child's behavior was intentional were associated with the most permissive expectations.

Interpretations

Evaluation

Positive child behavior was evaluated more positively than the negative child behaviors and negative behavior was evaluated more negatively than the positive child behaviors, thus confirming that mothers associated the intended affective state with each vignette. There was no significant relationship between this effect and child abuse potential. There was, however, a main effect of stress; as abuse potential increased, evaluations of child behavior were more negative in high stress situations than in low stress situations.

Intentionality

As child abuse potential increased, child behaviors were viewed as more intentional in the context of high stress and less intentional in the context of low stress [$F(1,15) = 21.105, p < 0.001$].

Table I. ANCOVA and Relationship to Abuse Potential Situational Expectations

Source	<i>df</i>	<i>F</i>	<i>r</i>
Constant	1	--	-0.0179
Stress	1	57.048 ^a	0.0056
Intentionality	1	62.895 ^a	0.4727 ^b
Evaluation	1	3.883 ^b	0.0188
Stress× Intent	1	7.518 ^b	0.2748
Stress× Eval	1	5.073 ^b	-0.0190
Intent× Eval	1	28.477 ^a	0.1024
Stess× Int× Eval	1	0.098	0.1393

^a*p* < 0.001.^b*p* < 0.05.

Stability

For the judges' ratings of the dimension of stability (situational vs stable nature of behavior), no significant effects or interactions were found. In addition, none of the stability effects was related to abuse potential.

Attribution of Control

No effect of stress was found on interpretations of control, and there was no relationship between abuse potential and stress. Intentionality did have an effect on attributions of control ($F(1,11) = 104.587, p < 0.001$). The intentionality effect was also related to abuse potential ($r(12) = 0.6033$). Attribution of control were more internal in situations in which the child's behavior was intentional than in those in which the child's behavior was accidental, as would be expected, and this effect became stronger as abuse potential increased ($r(16) = 0.6033, p < 0.05$).

The evaluation main effect was also found for the attribution of control measures ($F(1,11) = 11.472, p < 0.04$). Overall, attributions were more internal with positive evaluation of the child's behavior, but the relationship did not become more salient at higher levels of abuse potential.

The intentionality by evaluation interaction was found for attribution of control measures ($F(1,12) = 6.838, p < 0.05$). A test of simple effects revealed the same pattern of interpretations found for the intentionality ratings. There was a difference between the attribution of control ratings for accidental positive versus accidental negative behaviors, but not for positive versus negative intentional behaviors. For accidental situations, more internal control was attributed to positive behaviors than to negative behaviors. No other effects or interactions were significant, or related to

abuse potential for the interpretations measures. In addition, none of the constants (mean ratings) for the interpretations measures of evaluations, intentionality, stability, or attribution of control was related to abuse potential.

Parent Responses

As abuse potential increased, parent responses were rated as significantly more controlling [$F(1,15) = 0.501, p < 0.05$], punishing [$F(1,15) = 0.602, p < 0.05$], aroused [$F(1,15) = 0.635, p < 0.01$], and rejecting [$F(1,15) = 0.718, p < 0.001$]. Abuse potential was not significantly related to negative affect. Stress and abuse potential showed an interaction in which responses became significantly more controlling and more rejecting under stress as abuse potential increased. Higher abuse potential subjects were rated as more aroused, particularly by accidental negative behaviors, and distinguished less between positive and negative child behaviors in becoming aroused. Results for the parent response dimensions are presented in Table III.

The effects of stress produced parent responses that were more punishing [$F(1,15) = 5.08, p = 0.04$] and rejecting [$F(1,15) = 10.59, p = 0.005$] than responses for situations in which the context was stress-free. Stress level interacted with parental evaluation such that mothers showed more negative reactions to positive child behaviors in the context of high stress than low stress [$F(1,15) = 44.72, p < 0.001$]. Parental evaluations of negative child behaviors were consistently negative regardless of stress level. Negative behaviors resulted in parent responses that were more controlling [$F(1,15) = 127.86, p < 0.0001$], more punishing [$F(1,15) = 44.72, p < 0.0001$], and more rejecting [$F(1,15) = 10.59, p < 0.005$]. Parental responses to negative child behaviors were also marked by stronger negative affect [$F(1,15) = 66.91, p < 0.0001$] and increased arousal [$F(1,15) = 17.79, p = 0.001$].

DISCUSSION

The present research represents an attempt to demonstrate the hypothesis that child abuse potential was related to three components of the cognitive behavioral model (Twentyman *et al.*, 1985). Specifically, it was predicted that high abuse potential was related to inappropriate expectations of child behavior, negative interpretations, and negative responses to child behavior. Further, it was hypothesized that parent responses would

Table II. Interpretations Dimensions: ANCOVA and Relationship to Abuse Potential

Source	df	Evaluation		Intentionality		Stability		Attribution of Control	
		F	r	F	r	F	r	F	r
Constant	1	—	0.2659	—	-0.2015	—	-0.3009	—	-0.2172
Stress	1	0.296	0.5340 ^a	4.069	0.4259	1.139	0.3637	0.755	0.3234
Intentionality	1	0.993	0.1462	61.907 ^b	0.4643	1.332	-0.2556	104.587 ^b	0.6033 ^a
Evaluation	1	132.588 ^b	0.0878	29.464 ^b	-0.3170	0.004	0.3454	11.472 ^c	0.0470
Stress × Intent	1	0.000	-0.1267	0.957	-0.1779	1.574	-0.4164	0.087	-0.3121
Stress × Eval	1	0.052	0.3389	0.261	-0.2530	1.031	0.0627	0.180	-0.3533
Intent × Eval	1	11.758 ^c	0.3918	9.568 ^c	-0.0282	0.119	0.3798	6.838 ^a	0.0775
Stress × Int × Eval	1	1.440	-0.1676	0.059	0.0788	0.573	-0.1860	1.168	0.1104

^ap < 0.05.

^bp < 0.001.

^cp < 0.01.

Table III. Parent Response Dimensions: ANCOVA and Relationship of Effects to Abuse Potential

Source	df	Control		Reward/Punish		Affect		Arousal		Accept/Reject	
		F	r	F	r	F	r	F	r	F	r
Constant	1	—	0.501 ^a	—	0.602 ^a	—	0.360	—	0.635 ^b	—	0.718 ^c
Stress	1	3.973	0.531 ^a	5.081 ^a	0.384	2.820	0.383	3.271	-0.011	10.591 ^b	0.564 ^b
Intentionality	1	.657	0.194	0.783	0.220	0.195	-0.330	1.728	0.078	6.238 ^a	0.233
Evaluation	1	127.860 ^c	-0.426 ^a	44.718 ^c	-0.066	66.916 ^c	-0.092	17.794 ^c	-0.472 ^a	44.130 ^c	-0.120
Stress × Intent	1	1.115	-0.295	0.006	-0.376	2.755	-0.206	4.000	0.3176	1.215	-0.3540
Stress × Eval	1	10.478 ^b	0.068	3.933	0.205	0.602	0.214	0.568	-0.092	3.360	0.218
Intent × Eval	1	1.749	-0.199	0.120	0.086	0.302	-0.074	0.023	0.489 ^a	0.306	0.092
Stress × Int × Eval	1	0.322	-0.258	3.076	0.089	3.343	-0.128	0.268	0.035	5.172	-0.159

^ap < 0.05.

^bp < 0.01.

^cp < 0.001.

be more negative, more controlling, more punishing, more rejecting, and more highly aroused as child abuse potential increased. It was hypothesized that stress would affect parents differentially such that expectations, interpretations, and responses would be more negative as stress increased, particularly for those with higher abuse potential.

Expectations

The hypothesized relationship between child abuse potential and rigid expectations was confirmed partially by the data. For this sample, the general expectations were not significantly related to child abuse potential scores. When the child behaviors were placed in situational context of high or low stress, however, high stress situations were significantly related to more rigid expectations while low stress situations were related to more permissive expectations. High stress situations were related to child abuse potential. Further, the situations that were associated with most restrictive expectations were accidental negative behaviors and negative behaviors in the context of high stress. The situations associated with most permissive expectations were intentional behaviors in the context of low stress.

Rigidity and inappropriate expectations for child behavior are consistent with the data on expectations for child behavior among abusive parents. Plotkin and Twentyman (1982) reported that abusive parents showed either excessively high expectations or extremely low expectations for their children's behavior. One finding of the present study that extends previous research is that the mothers in this sample showed differential expectations of child behavior depending upon the level of stress. Under low stress conditions, mothers expressed more tolerant attitudes toward their children's behavior. One plausible explanation for this finding is that such mothers were involved in an intervention group that emphasized toleration of child behavior. The tendency of the mothers to be more restrictive under high stress is consistent with the findings by Bauer and Twentyman (1985) and others (Frodi and Lamb, 1980) that abusive parents may be hypersensitive to arousal in response to stressful child behaviors (e.g., crying). Similarly, researchers reported that cases of physical maltreatment tended to be associated with sudden, unexpected occurrences of normal misbehaviors by children (e.g., crying, whining, defiance, soiling). Abusive parents who experience a high level of situational stress may be at higher risk for abuse than those who are insulated from such stressful episodes.

Interpretations

Across all levels of abuse potential, there was no significant relationship between parental attributions and abuse potential for positive and negative child behaviors. Stress did have an impact on parental attributions for child behavior, however. Under high stress, child behaviors were rated more negatively by individuals with higher abuse potential. In a study that compared the interpretations of abusive mothers in comparison to those of non-abusive mothers, abusive mothers judged the child's behavior to be significantly more aversive (Plotkin and Twentyman, 1982). Similarly, Stringer and La Greca (1985) reported significant differences between mothers with high child abuse potential scores and mothers with low child abuse potential scores on ratings of their children's behavior.

Parent Responses

Individuals with higher abuse potential showed responses that were more controlling, more punishing, more rejecting of the child, and higher in level of arousal than the responses for individuals with lower abuse potential. Mothers with high abuse potential showed more controlling responses and stronger arousal in general, and these mothers differentiated less in evaluating children's behavior. As abuse potential increased, mothers were more controlling, more rejecting, more negative, and more punishing in the context of higher stress. Stress as a context did not produce stronger arousal within the mothers' responses. Under higher stress, accidental child behaviors were related to increased rejection while intentional behaviors led to greater rejection under low stress. Accidental negative behaviors were related to stronger arousal than accidental positive behaviors.

That parents high in abuse potential would respond in more controlling ways to child vignettes is not surprising in view of the data on characteristics of parent-child interaction (Bousha and Twentyman, 1984; Burgess *et al.*, 1981; Trickett and Kuczynski, 1986). The evidence from these studies suggests that abusive parents were likely to exhibit aggressive and strongly coercive styles of interaction, a finding that was replicated in this study. Potential for arousal has also been cited as a contributor to the cycle of coercion that characterizes abusive family interaction (Vasta, 1982).

The parents in this sample were strongly punitive in their responses toward their children. These findings are also consistent with those of other researchers (Trickett and Kuczynski, 1986; Disbrow *et al.*, 1977). In

a study of parental responses to normal childhood transgressions of abused children (Trickett and Kuczynski, 1986), abusive parents reported the use of punishment more frequently than a comparison group of parents. Abusive parents also reported use of severely punitive disciplinary tactics, such as striking the child with an object or pants-down spanking while control parents reported the use of milder forms of punishment such as hand-slapping (Trickett and Kuczynski, 1986). Disbrow *et al.* (1977) reported that abusive parents differed from non-abusive parents in choice of disciplinary tactics. Abusive parents tended to choose physical punishment more frequently than nonpunitive tactics such as distraction or ignoring.

The findings from this study did not support a relationship between affect and child abuse potential. One speculation is that the audiotaped method of recording responses did not permit coders to view visual and non-verbal information. Gottman (1979) reported that non-verbal cues were most critical in judging type of affect for respondents. The analysis in the present study may have been skewed in the direction of conservative estimates based only on content of parental responses. Also, a limitation of the present study was the small sample size. It would be advantageous to include a larger, more heterogeneous sample of abusive parents. The range of scores on the CAP would suggest that the sample is diverse on child abuse potential. However, all subjects were in a treatment program. There is no doubt that inclusion of a non-treatment sample of mothers would enhance future research efforts in this area.

While much research supports current models of child maltreatment, research that attempts to account for factors that explain the actual development of an abusive incident is limited. The explanation for the mechanism that pushes an ordinary disciplinary incident into abuse warrants further investigation. Vasta's (1982) theoretical work on dual-components (stress and arousal) of child abuse and Patterson's (1983) program of research on the coercive process are two bodies of work that address the issue of the development of abusive behavior. These models suggest important questions about the impact of situational stress and other contextual factors in the development of abusive behavior.

Future research would benefit from a programmatic effort to test hypothesized relationships among variables, such as expectations, interpretations, and parenting behaviors. Moreover, these relationships should be assessed within social context that accounts for the effects of situational factors in the development of an abusive episode. Finally, use of an observational methodology would provide more direct information about behavioral interactions among abusive families.

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