

## SPECIAL SECTION

### Recent Studies in Child Abuse

#### Parent-Child Interactions in Abusive and Nonabusive Families

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Parent-child interactions of 439 parent-child dyads were studied. These included 182 interactions with maltreated children, 199 interactions with maltreating adults, with the remaining interactions from control families served by child welfare agencies, day-care programs, Head Start, and private nursery schools. Income was found to be a significant determinant with parental behavior being more child-centered and supportive at the upper income level, and more parent-centered and child rejecting at the lower income level. Maltreatment was found to be associated with more parental rejection and less child warmth, over and above the effects of income level. The results are discussed in terms of an ecological model of child maltreatment and developmental implications for the victims of maltreatment.

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The hypotheses tested in the present report are based on an ecological conceptualization of child abuse in which poor parental coping skills expressed in neglecting and abusive behavior are felt to reflect a dearth of inner and external resources as well as a cultural environment that condones the use of force as a conflict-resolution behavior. The significance of the quality of the parent-child interaction in the occurrence of child maltreatment has often been noted (cf. Parke and Collmer (1975)). Until recently, however, such interactions have infrequently been the object of research. Those studies completed to date (e.g., Burgess and Conger (1976, 1977), Dietrich (1977), Gaensbauer and Sands (1979)) have generally found more negative qualities and fewer positive qualities to interactions in families where there is maltreatment. They have not, however, proceeded to dis-

tinguish two issues which have important implications for the child. The first involves those qualities of the parent-child interaction which provide the context for an abusive incident. The second consists of those qualities of the interaction which have implications for the longer-term development of the child. The present report, while focusing on the former issue, seeks to delineate more specific qualities of the interaction and by so doing provide a basis for pursuing the second issue.

#### The Role of Interaction Behaviors

Burgess and Conger (1976, 1977) found that abusive parents initiated fewer contacts with their children. These parents were less likely to interact on a physical level with their children, and the children likewise touched their parents less than did control children. In the interactions that did occur, there were more negative and fewer positive interactions, as compared to nonabusive controls. Dietrich (1977) reported less quantity and variety of stimulation as well as greater passivity on the part of abusive mothers and a tendency to draw back from physical contact with their infants. Gaensbauer and Sands (1979) stressed distorted affective communication on the part of abused and neglected infants. These disturbances were attributed to "dysynchronous, unsatisfying interactions with caretakers beginning very early in the child's life" (p. 248) which then have their own destructive effect on the interaction pattern.

Kadushin and Martin (1981), in their summary of

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case record survey results, tend to stress the provocative role of the child in eliciting from the parent an abusive response. Herrenkohl et al. (1983a) on the other hand, found that the circumstances of physical maltreatment involved parental overreaction to behavior of the child, such as the child's refusing to do as asked, which was irritating to the parent but part of the ordinary range of normal behavior.

The present report considers both issues, that is, the degree to which abused children are particularly provocative and the degree to which abusive parents are especially aggressive in their response to their children.

### **The Role of Social Status**

The impact of socioeconomic status (SES) on the quality of the parent-child interaction has also been described in the literature. Studies of parent-child interactions using dyads from lower and middle SES families have demonstrated the influence of social class on speech patterns, discipline practices, and teaching styles (Bee et al., 1969; Hess and Shipman, 1965; Kamii and Radin, 1967; and Schoggen and Schoggen, 1971). In a review and reevaluation of the social class and socialization research, Wandersman (1973) concludes that coercive and physically assertive techniques are more frequently used by lower-class mothers, while guiding and verbally orienting techniques are more frequently used by middle-class mothers who typically emphasize "responsiveness and reciprocity in interaction."

Considerable research on child maltreatment has emphasized the role of poverty in creating the context for the occurrence of child abuse and neglect (e.g., Gil (1981), Elmer (1981), and Pelton (1981). Poverty, moreover, has been linked to distinctive consequences for children's physical health (Werner et al., 1971), mental health (Srole et al., 1978), and academic performance (Coleman et al., 1966). Elmer's (1981) study found little to distinguish the family environment of abusive from nonabusive low SES families, or the developmental progress of abused and nonabused children from these families.

### **Focal Issues and Questions**

The research reported here examined the coping strategies of both abusive and nonabusive families with young children aged 16 through 78 months. The objective was to determine what qualities characterized parent-child interactions in families in which there had been child maltreatment. It was predicted that maltreating parents would exhibit greater rejection, greater control, and less positive encouragement and reinforcement of their children as compared to nonabusive parents. Children of maltreating parents

were expected to exhibit less affection and positive involvement with their parents, less involvement in the task, and generally more negative affect as compared to control children. The further expectation was that these qualities would be identified in the interaction of abusive parents and their children even after income level was taken into account.

## **Method**

### *Procedure*

The study of parent-child interactions was undertaken in a two-county area of eastern Pennsylvania and was conducted in the home in the context of a play session. Three tasks were used: a set of puzzles for parent and child to put together, Play-doh® or blocks for parent and child to play with and a book for parent and child to read. Two observers conducted the sessions and used two audiotape-recorders: one to cue the observers at 10-second intervals, the other to record the verbal interaction between parent and child. During the session, one observer coded the nonverbal behavior of the child, and the other, the nonverbal behavior of the parent. Verbal behavior was coded after the session. Each task was continued for 5 minutes (30 ten-second intervals). There was a 1-minute warm-up period at the beginning of the first task. The tasks occurred consecutively with the only break being the time used to introduce the next task. At the conclusion of the interaction, each observer rated the overall behavior of the person observed on a number of dimensions.

Although the presence of observers and tape recorders created a somewhat artificial situation, both parent and child appeared to become comfortable quickly. The home environment was particularly important in reducing the artificiality of the situation.

### *Subjects*

Participants were solicited from five groups of families: those who had one or more abused children and had received less than a year of child welfare services for abuse; families not served for abuse but who were receiving child welfare protective services; families involved in a Head Start program; families served by a day care program; and middle-class families with children in a private nursery school. The abuse, protective service, and Head Start families were largely low income families, many of whom received public assistance.

Analysis of child welfare case records indicated that a number of the neglectful, protective service families also evidenced physically abusive behavior toward their children. In addition, neglect was described in the case records among the physically abusive families, and

records of both groups included descriptions of discipline methods which were not severe enough in the results caused to be legally cited as physical abuse, but were considered to be severe enough to be potentially hazardous to the children involved (e.g., beating with sticks or belts). Thus, parents in all families receiving services from child welfare agencies were coded as harshly disciplining and/or neglecting or neither according to the presence or absence in the case records of evidence of neglect and harsh discipline. One hundred and eighty-two interactions involved children who were targets of maltreatment; 54, harsh discipline alone; 78, neglect alone; and 50, both. One hundred and ninety-nine interactions involved maltreating adults; 67 who used harsh discipline only; 73, neglect only; and 59, both.

There were a total of 439 interactions observed, and a total of 259 families participated in these interactions. Of the interactions, 229 involved male children and 210, female; 89 interactions comprised male adults and 350 involved female adults. The average age of the children was 49.5 months, the youngest being 16 months and the oldest 78 months. The average income level was \$780 per month with a range from \$200 per month to over \$1900 per month.

### Measures

#### *Definition of Behavior Categories*

Twelve verbal and 16 nonverbal behaviors were selected for observation. A total score for each behavior was arrived at by counting the number of 10-second intervals in which a behavior occurred. The scored categories were factor analyzed separately for parents and children. A principal components analysis with Varimax rotation was used. A five-factor solution was chosen as most meaningful for the parent, while the total number of intervals of speaking was kept as a separate dimension. A six-factor solution was chosen for the child, again, with the total number of intervals of speaking kept as a separate dimension.

The five parent factors were: *negative or controlling behaviors*: physically aversive behavior (e.g., hitting), anger, criticizing, distress, hindering the child's efforts, directing child, rejecting child verbally, threatening the child with punishment; *task supportive behaviors*: verbal approval, correcting coaxing, helping; *miscellaneous talking*: questions to observers, negative statements about self, positive statements about self, irrelevant statements to observers, seeking direction from the child; (nonverbal) *agreeing and disagreeing*: and *positive affect behaviors*: looking at child's face and into child's eyes, affectionate contact, smiling or laughing.

The six child factors were as follows: *task involvement*: verbal approval, directing parent, negative self-

statements, correcting parent, positive self statements, seeking direction from parent, coaxing, pointing; *negative behaviors*: aggression toward self and objects, physically aversive behavior toward parent, distress, hindering parent's efforts, anger, avoiding parent, criticizing parent, rejecting parent verbally; *visual behaviors*: looking at parent's face or into parent's eyes, nonverbal agreement and nonverbal disagreement; *talking to observer*: irrelevant statements and questions to observers; *positive affect*: affectionate contact, smiling or laughing; and *child helps other*.

The average interobserver reliability for 16 observations was 96% when percentage of agreement was computed using all intervals (cf. Lipinsky and Nelson (1974)).

#### *Observer Ratings of Behavior*

After each parent-child interaction, each observer rated parent or child on each of a number of dimensions. Each item was rated on a four-point scale. Anecdotal notes available for 355 of the total 439 interactions were rated (1 = rejecting to 6 = supporting) separately by two psychologists (E.C.H. and L.T.) who achieved consensus ratings for each interaction. The observer ratings were also factor analyzed separately for parent and for child. A three-factor solution was chosen as most meaningful for each. The factors were reasonably similar for both parent and child. The factors were: *nervousness*: nervous about self, embarrassed about other, and—for the parents—frustrated with the task; *warmth*: achievement oriented, comfortable with the other, enjoyed self, involved with the other, warm, teased other, facilitated other's work, and nondetached from other; and *hostility*: frustrated with other, controlling of other, hostile toward other, irritable and impeding other's work, for both parent and child and in addition, for the child, this factor included ratings on frustration with the task, self-abuse, object abuse, lack of orientation to the task.

Calculating reliabilities by computing correlations between the ratings by one observer and the ratings of the same characteristics by the other observer resulted in correlations which ranged from 0.64 to 0.52.

To develop scores on each factor, observation categories and ratings were standardized and combined by summation.

#### *Statistical Procedures*

The present analyses examine the relationship between maltreatment and the quality of interaction between parent and child. Whether each individual in the dyad was a perpetrator or target was dichotomously coded on the basis of case record data available for all families who received services from the child welfare agencies. Interrater reliability for the coding

of case record incidents was  $r = 0.87$  (Herrenkohl et al., 1983a). Perpetrators and targets were also categorized according to the particular type of maltreatment noted in the record, i.e., neglect and/or harsh physical discipline.

Stepwise multiple regression was used and the following sets of variables were entered into the analysis in order: 1) the total number of intervals scored in the interaction (to control for the variation in length of interaction session that resulted from difficulties in persisting with the tasks among some dyads); 2) income level (to examine the influence of SES on the quality of the interaction); 3) sex of parent, sex and age of child; and 4) perpetrator or target status of the individual—including type of maltreatment.

### Results

#### Socioeconomic Status

Family income level (Table 1) was significantly related to almost all the parent factors (the one exception being the "agree-disagree" category), and to the global rating based on the anecdotal records. The higher the income, the more positive the overall tone

of the interaction. With regard to the child factors, family income level was significantly and positively related to affectionate behavior, observer ratings of warmth, amount of speaking, and global ratings of the interaction and negatively related to negative behavior, and nervousness.

#### Personal Characteristics

Mothers were associated with greater degrees of positive affect, and amount of overall speaking by the parent (see Table 1). Mothers also elicited more visual behavior and less aggression (rated) by the child.

Sex of child was related to visual activity (girls did more looking and nonverbal agreeing and disagreeing). Girls also elicited more positive behaviors and less (rated) aggression from their parents. Child's age was negatively related to helping. Age was positively related to rated warmth, to nervousness, and to task-oriented behavior. Adults were rated as more nervous when playing with older children, and exhibited less speaking, less positive and negative behaviors, less task support, and more miscellaneous talking when playing with older children.

TABLE 1

*Multiple Regression Analyses of Relationship between Task, Family and Participant Characteristics and Observed Participant Behaviors, and Ratings of Behavior<sup>a</sup>*

Behavior	Total No. Intervals			Family Income			Sex of Parent			Sex of Child			Age of Child		
	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir
<i>Adult Behaviors</i>															
Negative	29.30***	6.2	-	67.53***	12.5	-	<1			<1			17.39***	3.1	-
Task supportive	3.89*	0.8	+	6.55**	1.4	+	1.99			<1			70.07***	13.5	-
Talking	4.62**	1.0	+	9.12**	2.0	+	<1			3.07			5.08*	1.1	+
Agreeing	7.18**	1.6	+	1.35			<1			<1					
Positive affect	3.32			27.99***	5.9	+	7.16**	1.5	+	3.78*	0.7	+	21.98***	4.3	-
Total speaking	25.48***	5.5	+	55.08***	10.5	+	11.27***	2.1	+	<1			32.96***	5.7	-
<i>Ratings</i>															
Nervousness	<1			29.67***	6.3	-	3.42			1.84			4.04*	0.8	+
Warmth	<1			<1			<1			1.28			<1		
Aggression (hostility)	28.20***	6.0	-	60.81***	11.4	-	3.42			5.10**	0.9	-	<1		
<i>Child Behaviors</i>															
Task involvement	24.96***	5.4	+	<1			1.54			1.06			11.44***	2.4	+
Negative behaviors	17.25***	3.7	-	12.86***	2.7	-	<1			1.21			3.52		
Visual behaviors	14.43***	3.1	+	2.38			4.38*	0.9	+	5.30*	1.1	+	1.02		
Talking to observer	<1			<1			1.99			<1			<1		
Positive affect	6.66**	1.5	-	26.38***	5.6	+	<1			<1			<1		
Helping	<1			3.27			<1			3.55			6.79**	1.5	-
Total speaking	43.42***	9.0	+	17.51***	3.5	+	<1			6.35**	1.2	-	3.58		
<i>Ratings</i>															
Nervousness	<1			19.81***	4.3	-	2.22			1.33			34.53***	7.0	+
Warmth	31.00***	6.6	+	32.98***	6.5	+	<1			<1			5.66*	1.1	+
Aggression	<1			2.98			12.88***	2.8	-	1.52			<1		
Global Rating				29.87***	7.8	+	<1			2.42			<1		

<sup>a</sup> F = F level; V<sup>2</sup> = percent variance accounted for; Dir = direction of relationship; df = 1 and 438 to 432; \*  $p > 0.05$ ; \*\*  $p > 0.01$ ; \*\*\*  $p > 0.001$ .



TABLE 2

*Multiple Regression Analyses of Relationship between Adult Maltreating and Child Being Maltreated and Observed Participant Behaviors and Ratings of Behavior<sup>a</sup>*

Behavior	Neglect			Harsh			Neglect and Harsh		
	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir	F	V <sup>2</sup>	Dir
<i>Adult Behaviors</i>									
Negative	16.69***	2.8	+	2.16			3.99*	0.6	+
Task supportive	<1			<1			4.29*	0.8	-
Talking	1.18			<1			3.62*	0.7	-
Agreeing	<1			<1			<1		
Positive affect	<1			1.86			4.85*	0.9	-
Total speaking	6.50	1.1	-	2.06			9.79**	1.6	-
<i>Ratings</i>									
Nervousness	<1			2.40			<1		
Warmth	<1			<1			<1		
Aggression (hostility)	8.07**	1.4	+	<1			8.25**	1.5	+
Global rating	3.40			6.58*	1.6	-	4.27	1.1	-
<i>Child Behaviors</i>									
Task involvement	3.51			<1			5.04*	1.0	-
Negative behaviors	3.00			1.87			<1		
Visual behaviors	2.63			1.68			<1		
Talking to observer	3.72*	0.8	+	8.47**	1.9	+	<1		
Positive affect	<1			<1			<1		
Helping	<1			<1			<1		
Total speaking	1.80			1.57			5.66*	1.1	-
<i>Ratings</i>									
Nervousness	<1			<1			<1		
Warmth	1.50			6.41**	1.3	-	12.08***	2.3	-
Aggression	<1			5.08*	1.1	+	<1		
Global rating	2.79			4.26*	1.0	-	17.44***	4.3	-

<sup>a</sup> Abbreviations and symbols as in Table 1.

### *Maltreatment Variables*

Table 2 gives results for adults. When the perpetrator categories were entered into the regression equation after controlling for SES and personal characteristics, neglecting parents were found to be more hostile by the observers, as compared to non-neglecting, non-harsh parents. There was also less overall speaking by neglecting parents.

Parents noted in the case records as using harsh discipline techniques were associated with more negative global ratings of the overall emotional quality of the interaction, based on the consensus ratings of the anecdotal materials provided by the observers. Parents who were both neglecting and harshly disciplining exhibited more negative and less positive behaviors, and were rated as more hostile by observers. They also exhibited less overall speaking, less miscellaneous talking and less task supportive behaviors. These parents were also associated with interactions that were rated more negatively based on the anecdotal records.

Table 2 also gives results for children. Children who were targets of neglect compared to nontarget children exhibited more talking to the observers. Children who were targets of harsh discipline talked more to the observers and were associated with more negative

global ratings of the interactions. Targets of both harsh discipline and neglect did less speaking than the comparison group of nontargets, showed less task involvement, and were associated with more negative global ratings of the interactions, and less warmth in the opinion of the observers.

### **Discussion**

#### *Income Level*

The most dramatic results in these data were associated with family income level. The higher the income level the more positive and warm and the less negative and hostile both parents and children were. Higher income level was also associated with more task supportive behavior by the parents. Finally, the amount of verbal interaction increased with higher income level. The picture is one of greater child-centeredness, mutual acceptance, stimulation, and enjoyment in the parent-child interactions of the higher income families as compared to greater parent-centered behavior, mutual rejection, and diminished enjoyment and stimulation in the interactions of lower income parent-child dyads. As others have also found, there appeared to be a greater emphasis on coercion as a control technique among lower income families. Overall, the find-

ings related to income level tend to dramatize this factor as setting the scene for negative interactions between parent and child, and negative influences on child development in low income families.

### *Child's Age*

While the sex of the child and the sex of the adult have relatively little effect on the interaction behaviors and observer ratings, the relationship between child's age and parental and child behaviors accounts for a relatively large percentage of variance. Both positive and negative adult behaviors are negatively related to child's age. There is a decrease in the child's helping behaviors with age. Observer ratings, in addition, show marked effects with both nervousness and warmth on the child's part increasing with age. There is more nervousness and task involvement and less helping of the parent by the child with increasing age of the child. These findings suggest increasing independence with increasing age of the child, and some diminishing of overt expression of emotion by the parent with the increasing age of the child.

### *Maltreatment*

Once the effect of income level was controlled for in the regression equation, the maltreatment variables were less frequently found to be significant predictors of parent or child behavior and accounted for less variance generally than did family income level. They did, however, account for small but significant amounts of variance on certain dimensions of behavior for all three maltreatment groups, and on more dimensions than would be expected to occur by chance alone. Over and above the effects of income level, maltreatment was associated with more negative and hostile behavior and less affectionate-positive behavior as well as less speaking by the parents. This was especially true for parents noted to be both neglecting and harshly disciplining, and more true of the "neglect only" parents than of the "harsh discipline only" parents.

The results for the child (target of maltreatment) variables were less strong than those for the parent perpetrators, but in the same direction—namely, less warmth and speaking among the targets.

### **Conclusions**

Varying explanations for the phenomenon of maltreatment have been offered during the past decades. Some of these (e.g., Steele (1974)) have stressed the intrapersonal variables that create in adults a vulnerability to abusive treatment of children. Others (Kadushin and Martin, 1981) have stressed the more provocative quality of abused children. Still others

(e.g., Pelton (1981)) have emphasized the social class aspects of maltreatment and the tendency for abuse to be associated with lower socioeconomic status. The former viewpoint finds abuse to be a product of trauma and victimization in the childhood of the parent, leaving the individual needy, angry and with poor impulse control. The second sees the child's interactions with adults as influenced by specific handicaps or other individual characteristics of the child which make the child overly provocative, particularly for adults who have a low tolerance for such provocation. The third explains abuse as an outgrowth of the parents' frustration associated with the stresses and deprivations of poverty.

The present data lend some support to each approach. As described above, the dramatic effects associated with family income level are highly suggestive of a continuum of parental behavior which stretches from a child-centered, child-supportive orientation at the upper income level to a parent-centered, child-rejecting orientation at the lower income level. It would indeed be more likely to find insensitivity to a child's needs and a harsh reaction to irritating child behavior among those parents already exhibiting coercive, hostile behavior toward their children. Maltreatment then may be viewed as an extreme at the negative pole of the continuum, triggered perhaps by overwhelming accumulations of the frustrations that go with unemployment, illness, housing problems, and other stresses related to insufficient income. Previous publications on other aspects of the present data (Herrenkohl and Herrenkohl, 1981) have described a significant association between recurrent abuse and the numbers of stresses which families report.

However, if income level were the sole determinant of the occurrence of maltreatment, one would not expect to find significant amounts of variance over and above income level associated with the adult or the child being involved in maltreatment. The negative, rejecting aspects of the perpetrators' behavior, with the effects of income level controlled, suggest that additional factors are involved in maltreatment. Again, prior publication of interview data from the present study (Herrenkohl et al., 1983b) has noted that abusive parents report significantly more maltreatment in their own childhoods than nonmaltreating parents, regardless of current income level. The reported maltreatment was also associated with significantly less affection, warmth, and a sense of being valued as a child—all of which are likely to lead to the intrapersonal deficits that clinicians have linked to abusive treatment.

There is also evidence that being maltreated is associated with less than ingratiating behavior on the

part of the child. Targets of harsh discipline are rated as less warm as are targets of both harsh discipline and neglect and are associated with more negatively rated interactions. A self-fulfilling prophecy seems to be operating in which the child responds to rejecting parental behavior with unpleasant behavior of his/her own which serves as a stimulus for further negative behavior from the parent.

An ecological model of child maltreatment provides the most comprehensive approach for integrating the complex data and theories currently available on the causes and consequences of child maltreatment (Belsky, 1980; Garbarino, 1977; Herrenkohl and Herrenkohl, 1981). In such a model, cultural support legitimizing corporal punishment of children, isolation of the family from social support systems, external stresses impinging on the family, and deficient parenting skills on the part of the parenting figures contribute to the likelihood that children will be maltreated in their family settings.

In this context, the parent-child interaction appears to provide a medium in which the deficient coping skills of the parents are reinforced and transmitted to the child via 1) modeling of inadequate coping strategies, 2) inadequate provision of an encouraging and supportive environment in which exploration and the growth of self-reliance and self-esteem can occur, and 3) a locking of parent and child into a vicious circle of negative reinforcement. The parent is confirmed in feeling inadequate as a parent, rejected as a person, and rejecting of the child. The child, in turn, is likely to end up feeling unloved, inadequate, and angry (see, for example, Helfer (1974), Steele (1974), and Wasserman (1974)), and, as an adult, is likely to interact with his or her children in many of the same ways that his/her parents interacted with him/her.

One finding reported above provides some basis for anticipating that intervention in the early lives of these children could find receptive and fertile ground. The fact that maltreated children directed more verbal behavior to the observers than did the comparison children suggests that these children were looking to other adults to supply the verbal stimulation that they lacked from their parents and thus might be open to intervention programs designed to increase their verbal output and provide the positive reinforcement currently lacking in their interactions with their parents. Many of the children and the parents studied in this investigation were participants—or became participants—in Home Start parenting programs, or group therapy programs for abusing parents or abused children. It remains to be seen whether the effects of the intervention programs with young, maltreated children and their families can be detected in the

social, emotional, and academic functioning of those children in later years.

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