THE ROLE OF PARENTAL STRESS IN PHYSICALLY ABUSIVE FAMILIES

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Abstract—This study examines the role of several components of parental stress in physically abusive and nonabusive families with conduct-disordered children. The 123 families studied were seen in a parenting clinic aimed at improving parent-child interactions in families with a highly oppositional child. Data were collected over a several-week period and included both mother and father self-report measures and independent observations by trained researchers. Parental stress was found to play an important role in abusive families. Physically abusive families were significantly more often low income, had younger mothers with less education, more frequently reported a family history of child abuse, and were more likely to be abusing alcohol or drugs. Abusive mothers reported more stress due to frequent life events, and had a more negative perception of these events. Further, these mothers had higher rates of both depression and state anxiety. Abusive fathers spanked their children significantly more often than the nonabusive fathers, and abusive mothers had the highest frequency of critical statements directed at their children. Children from abusive households had significantly more behavior problems. Finally, abusive mothers reported more marital dissatisfaction and social isolation than their nonabusive counterparts.

Key Words—Child abuse, Stress, Discipline, Corporal punishment, Parent child interaction, Depression, Substance abuse, Conduct disorder, Social support.

INTRODUCTION

THE ROLE OF PARENTAL STRESS as a possible antecedent of child abuse has received considerable attention in the literature (Egeland, Breitenbucher, & Rosenberg, 1980; Howze & Kotch, 1984). Parents who physically abuse their children have been found to report higher stress (Justice, Calvert, & Justice, 1985). For example, in a nationwide survey of 1,146 parents, Straus (1980) found that those parents who had experienced few stressors in a stressful life events scale had the lowest rates of child abuse. Further, as the number of stressors experienced during the year increased, so did the rate of child abuse.

No consistent definition of stress has been utilized in the literature, and the distinction between stress and stressors is often overlooked. Stressors are life events, hassles, transitions and related hardships which produce tension that calls for management. When this tension is not overcome, stress emerges. Stress has been defined as a function of the interaction of the subjectively defined demands of a situation and the capacity of an individual to respond to

these demands (Straus, 1980). The measurement of stress is complex and has been viewed as an interplay of multiple components (Elliot & Eisdorfer, 1982; Lazarus, 1966). There is currently a need to better understand the relationship between various components of stress and how these factors are related to physical child abuse.

A number of psychosocial stressors have been identified which place families at increased risk for child abuse, and include poverty, unemployment, low education levels, and substance abuse (Newberger, Hampton, Marx, & White, 1986; Oates, 1986). While poverty is commonly recognized as a correlate of child abuse, the relationship is not well understood. The suggestion has been made that the problems associated with poverty, such as unemployment, inadequate housing, and low education levels, provide a stressful context for abuse. Living in such conditions may generate stressful experiences which may be precipitating factors for child abuse (Pelton, 1981). Substance abuse in the immediate family may also be a stressor, and is associated with increased rates of child abuse (Steinberg, Catalano, & Dooley, 1981).

Both depression and anxiety are closely associated with stress (Hamberger & Lohr, 1984). Depressed mood of parents may result in decreased effectiveness in handling discipline situations. For example, depressed mothers have been described as more rejecting, critical, harsh, and more apt to utilize frequent physical punishment (Seagull, 1987; Webster-Stratton & Hammond, 1988). Parental anxiety has also been associated with increased rates of discipline confrontations and child abuse (Egeland, Breitenbucher, & Rosenberg, 1980; Reid & Kavanagh, 1985), although its role in abusive families has received less attention than has depression. Similarly, studies have indicated that children of depressed and stressed mothers had more clinically significant child behavior problems than children of nondepressed mothers (Lee & Gotlib, 1989).

The contribution of child's behavior and temperament is another important component of parental stress. Temperamentally "difficult" children have been found to be at higher risk for abuse (Gambrill, 1983; Schilling & Kirkham, 1985) and to have highly stressed parents. Conduct-problem child behavior has been associated with abuse and with parent stress. Undoubtedly the relationship between stress, parent difficulties, and child behavior problems is bidirectional in nature (Oates, 1986). For example, in situations where the parents have the potential for abuse, some aspect of the child, such as oppositional behavior or difficult temperament, might be stressful enough to precipitate an abusive incident.

A final component which may positively or negatively affect the potential for child abuse among stressed parents is the quality of social support factors available to families. The marital relationship may play a particularly important role in mediating between parental stress and child abuse. Straus (1980) found that parents who reported lower levels of marital satisfaction had an 87% higher rate of child abuse. When parents are dissatisfied with their marriages and conflict between spouses is high, parenting may be compromised. Marital discontent and conflict have been associated with inconsistent parenting, increased punitiveness, decreased use of reasoning as a discipline strategy, and fewer parental rewards (Stoneman, Brody, & Burke, 1989). Single mothers may be at particularly high risk, due partly to associated stressors of financial losses and lack of marital support (Webster-Stratton, 1989).

The purpose of the present study was to examine the role of several psychosocial stressors, individual components of stress and support in physically abusive and nonabusive families with conduct-problem children. Components of parental stress examined include psychosocial stressors such as sociodemographic characteristics and life events, depression and anxiety, overuse of corporal and verbal punishment, and oppositional child behavior. Marital support was conceptualized as a potential mediator between stress and abuse. The central research question in the present analysis was: Given parents who have overly aggressive, conduct-disordered children, why do some resort to physical and verbal abuse while others do not? The

study hypothesis was that physically abusive parents would report more stressors and stress and less support than would nonabusive parents.

METHOD

Subjects

One hundred twenty-three families were recruited from a parenting clinic which specialized in treatment programs for conduct-problem children. Criteria for entry into the clinic included the following: The child was between 3 and 8 years old; the child had no serious physical impairment, intellectual deficit, or history of psychosis, and was receiving no treatment at the time of referral; the primary referral problem was child oppositional behavior which had been occurring for more than 6 months (e.g., noncompliance, aggression, tantrums); and parents rated their children as having a clinically significant number of behavior problems according to the Eyberg Child Behavior Inventory (ECBI).

Among the 123 study families, 67.5% were married; and 32.5% were either divorced, separated, or single. The mean age of the mothers was 32.5 years and of fathers was 35 years. Most of the children were male (69%) and firstborn (72%). The range of the social position score, as measured by the Hollingshead Two-Factor Index, included values from 11 to 77, with a mean score of 38 or Class III (middle class). Among the study families 74% reported an annual income above $15,000, with 54% of these above $29,000. The majority of the mothers (98%) and fathers (94%) were Caucasian. Forty-one percent of the families reported drug or alcohol abuse in the immediate family. Finally, 19.5% of the mothers reported having been abused as a child.

Procedure

Data were collected over a four-week period, and included intensive parental interviews, completion of self-report questionnaires, and two home observations. Data were collected for both parents. In instances where the father was not present due to separation, divorce, or single motherhood, data were collected from the mother. Following data collection, parents participated in a 3-month treatment program for child conduct disorders. All parents were fully informed of the assessment procedures prior to participating in the study and completed consent forms. Parents understood that these assessments helped tailor the treatment program specifically to their families' needs.

Measures

Physical child abuse. Physical child abuse was defined as the use of excessive physical force by a parent or caretaker aimed at hurting or injuring a child (Garbarino & Gilliam, 1980). Physically abusive families were identified based on parent or independent report of child protective services' (CPS) involvement due to child abuse. Twenty-nine families reported that they had been involved with CPS, and the remaining 94 were considered nonabusive.

Psychosocial Stressors

Stressors were identified, based on the initial interview with families, and included an alcohol or drug history in the immediate family; maternal history of having been abused as a child; family income; mother's education; mother's employment; and mother's marital status. A social position score was derived from the *Hollingshead Two-Factor Index of Social*

Position, which utilizes occupation and education as the two factors to determine social position. The range of social class scores were I through V, where I is considered upper class, III is middle class, and V is lower class (Hollingshead, 1957).

The Life Experiences Survey (LES) was utilized to measure parental stress in the form of cumulative life events or changes. The LES is a 57-item measure that allows the respondent to rate the positive and negative life experiences over the past year (e.g., death of a close family member, change in work situation, involvement with the law, change in residence). A total Life Change score is computed based on the frequency of such events having occurred in the past year. A Negative Change score is derived by summing the impact ratings of those events experienced as negative by respondents. The Negative Change score is most closely associated with stress, and was utilized as a measure of parental stress in the present analysis. The LES has been shown to have good test-retest reliability (Sarason, Johnson, & Siegel, 1978).

Components of Parental Stress

The Parenting Stress Index (PSI). The PSI is a screening and diagnostic assessment technique designed to yield a measure of the relative magnitude of stress in the parent-child relationship (Loyd & Abidin, 1985). The PSI contains 126 items which are divided into two major domains representing parent and child characteristics. Only the Parent Domain score was utilized in the present analysis. The Total Parent Domain score includes seven subscales: depression, attachment, restrictions of role, sense of competence, social isolation, spouse support, and health. Parents who are high (e.g., 153 or 90th percentile) in this domain may experience stress related to parent functioning. The alpha reliability coefficient for the Parent Domain is .93 (Loyd & Abidin, 1985).

The Beck Depression Inventory (BDI). The BDI was utilized to measure depression. The BDI has been shown to correlate significantly with clinicians' ratings and behavioral measures of depression. Its 21 items consist of a series of ordered statements relating to a particular symptom of depression, and respondents indicate which statements describe their current state. Each statement is scaled from 0 to 3, and emphasizes cognitive symptoms (Bellack & Hersen, 1988). A score of 10 or more on the BDI indicates clinical depression (Webster-Stratton & Hammond, 1988). It has a reliability coefficient of .93 (Beck, 1967).

The State-Trait Anxiety Inventory (STAI). The STAI was utilized to measure both state and trait anxiety. The STAI consists of two 20-item scales printed on opposite sides of the same form. The State Anxiety scale includes 20 statements about how the respondents feel at the moment they are completing the questionnaire, such as pleasant, rested, calm, happy, secure, blue, etc. The Trait Anxiety scale consists of 20 statements that assess how the person generally feels, such as calm, secure, tense, anxious, upset, relaxed, etc. Alpha reliability coefficients range from .86 to .95 (Spielberger, 1983).

Home Observations of Parent-Child Interactions

The Dyadic Parent-Child Interacting Coding System (DPICS) consists of 29 behavior categories (Robinson & Eyberg, 1981), and was utilized to observe parent-child interactions in the home. The behavior categories were coded as present or absent every 5 minutes over a 30-minute time period. Home observations were made by extensively trained observers who were required to maintain 80% reliability with practice tapes prior to conducting home visits. Mean overall product-moment correlations calculated between observers ranged from .70 to .97 (Webster-Stratton, Kolpacoff, & Hollinsworth, 1988). Two parent summary variables were utilized to measure discipline strategies utilized by parents: Total Critical Statements

and Physical Negative Behaviors. One child summary variable was utilized. The Total Deviancy score was computed as the sum of the frequency of whine, cry, physical negative, smart talk, yell, destructive and noncompliance ratings.

Additionally, the *DuHamel Parent-Child Observations Checklist* was utilized to assess clinicians' overall impression of their observations during a home visit (DuHamel, 1974). The DuHamel Checklist consists of 25 items in the areas of observations of parents, toddlers, and older children, and parent-child interactions. It includes items such as parental attitudes toward their children, self-esteem, and appropriateness of parent-child interactions. The "DuHamel Parent-Child Observations Checklist" has been utilized to assess child abuse potential (Webster-Stratton, 1985).

Parent Reports of Discipline and Child Behaviors

The *Parent Daily Report* (PDR) consists of a list of 19 negative and 19 prosocial behaviors commonly displayed by children (Chamberlain & Reid, 1987). During the intake, parents were asked to select the negative behaviors which were most commonly performed by their child. These checklists were used as the basis for phone calls that were conducted biweekly, when mothers were asked to report on the occurrence of these behaviors, including spanking, in the previous 48-hour period. The PDR has been shown to have good test-retest interrater reliability (.62 to .82) and to correlate significantly with concurrent home observation data (Chamberlain & Reid, 1987).

The *Eyberg Child Behavior Inventory* (ECBI) is a 36-item behavioral inventory of child conduct problem behavior for 2- to 16-year-old children (Robinson, Eyberg, & Ross, 1980). The Total Problem score requires the parents to circle yes or no when asked if a particular child behavior is problematic, and scores range from 1 to 36. Reliability coefficients for the ECBI range from .86 to .98 (Robinson, Eyberg, & Ross, 1980).

The *Achenbach Child Behavior Checklist* (CBCL) consists of a list of 118 behavior problems. Each item is scored on a three-step response scale: For each problem that describes the child currently or within the last 6 months, parents are to circle the 2 if the item is very true or often true of their child; 1 if the item is somewhat or sometimes true; and 0 if the item is not true of their child. The Total Behavior Problem score was utilized in the present analysis. Reliability coefficients for the CBCL range from .84 to .98 (Achenbach & Edelbrock, 1983).

Parental Support

Parental social support was measured primarily in terms of the quality of the marital relationship. The *Marital Adjustment Test* (MAT) is a 32-item self-report measure assessing the quality of marital satisfaction (Locke & Wallace, 1959). It was completed by parents who were married at the time of intake. The single families were defined as parents living alone and having no current relationship lasting more than three months. The MAT was not completed by single, separated, or divorced parents, which in the study sample included 40 families. Marriages which were classified as supported in this study included those where both the fathers and mothers lived together and had a score of greater than 100 on the MAT. The MAT has been found to be both reliable and valid in discriminating maritally distressed and nondistressed couples (Kimmel & Van Der Veen, 1974).

RESULTS

Analysis of data consisted of computing descriptive statistics to provide a sociodemographic profile of physically abusive and nonabusive families. Bivariate analyses included *t* tests

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Table 1. Comparison of Demographic Characteristics of Abusive and Nonabusive Families

Variable	Abusive Mean (SD)		N	Nonabusive Mean (SD)		N	Chi-Square or t	p
Mothers Age	29.83	(4.65)	29	33.38	(4.39)	92	3.74	.000
Fathers Age	35.21	(9.06)	24	35.18	(4.49)	85	−.02	.987
Age of Child	58.52	(15.07)	29	58.42	(14.96)	94	−.03	.975
Social Position	52.41	(15.89)	29	34.07	(16.32)	94	−5.32	.000
	Frequency (%)			Frequency (%)				
Sex of Child								
Male	22	(75.9)	29	63	(65.0)	94	.45	.502
Female	7	(24.1)		31	(29.0)			
Marital Status								
Married	15	(51.7)	29	68	(72.4)	94	3.40	.065
Separated	5	(17.2)		12	(12.7)			
Divorced	7	(24.1)		8	(8.5)			
Single	2	(6.9)		6	(6.4)			
Income								
Low (≤ $14,999)	18	(62.1)	29	14	(24.5)	94	23.23	.000
High (≥ $15,000)	11	(37.9)		80	(69.5)			
Mother Abused as Child								
Yes	12	(41.3)	29	12	(18.3)	94	15.36	.001
No	17	(58.6)		82	(75.7)			
Alcohol Hx								
Mother	1	(3.4)	29	1	(1.5)	94	12.34	.015
Father	13	(44.8)		19	(24.5)			
Both parents	1	(3.4)		2	(2.3)			
None	14	(48.3)		72	(62.7)			
Drug Hx								
Mother	4	(13.8)	29	4	(6.1)	94	16.65	.001
Father	4	(13.8)		17	(16.0)			
Both parents	5	(17.2)		1	(4.6)			
None	16	(55.2)		72	(67.3)			
Mothers' Mother Supportive								
Yes	16	(55.2)	29	75	(69.3)	93	9.54	.009
No	13	(44.8)		18	(23.6)			

and chi-square analyses to compare the two groups on parental stress measures. The Dunn-Bonferonni Tables were utilized to determine the critical values in order to correct for the number of individual comparisons made with the *t* tests. In an effort to improve the estimate of the observed significance level for the chi-square analyses, the Yates correction for continuity was applied. A stepwise discriminant function analysis was utilized to determine which set of predictor variables best discriminated between physically abusive and nonabusive families.

Means and standard deviations for demographic characteristics of abusive and nonabusive families are summarized in Table 1. Since 14 of the 29 mothers in the abusive families were separated, divorced, or single, data on fathers from these 14 families were not available. Thus, most of the statistics for the abuse group included data from 29 mothers and 15 fathers. Analysis of psychosocial stressors indicated that the abusive mothers were significantly younger than nonabusive mothers, and had a lower social position score. The abusive mothers were more likely to report having been abused as a child, and were more likely to report both an alcohol and a drug abuse history.

A comparison of abusive and nonabusive family group means on parental stress measures are summarized in Table 2. In the abusive group, the mean Parent Domain score for mothers was 150, representing approximately 90th percentile, while for fathers it was 135. Results

Table 2. Comparison of Abusive and Nonabusive Family Group Means on Parental Stress Measures

Category	Abusive Mean	(SD)	N	Nonabusive Mean	(SD)	N	t	p
Parental Stress								
PSI Parent Domain								
Mother	150.14	(32.93)	28	143.5	(22.89)	92	−.97	.337
Father	135.19	(25.79)	16	131.81	(20.56)	70	−.56	.574
LES Total Life Change								
Mother	25.46	(12.19)	28	14.71	(10.43)	92	−4.59	.000
Father	14.07	(11.71)	15	10.33	(8.46)	69	−1.44	.153
LES Negative Life Change								
Mother	15.82	(10.10)	28	7.82	(7.47)	92	−3.88	.000
Father	7.93	(10.99)	15	5.21	(6.37)	69	−.93	.367
Parental Depression and Anxiety								
Beck Depression Inventory								
Mother	13.00	(10.31)	28	7.82	(5.29)	91	−2.55	.026
Father	5.42	(3.74)	16	5.16	(5.46)	70	−.19	.846
Spielberger State Anxiety								
Mother	42.86	(13.31)	28	36.56	(9.80)	91	−2.32	.026
Father	38.19	(7.52)	16	34.33	(7.80)	70	−1.80	.076
Spielberger Trait Anxiety								
Mother	43.89	(13.58)	28	41.08	(8.87)	91	−1.03	.309
Father	38.69	(7.34)	16	36.97	(8.24)	70	−.77	.446
Marital Support								
Marital Adjustment Inventory								
Mother	92.65	(22.78)	17	103.05	(18.02)	74	2.04	.044
Father	102.87	(13.03)	15	104.61	(15.32)	67	.41	.684

revealed that the mother LES Total Life Change score and the mother LES Negative Life Change score were significantly different ($p < .001$) between the two groups. Abusive mothers were also significantly more depressed and reported higher levels of state anxiety than the nonabusive mothers. On the measure of marital support, the abusive mothers reported a mean MAT score of 93, indicating marital distress, which was significantly more distressed than for nonabusive mothers.

A comparison of abusive and nonabusive reports of discipline (PDR) and home observations of parent-child interactions are summarized in Table 3. Results revealed that abusive fathers spanked their children significantly more frequently. Mother spanking showed a trend in the predicted direction with abusive mothers spanking three times more often in a 24-hour period than nonabusive mothers. Direct observations revealed that abusive mothers were significantly more critical in their interactions with their children. Finally, independent observations on the DuHamel Parent-child observations checklist distinguished abusive from nonabusive families. As can also be seen from Table 3, abusive mothers reported more child behavior problems on the ECBI and CBCL than nonabusive mothers.

Stepwise discriminant function analysis was utilized to determine which set of predictor variables would most clearly distinguish between abusive and nonabusive families. The choice of variables in the final model was based on significant bivariate relationships. Due to the number of missing cases for fathers in this sample, only mother variables were utilized in the final analysis. To correct for problems arising from multicollinearity, correlations between independent variables greater than .60 resulted in these independent variables not being used in the same model. The following variables were utilized in a stepwise discriminant analysis: Hollingshead Social Position score; LES Negative Life Change score; CBCL Total

Table 3. Comparison of Abusive and Nonabusive Family Group Means on Parent-Child Interactions and Child Behavior

Category	Abusive Mean (SD)		N	Nonabusive Mean (SD)		N	t	p
Parent Child Interactions								
PDR Spanking								
Mother	3.48	(6.04)	25	1.19	(3.05)	89	−1.83	.078
Father	1.29	(1.61)	17	.33	(.84)	72	−2.38	.028
DPICS Criticism								
Mother	22.62	(17.20)	29	14.34	(10.73)	91	−2.44	.020
Father	15.23	(13.94)	15	14.45	(10.95)	70	−.24	.812
DPICS Physical Negative								
Mother	1.10	(1.40)	29	.86	(1.25)	91	−.88	.382
Father	1.90	(2.60)	15	.85	(1.04)	70	−1.55	.142
DuHamel checklist								
Total Score	4.14	(2.66)	28	2.31	(2.06)	91	−3.83	.000
Child Behavior								
ECBI Total Problem Score								
Mother	24.38	(5.31)	29	20.82	(6.12)	93	−2.82	.006
Father	19.19	(8.34)	16	16.00	(6.87)	71	−1.61	.111
CBCL Total Problem Score								
Mother	66.82	(25.32)	28	51.76	(19.68)	92	−3.31	.001
Father	52.56	(23.28)	16	48.28	(17.34)	69	−.83	.407
DPICS Total Child Deviancy								
Mother	14.64	(11.25)	29	14.53	(13.36)	91	−.04	.968
Father	14.67	(12.80)	15	14.75	(12.28)	70	.08	.936

Problem score; Beck Depression Inventory or Spielberger State Anxiety; Marital Adjustment Test; Spanking or Total Critical statements. The statistical criteria for the discriminant analysis was set such that the probability of F-to-enter was 1.0. The independent predictor variables were entered into a stepwise discriminant function analysis in the order of minimizing the overall Wilks' lambda in relation to the criteria of abusive and nonabusive families. This procedure used Wilks' lambda to select subsequent variables for inclusion and the F test for equality of group means. Table 4 summarizes those variables which formed a significant function in their order of entry.

The final model contained three predictor variables: Social Position, the mother's Negative Life Change, and Maternal Spanking. The model correctly classified 79.67% of the cases, and accounted for a total of 30% of the variance. At Step One, the Social Position score entered the function and accounted for the majority of the variance. At the second step, the mothers' Negative Life Change score entered the function and accounted for an additional 10% of the variance. Finally, the Mother Spanking frequency entered the function at the third step and accounted for very little of the remaining variance. Of the 123 cases included in the model, 98 families were correctly classified as abusive or nonabusive, and 25 families were incorrectly classified. The correctly classified families included 76 nonabusive families and 22 abusive families. The misclassifications included 18 false positives and 7 false negatives. The kappa statistic was .50, which indicates that while considering the actual rate of occurrence of child abuse in the present sample, utilization of the three variables in this model will enable correct prediction of 50% of the cases.

DISCUSSION

The results of this study suggest that there is a significant relationship between parental stress and child abuse, although the relationship is complex. There is a clear interplay between

Table 4. Predictors of Abusive or Nonabusive Group Membership from Discriminant Function Analysis (N = 123)

Step Predictor Variable	Variance Accounted	Eigen-value	Canonical Correlation	Wilks	Significance
1. Social Position	19%				
2. Mother Neg. Life Change	10%	.41	.54	.71	.000
3. Mother Spanking	1%				

Classification Results:

Actual Group	No. of Cases	Predicted Group Membership	
		0	1
0 (Nonabusive)	94	76 (80.9)	18 (19.1)
1 (Abusive)	29	7 (24.1)	22 (75.9)

Percent of Grouped Cases Correctly Classified: 79.67%
Kappa Statistic: .502

physical child abuse and such stress components as low social position, maternal depression, negative life stress, frequent child behavior problems, and low marital support. The study hypothesis, which proposed that more highly stressed families would have higher rates of physical child abuse, was supported based on the mother data. However, it was of interest to note that mothers, regardless of whether they were in the abusive or nonabusive groups, reported more stress, depression, anxiety, child behavior problems, and daily spankings than fathers. These gender differences have been discussed elsewhere (Webster-Stratton, 1988).

In the final predictive model, social position accounted for the most variance, and reflects the important role of psychosocial stressors. Poverty clearly played an important role in distinguishing this sample of physically abusive and nonabusive families. Many factors that are highly confounded with poverty, such as employment, education, and marital status, may best be examined separately (Starr, 1982). In the present study, more of the abusive mothers and fathers had no college education, and they were more often unemployed, which supports previous findings (Gabinet, 1983; Krugman, Lenherr, Betz, & Fryer, 1986). Further, more of the abusive families (62%) had annual incomes below $15,000, substantiating the view of Pelton (1981), who firmly contends that low income plays a major role in child abuse. Single-parent households and younger motherhood were also more common among abusive families. In addition, substance abuse was more prevalent in abusive households, with 52% reporting alcohol abuse and 45% reporting drug abuse. It was primarily the father who was abusing alcohol, and both parents who were abusing drugs. Patterson (1986) describes substance abuse as a key disruptor, which may interfere with the performance of already marginally skilled parents when they interact with a difficult child. In sum, the physically abusive families were significantly more sociodemographically disadvantaged than the nonabusive households.

The second variable in the final model was maternal negative life stressors. Not only did the abusive mothers report that multiple life events had occurred in the past year significantly more often, but they tended to perceive these negatively. It is clear that it is not just the amount of stress or the number of crises that must be considered in interpreting these results, but also the individual's resources, such as material and social support, as well as the parent's appraisal of the stressors, and ability to meet these demands. Patterson (1982) has suggested that at any given level of stress, persons from lower social classes are more likely to manifest "breakdown symptoms" than are middle- or upper-class persons because they have fewer community, financial, and inner coping resources. Further, single mothers may consistently

report high stress, maintained over time by losses in support networks, depression, and deviant child behaviors (Patterson & Forgatch, 1990). Finally, the third variable in the model, spanking, added very little remaining variance; however, it did suggest that maternal spanking occurs three times more often over a 48-hour period in abusive households than nonabusive households.

Additional findings related to parents' internal stress reactions indicated that only the abusive mothers reported a clinical level of depression. These data support previous findings that depression is associated with increased rates of child abuse (Garbarino & Gilliam, 1980; Patterson, 1982). The abusive mothers also reported the highest level of state anxiety, which supports previous findings (Egeland, Breitenbucher, & Rosenberg, 1980; Reid & Kavanagh, 1985). It is difficult to separate anxiety from depression and stress because of their high correlations ($r = .67$ and $.54$, respectively). The role of anxiety and depression in abusive families is most often described as being exacerbated by stress, which contributes to escalation in discipline confrontations (Forgatch, Patterson, & Skinner, 1988; Gil, 1970). Given that 70% of these mothers were not employed and most likely spent more time at home raising a difficult child, their dysphoria and anxiety may have been exacerbated by aversive parent-child interchanges. High rates of aversive events and the lack of a support system can also produce mild to chronic depression in mothers, especially among young, isolated mothers who lack effective problem-solving skills (Patterson, 1981).

The home observations also indicated that abusive mothers criticized their children significantly more often than the nonabusive mothers, with a mean of 23 criticisms in 30 minutes, compared to 14 criticisms for nonabusive mothers. These findings support previous studies (Patterson & Forgatch, 1990), indicating that maternal irritability is a constant companion to single mother depression and stress. Further, Patterson and Forgatch found that maternal irritability during discipline confrontations set into motion a secondary process where the child moved into increased antisocial behavior, which contributed over time to the maintenance of future levels of maternal stress.

In addition to the psychosocial stressors and parents' internal stress reaction manifested by depression and anxiety, we also considered the children's behavior problems to be a stress factor. Abusive mothers reported their children to have significantly more behavior problems than those from nonabusive families. However, the independent observations on home visits did not reveal significant differences in the amount of child deviance between the two groups. Given that the abusive mothers in this sample were more depressed and experienced high stress and anxiety, the influence of these personal negative feelings may have affected their ability to accurately assess their child's behaviors. However, the quality of the mother-child interchange is influenced not only by the mother's ability to accurately perceive her child's behaviors, but also by the child's temperament. Oppositional children may evoke feelings of stress in their parents, while happy and affectionate children might evoke a positive maternal reaction. It is important to consider the bidirectional nature of this relationship in addressing the role of child behavior in abusive families.

Finally, we considered support as a possible mediator of stress and disrupted parenting. Results indicated that the abusive mothers reported less marital support. This is consistent with other studies which have discussed the association of lower marital satisfaction with higher rates of child abuse (Howze & Kotch, 1984; Straus, 1980). Belsky (1980) has suggested that the spousal relationship may foster child abuse through the interaction with a parent's developmental history. Parents may turn to their children for the love and caring denied them as children (role reversal) when their spouses fail to meet their emotional needs. Child abuse then occurs as the parents become frustrated by their children's inability to take care of them satisfactorily. Belsky also suggests that children may become targets of violence if they "intrude" upon the spousal relationship. In families where much attention is directed to the oppositional child, the marital relationship may become strained.

Several limitations of this study deserve comment. As we have noted, the measurement of stress presents complex methodological issues. For example, strong intercorrelations among the various components of stress, such as depression, anxiety, and social class, make the determination of their individual contribution to the stress reaction difficult. Likewise, defining and measuring physical child abuse is also complicated. The study sample was defined based on those families who had prior involvement with CPS, a commonly used sampling procedure. However, use of CPS samples is likely to result in an overrepresentation of low-income families and of more severe abuse cases (Widom, 1988). Thus, the importance of poverty in the final predictive model may have been inflated due to the sample of CPS families. Further, the sample of 29 abusive families was probably an underestimate. Undoubtedly, there were abusive families in the sample identified as nonabusive, as many cases of child abuse go unrecognized and unreported, especially in middle-class families. Limitations in the use of discriminant function analysis, such as the potential for upward bias (Frank, Massy, & Morrison, 1965), must also be considered. The nonabuse group was larger than the abuse group, which may have resulted in more families being classified as the larger, or nonabusive group. Nevertheless, the present study underscores the important role of parental stress in physically abusive families with conduct-problem children. By gaining a better understanding of the specific components of stress related to physical abuse, and by the careful development of risk assessment tools, preventive intervention strategies can be designed to best meet the needs of these high-risk families; for the ultimate aim of this research was to reverse the revolving cycle of stress and disrupted discipline which lead to increased child conduct problems as well as increased physical child abuse.

REFERENCES

Achenbach, T. M., & Edelbrock, C. (1983). *Manual for the child behavior checklist and revised child behavior profile.* Burlington, VT: Queen City Printers.

Beck, A. T. (1967). Measurement of depression. The depression inventory. In *Depression: Clinical, experimental and theoretical aspects* (Chap. 12). New York: Harper & Row.

Bellack, A. S., & Hersen, M. (Eds.). (1988). *Behavioral assessment: A practical handbook.* New York: Pergamon.

Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist, 35*(4), 320–335.

Chamberlain, P., & Reid, J. B. (1987). Parent observation and report of child symptoms. *Behavioral Assessment, 9,* 97–109.

DuHamel, T. (1974). *Parent child observation checklist.* Unpublished manuscript.

Egeland, B., Breitenbucher, M., & Rosenberg, D. (1980). Prospective study of the significance of life stress in the etiology of child abuse. *Journal of Consulting and Clinical Psychology, 48*(2), 195–205.

Elliot, G. R., & Eisdorfer, C. (Eds.). (1982). *Stress and human health: Analysis and implications for research.* New York: Springer.

Forgatch, M. S., Patterson, G. R., & Skinner, M. L. (1988). A mediational model for the effect of divorce on antisocial boys. In E. M. Hetherington & J. D. Aresteh (Eds.), *Impact of divorce, single parenting, and stepparenting on children* (pp. 135–154). Hillsdale, NJ: Erlbaum.

Frank, R. E., Massy, W. F., & Morrison, D. G. (1965) Bias in multiple discriminant analysis. *Journal of Marketing Research, II,* 250–258.

Gabinet, L. (1983). Child abuse treatment failures reveal need for redefinition of the problem. *Child Abuse & Neglect, 7*(4), 395–402.

Gambrill, E. D. (1983). Behavioral intervention with child abuse and neglect. *Progress in Behavior Modification, 15,* 1–56.

Garbarino, J., & Gilliam, G. (1980). *Understanding abusive families.* Cambridge, MA: Lexington Books.

Gil, D. G. (1970). *Violence against children: Physical child abuse in the United States.* Cambridge: Harvard University Press.

Hamberger, L. K., & Lohr, J. M. (1984). *Stress and stress management: Research and applications.* New York: Springer.

Hollingshead, A. B. (1957). *Two-factor index of social position.* Unpublished manuscript.

Howze, D. C., & Kotch, J. B. (1984). Disentangling life events, stress and social support. Implications for the primary prevention of child abuse and neglect. *Child Abuse & Neglect, 8,* 401–409.

Justice, B., Calvert, A., & Justice, R. (1985). Factors mediating child abuse as a response to stress. *Child Abuse & Neglect, 9,* 359–363.

Kimmel, D., & Van Der Veen, F. (1974). Factors of marital adjustment in Locke's marital adjustment test. *Journal of Marriage and the Family*, **36**(1), 57–63.

Krugman, R. D., Lenherr, M., Betz, L., & Fryer, G. E. (1986). The relationship between unemployment and physical abuse of children. *Child Abuse & Neglect*, **10**, 415–418.

Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.

Lee, C. M., & Gotlib, I. H. (1989). Clinical status and emotional adjustment of children of depressed mothers. *American Journal of Psychiatry*, **146**(4), 478–483.

Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living*, **21**, 251–255.

Loyd, B. H., & Abidin, R. R. (1985). Revision of the parenting stress index. *Journal of Pediatric Psychology*, **10**(2), 169–177.

Newberger, E. H., Hampton, R. L., Marx, T. J., & White, K. M. (1986). Child abuse and pediatric social illness: An epidemiological analysis and ecological reformulation. *American Journal of Orthopsychiatry*, **56**(4), 589–601.

Oates, R. K. (1986). The causes of child abuse. In *Child abuse and neglect: What happens eventually?* (Chap. 5). New York: Brunner/Mazel.

Patterson, G. R. (1981). Mothers: The unacknowledged victims. *Monographs of the Society for Research in Child Development*, **45**(5, Serial No. 186), 1–55.

Patterson, G. R. (1982). *Coercive family process: A social learning approach* (Vol. 3). Eugene, OR: Castalia.

Patterson, G. R. (1986, April). Performance models for antisocial boys. *American Psychologist*, pp. 432–444.

Patterson, G. R., & Forgatch, M. S. (1990). Initiation and maintenance of process disrupting single-mother families. In G. R. Patterson (Ed). *Depression and Aggression in Family Interaction*. Hillsdale, NJ: Erlbaum.

Pelton, L. H. (1981). *The social context of child abuse and neglect*. New York: Human Sciences Press.

Reid, J. B., & Kavanagh, K. (1985). A social interactional approach to child abuse: Risk, prevention, and treatment. In M. Chesney & R. Rosenman (Eds.), *Anger and hostility in behavioral and cardiovascular disorders* (Chap. 13). New York: Hemisphere/McGraw-Hill.

Robinson, E. A., & Eyberg, S. M. (1981). The dyadic parent-child interaction coding system: Standardization and validation. *Journal of Consulting and Clinical Psychology*, **42**, 471–481.

Robinson, E. A., Eyberg, S. M., & Ross, A. W. (1980, spring). The standardization of an inventory of child conduct problem behaviors. *Journal of Clinical Child Psychology*, pp. 22–28.

Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: Development of the life experiences survey. *Journal of Consulting and Clinical Psychology*, **46**(5), 932–946.

Schilling, R. F., & Kirkham, M. A. (1985). Preventing maltreatment of handicapped children. In L. D. Gilchrist & S. P. Schinke (Eds.), *Preventing social and health problems through life skills training* (Monograph No. 3). Seattle: Center for Social Welfare Research, University of Washington.

Seagull, E. A. W. (1987). Social support and child maltreatment: A review of the evidence. *Child Abuse & Neglect*, **11**(1), 41–52.

Spielberger, C. D. (1983). *Manual for the state-trait anxiety inventory STAI (Form Y)*. Palo Alto, CA: Consulting Psychologists Press.

Starr, R. H. (Ed.). (1982). *Child abuse prediction: Policy implications*. Cambridge, MA: Ballinger.

Steinberg, L., Catalano, R., & Dooley, D. (1981). Economic antecedents of child abuse and neglect. *Child Development*, **52**, 975–986.

Stoneman, Z., Brody, G. H., & Burke, M. (1989). Marital quality, depression, and inconsistent parenting: Relationship with observed mother-child conflict. *American Journal of Orthopsychiatry*, **59**(1), 105–117.

Straus, M. A. (1980). Stress and child abuse. In C. H. Kempe & R. E. Helfer (Eds.), *The battered child* (3rd ed., Chap. 5). Chicago: University of Chicago Press.

Webster-Stratton, C. (1985). Comparison of abusive and nonabusive families with conduct-disordered children. *American Journal of Orthopsychiatry*, **55**(1), 59–69.

Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology*, **56**(6), 909–915.

Webster-Stratton, C. (1989). The relationship of marital support, conflict and divorce to parent perceptions, behaviors, and childhood conduct problems. *Journal of Marriage and the Family*, **51**, 417–430.

Webster-Stratton, C., & Hammond, M. (1988). Maternal depression and its relationship to life stress, perceptions of child behavior problems, parenting behaviors, and child conduct problems. *Journal of Abnormal Child Psychology*, **16**(3), 299–315.

Webster-Stratton, C., Kolpacoff, M., & Hollinsworth, T. (1988). Self-administered videotape therapy for families with conduct-problem children: Comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology*, **56**(4), 558–566.

Widom, C. S. (1988). Sampling biases and implications for child abuse research. *American Journal of Orthopsychiatry*, **58**(2), 260–270.

Résumé—Cette étude examine le rôle de divers paramètres du stress parental dans des familles maltraitantes et dans des familles qui ne maltraitent pas leurs enfants, mais où ceux-ci présentent des troubles du comportement. Ces 123 familles ont été vues en consultation de thérapie familiale destinée à améliorer les interactions parent-enfant dans le cas d'enfants très opposants. Les données ont été collectées sur une période de plusieurs semaines et comportent des

évaluations rapportées par des mères ou des pères eux-mêmes et des observations indépendantes faites par des chercheurs entrainés. Le stress familial s'est révélé jouer un rôle important dans les familles maltraitantes, surtout en s'appuyant sur les scores des mères. Les familles maltraitantes se caractérisaient avec une fréquence significativement plus élevée par des revenus bas, des mères plus jeunes et moins éduquées, rapportant plus fréquemment des mauvais traitements au cours de leur enfance et une tendance à l'abus d'alcool ou de droques. Les mères abusives signalaient plus de stress, lié aux évènements de la vie et percevaient ceux-ci de façon plus négative. De plus, ces mères étaient plus fréquemment dépressives et anxieuses. Les pères abusifs giflaient leurs enfants significativement plus fréquement et les mères abusives émettaient significativement plus de critiques à l'égard de leurs enfants. Les enfants maltraités présentaient plus de problèmes de comportement. Enfin, les mères abusives exprimaient plus d'insatisfaction concernant leur vie de couple et se sentaient socialement plus isolées que les mères non-maltraitantes.

Resumen—Esta investigación examina el papel de varios componentes del stress parental en familias con y sin abuso físico que tienen hijos que padecen trastornos de conducta. Las 123 familias fueron vistas en una clínica para padres que buscan mejorar la interacción padre-hijo en familias donde uno de los hijos tiene conducta altamente oposicional. Los datos fueron recogidos durante varias semanas, e incluyeron tanto auto-reportes de los padres como observaciones independientes de investígadores entrenados. Se descubrió que el stress parental jugó un papel importante en las familias abusadoras, especialmente en base a los resultados obtenidos por las madres. Las familias físicamente abusivas eran frecuentemente de más bajos ingresos, las madres éran más jóvenes y menos educadas, comunicaron más frecuentemente una historia familiar de abuso del niño, y abusaban más frecuentemente del alcohol o drogas. Las madres abusivas comunicaron más stress como consecuencia de acontecimientos en su vida, y tenían una percepción más negativa de esos acontecimientos. Asimismo, un mayor número de esas madres sufrían de depresión y estados de ansiedad. Los padres abusivos daban zurras a sus hijos significativamente más frecuentemente que los padres no abusivos, y las madres abusivas mostraban la más alta frecuencia de crítica dirigidas a sus hijos. Los niños de hogares abusivos mostraban un número significativamente mayor de problemas de conducta. Finalmente, las madres abusivas comunicaron más insatisfacción matrimonial y aislamiento social que sus contrapartes no abusivas.