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Mother Perceptions and Mother-Child Interactions: Comparison of a Clinic-referred and a Nonclinic Group

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The purpose of this study was to compare 40 clinic-referred conduct-disordered children and their mothers with 28 "normal" or nonclinic children and their mothers on mother behaviors, child behaviors, and mother reports of child behaviors. The study used two independent observational systems: One assessed the quantity of negative behaviors both in mothers and children, and the second assessed the qualitative and affective aspects of parent-child interactions. The results indicated that the two groups differed on child positive affect and dominance behaviors; on mother positive affect, submissiveness, praise, commands, and criticisms; and on maternal reports of child adjustment. Although maternal report of child adjustment was the best discriminator between the two groups, the two observational systems provided additional information on the qualitative differences between clinic and nonclinic mother-child interactions. The implications of these findings for the assessment and treatment of conduct-disordered children and their families are discussed.

Key words: conduct disorders, mother-child interactions, mother perceptions, clinic-referred versus nonclinic

It is important to determine in what ways families with conduct problem children who seek out clinic services differ from families with "normal" children in order to design successful treatment programs. Some studies have indicated that clinic-referred children engage in higher rates of general negative and deviant behaviors (Lobitz & Johnson, 1975; Patterson & Cobb, 1973), more noncompliance to parental commands (Delfini, Bernal, & Rosen, 1976; Forehand, King, Reid, & Yoder, 1975; Griest, Forehand, McMahon, & Wells, 1980), and fewer prosocial behaviors (Lobitz & Johnson, 1975) than nonclinic children. Other studies (Bugental, Love, Kaswan, & April, 1971; Kogan & Wimberger, 1971) have found no behavioral differences between clinic and nonclinic children. Still other studies have reported considerable overlap between the two groups in terms of the frequency of child deviancy observed (Delfini et al., 1976; Griest et al., 1980; Lobitz & Johnson, 1975).

More recently research has attempted to discern if parental behavior and reports are more potent than child behavior for differentiating between clinic and nonclinic families. Several studies have reported that mothers of clinic-referred children use more commands, criticisms, and negative behavior than do mothers of nonclinic children (Forehand et al., 1975; Green, Forehand, & McMahon, 1979; Lobitz & Johnson, 1975; Patterson & Cobb, 1973). Studies have indicated that clinic and nonclinic mothers do not differ in positive parent behavior (Forehand et al., 1975; Griest et al., 1980; Kogan, 1978; Lobitz & Johnson, 1975). Perhaps the most consistent finding is that parents of clinic-referred children describe their children as having more deviant behavior than nonclinic parents (Forehand et al., 1975; Green et al., 1979; Lobitz & Johnson, 1975). However, the relationship between parent perceptions of child adjustment and actual child behavior is imperfect (Griest & Wells, 1983). Several studies have demonstrated that there is a group of clinic parents who perceive their chil-

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dren as deviant whereas independent home observations do not verify that these clinic children are behaviorally different from normal children (Rickard, Forehand, Wells, Griest, & McMahon, 1981).

One possible reason for the conflicting findings may be the fact that most studies have used observational systems which have assessed differences between the two groups in terms of the "quantity" of specific behaviors, such as the frequency of parental criticisms, commands, or child noncompliance. There also has been a tendency to focus on the frequency of negative behaviors rather than on positive behaviors. There has been very little research using coding systems that evaluate the "qualitative" differences between clinic and nonclinic parent-child interactions. For example, it would seem important to understand not only how many commands or praise statements are given by parents but whether or not they are accompanied by positive or negative affect. Praise without a smile, eye contact, or some warm affect would seem meaningless. Likewise, it also is important to observe the nature of the child's affective responses, for the clinic child may be as compliant as the nonclinic child but may exhibit a rather flat, depressed, or inappropriate affect. Another possible reason may be the fact that each study has used a single observational measurement system designed specifically for that research, making it difficult to compare results across different studies using different behavioral coding systems. It could be postulated that some observational systems are better at discriminating clinic from nonclinic families than others.

The purpose of the present study was to compare clinic-referred and nonclinic children and their mothers using two independent observational systems. One system assessed primarily the quantitative aspects of parent-child interactions; the other assessed the qualitative aspects of interactions. By using two different observational systems in addition to a parent report measure, this study examined which behaviors or parent perceptions were the best discriminators of clinic and nonclinic status.

Method

Subjects

Sixty-eight mother-child pairs served as subjects. The clinic group, consisting of 40 families, was recruited from a behavioral clinic in a local pediatric hospital which announced it had a specialized program for conduct-disordered children. The nonclinic group, consisting of 28 families, was recruited through public announcements requesting participation in a university research project. These families were matched as closely as possible for age, sex, and family size. Nonclinic subjects were also selected on the basis of having no previous history of psychological referral or treatment for child behavior problems. The characteristics for each group are presented in Table 1.

Measures

Eyberg Child Behavior Inventory (ECBI). The ECBI (Robinson, Eyberg, & Ross, 1980) is a 36-item inventory, applicable for children 2–16 years, which measures parental perceptions of their children's behavior problems. Previous research has demonstrated adequate split-half reliability, test-retest reliability, and internal consistency (Robinson et al., 1980).

Interpersonal Behavior Construct Scale (IBCS). The IBCS (Kogan, 1972; Kogan & Gordon, 1975) was designed to assess the qualitative aspects of

Table 1. *Demographic Variables for Clinic and Nonclinic Families*

Demographic Variables	Clinic Families (n = 40)	Nonclinic Families (n = 28)
Child's Mean Age (months)[a]	57.45 (13.39)[b]	47.53 (9.51)
Mean Number of Children in Family	1.92 (.78)	1.96 (.58)
Mother's Mean Age	30.00 (5.6)	33.50 (3.33)
Income[c,a]		
Less than 5,000	13	1
5–14,999	5	3
15–20,999	8	6
21–28,999	12	4
29+	2	14
Education[c,a]		
Some high school	8	0
High school completed	15	0
Some college	11	6
College completed	6	22
Child's Sex[c]		
Male (n = 40)	29 (72.5%)	11 (67.9%)
Female (n = 28)	19 (27.5%)	9 (32.1%)
Marital Status[c,a]		
Single/Divorced	24	2
Married	16	26

[a]Significant differences.
[b]Numbers in parentheses indicate standard deviations.
[c]Reflects actual number of families in each category.

parent–child interactions. It consists of 23 categories of behaviors that are summed to form six main dimensions of the parent and child interactions: positive affect, negative affect, nonacceptance, dominance, submissiveness, and attention. The IBCS makes extensive use of nonverbal negative and positive behavioral categories, such as smiles, laughs, frowns, and expressions of frustration, animation, or boredom. Each of these six dimensions is assessed for both the parent and the child behaviors. Previous studies (Kogan & Gordon, 1975; Kogan & Wimberger, 1971) have reported satisfactory test–retest reliability and validity of these behavior dimensions.

Dyadic Parent–Child Interaction Coding System (DPICS). The DPICS (Robinson & Eyberg, 1981) consists of 29 behavior categories that are summed to form 10 separate mother variables and 2 child variables. The DPICS uses verbal, negative behavior categories such as parental commands and child deviance. Previous studies (Robinson & Eyberg, 1981) have demonstrated satisfactory reliabilities for parent and child behaviors.

Procedure

All 68 mothers and children completed the parent report questionnaires and videotaped observations. The videotapes were analyzed by experienced coders who were blind to the hypotheses of the study and to the subject group membership. Observational records were rechecked by a second coder who independently analyzed 50% of the observations. To determine interobserver reliability, the records of both coders were compared interval by interval on the basis of occurrences of behaviors (not nonoccurrences). Pearson product–moment correlations for each behavior interval for the two observational systems are reported in Table 2.

Results

As the two groups were not equal on socioeconomic status and the child's age, these variables were employed as covariates in the analyses. The socioeconomic index was derived by giving each family a score of 1 if its income was welfare or lower, or if the mother's education was high school or less, or if the mother was a single parent. Index scores could range from 0 to 3. Initially, analyses of covariance (ANCOVA) were performed on all the attitudinal and behavioral outcome measures for clinic and nonclinic groups. For each dependent variable, the Dunn–Bonferonni Tables were used to determine the critical values to correct for the number of individual comparisons.

For the DPICS observational data, clinic mothers gave significantly more criticisms, commands, and praises than nonclinic mothers. However, clinic children were not significantly more deviant or noncompliant than the nonclinic children. (See Table 3.) For the IBCS observational data, clinic mothers exhibited significantly fewer submissive and positive affect behaviors than nonclinic mothers. (See Table 4.) Clinic children also showed

Table 2. *Interrater Reliabilities for Each Behavior Dimension*

Mother Behaviors	Nonclinic	Clinic	Child Behaviors	Nonclinic	Clinic
Interpersonal Behavior Construct Scale (IBCS)					
Attention	.92	.92	Independence	.92	.88
Positive Affect	.90	.82	Positive Affect	.94	.76
Negative Affect	—[a]	.66	Negative Affect	.98	.77
Nonacceptance	.90	.90	Nonacceptance	.94	.53
Dominance	.91	.94	Dominance	.89	.79
Submissiveness	.94	.69	Submissiveness	.93	.73
Dyadic Parent–Child Interaction Coding System (DIPCS)					
Praise	.96	.76	Noncompliance	.99	.85
Descriptive and Reflective Comments	.97	.92	Deviancy	—[a]	.65
Questions	.77	.84			
Physical Positive	.99	.62			
Physical Negative	—[a]	.79			
Total Commands	.81	.94			
No Opportunity Commands	.61	.91			
Indirect Commands	.76	.87			
Direct Commands	.70	.80			
Criticisms	.87	.86			

[a]Behaviors rarely if ever occurred in nonclinic sample. Reliability could not be computed.

Table 3. *Comparison of Clinic and Nonclinic Group Means and Results of Analyses of Covariance*[a]

Category	Unadjusted Means				Adjusted Means			
	Clinic		Nonclinic		Clinic	Nonclinic		
	M	*SD*	*M*	*SD*	*M*	*M*	*F*	*p*
DPICS Observations								
Mother Behavior[b]								
Praise	6.90	6.4	5.93	7.9	8.46	3.71	4.82	.03
Descriptive and Reflective Comments	91.05	26.7	99.07	27.6	92.42	97.11	.31	NS
Questions	85.96	30.8	91.07	31.0	87.44	88.97	.03	NS
Physical Positive	9.40	12.2	9.64	20.8	9.54	9.44	.00	NS
Physical Negative	1.86	3.9	.03	1.9	1.47	.62	.79	NS
Total Commands	52.35	38.0	19.39	10.05	51.25	20.97	12.62	.001
No Opportunity Commands	26.83	23.8	7.50	5.0	26.05	8.61	10.63	.002
Indirect Commands	26.97	19.9	11.78	5.7	27.35	11.25	12.20	.001
Direct Commands	25.38	21.2	7.61	5.8	22.22	9.71	8.77	.004
Criticisms	10.88	10.5	1.25	1.84	9.65	3.00	7.12	.01
Child Behaviors[b]								
Noncompliance	6.58	7.3	2.21	1.8	5.99	3.05	2.64	NS
Deviancy	5.65	9.8	1.61	4.9	4.40	3.40	.15	NS
Eyberg Child Behavior Inventory								
Total Behavior Problem Score	20.60	7.3	6.75	3.9	20.94	6.27	54.98	.001
Intensity Score	156.02	30.8	112.75	22.9	156.30	112.37	23.62	.001

[a]Covariance analyses controlled for mother's income, education, marital status, and child's age.
[b]Mean frequency per 30 min of observation.

Table 4. *Comparison of Clinic and Nonclinic Group Means and Results of Analyses of Covariance*[a]

IBCS Observations	Unadjusted Means				Adjusted Means			
	Clinic		Nonclinic		Clinic	Nonclinic		
	M	*SD*	*M*	*SD*	*M*	*M*	*F*	*p*
Mother Behavior[b]								
Attention	18.20	8.9	21.18	11.3	19.85	18.82	.11	NS
Positive Affect	19.67	9.8	30.07	10.9	21.21	27.89	4.17	.04
Negative Affect	.70	2.6	.04	.19	.28	.65	.37	NS
Nonacceptance	9.95	6.9	4.11	2.4	8.52	6.14	2.07	NS
Dominance	36.37	14.8	31.89	10.2	35.46	32.32	.76	NS
Submissiveness	6.20	4.1	9.71	7.0	5.96	9.98	5.35	.02
Child Behavior[b]								
Independence	24.42	7.0	26.18	7.5	25.78	24.24	.46	NS
Positive Affect	12.00	7.4	21.75	9.4	11.32	22.72	18.12	.001
Negative Affect	3.63	5.4	1.00	2.4	3.04	1.82	.76	NS
Nonacceptance	7.30	6.8	8.14	5.4	6.83	8.82	.98	NS
Dominance	15.55	8.6	20.07	10.5	14.61	21.98	7.20	.009
Submissiveness	17.55	7.9	17.18	7.5	17.45	17.33	.02	NS

[a]Covariance analyses controlled for mother's income, education, marital status, and child's age.
[b]Mean frequency per 30 min of observation.

significantly fewer dominance and positive affect behaviors than nonclinic children. Analysis of the mothers' reports indicated that clinic children were perceived by their mothers as being significantly more deviant and maladjusted than those in the nonclinic group on the ECBI Problem score and Intensity score.

A stepwise discriminant function analysis was performed on the significant outcome measures to determine which variables were the best predictors of clinic and nonclinic status. Again, to partial out the effects of social class and child's age, the socioeconomic index and age variables were entered first to determine how much variance these variables contributed to the model before the attitudinal and behavioral variables were taken into account. The

discriminant function based on six predictors was significant and as Table 5 indicates, the socioeconomic variable contributed a significant amount of unique variance. Holding this variable constant, the Eyberg Behavior Problem score accounted for an additional 27% of the variance and each of the other variables contributed 2% to 6% of the remaining variance. Results of this discriminant analysis should be interpreted cautiously because the obtained weights need to be cross validated on an independent sample.

Discussion

These results suggest that all three types of variables—child behavior, parent behavior, and parent reports—differentiated clinic-referred and nonclinic families. After socioeconomic variables were taken into account, mothers' reports of their children's behavior problems as measured by the ECBI seemed to be the best discriminator between clinic and nonclinic children. This finding corroborates the results of several other reports (Griest et al., 1980; Lobitz & Johnson, 1975). In addition, correlations between ECBI scores and independent observations of child noncompliance, deviancy, and negative affect were .37, .37, and .45. These findings seem to verify the accuracy of the parent perception data.

The use of two different observational systems to analyze the mother-child interactions provided especially rich information about the nature of behavioral differences between clinic and nonclinic families. For example, the behavioral records from the DPICS observational system showed that clinic mothers exhibited significantly more praise behaviors than nonclinic mothers. This finding was both counterintuitive and in contrast to some other published findings (Forehand et al., 1975; Lobitz & Johnson, 1975). Moreover, this finding seemed at first to contradict the concurrent finding from the IBCS observational system that the clinic mothers exhibited significantly fewer positive affect behaviors than nonclinic mothers. However, further analysis of the components of the positive affect dimension explains this discrepancy. When praise behaviors were isolated from the positive affect dimension, there was indeed a trend for clinic families to exhibit more praise behaviors, but they also showed significantly ($p < .002$) fewer smiles, expressions of warmth and enthusiasm, and supportive comments. In other words, the praise of clinic mothers was not accompanied by positive affect as it was in the nonclinic mothers.

Clinic mothers also differed from nonclinic mothers according to the DPICS in that they were significantly more critical and controlling of their children. In addition, the IBCS showed that they were significantly less submissive than nonclinic mothers. These findings indicate that the clinic mothers were less likely to accept ideas or directions from their children. In other words, they were more noncompliant with their children than nonclinic mothers.

Records of the quantity of specific child behaviors, especially negative behaviors, were not particularly useful in detecting differences between the two groups of children. On the other hand, affective ratings from the IBCS system revealed rather clear-cut differences between the two groups of children. Clinic children exhibited significantly fewer smiles and expressions of enjoyment than the nonclinic children. In fact, after mother reports were taken into account, the child positive affect dimension was the best discriminator between the two groups. In addition, the IBCS revealed that clinic children exhibited significantly fewer dominance behaviors than nonclinic children. This lack of dominance behaviors indicates the clinic children's lack of assertiveness and self-confidence with their mothers.

These findings should be considered cautiously. An important limitation of the study was the failure to match the two groups with respect to the social class variables. Instead, covariance analysis was used to adjust for differences between the two groups. However, basically "there is no statistical procedure that can be counted on to make proper allowances for uncontrolled preexisting differences between groups" (Lord, 1967, p. 305), and it is still possible that social class differences could have contributed to the current findings.

Nonetheless, these findings suggest several potentially important implications for future research as well as for the assessment and treatment of

Table 5. *Discriminant Analyses of Predictor Variables Comparing Clinic and Nonclinic Families*

Variables	R[a]	ΔR[b]	r[c]	F	p
Socioeconomic Index[d]	.59	34.9	.59	22.6	.001
Age of child	.64	6.2	.32		NS
Eyberg Problem Score	.83	27.2	.75	45.9	.01
Child Positive Affect	.86	6.5	.51	46.7	.001
Mother Total Command	.88	3.5	.48	44.7	.01
Child Noncompliance	.90	2.4	.36	42.6	.001

[a]Canonical correlation.
[b]Increment in criterion variance accounted for (numbers represent percentages).
[c]Simple correlation with criterion.
[d]Index consists of income, education, and marital status. Score of 1 given for welfare, education below high school, and single parent status.

clinic-referred, conduct-disordered children. First, it seems important to assess not only excesses of parent commands and child deviant behaviors in clinic families, but also deficits in positive behaviors, and perhaps most important, to assess the affective aspects of parent–child relationships. Second, in terms of therapy implications, these data support the existing trend for therapists to train parents in how to give fewer and more effective commands (Forehand, Sturgis, McMahon, Aguar, Green, Wells, & Breiner, 1979). However, the data also offer support for training programs that do not just teach parents how to increase praises or eliminate specific negative behaviors in children, but rather focus on building attachment, fostering more positive affect behaviors, and giving children more autonomy and responsibility for making decisions in appropriate ways. Programs such as the parent–child interaction approach discussed by Eyberg and Robinson (1983) and Hanf and Kling (1973) need to be integrated with behavioral programs that teach parents specific operant skills.

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