

PLACE IN RETURN BOX to remove this checkout from your record. TO AVOID FINES return on or before date due.

i

DATE DUE	DATE DUE	DATE DUE
	05057025	1004

MSU Is An Affirmative Action/Equal Opportunity Institution c:\circ\datadua.pm3-o.j

PARENTAL DEPRESSION AND SEX DIFFERENCES IN PARENT/SON INTERACTIONS

By

Rosanne du Bois Brouwer

,

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Department of Psychology

ABSTRACT

PARENTAL DEPRESSION AND SEX DIFFERENCES IN PARENT/SON INTERACTIONS

By

Rosanne du Bois Brouwer

Examined the effects of parental depression on parents' verbalizations to their preschool age sons in a structured playroom setting. Subjects were part of a larger longitudinal study of families with alcoholic fathers. The Dyadic Parent/Child Interaction Coding System, the Beck Depression Inventory, and the Hamilton Depression Scale were used to examine the effects of depression on parents' verbalizations during the play sessions. More depressed mothers were predicted to display fewer positive verbalizations than less depressed mothers, whereas fathers' depression was predicted to be unrelated to their play behavior. Contrary to hypotheses, both mothers <u>and</u> fathers gave more commands as their depression scores increased. Higher depression as measured by both the Hamilton and Beck instruments resulted in fewer questions being asked. Sex of parent affected questions only when measured by Beck, with more depressed fathers asking significantly fewer questions than more depressed mothers.

ACKNOWLEDGEMENTS

I am indebted to my advisor, Dr. Hiram E. Fitzgerald, who supported my efforts during the preparation of this work. I also wish to thank the other members of my committee, Dr. Robert A. Zucker and Dr. Elaine Donelson for their encouragement.

I wish to thank Matthew DeYoung, whose cheerful and patient help with the data analysis was most appreciated.

I also wish to acknowledge the efforts of Dr. Robert B. Noll in incorporating the Dyadic Parent/Child Interaction Coding System into the Michigan State University Family Study.

Finally, I wish to acknowledge several individuals who spent many hours mastering the coding system and coding the family playroom sessions, namely, Hope Pierson, Cheryl Burda, and Francis Canfield.

This work was supported in part by grants to R.A. Zucker, R.B. Noll, and H.E. Fitzgerald from the National Institute on Alcohol Abuse and Alcoholism (AA 07065), and from the Michigan Department of Mental Health, Prevention Services Unit.

TABLE OF CONTENTS

Page

INTRODUCTION	1
Depressed Mothers' Behavior Towards Their Children	3
Father-Child Interactions and Depression	7
Sex Differences In Parent Child Relationships	9
Depression and Alcohol	11
Other Variables Related to Parenting	13
The Current Study	14
Summary	15
<u> </u>	
HYPOTHESES	16
METHOD	18
Subjects	18
Data Collection Procedures	19
Dvadic Parent-Child Interaction Coding System (Evberg)	19
Depression Measures	22
Lifetime Alcohol Problems Scores (LAPS)	23
RESULTS	25
Reck Score Results	28
Hamilton Score Results	20
ANCOVA with additional variables	30
Permersion Analyzes	21
Alcohol Problems Status and Eyberg Categories	32
DISCUSSION	34
SUMMARY	41
REFERENCES	80

LIST OF TABLES

Table 1.	Description of behavior categories (Eyberg instrument)	21
Table 2.	Sociodemographic information for the sample	27
Table 3.	Means and Standard Deviations for the sample	27

APPENDIXES

ANCOVA tables		42
Table 1A	ANCOVA with Sex and Hamilton Depression Only	42
Table 2A	ANCOVA with Sex and Hamilton Depression Only	43
Table 3A	ANCOVA with Sex and Hamilton Depression Only	44
Table 4A	ANCOVA with Sex and Hamilton Depression Only.	45
Table 5A	ANCOVA with Sex and Hamilton Depression Only.	
Table 6A.	ANCOVA with Sex and Hamilton Depression Only.	
Table 7A.	ANCOVA with Sex and Hamilton Depression Only.	
Table 8A.	ANCOVA with Sex and Hamilton Depression Only	
Table 9A.	ANCOVA with All Variables Entered	50
Table 10A.	ANCOVA with All Variables Entered	51
Table 11A.	ANCOVA with All Variables Entered	52
Table 12A.	ANCOVA with All Variables Entered	53
Figures		54
Figure 1A.	Relationship Between Beck Depression and Percent Comma	
-	rendering between beek bepression and reneed commu	nds
	by Sex	nds 54
Figure 2A.	by Sex Relationship Between Beck Depression and Percent Question	nds 54 ns by
Figure 2A.	Relationship Between Beck Depression and Percent Question Sex	nds 54 ns by 55
Figure 2A. Figure 3A.	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex	nds 54 ns by 55
Figure 2A. Figure 3A.	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent	nds 54 ns by 55 56
Figure 2A. Figure 3A. Figure 4A.	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent Questions by Sex	nds 54 ns by 55 56
Figure 2A. Figure 3A. Figure 4A. Stepwise Multiple R	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent Questions by Sex egression with All Variables Entered	nds 54 ns by 55 56 57
Figure 2A. Figure 3A. Figure 4A. Stepwise Multiple R Table 13A	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent Questions by Sex egression with All Variables Entered Procedure for Dependent Variable PRAL PCT	nds 54 ns by 55 56 57 58
Figure 2A. Figure 3A. Figure 4A. Stepwise Multiple R Table 13A. Table 14A	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent Questions by Sex egression with All Variables Entered Procedure for Dependent Variable PRAI_PCT Procedure for Dependent Variable COMM PCT	nds 54 ns by 55 56 57 58 58
Figure 2A. Figure 3A. Figure 4A. Stepwise Multiple R Table 13A. Table 14A. Table 15A.	by Sex Relationship Between Beck Depression and Percent Question Sex Relationship Between Hamilton Depression and Percent Commands by Sex Relationship Between Hamilton Depression and Percent Questions by Sex egression with All Variables Entered Procedure for Dependent Variable PRAI_PCT Procedure for Dependent Variable COMM_PCT Procedure for Dependent Variable CRIT_PCT	nds 54 ns by 55 56 57 58 58 59 61

Table 17A.	Variable: LAPS	64
Table 18A.	Variable: PRAI_PCT	64
Table 19A.	Variable: COMM_PCT	65
Table 20A.	Variable: CRIT_PCT	65
Table 21A.	Variable: QUES_PCT	66
Table 22A.	Variable: PRAI_PCT	66
Table 23A.	Variable: COMM_PCT	67
Table 24A.	Variable: CRIT_PCT	67
Table 25A.	Variable: QUES_PCT	68
Table 26A.	Variable: LAPS	69
Table 27A.	Variable: PRAI_PCT	69
Table 28A.	Variable: COMM_PCT	70
Table 29A.	Variable: CRIT_PCT	70
Table 30A.	Variable: QUES_PCT	71
Table 31A.	Variable: PRAI_PCT	71
Table 32A.	Variable: COMM_PCT	72
Table 33A.	Variable: CRIT_PCT	72
Table 34A.	Variable: QUES_PCT	73
Depression score dis	stribution plots	74
Table 35A.	Hamilton Depression Score Distribution	74
Table 36A.	Normal Probability Plot for Hamilton Depression Scores	74
Table 37A.	Beck Depression Scores Distribution	75
Table 38A.	Normal Probability Plot Beck Depression Inventory Score	76
nformed consent fo	m	77

•

INTRODUCTION

The purpose of this study was to examine the effects of parental depression on the interactions between parents and their pre-school age sons in a structured playroom setting. Of particular interest were the possible differences between depressed mothers and depressed fathers in this setting. Since the sample consisted of families with alcoholic fathers, the relationship between alcohol use and depression was also of interest.

Depression is a relatively common psychiatric disorder, with women two to three-times more likely to experience depression than men (Weissman & Klerman, 1977; Hopkins, Marcus, & Campbell, 1984). Women who live in financially strained circumstances and who have responsibility for young children are more likely than other women to become depressed (Brown, Bhrolchain, & Harris, 1975; Pearlin & Johnson, 1977; Radloff, 1975; Goldman & Ravid, 1980).

Patterson (1981) cites evidence from a survey in <u>Behavior Today</u> (April 14, 1976) in which 23% of housewives interviewed reported tension, headaches, and depression. Patterson believes this is often attributable to the high rates of aversive events that mothers are exposed to, and that these events are most often associated with children. Fawl (1963) reported data showing that in non-problem, middle-class

homes, an average of 3.4 disturbances per hour occurred between mothers and preschool children. Furthermore, the median number of these disturbances from twoand three-year-olds was more than twice that from four- and five-year-olds. Patterson (1981) points out that during this time of frequent stress, mothering of young children requires a high response rate, and mothers rarely receive a comparable rate of positive reinforcement for their responsivity. Since it is reasonable to assume that mothers in non-distressed families have better support systems for the rearing of young children than do mothers in distressed families, the symptoms of maternal stress and depression should be higher in distressed families than in non-distressed families. Colletta (1983) reported that, in a sample of young mothers, levels of depression increased in relation to the amount of stress, and decreased when the mother was involved in a supportive social network.

There is evidence that children of depressed mothers are at risk for emotional illness (Beardslee, Bemporad, Keller, & Klerman, 1983; Weissman, Paykel, & Klerman, 1972; Rutter, 1966; see also review by Downey & Coyne, 1990), behavior problems (Dumas, Gibson, & Albin, 1989; Cox, Puckering, Pound, & Mills, 1987; Forehand, Lautenschlager, Faust, & Graziano, 1986; Williams & Carmichael, 1985), and cognitive deficits (Gruenebaum, Cohler, Kauffman, & Gallant, 1978). In a sample of urban working class mothers, children of depressed mothers were found to have more emotional and behavioral problems than children of non-depressed control mothers. Children of depressed mothers had eating difficulties, problems in relationships with peers or parents, and poor attention combined with overactivity

when compared with children of non-depressed mothers (Cox et al., 1987). Maternal depression has also been linked to the development of childhood depression (McKnew & Cytryn, 1973; Orvaschel, Weissman, & Kidd, 1980). Dumas, Gibson, and Albin (1989) suggest that the relationship between maternal depression and childhood depression is robust because it has been demonstrated in studies where maternal depression levels were mild to moderate (e.g., Forehand & Brody, 1985) as well as in studies where mothers had major affective disorders (e.g., Weissman & Paykel, 1974).

Depressed Mothers' Behavior Towards Their Children

It is important to clarify at the outset that definitions of depression differ in studies related to maternal depression and child behavior. Most studies focus on clinic referred children with behavior problems and discuss maternal self-report depression symptoms as they relate to the mothers' descriptions of their child's behavior. Many of these studies do not separate clinically diagnosed depression from depressive symptoms or depressed mood. In fact, some studies seem to use the terms interchangeably (Fergusson, Horwood, Gretton, & Shannon, 1985). Other work uses only clinically diagnosed mothers, notably Weisman and Paykel (1974) and Longfellow, et. al (1982).

Very few of the subjects in the current study reach levels of clinical depression, either with Beck self-report data or Hamilton clinician rated depression. It may be important to distinguish between clinically diagnosed depression, depression symptoms, depressive mood, and transient stress-related depression or "bad mood."

Because subjects in the current study are not at clinical levels of depression, results in this study should be viewed as reflecting the behavior of parents as their depression level increases, and not as reflective of the behavior of a clinically depressed population.

Some studies show depressed mothers to be less effective parents. Weissman et al. (1972) found that depressed mothers were unable to be normally involved in their children's lives, unable to be positive models for their children, withdrew physically and emotionally from their children, and complained about being intolerant of their children's noise. Others have found depressed mothers to be inconsistent in their use of discipline (Susman, Trickett, Ianotti, Hollenbeck, & Zahn-Waxler, 1985; Zelkowitz, 1982). Maternal depression has been associated with verbal and physical punitiveness and less nurturance. Depressed mothers were much more likely to use hostile and dominating styles, both in initiating behavior to their children, and when responding to children's requests (Longfellow, Zelkowitz, & Saunders, 1982). They typically yelled and threatened. Depressed mothers were much less likely to use styles that conveyed warmth, affection, or positive affect. Attentiveness, responsiveness, and warmth were more likely in families with non-depressed mothers (Longfellow, et al., 1982; Weissman & Paykel, 1974; Rutter, 1966). Longfellow et al. (1982), whose observational study used a sample of low-income mothers, found that the severity of mothers' depression was related to a style of parenting that consisted of more warnings and prohibitions to children, greater use of hostile and dominating control techniques, and less compliance with their children's requests. Effects of depression

on maternal behavior were present regardless of other important background characteristics of the family (Longfellow et al., 1982).

Depressed mothers are less likely than normal mothers to meet their pre-school age child's demands for attention and communication. Longfellow et al. (1982) found that depressed mothers were unresponsive to their child's dependency needs; and their child's bids for attention, help, and food tended to be ignored or unfilled. Depressed mothers were also less likely to initiate nurturant interactions, and more likely to initiate interactions that encouraged prosocial behavior, i. e., by issuing warnings, reminders, and commands (Longfellow, et al., 1982).

Self report measures corroborate observational data regarding the behavior of depressed women and their children. Depressed women report less tolerance for dependency seeking behaviors in their children (Longfellow, et al., 1982). Zelkowitz (1982) found that mothers with high depression levels tended to demand immediate compliance from their children. Depressed women also reported "considerable" resentment towards their children, whereas non-depressed women did not (Weissman, et al., 1972). Weissman & Paykel (1974) also found that depressed mothers report that they experience friction, impaired communication, lack of affection, and resentment toward their children.

Some depressed mothers tend to get overinvolved in their children's lives. Weissman (1974) found that depressed mothers were overinvolved in their children's lives and acted in overprotective ways. According to Weissman (1974), "some depressed women engaged in a frenzied pursuit of activities with their children.

However, though this involvement was interpreted by less intimate associates as 'togetherness,' closer observation showed that such over involvement actually diluted emotional closeness and appeared to compensate for a sense of guilt and deeper disinterest" (p. 113). For example, depressed mothers may be involved with PTA, car pools, field trips, act as lunch room mothers, etc., but individual contacts with their children are cold and distant. Moreover, excessive involvement with children's activities was sometimes associated with verbal and physical abuse of the children (Weissman, 1974).

When mothers were asked about changes in their child's behavior when the mothers themselves were depressed, only 12% reported there was no change. The most common pattern observed by Cox et al. (1987) and shown by more than half the children, was one in which the child approached the mother, clung to her, and comforted her. Cox reports it was a "very moving sight" to watch two-year-olds comforting their distressed mothers (p.921).

There is some conflicting evidence in the literature regarding the effects of maternal depression behavior on children. Rogers and Forehand (1983) found no relationship between maternal depression and maternal behavior towards children. Forehand and Brody (1985) found maternal depression to be related to maternal perceptions of child maladjustment but not to maternal behaviors. Forehand, Lautenschlager, Faust, & Graziano (1986), indicated that there were significant paths from maternal depression to maternal perceptions of child maladjustment, to increased commands, and to increased child non-compliance. But when Dumas et al., (1989)

controlled for maternal perception, the opposite was found. High levels of maternal depression were associated with high levels of compliance.

These confusing and conflicting results reflect possible methodological problems. Webster-Stratton & Hammond (1988) report that studies of depressed mothers have been hampered by such problems as small sample sizes, lack of appropriate control groups, and reliance on data from lower-class, clinic referred mothers.

Father-Child Interactions and Depression

Much less has been written about father-child interactions. Until quite recently, the study of infant and preschool development has focused almost entirely on the mother, whether in psychoanalytic theory, attachment theory, or social learning theory. Only in the last 20 years have psychologists begun to study father-child interactions seriously and systematically. The fact that many families now have two working parents has not increased the actual amount of time fathers spend in caregiving (Nyquist, Slivken, Spence, & Helmreich, 1985). Indeed, mothers spend more time in caregiving functions compared to fathers, even when the mothers also hold full time jobs outside the home (Kotelchuck, 1976; Nyquist, et al., 1985). However, the issue of fathers as nurturers has become the focus for some researchers.

Regardless of amount of time spent, there is evidence suggesting that fathers have a different way of interacting with their children than mothers. At as early as 4 months of age, fathers have been observed to play more games than mothers during

interactions with infants, as well as show higher levels of affect (Yogman, 1982). Yogman describes the difference this way: "...interaction with fathers can be characterized as heightened and playful whereas the interactions with mothers appeared more smoothly modulated and contained" (p.250).

Lamb (1981) suggests that the mother's biological connection to the child leads to her role as primary caregiver, thereby freeing fathers to focus on play and connection to the outside world. Yogman (1982) writes that historically the general psychological function of fathers has been "the fostering of autonomy and the enhancement of individuation" (p. 223). Whether this notion is based in biology or not is an open question (Clarke-Stewart, 1980), but it seems apparent that role expectations play a large part in the different quality of parenting by mothers and fathers (Clarke-Stewart, 1980; Yogman, 1982).

Bright and Stockdale (1984) found that fathers controlled and directed their children during a play session more than mothers, and mothers were more quiet than fathers during play with their children. Bright and Stockdale suggest this may be because fathers, and indeed society in general, have the expectation that it is the father's role in child-rearing to teach instrumental skills. In their study, children also controlled and directed their fathers more than they did their mothers, supporting the idea that father-child interactions are more instrumental in nature. However, the research regarding father-child relationships and involvement is limited because most of the work has been conducted in "traditional" nonemployed-mother families. With the current figures in the United States at more than 50% of mothers of preschoolers

working outside the home (Hayghe, 1990), this pattern is not representative of a significant number of contemporary American families. More research is needed on the changes that may or may not be taking place as roles change.

Sex Differences In Parent Child Relationships

There is some support in the literature for a sex difference in roles for mothers and fathers regarding the nature of the relationship with their children. Clarke-Stewart (1978, 1980) reported that in interactions with 30-month-old children, fathers were more likely to reward children during play and were rated higher than mothers in their ability to engage the child in play and in the fathers' own enjoyment and involvement in the activity. Easterbrooks and Goldberg (1984) obtained similar results. They found that whether fathers take responsibility for caregiving is less strongly related to variations in child development than is the amount of time they spend with the child, supporting the idea that the central role of the father may be playmate rather than caregiver. Kotelchuck (1976) has presented evidence from parental interviews that father-child interaction is more likely to involve play than is mother-child interaction, whereas mother-child interaction is more likely to involve caregiving. Lamb (1976) has presented observational data showing fathers were more likely to hold infants during play, while mothers held them for caregiving.

Patterson (1981) reported that fathers have a high rate of play in both distressed and non-distressed families, suggesting that fathers are less likely to change their behavior with their children based on personal stresses. Rather, Patterson argues

that mothers are culturally assigned the role of crisis manager in distressed families, and fathers, who engaged in considerably more normative behavior (such as reading the newspaper), might be more appropriately labeled as a "guest". Patterson (1976) has reported elsewhere that fathers of clinically referred problem children had MMPI scores indistinguishable from fathers in non-distressed families. Fathers seem to be able to escape more effectively from the stresses of family life through work and other activities that allow them to remove themselves, either physically or psychologically and emotionally. Since the sample in the current study consists of all alcoholic fathers, it is important to note that this role difference exists in distressed families as well as non-distressed families.

There has been virtually no research in which depressed fathers were actually observed interacting with their children. One study by Webster-Stratton (1988) examined mothers' and fathers' perceptions of child deviance using observational data. She also used a measure of parenting stress (Abidin, 1983) which includes depression as one of the eight subscales. Mothers and fathers in her study also completed the Beck Depression Inventory. For mothers, both Beck depression score and level of parenting stress were correlated with negative behaviors toward the child. For fathers, these measures were not correlated with behavior towards the child. These data support the hypotheses of the current study. They suggest that mothers' distress level and depression are related to the way they interact with their children but for fathers, these personal adjustment measures do not affect parenting behavior.

It may be that depressed and distressed mothers have lower tolerance for child misbehavior. It may also be true that fathers use other avenues to cope with depression and stress.

Downey & Coyne (1990), in their review of the research on children of depressed parents, did not find any study in which depressed fathers were observed with their children. The bias present in parent-child research toward the mother as much more important in child development than the father has left a large gap in the literature. One advantage of the current study is the use of direct observation to measure father and mother behavior separately in play interactions with their child.

Depression and Alcoholism

Depression is a frequent correlate of alcoholism (West & Prinz, 1987). In an investigation of comorbidity of mental disorders with alcohol abuse, (Regier, Farmer, Rae, Locke, Keith, Judd and Goodwin; 1990) affective disorders were found in 13.4% of the subjects with an alcohol disorder, compared with 7.5% among subjects without an alcohol disorder. Research concerning the relationship of alcohol and depression that has addressed its effects has mostly focused on child outcomes (see review by West & Prinz, 1987) rather than actual specific behaviors of mothers and fathers who are alcoholic or depressed or both. The current study sought to identify whether or not depression and alcohol problems affect the way mothers and fathers play with their children.

Recent discussion in the literature has focused on whether fathers' alcoholism directly affects child outcomes, or whether the effect on children is mediated by the wives of the alcoholics (Fitzgerald, Sullivan, Ham, Zucker, Bruckel, Schneider, & Noll, under review). Fitzgerald et al., using data from the same data set as the current study, found that maternal variables, including both depression level and mothers' alcohol problems as measured by the Lifetime Alcohol Problems Scale (LAPS) (Zucker, 1991), predicted the fathers' perceptions of their childrens' problems.

In the current study, the subjects are all families with an alcoholic father. However, because alcohol problem levels are elevated for both mothers and fathers when compared to control subjects in this sample (Fitzgerald, et. al, under review), and because depression reports are similar between mothers and fathers in the subjects of this study, one possible reason for differences in behavior in the playroom is gender. It is of course possible that alcoholism and depression affect fathers and mothers differently as regards their parenting behavior. However, since fathers' alcoholism may affect children indirectly through the mothers, and since the fathers' role is that of playmate, it is the prediction of the current study that alcohol problems status (LAPS) in fathers will not affect their verbalizations to their children. It is further predicted that depression in mothers will affect their interactions with their children, while fathers' behavior in a play situation will not be affected by their depression level. Support for this notion also comes from Jacob and Leonard (1986) who found that children of both alcoholic and depressed fathers had more behavior problems than the children of normal fathers, but they found no differences between

the alcoholic and depressed father groups. Although Jacob and Leonard's study reported on child outcomes in alcoholic and depressed father groups and the current study reflects only on the parents' verbalizations toward the child, it is reasonable to suggest that an inability to distinguish between children of alcoholic and depressed fathers may reflect similar parenting in both alcoholic and depressed fathers. Once again it should be noted, however, that the subjects in the Jacob and Leonard study (1986) reached diagnostic criteria for depression. Nevertheless, it seems reasonable that these two variables are less likely to influence a father's behavior in a play situation than a mother's behavior.

Other Variables Related to Parenting

It is possible that other variables besides depression and alcohol problems may be contributing to the way parents behave with their children in the playroom. These include education level of the parents, and following from that, the occupation and income level of the parents. The families in this study tend to be lower income families and most are high school graduates only. It is possible that this socioeconomic status may be reflected in the playroom behaviors of the parents.

The number of children in a given family and its differential demands on parents may also influence the way parents behave when they are given the opportunity to play undistracted with one child.

Because the MSU Family Study has this information available, these variables were included in the analyses on an exploratory basis.

The Current Study

The current study focuses on the question of sex differences in parents' behaviors toward their sons in a play situation, particularly as such behaviors relate to levels of parental depression. To measure parents' verbalizations in the playroom, the MSU Family Study uses the Dyadic Parent/Child Interaction Coding System (DPICS) (Eyberg & Robinson, 1983) to code different types of speech. The DPICS was developed to allow the clinician to observe parent-child interactions in a playroom setting. The instrument was designed to identify problem families and to understand their dynamics. Robinson & Eyberg (1981), found few and relatively small differences between mothers and fathers in their interactions with young children. The current study hypothesizes that these differences may be larger for depressed vs. nondepressed parents.

Use of DPICS has revealed some sex differences in family interaction patterns. For example, in one study mothers consistently gave more total praise than fathers, whereas fathers tended to be more directive, and to give more indirect commands (Robinson & Eyberg, 1981). Another study has demonstrated differences in maternal verbal behavior between neglect and non-neglect families (Aragona & Eyberg, 1981). In a group of 27 mother-child dyads, significant findings were reported for direct commands, verbal praise, verbal acknowledgement, and critical statements, with negligent mothers consistently lower than controls (Aragona & Eyberg, 1981).

Summary

In summary, the literature suggests the following conclusions with respect to the effects of parental depression on how parents behave with their children during play.

1. Mothers with higher levels of depression are likely to display fewer positive behaviors toward young children than less depressed mothers.

2. Fathers, depressed or not, tend to view time with young children as playtime, and do not change their behavior with children in relation to their own distress level.

3. The effects of an alcoholic father on a child may be mediated through the child's mother in her role as caregiver, particularly in younger children.

HYPOTHESES

Since depressed mothers have been reported to resent their children, and to express anger and resentment over their isolation in the child rearing role, it is hypothesized that: 1) mothers with higher levels of depression will give less praise to their children than non-depressed mothers, 2) mothers with higher levels of depression will give less praise than will depressed or non-depressed fathers, 3) depressed mothers will use more commands and 4) more critical statements than will fathers, 5) depressed mothers will use fewer questions on the Eyberg index than will nondepressed mothers.

Fathers, on the other hand, who have not been reported to resent their children or view them as restrictive of their lifestyle, will display more playful and positive behaviors with their children in the playroom setting. If research suggesting that fathers view time with their children as pleasurable, and the father's role as that of playmate is correct, then fathers will show more positive behavior toward their children in a play situation than will depressed mothers. 5) Fathers will give more praise, 6) use fewer commands, 7) make fewer critical statements, and 8) ask more questions than will depressed mothers.

Finally, fathers' LAPS scores will not predict their behavior in the playroom because fathers tend not to change their behavior with their children based on their own personal stresses. Mothers' LAPS scores, similar to their depression scores, will predict behavior towards their children, with higher LAPS scores predicting less praise, fewer questions, and more critical statements and commands.

METHOD

Subjects

Subjects are 81 families participating in the Michigan State University Family Study (Zucker, Noll, & Fitzgerald, 1986), a longitudinal study examining the factors that may influence child development and health in the offspring of alcoholic and nonalcoholic parents. The current study uses data from the alcoholic sample only.

Subjects are recruited from local district courts using criteria of 1) men who are arrested for drunk driving with a blood alcohol concentration (BAC) of at least .15 (or .12 if it is a second offense), 2) at the time of contact are in intact families, and 3) have biological sons between 3.0 and 6.0 years of age. All candidates are asked by their probation officers to give their permission to be contacted by project personnel. Families who give such permission are visited by the project coordinator and are recruited into the project. The project coordinator visits each family, explains the study, and secures informed consent for participation (see pages 77 and 78). All families in the study are paid for their participation.

Data Collection Procedures

Dyadic Parent-Child Interaction Coding System (Eyberg)

Video taped interactions of each parent separately with the child are coded using the Dyadic Parent Child Interaction Coding System (Eyberg & Robinson, 1983). Parents and the target child come to the video laboratory at Michigan State University. Based on a coin flip, one parent is escorted to the playroom with the child while the other parent is in another room completing questionnaires as part of the larger data collection protocol. The playroom contains several toys, such as crayons and paper, Play Doh, trucks, and Lincoln Logs. The playroom has a one-way viewing window through which video tapes are made of the playroom interactions. After the parent and child are seated in the playroom, a graduate assistant gives the following instructions:

There are three 10-minute time periods. We will knock on the window to alert you to the time changes. The first ten minutes it is your child's turn to choose what to play with, and you (parent) should play along with him. The second ten minutes it is your (parent's) turn to choose the activity, and your child should play along with you. The third ten minutes is clean-up time, and I'd like you to ask your child to clean up. If you finish before the third ten minutes is up, just say, "We're done," and I will come and get you.

When this thirty minute protocol is finished, the same procedure is repeated with the other parent. Both parent and child know they are being video taped.

The Eyberg coding system (DPICS) was designed to: a) provide an observational measure of parent and child behavior as an adjunct to full psychological evaluation of childhood disorders or parenting skills; b) serve as a pre-treatment assessment of behavior occurring in dyadic family interaction; c) provide a measure of ongoing progress during therapy that focuses on changing general parent-child interaction patterns; and d) serve as a behavioral observation measure of treatment outcome (Robinson & Eyberg, 1984, p. 122).

Observational coding is done live and continuously by graduate students behind the one-way window, and results in a record of the total frequency of each behavior during each ten-minute period. The Data Recording Sheet (page 79) is used by observers to record all data. Verbalizations are coded by making a tally mark in the appropriate space on the recording sheet each time the particular verbal behavior occurs (Robinson & Eyberg 1984).

Each verbal behavior is operationally defined in a detailed coding manual (Eyberg & Robinson, 1983). For each category, the manual provides a general definition and a series of examples. It also lists specific guidelines to aid in discrimination between categories. Finally, the manual lists decision rules to use when there is uncertainty between categories. A brief description of the parental behaviors is presented in Table 1. Direct and Indirect commands were combined for purposes of this study because both reflect an instrumental approach by the parent and there were insufficient numbers to analyze them separately. A number of studies have documented the reliability of the coding categories (Aragona & Eyberg, 1981; Robinson & Eyberg, 1981). Robinson & Eyberg (1981) reported interrater reliability based on Pearson correlations of frequency of each behavior recorded by two observers during 244 five-minute observations. The mean reliability coefficient for parent behaviors was .91 (range = .76-1.0).

Table 1. Description of Behavior Categories

Parental Behavior	Description			
Direct Command	A direct, clearly stated order or direction in declarative form (e.g., Put the block on the tower.)			
Indirect Command	An indirect suggestion or questioncommand which attempts to lead the child's verbal or physical activity (e.g., Will you put the block on the tower?)			
Descriptive	Statements, both declarative and question form, which describe and follow the ongoing activity but contain no evaluative comment (e.g. You put the block on the tower.)			
Reflective	Statements, both declarative and question form, which exactly reflect a verbalization by the child.			
Desc/Reflective Question	Any question asked of the child, may be made a question by an inflection or a tag (e.g., huh?).			
Acknowledgement	Verbalizations which contain no manifest content (e.g., Okay or oh.)			
Praise	A statement indicating approval (e.g., Good, that's a good place to put the block.			
Critical statement	A statement indicating disapproval (e.g., That's not a good place to put the block.)			
Adapted from Arago	ona, J. & Eyberg, S. (1981)			

Subjects consisted of 42 families: a conduct problem group of 20, and a normative control group of 22, with correlations for each group in this range. In the Aragona & Eyberg study (1981), reliability coefficients, obtained for eight available families, were computed using Pearson product-moment correlations between observers for each behavioral category. For all categories, these coefficients ranged from .65 to 1.00, with only Parent-Directed Interaction--Acknowledgement falling below .85 (Aragona & Eyberg, p. 598).

For the current study, inter-rater reliabilities were calculated for each category individually, based on 42 separate coding periods, using data from three coders. Pearson correlations for these individual categories ranged from .78 to .97. The correlations for the specific categories used in this study were: Commands: Direct=.80, Indirect=.78; Praise: Labeled Praise (n = only 6) .48, Unlabeled Praise: .80; Critical statements: .68; and Questions: .97.

Depression Measures

Self reported depression was measured by the Short Form of the Beck Depression Inventory (Beck & Beck, 1972). This inventory requires respondents to complete 13 statements by picking the answer that best reflects how they feel on that day. Undergraduates administer the Beck self report measure to each parent at an earlier data collection session held in the family's home.

A review of the psychometric properties of the Beck (Beck, Steer, & Garbin, 1988) scanned internal consistency of the long form of the Beck in at least 25 studies. In psychiatric populations, the mean coefficient alpha was .86, with a range of .76 to .95. In nonpsychiatric samples, the mean coefficient alpha was .81, with a range of .73 to .92. Beck et al. (1988) claim comparable internal consistency for the short form. Validity examinations of the Beck Depression Inventory have shown impressive results in content, concurrent, discriminant, and construct validity (see review by Beck, et. al, 1988).

The Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1960), was used for rating levels of clinical depression. A clinical graduate student rates the level of clinical depression based on information from an extensive diagnostic interview conducted in the subject's home. Subjects are given a current Hamilton depression score and a "worst ever" score. The HRSD covers behavioral, affective, somatic, and psychological elements of depression. The analyses in this study used current levels of depression because they were more closely related in time to the status of the subject at the time of the playroom session. Interrater reliabilities for the HRSD range from .80 to .90 (Hamilton, 1969).

Lifetime Alcohol Problems Scores (LAPS)

As part of the larger longitudinal study at Michigan State University, subjects are given a measure of lifetime problems related to alcohol. The Lifetime Alcohol Problems Score (LAPS) (Zucker, 1991) was designed to provide a way of "scaling differences in extent of alcohol related difficulty over a lifetime." The measure is based on three aspects of functioning. First is the <u>primacy</u> of alcohol problems, based

on how early in the life course alcohol problems begin. Second is the <u>variety</u> of different alcohol related problems. This factor is based on a count of a large number of different types of alcohol related problems an individual may have experienced at any time during his or her life. Third is a component which measures the <u>invasiveness</u> of alcohol problems over the lifetime. This aspect is based on both the rate of problem display per unit of time, and the duration of the problem (Zucker, 1991). Each subscale is standardized. The LAPS score is calculated by adding the three subscores together. Scores for this measure are standardized separately for males and females within the MSU Family Study sample.

Measure of socioeconomic status

The Michigan State University Family Study uses the Revised Duncan (1981) based on the work of Stevens & Featherman (1981), to assess socieconomic status of the families. This occupation based measure of SES was selected after an extensive review of the strengths and weaknesses of several possible SES indicators (Mueller & Parcel, 1981).

RESULTS

The major issue in this study was whether or not current depressive experience differentially affects the way mothers and fathers speak to their young sons in a structured playroom setting. Mothers spend more time with their children overall than fathers, and are more often depressed than fathers. Mothers also tend to relate their depression to the demands of children, something fathers are less likely to do. Therefore, it seemed likely that mothers who were more depressed would be likely to give less praise to their children while playing with them and to ask fewer questions, a measure of engaging the child in the play. Fathers, on the other hand, less frequently have the opportunity to play with their children and feel less burdened by the demands of children. Fathers are likely to view the playroom session as a "luxury" while mothers are likely to view it as ordinary and even demanding.

While commands may be seen as an instrumental interaction style usually thought of as the domain of fathers, commands can also be viewed as behavior that views the child negatively. Commands tend to lessen engagement in the interaction, with the child merely carrying out the wishes of the parent and not being a participant in the play. Based on this view, depressed mothers would be more likely to issue commands to their children than fathers, depressed or not. Since fathers experience

play time with children as unusual and perhaps even indulgent, fathers would be more likely to use more engaging styles of interaction than commands. Following this same logic, depressed mothers would be more likely to be critical of their children than nondepressed mothers, or fathers, depressed or not.

Analysis of Covariance (ANCOVA) was used to analyze the effects of sex and depression on each of four dependent variables from the Eyberg codes: Praise, Commands, Critical Statements, and Questions. The four dependent variables were calculated as a percent of the total number of verbalizations spoken by the parent. A separate ANCOVA was conducted for each of the dependent variables. Because depression scores did not have a distribution that allowed a split into high and low depression groups (see plots page 74), depression was treated as a control variable and allowed to covary with the dependent variable. Separate ANCOVA analyses were conducted for each of the depression measures.

Table 2 summarizes the demographic characteristics of the sample for the current study. Table 3 shows the means and standard deviations for mothers and fathers separately for each of the variables.

Table 2. Sociodemographic Characteristics of the Sample

Family Variable		Mean	Range	Range		
Family Income	\$18,000		\$4,000-\$30,000			
Child Variable	1	Mean		Range		
Child Age	2	1.43	3.0 - 6.8	5		
Parent Variables	1	Mothers		Fathers		
	Mean	Range	Mean	Range		
Age (years)	28.96	21-40	30.57	22-48		
Education (years)	12.54	9-17	12.22	7-18		
	Mean	SD	Mean	SD		
LAPS	10.02	1.97	10.50	1.98		
Income	6.15	2.26	6.08	2.26		
Education	12.54	1.72	12.21	1.87		
Occupation	602.90	355.90	241.20	141.60		
Number of Children	2.19	.70	2.19	.70		

Table 3. Means and standard deviations for mothers and fathers for each variable.

VARIABLE	VARIABLE	Mothers		Fathers		
	Mean	SD	Mean	SD	<u></u>	
Percent Praise	4.00	4.30	2.00	2.20		
Percent Command	35.00	13.10	37.00	15.00		
Percent Critical	4.00	3.80	4.00	3.30		
Percent Ouestion	57.00	14.70	56.00	15.90		
Hamilton Score	7.07	6.77	6.39	6.77		
Beck Score	4.07	3.71	3.35	3.55		

Beck Score Results

Contrary to the hypotheses, ANCOVA analyses using Praise as the dependent variable revealed no significant effects [F (1,163) = .56, NS]. ANCOVA analyses using Critical Statements as the dependent variable also revealed no significant effects [F (1,163) = 1.17, NS].

Mothers and fathers did use commands differently during the play interactions with their sons. With Commands as the dependent variable, ANCOVA analyses revealed significant effects for both sex and depression level [F (1,163) = 9.8, p <.0001]. Both sex (t = 2.19, p< .03) and Beck score (t = 3.97, p< .0001) affected the number of commands given by the parents. For both mothers and fathers, the higher the Beck score, the more commands were given, with mothers also giving significantly more commands than fathers when depression was taken into account.

ANCOVA analyses using Questions as the dependent variable also revealed significant effects for both depression and sex [F(1,163) = 9.02, p < .0002]. The higher the depression score (t = -3.86, p< .0002), the fewer questions were asked by both mothers and fathers. Relative to the depression scores, fathers with higher depression scores asked significantly fewer questions than mothers with higher depression scores (t = -1.97, p< .05).
Hamilton Score Results

When Hamilton depression scores were used in ANCOVA analyses, results were similar to Beck score results for Praise, i.e., Praise was not significant [F(1,163) =.47, NS]. ANCOVA analyses using Critical Statements as the dependent variable were also not significant when Hamilton scores were entered into the analyses [F(1,163) = 2.0, NS).

ANCOVA analyses using Commands as the dependent variable were significant [F(1,163) = 3.58, p > .03). However, they differed from Beck results in that sex of the parent (t = 2.045, p< .04) affected commands but Hamilton score (t = 1.869, NS) did not. Mothers did give significantly more commands than fathers, but depression did not significantly affect the number of commands given by either sex when measured by Hamilton scores.

Finally, ANCOVA analyses using Questions as the dependent variable revealed significant effects [F(1,162) = 3.60, p > .03]. Hamilton Depression scores affected the number of questions asked (t = -2.059,

p<.04), but sex had no effect (t = -1.864, NS) on the number of questions asked. The higher the Hamilton score, the fewer questions were asked, regardless of sex of parent.

These results support the notion that depression does influence the way that mothers speak to their children during play. However, fathers' speech to their children was also influenced by depression. This may reflect the instrumental nature of fathers' interactions with children, which may be too strong to be offset by depression.

ANCOVA with additional variables

In an attempt to explain what other variables might be accounting for variance on the four dependent variables, (praise, commands, critical statements, and questions), an ANCOVA was run using several other variables. Lifetime Alcohol Problems Scores (LAPS, Zucker, 1991), family income, parents' education level, family socioeconomic status (based on the Revised Duncan Socioeconomic Index, (Stevens & Featherman, 1981), and the number of other children in the household were entered into the ANCOVA analyses.

Results from these analyses were consistent with the above ANCOVA results. With Commands as the dependent variable, ANCOVA analyses that included the additional variables mentioned above, were significant [F(1,162) = 3.73, p < .001]. However, the Beck Depression score accounted for the entire 14% of the variance explained by these analyses (t = 2.376, p< .02). None of the other above mentioned variables accounted for any significant portion of the variance in the number of commands given.

The ANCOVA analyses with Questions as the dependent variable, including the additional variables, was also significant [F(1,162) = 3.55, p < .001], accounting for 14% of the variance. Similar to the Commands, Beck Depression Score accounted for the entire 14% (t = -2.38, p< .02).

The ANCOVA analyses for Critical statements and Praise with all additional variables entered were not significant. [Praise: F(1,162) = .813, NS; Critical

statements: F(1,162) = 1.487, NS]. Again, this is consistent with the more specific analyses above.

Regression Analyses

Stepwise multiple regression analyses were also conducted using all the above variables (LAPS score, family income, parents' education level, family occupational status, and the number of other children in the household). This procedure was used with the default significance level of .15 in order to identify whether any of the other variables might be related to parental verbalizations in the playroom setting if conditions were more stringent or sample sizes larger. Any of the variables that met the .15 level might be worthy of further investigation related to the Eyberg categories.

When Praise was entered as the dependent variable, only Family Income met the .15 significance level criteria for entry into the model. However, family income did not significantly affect the amount of praise given [F(1,162) = 2.96, NS].

In the stepwise multiple regression using Commands as the dependent variable, three other variables entered the model at the .15 significance level. Beck depression score, parents' education level, and family income were included in the analysis. Beck Depression score accounted for the most variance (8%), [F(1,162) = 13.93, p < .0003], again consistent with the ANCOVA results above. Education level of the parents accounted for a significant additional amount of variance (3%), [F(1,162) = 6.19, p < .01] after Beck was accounted for. Income entered into the model at the .15 level, but did not account for any significant additional amount of variance after Beck and Education level were taken into account [F(1,162) = 2.83, NS].

Stepwise multiple regression using Critical Statements as the dependent variable also allowed Family Income into the model at a significant level [F(1,162) = 4.63, p < .03], accounting for 2% of the variance. No other variables met the .15 level for inclusion in the model for Critical statements.

When Questions was used as the dependent variable in stepwise multiple regression, the three variables of Beck score, family income, and parents' education level again met the .15 significance level for entry. Beck Depression score accounted for the most variance (8%), [F(1,162) = 13.29, p < .0004], followed by parents' education level with an additional 10% ([F(1,162) = 5.73, p < .01]. Family income did not account for any additional significant amount of variance [F(1,162) = 2.49, NS].

The regression analyses suggest that depression as measured by Beck is a significant predictor of behavior in the playroom, based on the Eyberg coded verbalizations. Parents' education level also affected the Eyberg categories, and may warrant further investigation as a predictor of parents' behavior towards their children in the play situation. With these analyses, none of the other variables (LAPS, occupation, or number of children in family) accounted for additional variance.

Alcohol Problems Status and Eyberg Categories

Finally, since the entire sample consisted of families with at least the father being alcoholic, and since the mothers in the sample also tend to have higher alcohol problems than control mothers, simple effects tests were done for each of the dependent variables between the upper and lower quartiles of the sample. This was done separately for mothers and fathers. These analyses were an attempt to distinguish any differences between higher and lower levels of alcohol problems within an all alcoholic sample.

For mothers, t-tests revealed a significant difference in LAPS scores between the upper and lower quartiles [n = 42; upper quartile mean = 12.79, SD = 1.17; lower quartile mean = 8.09, SD = .156; [t = 18.61, (1,41) p < .0001]. However, analysis of covariance revealed no significant differences on any of the four dependent variables of Praise, Critical statements, Commands, or Questions between the women in the upper vs. the lower quartiles.

For males also, there was a significant difference between the upper and lower quartile on LAPS score [n = 40; upper quartile mean = 13.15, SD = 1.17; lower quartile mean = 8.186, SD = .80; t = 15.72 (1,39) p< .0001]. Quartile did not affect any of the dependent variables, but Beck score was significantly related to Commands (t = 2.95, p< .005) and to Questions (t = -2.87, p< .007). Consistent with the ANCOVA results reported above, higher depression scores on the Beck predicted more commands and fewer questions for fathers.

DISCUSSION

Some of the specific hypotheses of this study were supported, others were not. Based on Beck Depression Inventory scores, both more depressed mothers and more depressed fathers gave more commands than less depressed mothers and fathers. This is inconsistent with the hypothesis that depression would affect mothers' commanding behavior but not fathers'. However, the behavior of the mothers in this sample is consistent with previous evidence that maternal depression was associated with verbal punitiveness, particularly yelling and threatening (Susman et.al, 1985) because mothers overall gave significantly more commands than fathers. Similarly, Longfellow et. al (1982) found severity of mothers' depression was related to greater use of hostile and controlling techniques, such as warnings and commands. The Longfellow et. al (1982) study used a similar SES sample to the current study and also used observational data, lending further support to the current findings.

Questions, viewed as a measure of engagement with the child, were expected to be higher for fathers, but unrelated to depression in fathers. Contrary to this hypothesis, both mothers and fathers asked significantly fewer questions as depression scores increased. There was a slight sex difference in number of questions asked when measured by Beck only, with fathers actually asking fewer questions than mothers as depression scores increased.

The prediction that fathers would be less likely to "take out" their depression on their children was based on literature which views the father's role as that of

playmate (Lamb, 1981; Yogman, 1982). Additionally, Patterson (1981) reported observational data showing fathers have higher rates of play than mothers in both distressed and non-distressed families. The current results suggest that in a sample of alcoholic fathers, depression levels <u>can</u> affect the way fathers interact with their children. Higher levels of depression in fathers, as well as mothers, was associated with giving more commands to the child. Lower levels of depression in mothers were expected to be related to higher rates of questions, and the findings support this.

The coding categories used in this study include two types of commands: indirect and direct, and these may reflect different styles of interacting with the child. According to the Eyberg Coding Manual, direct commands very clearly tell a child what to do and always do so in a positive manner, i.e., they always tell a child what to do, not what <u>not</u> to do. Indirect commands imply an expectation of the child but do not use imperatives. For example, "Why don't we play with the blocks?" Indirect commands can be difficult to distinguish from questions, and the manual decision rule reads: "uncertain between indirect command and question, code question." Numbers of indirect vs. direct commands were not sufficient to divide them in the analyses. If direct and indirect commands could be analyzed separately, it is possible that depressed fathers would use more indirect commands and depressed mothers would use more direct commands, indicating a more engaging style for fathers.

Results of the current study were similar for both Beck and Hamilton measures of depression in regard to number of questions asked during the play sessions; the higher the depression score, the fewer questions were asked. It was predicted that sex

would also affect the number of questions asked, based on questions as a measure of attempts to engage the child, and sex did affect Questions when measured by Beck only but not at the significance level of the effect of the depression. It may be that in lower socioeconomic level families, parents have an overall lower level of interaction with their children, particularly as measured by attempts to engage them. Indeed, in the current study, parents often seemed to engage in parallel play during the play session rather than associative or cooperative play as one might expect in parental play with preschool age children.

The possibility that parents in families characterized by alcoholism and depression may use immature interactional styles during play activities with their preschool age children can be tested in furture studies by comparing high risk parents' play style with that of comparison. Such comparison could be especially important in revealing differences in the conduct or style of instrumental activities between alcoholic and non-alcoholic fathers and their sons.

The results found in the questions category may reflect limitations of the Eyberg measure. Following from the points made above, the questions category can easily become a catch-all for many types of parental verbalizations. The coding manual indicates that questions may be distinguished by inflection only, or when a tag is added to a descriptive/reflective statement. This mode of speech is very common when speaking with young children. For example, "That's a blue one, right?" is coded as a question, as is "I like it, don't you?" The questions category tends to accumulate the highest number of responses in any given protocol because of this catch-all nature.

It seems reasonable, therefore, to be cautious in interpreting the significant results in this category. Since questions are usually coded more frequently than anything else in a given protocol, and since the number of questions spoken decreased as the depression scores increased (on both Hamilton and Beck), it may be that decreases in frequency of questions is an indirect effect of a decrease in the overall level of engagement with the child.

Other research using the same data set (Davies, Zucker, Noll, & Fitzgerald, 1991) as the current study (though not necessarily the same subjects) has shown levels of paternal depression to be negatively correlated with positive affective parenting. While this suggests that depressed fathers do not use positive parenting behaviors, the current study goes one step farther and suggests that depression actually increases negative parenting behavior for both mothers and fathers. The Davies, et. al study used factor analyzed self-report questionnaire data, the Child-Rearing Practices Report (Block, 1980), to measure positive affect parenting. The current study used direct observation of fathers' behavior with similar results. More research is needed to clarify the relationship between depression in fathers and interactions with their children. Coyne & Downey (1990), in an recent review of the literature concerning children of depressed parents, were unable to find a single published study in which investigators observed depressed fathers interacting with their children.

The hypotheses regarding praise and critical statements were not supported. It is quite likely that the Praise and Critical Statements analyses were not significant because of the low rate of occurence of such statements. Eyberg criteria for coding

these categories are rigid, and were difficult to apply in the interactions with the young children.

In the case of Critical statements, the Eyberg Coding Manual is perplexing. Critical statements may be spoken in "sweet tones" but with a critical content. Consider this interchange:

Child: "I want to build a big, big house."

Parent: "You can't because there aren't enough blocks."

Eyberg (Personal communication, June, 1989) codes this parent comment as a critical statement. She argues that it "corrects" the child by pointing out "in nice tones" what was wrong with the child's idea. The parent response in this example could certainly as easily be coded as a purely descriptive statement which has no negative reflection on the child at all. Since the final coding note warns "if in doubt, DO NOT code critical," it is likely that coders will err on the side of rendering controversial calls to less severe categories.

Praise statements are coded as Labeled or Unlabeled Praise, depending on the specificity. These two categories were combined for purposes of analysis in this study because of their very low frequency of occurrence. According to the coding manual, praise must reflect clear verbal approval, not just enthusiasm, and in the case of Labeled Praise, it must be specific enough to let the child know exactly what he or she would have to do to elicit the praise again. Praise statements may be in the form of questions, such as "That picture turned out terrific, didn't it?" However, as noted above, tags on statements are extremely frequent when parents are talking to young

children, making the distinction between praise and questions difficult. Again, the manual warns that "when in doubt, DO NOT code Praise." Some Praise statements undoubtedly end up in the questions category.

Another problem with the Praise coding is that it may distort the "truth" of a given situation. For example, if a parent says, "I like it when you sit still", Eyberg codes praise (Personal communication, June, 1989). However, parental approval may not always be equal to good. To follow the letter of the coding rules, if a parent said, "I like it when you color pictures on the wallpaper" it would also be coded as Labeled Praise.

These instrument drawbacks may explain the lack of significant results in the Praise and Critical Statements categories. It is important to note that results were exactly the same in these two categories, for both of the depression indices, as well as for sex. Absolutely no relationships were found, even though previous research would support the prediction that fathers would be more likely to praise their children than mothers, and that perhaps depression in mothers would affect that behavior more than depression in fathers. The converse would be true for critical statements if we think of praise and critical statements as opposite ends of a continuum.

It is interesting that the women who are wives of alcoholics also report higher levels of alcohol problems in relation to control group wives. Since in most cases these women have not personally experienced as many alcohol related problems as the men, e.g., arrests for drunk driving, physical aggression that led to fights, and do not score nearly as high on measures of antisocial behavior (e. g., Fitzgerald, et. al, under review), it is possible that wives experience these problems as their own indirectly through their husbands. The relationship between these alcohol problems and depression and the way these are related to the way parents not only perceive their childrens' behavior but also how they actually speak to and interact with them is fertile ground for further research using this data set. Other coding measures should be used with the observational data, particularly instruments that are sensitive to affective interactions between parents and their children.

Furthermore, another variable that was not examined in this study but that may very well impact both depression and the types of interactions measured in this study is antisociality.

Finally, if indeed it is supported with further research that parents actually speak to their children differently when they are alcoholic or depressed or both, it suggests interventions that may be effective in reducing the effects of depression on child outcomes.

SUMMARY

This study lends support to the position that depression level affects the way that parents speak to their children in a playtime situation. Sex differences were found in two categories, supporting the notion that depression in mothers is likely to affect children more than depression in fathers because depressed mothers use more negative verbalizations overall than depressed fathers, assuming that this is balanced by the amount of time spent with mothers vs. fathers as of course it was in this study. According to this study, no evidence was found for fathers to use more positive verbalizations, such as praise, as was predicted by previous research.

Table 1A. ANCOVA WITH SEX AND HAMILTON DEPRESSION ONLY

DEP VARIABLE: PRAI_PCT

C.V.

ANALYSIS OF VARIANCE

SOURCE MODEL ERROR C TOTAL	DF 2 162 164	SUM OF SQUARES 0.001405406 0.24031199 0.24171740	MEAN SQUARE 0.000702703 0.001483407	F VALUE 0.474	PROB>F 0.6235
RC DE	OT MSE	0.03851503 0.03088919	R-SQUARE ADJ R-SQ	0.0058 -0.0065	

PARAMETER ESTIMATES NOTE: PARTIAL AND SEMI-PARTIAL CORRELATIONS ARE SQUARED

124.6877

		PARAMETER	STANDARD	T FOR HO:	
VARIABLE	DF	ESTIMATE	ERROR	PARAMETER=0	PROB > ITI
INTERCEP	1	0.03251540	0.004231750	7.684	0.0001
SEX_DUM	1	-0.002512718	0.003007017	-0.836	0.4046
HAMCURR	1	-0.000251470	0.000449684	-0.559	0.5768
SUM OF RES	IDUAI	S	9.52276E-15		
SUM OF SQU	ARED	RESIDUALS	0.240312		
PREDICTED I	RESID	SS (PRESS)	0.2472483		

Table 2A. ANCOVA WITH SEX AND HAMILTON DEPRESSION ONLY

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.14483190	0.07241595	3.575	0.0302
ERROR	162	3.28147991	0.02025605		
C TOTAL	164	3.42631181			
ROO	T MSE	0.1423237	R-SQUARE	0.0423	
DEP	MEAN	0.3557933	ADJ R-SQ	0.0304	
C.V.		40.00181	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.33556024	0.01563749	21.459	0.0001
SEX_DUM	1	0.02271983	0.01111176	2.045	0.0425
HAMCURR	1	0.003105383	0.001661706	1.869	0.0635

SUM OF RESIDUALS	2.12164E-13
SUM OF SQUARED RESIDUALS	3.28148
PREDICTED RESID SS (PRESS)	3.425593

Table 3A. ANCOVA WITH SEX AND HAMILTON DEPRESSION ONLY

DEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.005113040	0.002556520	1.994	0.1395
ERROR	162	0.20772555	0.001282256		
C TOTAL	164	0.21283859			
ROO	t mse	0.03580861	R-SQUARE	0.0240	
DEP	MEAN	0.03751692	ADJ R-SQ	0.0120	
C.V .		95.44656	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.03221608	0.003934388	8.188	0.0001
SEX_DUM	1	0.001927890	0.002795716	0.690	0.4914
HAMCURR	1	0.000802573	0.000418085	1.920	0.0567

SUM OF RESIDUALS	1.36809E-14
SUM OF SQUARED RESIDUALS	0.2077256
PREDICTED RESID SS (PRESS)	0.2152816

Table 4A. ANCOVA WITH SEX AND HAMILTON DEPRESSION ONLY

DEP VARIABLE: QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SOUARES	MEAN SOUARE	F VALUE	PROB>F
0001102	21	520.200	020.22	1 11202	
MODEL	2	0.16630698	0.08315349	3.594	0.0297
ERROR	162	3.74813246	0.02313662		
C TOTAL	164	3.91443944			
ROO	T MSE	0.1521073	R-SQUARE	0.0425	
DEP	MEAN	0.5758006	ADJ R-SQ	0.0307	
C.V .		26.41665			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.59970828	0.01671243	35.884	0.0001
SEX_DUM	1	-0.02213500	0.01187560	-1.864	0.0641
HAMCURR	1	-0.003656486	0.001775934	-2.059	0.0411

SUM OF RESIDUALS	2.34576E-13
SUM OF SQUARED RESIDUALS	3.748132
PREDICTED RESID SS (PRESS)	3.914897

Table 5A. ANCOVA WITH SEX AND BECK DEPRESSION ONLY

DEP VARIABLE: PRAI_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.001661526	0.000830763	0.561	0.5720
ERROR	162	0.24005587	0.001481826		
C TOTAL	164	0.24171740			
ROO	t mse	0.0384945	R-SQUARE	0.0069	
DEP	MEAN	0.03088919	ADJ R-SQ	-0.0054	
C.V.		124.6213			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H PARAME	0: ETER=0	PROB > ITI
INTERCEP	1	0.03294406	0.004247960	7.755	0.0	0001
SEX_DUM	1	-0.002498015	0.003001354	-0.832	0.4	1065
BECK	1	-0.000577581	0.000828592	-0. 69 7	0.4	1868

SUM OF RESIDUALS	9.59389E-15
SUM OF SQUARED RESIDUALS	0.2400559
PREDICTED RESID SS (PRESS)	0.248505

Table 6A. ANCOVA WITH SEX AND BECK DEPRESSION ONLY

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.37089150	0.18544575	9.832	0.0001
ERROR	162	3.05542031	0.01886062		
C TOTAL	164	3.42631181			
R	OOT MSE	0.137334	R-SQUARE	0.1082	
DE	EP MEAN	0.3557933	ADJ R-SQ	0.0972	
С.	V.	38.59937			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.31357632	0.01515513	20.691	0.0001
SEX_DUM	1	0.02340422	0.01070771	2.186	0.0303
BECK	1	0.01172668	0.002956105	3.967	0.0001

SUM OF RESIDUALS	2.11706E-13
SUM OF SQUARED RESIDUALS	3.05542
PREDICTED RESID SS (PRESS)	3.174559

Table 7A. ANCOVA WITH SEX AND BECK DEPRESSION ONLY

DEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.003018406	0.001509203	1.165	0.3144
ERROR	162	0.20982019	0.001295186		
C TOTAL	164	0.21283859			
ROO	t mse	0.0359887	R-SQUARE	0.0142	
DEP	MEAN	0.03751692	ADJ R-SQ	0.0020	
C.V.		95.92658	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.03353410	0.003971439	8.444	0.0001
SEX_DUM	1	0.001741596	0.002805981	0.621	0.5357
BECK	1	0.001103983	0.000774655	1.425	0.1560

SUM OF RESIDUALS	1.35014E-14
SUM OF SQUARED RESIDUALS	0.2098202
PREDICTED RESID SS (PRESS)	0.2193368

Table 8A. ANCOVA WITH SEX AND BECK DEPRESSION ONLY

DEP VARIABLE: QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.39227439	0.19613719	9.021	0.0002
ERROR	162	3.52216506	0.02174176		
C TOTAL	164	3.91443944			
RO	ot mse	0.1474509	R-SQUARE	0.1002	
DEI	P MEAN	0.5758006	ADJ R-SQ	0.0891	
C.V	•	25.60797	-		

PARAMETER ESTIMATES NOTE: PARTIAL AND SEMI-PARTIAL CORRELATIONS ARE SQUARED

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.61994552	0.01627156	38.100	0.0001
SEX_DUM	1	-0.02264780	0.01149651	-1.970	0.0505
BECK	1	-0.01225308	0.003173871	-3.861	0.0002

•

SUM OF RESIDUALS	2.33660E-13
SUM OF SQUARED RESIDUALS	3.522165
PREDICTED RESID SS (PRESS)	3.654302

50

Table 9A. ANCOVA WITH ALL VARIABLES ENTERED

DEP VARIABLE: PRAI_PCT

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODES	7	0.008503187	0.001214741	0.813	0.5792
ERROR	156	0.23309930	0.001494226		
C TOTAL	163	0.24160249			
ROO	T MSE	0.03865522	R-SQUARE	0.0352	
DEP	MEAN	0.03095435	ADJ R-SQ	-0.0081	
C.V.		124.8782	-		

		PARAMETER	STANDARD	T FOR H0:	
VARIABLE	DF	ESTIMATE	ERROR	PARAMETER=0	PROB > IT
INTERCEP	1	0.01665602	0.03231094	0.515	0.6069
LAPS	1	0.000240064	0.001662743	0.144	0.8854
INCOME	1	0.002222709	0.001540917	1.442	0.1512
EDUCA	1	0.000127022	0.001859738	0.068	0.9456
OCCUP	1	0.000014591	.00000970892	1.503	0.1349
KIDS	1	-0.003488426	0.004399110	-0.793	0.4290
HAMCURR	1	-0.000150425	0.000471542	-0.319	0.7501
BECK	1	-0.000247382	0.000912908	-0.271	0.7868
		SUM OF RESID	UALS	9.42562E-15	
			~ ~~~~~		

SUM OF SQUARED	RESIDUALS	0.2330993
PREDICTED RESID	SS (PRESS)	0.254302

Table 10A. ANCOVA WITH ALL VARIABLES ENTERED

DEP VARIABLE: COMM_PCT

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	7	0.48031621	0.06861660	3.730	0.0010
ERROR	156	2.86991768	0.01839691		
C TOTA	L 163	3.35023389			
]	ROOT MSE	0.1356352	R-SQUARE	0.1434	
J	DEP MEAN	0.35747	ADJ R-SQ	0.1049	
(C.V.	37.9431	-		

		PARAMETER	STANDARD	T FOR HO:	
VARIABLE	DF	ESTIMATE	ERROR	PARAMETER=0	PROB > ITI
INTERCEP	1	0.43713626	0.11337411	3.856	0.0002
LAPS	1	0.005872849	0.005834307	1.007	0.3157
INCOME	1	-0.007521131	0.005406839	-1.391	0.1662
EDUCA	1	-0.01125986	0.006525533	-1.726	0.0864
OCCUP	1	0.000041077	0.000034067	1.206	0.2297
KIDS	1	-0.002151413	0.01543580	-0.139	0.8893
HAMCURR	1	0.000833133	0.001654569	0.504	0.6153
BECK	1	0.007611537	0.003203252	2.376	0.0187
SUM OF RES	IDUAL	S	2.02241E-13		
SUM OF SQU	ARED	RESIDUALS	2.869918		
PREDICTED I	RESID	SS (PRESS)	3.179577		

Table 11A. ANCOVA WITH ALL VARIABLES ENTERED

DEP VARIABLE: CRIT_PCT

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	7	0.01322644	0.001889491	1.487	0.1746
ERROR	156	0.19819605	0.001270488		
C TOTAL	163	0.21142249			
RC	OOT MSE	0.0356439	R-SQUARE	0.0626	
DE	EP MEAN	0.03774568	ADJ R-SQ	0.0205	
C.Y	V.	94.43173	-		

		PARAMETER	STANDARD	T FOR HO:	
VARIABLE	DF	ESTIMATE	ERROR	PARAMETER=0	PROB > IT
INTERCEP	1	0.08860604	0.02979385	2.974	0.0034
LAPS	1	-0.002283175	0.001533211	-1.489	0.1385
INCOME	1	-0.001898576	0.001420876	-1.336	0.1834
EDUCA	1	-0.001186805	0.001714860	0.692	0.4899
OCCUP	1	0000087769	.00000895257	-0.980	0.3284
KIDS	1	-0.002249725	0.004056410	-0.555	0.5800
HAMCURR	1	0.000669626	0.000434808	1.540	0.1256
BECK	1	0.000851551	0.000841790	1.012	0.3133
SUM OF RES	IDUAL	S	3.00046E-14		
SUM OF SQU	JARED	RESIDUALS	0.1981961		
PREDICTED	RESID	SS (PRESS)	0.2222447		

Table 12A. ANCOVA WITH ALL VARIABLES ENTERED

DEP VARIABLE: QUES_PCT

SOURCE DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL 7	0.52406033	0.07486576	3.555	0.0015
ERROR 156	3.28529092	0.02105956		
C TOTAL 163	3.80935125			
ROOT MSE	0.1451191	R-SQUARE	0.1376	
DEP MEAN	0.57383	ADJ R-SQ	0.0989	
C.V.	25.28957	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.45760168	0.12130148	3.772	0.0002
LAPS	1	-0.003829739	0.006242254	-0.614	0.5404
INCOME	1	0.007196999	0.005784897	1.244	0.2153
EDUCA	1	0.01231964	0.006981813	1.765	0.0796
OCCUP	1	-0.000046892	0.000036449	-1.287	0.2002
KIDS	1	0.007889564	0.01651510	0.478	0.6335
HAMCURR	1	-0.001352334	0.001770260	-0.764	0.4461
BECK	1	-0.008215706	0.003427231	-2.397	0.0177
SUM OF RES	IDUAL	s	2.60653E-13		
SUM OF SQU	JARED	RESIDUALS	3.285291		
PREDICTED	RESID	SS (PRESS)	3.646666		



Figure 1A. Relationship between Beck Depression and Percent Commands by Sex



Figure 2A. Relationship Betweeen Beck Depression and Percent Questions by Sex



Figure 3A. Relationship Between Hamilton Depression and Percent Commands by Sex



Figure 4A. Relationship Between Hamilton Depression and Percent Questions by Sex

Table 13A. STEPWISE MULTIPLE REGRESSION WITH ALL VARIABLES ENTERED

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE PRAI_PCT

•

NOTE: SLENTRY AND SLSTAY HAVE BEEN SET TO .15 FOR THE STEPWISE TECHNIQUE.

STEP 1 VARIABLE INCOME ENTERED			R SQUARE = 0.01793227 C(P) = -1.20878575			
	DF	SUM OF SOUARES	MEAN SQUARE	F	PROB>F	
REGRESSIO	N 1	0.00433248	0.00433248	2.96	0.0874	
ERROR	162	0.23727001	0.00146463			
TOTAL	163	0.24160249				
	B VALUE	STD ERROR	TYPE II SS	F	PROB>F	
INTERCEPT	0.01682358					
INCOME	0.00229223	0.00133277	0.00433248	2.96	0.0874	

NO OTHER VARIABLES MET THE 0.1500 SIGNIFICANCE LEVEL FOR ENTRY

SUMMARY OF STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE PRAI_PCT

		VARIABLE		NUMBER	PARTIAL	MODEL	
STEP	ENTE	RED REI	MOVED	IN	R**2	R**2	C(P)
1	INCON	Æ		1	0.0179	0.0179	-1.20879
		VA	RIABLE				
	STEP	ENTERED	REMO	OVED	F	PROB>F	
	1	INCOME			2.9581	0.0874	

 Table 14A.
 STEPWISE MULTIPLE REGRESSION WITH ALL VARIABLES ENTERED

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE COMM_PCT

NOTE: SLENTRY AND SLSTAY HAVE BEEN SET TO .15 FOR THE STEPWISE TECHNIQUE.

STEP 1	VARIABLE	BECK ENTERED	R SQUARE = C(P) =	0.07918 7.6890	8045 9337		
	DF	SUM OF SQUARES	MEAN SQUA	RE	F	PROB>1	F
REGRESSION	1	0.26527303	0.26527303		13.93	0.0003	
ERROR	162	3.08496086	0.01904297				
TOTAL	163	3.35023389					
	B VALUE	STD ERROR	TYPE II SS	F	PROB	>F	
INTERCEPT	0.31696715						
BECK	0.01108926	0.00297114	0.26527303	13.93	0.0003	3	
BOUNDS ON	CONDITION N	UMBER:	1, 1				
STEP 2 VAI	RIABLE EDUC	A ENTERED	R SQUARE = C(P) =	0.113 3.478	28179 94920		
	DF	SUM OF SOUARES	MEAN SQUA	RE	F	PROB>	F
REGRESSION	2	0.37952048	0.18976	5024		10.28 ().0001
ERROR	161	2.97071341	0.0184	5164			
TOTAL	163	3.35023389					
	B VALUE	STD ERROR	TYPE II SS	F	PROE	I>F	
INTERCEPT	0.50458475						
EDUCA	-0.01492767	0.00599910	0.11424745	6.19	0.0139		
BECK	0.01031110	0.00294132	0.22675703	12.29	0.0006		
BOUNDS ON	CONDITION N	UMBER: 1.01	1433, 4.045734	<u>ا</u>			
STEP 3 VAI	RIABLE INCO	ME ENTERED	R SQUARE =	0.128	69616		
			C(P) =	2.671	86012		
	DF SUN	I OF SQUARES	MEAN SQUA	RE	F	PROB>	F
REGRESSION	3 0.431	16224	0.14372075		7.88	0.0001	
ERROR 16	0 2.919	07165	0.01824420				
TOTAL 16	3 3.350	23389					

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	0.51746955				
INCOME	-0.00887369	0.00527432	0.05164176	2.83	0.0944
EDUCA	-0.01112153	0.00637985	0.05544111	3.04	0.0832
BECK	0.00886156	0.00304900	0.15410967	8.45	0.0042

NO OTHER VARIABLES MET THE 0.1500 SIGNIFICANCE LEVEL FOR ENTRY

SUMMARY OF STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE COMM_PCT

	VARIABLE		NUN	IBER	PARTIAL	MODE	L	
STEP	ENTER	ED	REMOVED	IN		R**2	R**2	C(P)
1	BECK			1		0.0792	0.0792	7.68909
2	EDUC	A		2		0.0341	0.1133	3.47895
3	INCOM	Æ		3		0.0154	0.1287	2.67186
			VARIABLE					
	STEP	ENTERE	D REMO	OVED	F	PROB>F		
	1	BECK			13.9302	0.0003		
	2	EDUCA			6.1917	0.0139		
	3	INCOME	3		2.8306	0.0944		

Table 15A. STEPWISE MULTIPLE REGRESSION WITH ALL VARIABLES ENTERED

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE CRIT_PCT

NOTE: SLENTRY AND SLSTAY HAVE BEEN SET TO .15 FOR THE STEPWISE TECHNIQUE.

STEP 1 V	ARIABLE INCO	ME ENTERED	$\begin{array}{l} \mathbf{R} \ \mathbf{SQUARE} = & 0 \\ \mathbf{C}(\mathbf{P}) = & 1 \end{array}$	0.02780965 0.78270135	
	DF	SUM OF SOUARES	MEAN SQUARE	F	PROB>F
REGRESSIC	DN 1	0.00587959	0.00587959	4.63	0.0328
ERROR	162	0.20554290	0.00126878		
TOTAL	163	0.21142249			
	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	0.05420724				
INCOME	-0.00267032	0.00124046	0.00587959	4.63	0.0328

NO OTHER VARIABLES MET THE 0.1500 SIGNIFICANCE LEVEL FOR ENTRY

SUMMARY OF

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE CRIT_PCT

VARIABLE			LE	NUMBER		PARTIAL	MODEL	
STEP	ENTER	RED I	REMOVED	IN		R**2	R**2	C(P)
1	INCOM	Æ		1		0.0278	0.0278	1.78270
	STEP	ENTERE	VARIABLE D REM	OVED	F	PROB>F		
	1	INCOME	l		4.6340	0.0328		

Table 16A. STEPWISE MULTIPLE REGRESSION WITH ALL VARIABLES ENTERED

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE QUES_PCT

NOTE: SLENTRY AND SLSTAY HAVE BEEN SET TO .15 FOR THE STEPWISE TECHNIQUE.

STEP 1	VARIABLE BECI	K ENTERED	R SQUARE = C(P) =	0.07579 7.17490	9291)383		
	DF	SUM OF SOUARES	MEAN SQUAR	E	F	PROB	>F
REGRESSIO	ON 1	0.28872180	0.28872180	1	3.29	0.0004	
ERROR	162	3.52062945	0.02173228				
TOTAL	163	3.80935125					
	B VALUE	STD ERROR	TYPE	II SS	F	PROB	>F
INTERCEPT	Г 0.61608503						
BECK	-0.01156900	0.00317401	0.28872	180 1	3.29	0.0004	
STEP 2 V	ARIABLE EDUC	A ENTERED	R SQUARE = C(P) =	0.10754 3.43168	361 3773		
	DF	SUM OF	MEAN SQUAR	E	F	PROB	>F
REGRESSIC	DN 2	0.40967139	0.20483569		9.70	0.0001	
ERROR	161	3.39967986	0.02111602				
TOTAL	163	3.80935125					
	B VALUE	STD ERROR	TYPE	II SS		F	
PROB>F							
INTERCEPT	0.42304273						
EDUCA	0.01535928	0.00641763	0.12094	959		5.73	0.0178
BECK	-0.01076834	0.00314652	0.24731	377		11.71	0.0008
STEP 3 V	ARIABLE INCO	ME ENTERED	R SQUARE = C(P) =	0.12121	1527 9470		
	DF	SUM OF	MEAN SQUAR	E	F	PROB	I>F

		SQUARES			
REGRESSION	3	0.46175153	0.15391718	7.36	0.0002
ERROR	160	3.34759972	0.02092250		
TOTAL	163	3.80935125			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	0.41010335				
INCOME	0.00891128	0.00564821	0.05208014	2.49	0.1166
EDUCA	0.01153702	0.00683211	0.05966098	2.85	0.0932
BECK	-0.00931266	0.00326514	0.17019903	8.13	0.0049N

NO OTHER VARIABLES MET THE 0.1500 SIGNIFICANCE LEVEL FOR ENTRY

SUMMARY OF

STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE QUES_PCT

		VAF	RIABLE	NUMBER	PARTIA	L MODE	L
STEP		ENTERED	REMOVED	IN	R**2	R**2	C(P)
1		BECK		1	0.0758	0.0758	7.17490
2		EDUCA		2	0.0318	0.1075	3.43169
3		INCOME		3	0.0137	0.1212	2.95869
		VA	NABLE				
	STEP	ENTERED	REMOVED	F	1	PROB>F	
•	1	BECK	13.2854	0.0004			
	2	EDUCA	5.7279	0.0178			
	3	INCOME	2.4892	0.1166	1		

 Table 17A.
 MALE ONLY T-TEST: T-TEST PROCEDURE

VARIABLE: LAPS

QUART	Ν	MEAN	STD DEV	STD ERROR
1	20	13.15410000	1.16558708	0.26063320
-1	20	8.18615000	0.79965461	0.17880821
VARIANCES	Т	DF PRC)B > ITI	

UNEQUAL	15.7177 33.6	0.0001
EQUAL	15.7177 38.0	0.0001

FOR H0: VARIANCES ARE EQUAL, F'= 2.12 WITH 19 AND 19 DF PROB > F'= 0.1090

Table 18A.HAMILTON RESULTS

.

MALE ONLY T-TEST

DEP VARIABLE: PRAI_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL.	2	0 000794709	0 000397355	1 202	0 3118
ERROR	38	0.01256368	0.000330623	1.202	0.5110
C TOTAL	. 40	0.01335839	0.0000000000000000000000000000000000000		
R	OOT MSE	0.01818305	R-SQUARE	0.0595	
D	EP MEAN	0.01443597	ADJ R-SQ	0.0100	
C	.V.	125.9566	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.01550356	0.003839328	4.038	0.0003
QUART	1	0.004684408	0.003045663	1.538	0.1323
HAMCURR	1	-0.000145304	0.000389600	-0.373	0.7113
Table 19A. MALE ONLY T-TEST

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.05348160	0.02674080	0.871	0.4268
ERROR	38	1.16679105	0.03070503		
C TOTAL	40	1.22027265			
ROO	r mse	0.1752285	R-SQUARE	0.0438	
DEP	MEAN	0.3881033	ADJ R-SQ	-0.0065	
C.V.		45.14996	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.39316354	0.03699928	10.626	0.0001
QUART	1	0.03761390	0.02935080	1.282	0.2078
HAMCURR	1	-0.000631436	0.003754543	-0.168	0.8673

Table 20A.MALE ONLY T-TEST

DEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.004963235	0.002481618	2.146	0.1309
ERROR	38	0.04393794	0.001156262		
C TOTAL	40	0.04890118			
ROO	T MSE	0.03400385	R-SQUARE	0.1015	
DEP	MEAN	0.04676715	ADJ R-SQ	0.0542	
C.V.		72.70882	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.04275927	0.007179870	5.955	0.0001
QUART	1	-0.01179892	0.005695650	-2.072	0.0451
HAMCURR	1	0.000567006	0.000728585	0.778	0.4413

Table 21A.MALE ONLY T-TEST

DEP VARIABLE: QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.03674775	0.01837388	0.558	0.5769
ERROR	38	1.25083468	0.03291670		
C TOTAL	40	1.28758243			
ROO	ot mse	0.1814296	R-SQUARE	0.0285	
DEF	MEAN	0.5506936	ADJ R-SQ	-0.0226	
C.V.	•	32.94565	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.54857363	0.03830864	14.320	0.0001
QUART	1	-0.03049939	0.03038949	-1.004	0.3219
HAMCURR	1	0.000209734	0.003887411	0.054	0.9573

Table 22A.BECK DEPRESSION RESULTS

MALE ONLY T-TEST

DEP VARIABLE: PRAI_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.000755634	0.000377817	1.139	0.3308
ERROR	38	0.01260276	0.000331652		
C TOTAL	40	0.01335839			
ROO	T MSE	0.0182113	R-SQUARE	0.0566	
DEP	MEAN	0.01443597	ADJ R-SQ	0.0069	
C.V.		126.1523			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.01492450	0.003895935	3.831	0.0005
QUART	1	0.004447663	0.003087150	1.441	0.1579
BECK	1	-0.000113740	0.000787806	-0.144	0.8860

Table 23A.MALE ONLY T-TEST

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

		SUM OF	MEAN		
SOURCE	DF	SQUARES	SQUARE	F VALUE	PROB>F
MODEL	2	0.27072073	0.13536037	5.417	0.0085
ERROR	38	0.94955192	0.02498821		
C TOTAL	40	1.22027265			
ROOT	r mse	0.1580766	R-SQUARE	0.2219	
DEP	MEAN	0.3881033	ADJ R-SQ	0.1809	
C.V.		40.73055	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.32072032	0.03381725	9.484	0.0001
QUART	1	0.005095824	0.02679689	0.190	0.8502
BECK	1	0.02020290	0.006838265	2.954	0.0054

Table 24A.MALE ONLY T-TEST

DEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

		SUM OF	MEAN		
SOURCE	DF	SQUARES	SQUARE	F VALUE	PROB>F
MODEL	2	0.004336759	0.002168379	1.849	0.1713
ERROR	38	0.04456442	0.001172748		
C TOTAL	40	0.04890118			
ROO	T MSE	0.03424541	R-SQUARE	0.0887	
DEP	MEAN	0.04676715	ADJ R-SQ	0.0407	
C.V.		73.22534	-		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.04526280	0.007326102	6.178	0.0001
QUART	1	-0.01076523	0.005805225	-1.854	0.0715
BECK	1	0.000371629	0.001481429	0.251	0.8033

Table 25A.MALE ONLY T-TEST

DEP VARIABLE: QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.26036335	0.13018167	4.816	0.0137
ERROR	38	1.02721908	0.02703208		
C TOTAL	40	1.28758243			
ROO	T MSE	0.1644144	R-SQUARE	0.2022	
DEP	MEAN	0.5506936	ADJ R-SQ	0.1602	
C.V .		29.85587	_		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.61909237	0.03517308	17.601	0.0001
QUART	1	0.001221746	0.02787125	0.044	0.9653
BECK	1	-0.02046079	0.007112432	-2.877	0.0066

Table 26A.FEMALE ONLY T-TEST

T-TEST PROCEDURE

VARIABLE: LAPS

QUART	N	MEA	N	STD DE	V	STD E	RROR
1	20	12.7885	5000	1.1735736	60	0.26241	903
-1	22	8.0912	2727	0.1566330)1	0.03339	427
VARIANCES	Т	DF	PROB >	m			
UNEQUAL	17.75	69	19.6		0.0001		
EQUAL	18.61	49	40.0		0.0001		
FOR H0:	VAR PRO	IANCES B > F'= (ARE EQ	UAL, F'=	56.14	WITH 1	9 AND 21

Table 27A.FEMALE ONLY T-TEST

HAMILTON DEPRESSION RESULTS

DEP VARIABLE: PRAI_PCT

ANALYSIS OF VARIANCE

DF

		SUM OF	MEAN		
SOURCE	DF	SQUARES	SQUARE	F VALUE	PROB>F
MODEL	2	0.004576533	0.002288267	1.731	0.1901
ERROR	40	0.05287041	0.001321760		
C TOTAL	42	0.05744694			
ROO	r mse	0.03635602	R-SQUARE	0.0797	
DEP	MEAN	0.03907227	ADJ R-SQ	0.0336	
C.V.		93.04814			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.04811110	0.008428407	5.708	0.0001
QUART	1	0.007771042	0.005578158	1.393	0.1713
HAMCURR	1	-0.000992817	0.000736503	-1.348	0.1852

Table 28A.FEMALE ONLY T-TEST

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.01222367	0.006111837	0.386	0.6825
ERROR	40	0.63385713	0.01584643		
C TOTAL	42	0.64608080			
ROO	г mse	0.1258826	R-SQUARE	0.0189	
DEP	MEAN	0.3534683	ADJ R-SQ	-0.0301	
C.V.		35.61354	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.35099341	0.02918333	12.027	0.0001
QUART	1	0.01632533	0.01931435	0.845	0.4030
HAMCURR	1	0.000422274	0.002550140	0.166	0.8693

Table 29A.FEMALE ONLY T-TESTDEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

SOUTHOE	DE	SUM OF	MEAN	E MALLE	
SOURCE	DF	SQUARES	SQUARE	F VALUE	PKOB>F
MODEL	2	0.005265151	0.002632576	1.330	0.2759
ERROR	40	0.07917358	0.001979340		
C TOTAL	42	0.08443873			
ROO	T MSE	0.04448977	R-SQUARE	0.0624	
DEP	MEAN	0.03562748	ADJ R-SQ	0.0155	
C.V.	124.	.8749			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.02609383	0.01031405	2.530	0.0154
QUART	1	0.006030306	0.006826131	0.883	0.3823
HAMCURR	1	0.001163147	0.000901278	1.291	0.2043

Table 30A.FEMALE ONLY T-TESTDEP VARIABLE:QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.04068770	0.02034385	0.973	0.3869
ERROR	40	0.83676267	0.02091907		
C TOTAL	42	0.87745037			
ROO	T MSE	0.1446343	R-SQUARE	0.0464	
DEP	MEAN	0.5718319	ADJ R-SQ	-0.0013	
C.V .		25.29314	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > M
INTERCEP	1	0.57480165	0.03353052	17.143	0.0001
QUART	1	-0.03012667	0.02219145	-1.358	0.1822
HAMCURR	1	-0.000592604	0.002930013	-0.202	0.8407

Table 31A.FEMALE ONLY T-TEST

BECK DEPRESSION RESULTS

DEP VARIABLE: PRAI_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.003781148	0.001890574	1.409	0.2562
ERROR	40	0.05366579	0.001341645		
C TOTAL	42	0.05744694			
ROO	r mse	0.03662847	R-SOUARE	0.0658	
DEP	MEAN	0.03907227	ADJ R-SO	0.0191	
C.V.		93.74544			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.04792842	0.009471324	5.060	0.0001
QUART	1	0.009483899	0.005998775	1.581	0.1218
BECK	1	-0.001587220	0.001450518	-1.094	0.2804

Table 32A. FEMALE ONLY T-TEST

DEP VARIABLE: COMM_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.01793093	0.008965464	0.571	0.5695
ERROR	40	0.62814987	0.01570375		
C TOTAL	42	0.64608080			
ROO	T MSE	0.1253146	R-SQUARE	0.0278	
DEP	MEAN	0.3534683	ADJ R-SQ	-0.0209	
C.V.		35.45285	-		

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.33828241	0.03240362	10.440	0.0001
QUART	1	0.01199379	0.02052322	0.584	0.5622
BECK	1	0.003103492	0.004962563	0.625	0.5353

Table 33A.FEMALE ONLY T-TEST

DEP VARIABLE: CRIT_PCT

ANALYSIS OF VARIANCE

		SUM OF	MEAN		
SOURCE	DF	SQUARES	SQUARE	F VALUE	PROB>F
MODEL	2	0.009227354	0.004613677	2.454	0.0988
ERROR	40	0.07521138	0.001880284		
C TOTAL	42	0.08443873			
ROO	г mse	0.04336225	R-SQUARE	0.1093	
DEP	MEAN	0.03562748	ADJ R-SQ	0.0647	
C.V.		121.7101			

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.01833245	0.01121253	1.635	0.1099
QUART	1	0.001776648	0.007101590	0.250	0.8037
BECK	1	0.003373947	0.001717181	1.965	0.0564

Table 34A.FEMALE ONLY T-TEST

DEP VARIABLE: QUES_PCT

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	2	0.05508122	0.02754061	1.340	0.2735
ERROR	40	0.82236916	0.02055923		
C TOTAL	42	0.87745037			
DOO	TMEE	0 1422940	D SOLIADE	0.0609	

ROOT MISE	0.1422042	N-SQUARE	0.0020
DEP MEAN	0.5718319	ADJ R-SQ	0.0159
C.V.	25.07466		

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB > ITI
INTERCEP	1	0.59545672	0.03707621	16.060	0.0001
QUART	1	-0.02325434	0.02348266	-0.990	0.3280
BECK	1	-0.004890220	0.005678162	-0.861	0.3942



 Table 36A.
 NORMAL PROBABILITY PLOT FOR HAMILTON DEPRESSION SCORES



 Table 37A.
 BECK DEPRESSION SCORES DISTRIBUTION

STEM LEAF	#
19 0	1
18	
17	
16 0	1
15	
14	
13 0	1
12 000	3
11 0000	4
10 000	3
9 0000	4
8 00000000	9
7 000000	6
6 0000000	8
5 000000000000000	16
4 00000000000	12
3 0000000000000000000	20
2 000000000000000	16
1 0000000000000000000000000000000000000	21
0 0000000000000000000000000000000000000	36
	++

.





<u>Hichigan State University Family Study</u> East Lansing, Michigan 48624-1117

RESEARCH PARTICIPATION INFORMED CONSENT FORM

We freely consent to take part in a scientific study of child development and family functioning being conducted by Drs. Robert A. Zucker, Robert B. Noll and Hiram E. Fitzgerald (from the Departments of Psychology & Pediatrics and Human Development).

We understand that we are free to discontinue our participation in the study at any time without penalty: we also are aware that our involvement or lack of involvement in the study, or in different subparts ofit, will not affect our obtaining treatment that is offered by your staff in any other capacity.

We understand that our participation in the study does not guarantee any beneficial results to us or to members of our family.

Signed:

Mother

Father

Child (when appropriate)

Date

Witness

Family subject number

We understand that our participation in the study does not guarantee any beneficial results to us or to members of our family.

Signed:

Mother

Father

Child (when appropriate)

Date

Witness

9/89

Family subject number

DATA RECORDING SHEET

	Given By:			
13.0	08781			
CD I	PDIClean-up	Time		
Total	Child Behaviors	Total		
	Changes Activity			
	Cry Ignored			
	Responded to			
	Yell Ignored			
	Responded to			
	Whine Ignored			
	Responded to			
	Smart Talk Ignored			
	Responded to			
	Destructive ignored			
	Responded to			
	Physical Negative Ignored			
	Responded to			
	Other			
	Responded to	•••••		
		l		
••••				
	1			
	T3.0 CD1 Total	Given By: T3.0 Dete: CDI PDI Cleen-up Totel Child Behaviors Changes Cry Ignored Responded to Yeil Ignored Responded to Whine Gry Ignored Responded to Responded		

REFERENCES

- Aragona, J. A., and Eyberg, S., (1981). Neglected Children: Mother's Report of Child Behavior Problems and observed verbal behavior. <u>Child</u> <u>Development</u>, 52, 596-602.
- Beardslee, W., Bemporad, J., Keller, M., and Klerman, G. (1983) Children of Parents with Major Affective Disorder: A Review. <u>The American Journal of</u> <u>Psychiatry</u>. 140: 825-832.
- Beck, A.T. (1971). Cognition, Affect, and Psychopathology. <u>Archives of</u> <u>General Psychiatry</u>, 24: 295-500.
- Beck, A.T., & Beck, R.W. (1972). Screening depressed patients in family practice: A rapid technique. <u>Postgraduate Medicine</u>, 52, 81-85.
- Beck, A.T., Steer, R.A., & Garbin, M.G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. <u>Clinical</u> <u>Psychology Review</u>, 8, 77-100.
- Bright, M., & Stockdale, D. (1984) Mothers', fathers', and preschool children's interactive behaviors in a play setting. <u>Journal of Genetic Psychology</u>, 144, 219-232.

- Brown, G., Bhrolchain, M., & Harris, T. (1975). Social class and psychiatric disturbance among women in an urban population. <u>Sociology</u>, 9 (2), 225-254.
- Clarke-Stewart, A. (1973). Interactions between mothers and their young children: characteristics and consequences. <u>Monographs of the Society for</u> <u>Research in Child Development</u>, 38(6-7, Serial No. 153).
- Clarke-Stewart, A. (1978). And daddy makes three: the father's impact on mother and young child. <u>Child Development</u>, 49, 466-478.
- Clarke-Stewart, A. (1980). The father's contribution to children's cognitive and social development in early childhood. In Frank A. Pedersen, (Ed.), <u>The</u> <u>Father-Infant Relationship</u>. New York: Praeger.
- Colletta, N. D. (1983). At risk for depression: A study of young mothers. <u>The</u> <u>Journal of Genetic Psychology</u>, 142, 301-310.
- Cox, A. D., Puckering, C., Pound, A., & Mills, M. (1987). The impact of maternal depression in young children. <u>Journal of Child Psychology and</u> <u>Psychiatry</u>, 28(6), 917-928.
- Davies, W. H., Zucker, R. A., Noll, R. B., & Fitzgerald, H. E. (1991). Early socialization practices in alcoholic families: The relationship of child-rearing patterns to demographics and parental psychopathology. Michigan State University, E. Lansing, MI.
- Downey, G., & Coyne, J.C. (1990). Children of depressed parents: An integrative review. <u>Psychological Bulletin</u>, 108(1), 50-76.

- Dumas, J. E., Gibson, J. A., & Albin, J. B. (1989) Behavioral correlates of maternal depressive symptomatology in conduct-disorder children. <u>Journal of</u> <u>Consulting and Clinical Psychology</u>, 57(4), 516-521.
- Easterbrooks, M. A. & Goldberg, W. A. (1984). Toddler development in the family: Impact of father involvement and parent characteristics. <u>Child</u> <u>Development</u>, 55, 740-752.
- Eyberg, S. (1978). Assessment of child behavior problems: The validation of a new inventory. Journal of Clinical Child Psychology, S 78, 113-116.
- Eyberg, S., and Matarazzo, R. G. (1980). Training parents as therapists: A comparison between individual parent-child interaction and parent group didactic training. Journal of Clinical Psychology, 36, 492-499.
- Eyberg, S., and Robinson, E. A., (1983). Dyadic Parent Child Interaction Coding System: A Manual. <u>Psychological Documents</u>, 13, 24. (Ms. No. 2582).
- Fawl, C. L. (1963). Disturbances experienced by children in their natural habitat. In R. Barker (Ed.), <u>The Stream of Behavior</u>. New York: Appleton-Century-Crofts.
- Fergusson, D. M., Horwood, L. J., Gretton, M. E., & Shannon,
 F. T. (1985). Family life events, maternal depression,
 and teacher descriptions of child behavior. <u>Pediatrics</u>,
 75(1), 30-35.

- Fitzgerald, H. E., Sullivan, L. A., Ham, H. P., Zucker, R. A., Bruckel. S., Schneider, A. M., & Noll, R. B. (under review). Predictors of behavioral problems in three-year-old sons of alcoholics: Early evidence for the onset of risk. Michigan State University, East Lansing, MI.
- Forehand, R., & Brody, G. (1985) The association between parental personal/ marital adjustment and parent-child interactions in a clinic sample. <u>Behaviour Research and Therapy</u>, 23, 211-212.

Forehand, R., Lautenschlager, G. J., Faust, J., & Graziano, W. G. (1986)
Parent perceptions and parent-child interactions in clinic-referred children: A preliminary investigation of the effects of maternal depressive moods.
<u>Behaviour Research and Therapy</u>, 24, 73-75.

- Goldman, N., & Ravid, R. (1980). Community surveys: Sex differences in mental illness. In M. Guttentag, S. Salasin, and D. Belle (Eds.). <u>The Mental Health of Women</u>. New York: Academic Press.
- Grunebaum, H., Cohler, B., Kauffman, C., & Gallant, D. (1978). Children of
 Depressed and Schizophrenic Mothers. <u>Child Psychiatry and Human</u>
 <u>Development</u>, Vol.8 (4), 219-228.
- Hamilton, M. (1960). A rating scale for depression. Journal of Neurology, Neurosurgery, and Psychiatry, 23, 56-62.
- Hamilton, M. (1969). Standardized assessment and recording of depressive symptoms. <u>Psychiatry, Neurology, and Neurosurgery</u>, 72, 201-205.

- Hayghe, H.V. (1990). Family members in the work force. Monthly Labor Review, 113, 14-19.
- Hopkins, J., Marcus, M., & Campbell, S. (1984). Postpartum depression: a critical review. <u>Psychological Bulletin</u>, 95(3), 498-515.
- Jacob, T. & Leonard, K. (1986). Psychosocial functioning in children of alcoholic fathers, depressed fathers, and control fathers. <u>Journal of Studies on Alcohol</u>, 47(5), 373-380.
- Kotelchuck, M. (1976) The infant's relationship to the father: experimental evidence.In M.E. Lamb (Ed.), <u>The Role of the Father in Child Development</u>. New York: Wiley.
- Lamb, M. E. (1976). The role of the father: An overview. In M.E. Lamb (Ed.), <u>The</u> <u>Role of the Father in Child Development</u>. New York: Wiley.
- Longfellow, C., Zelkowitz, P., & Saunders, E. (1982) The Quality of Mother Child Relationships. In <u>Lives in Stress</u>, D. Belle, (Ed.), Beverly Hills: Sage Publications.
- McKnew, D. H., & Cytryn, L. (1973) Historical background in children with affective disorders. <u>American Journal of Psychiatry</u>, 130, 178-180.
- Mueller, C. W. & Parcel, T. L. (1981). Measures of socioeconomic status: Alternatives and recommendations. <u>Child Development</u>, 52, 13-30.
- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. <u>Psychological Bulletin</u>, 101 (2), 259-282.

- Nyquist, L., Slivken, K, Spence, J., & Helmreich, R. (1985). Household responsibilities in middle class couples: The contribution of demographic and personality variables. <u>Sex Roles</u>, 12(1/2), 15-34.
- Orvaschel, H., Weissman, M., & Kidd, K. (1980) Children and depression: the children of depressed parents; the childhood of depressed patients; depression in children. Journal of Affective disorders, 2, 1-16.
- Patterson, G. (1976). The aggressive child: Victim and architect of a coercive system. In E. J. Mash, L. A. Hamerlynck, & L. C. Handy (Eds.), <u>Behavior modification and</u> <u>families</u>. Vol. 1. <u>Theory and Research</u>. New York: Brunner/Mazell, 1976.
- Patterson, G. (1981). Mothers: the unacknowledged victims. <u>Monographs of the</u> <u>Society for Research in Child Development</u>, 186, (45), 5.
- Pearlin, L., & Johnson, J. (1977). Marital status, life strains, and depression. <u>American Sociological Review</u>, 42, 704-715.
- Radloff, L. (1975). Sex differences in depression: The effects of occupation and marital status. <u>Sex Roles: A Journal of Research</u>, 1, 249-266.
- Regier, D. A., Farmer, M. E., Rae, D. S., Locke, B. Z., Keith, S. J., Judd, L. L., & Goodwin, F. K. (1990). Comorbidity of mental disorders with alcohol and other drug abuse. Journal of the American Medical Association, 264 (19), 2511-2518.
- Robinson, E., and Eyberg, S. (1981). The Dyadic Parent-Child Interaction Coding
 System: Standardization and Validation. Journal of Consulting and Clinical
 <u>Psychology</u>, 49, 245-250.

- Robinson, E. A., and Eyberg, S. M. (1984). Behavioral Assessment in pediatric
 settings: Theory, method, and application. In P. R. Magrab (Ed.). <u>Psychological and</u>
 <u>Behavioral Assessments: Impact on Pediatric Care</u>. New York: Plenum.
- Rogers, T. R., & Forehand, R. (1983) The role of parental depression in interactions between mothers and their clinic-referred children. <u>Cognitive Therapy and Research</u>, 17, 315-324.
- Rutter, M. (1966) <u>Children of Sick Patients</u>. <u>An Environmental and Psychiatric Study</u>. Institute of Psychiatry, Maudsley Monograph 16. London: Oxford University Press.
- Stevens, G., & Featherman, D. L. (1981). A revised socioeconomic index of occupational status. <u>Social Science Research</u>, 10, 364-395.
- Susman, E. J., Trickett, P. K., Iannotti, R. J., Hollenbeck, B. E., & Zahn- Waxler, C. (1985). Childrearing Patterns in Depressed, Abusive, and Normal Mothers. <u>American Journal of Orthopsychiatry</u>, 55 (2), 237-251.
- Webster-Stratton, C., & Hammond, M. (1988) Maternal depression and its relationship to life stress, perceptions of child behaviors, and child conduct problems. Journal of Abnormal Child Psychology, 16(3), 299-315.
- 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), 909-115.

Weissman, M. M. (1980). The treatment of depressed women: The efficacy of psychotherapy. In C. L. Heckerman (Ed.), <u>The Evolving Female</u> (p.307-324. New York: Human Sciences Press.

- Weissman, M. M. & Klerman, G. (1977). Sex differences and the epidemiology of depression. Archives of General Psychiatry, 34, 98.
- Weissman, M. M., and Paykel, E. S. (1974). <u>The Depressed Woman</u>. Chicago: University of Chicago Press.
- Weissman, M. M., Paykel, E. S., & Klerman, G. (1972). The Depressed Woman as a Mother. <u>Social Psychiatry</u>, 7, 98-108.
- West, M. O., & Prinz, R. J. (1987). Parental alcoholism and childhood psychopathology. <u>Psychological Bulletin</u>, 102, 204-218.
- Williams, H., & Carmichael, A. (1985). Depression in mothers in a multi-ethnic urban industrial municipality in Melbourne. Aetiological factors and effects on infants and preschool children. Journal of Child Psychology and Psychiatry, 26, (2), 277-288.
- Yogman, M. W., (1982). Development of the father-infant relationship. In H.
 Fitzgerald, B. Lester, & M. W. Yogman, (Eds.). <u>Theory and Research in</u> <u>Behavioral Pediatrics</u>, Vol. 1. New York: Plenum.
- Zelkowitz, P. (1982). Parenting philosophies and practices. In D. Bell, (Ed.) <u>Lives in</u> <u>Stress: Women and depression</u> (pp. 154-162). Beverly Hills: Sage Publications.
- Zucker, R.A., Noll, R., & Fitzgerald, H.E. (1986). Grant proposal: Risk and coping in children of alcoholics. Michigan State University, East Lansing, MI.

Zucker, R. A. (1991). Scaling the developmental momentum of alcoholic process via the Lifetime Alcohol Problems Score. <u>Alcohol and Alcoholism</u>, suppl. 1, 505-510.
Pergamon Press: Great Britain.

.

