

RELATIONS BETWEEN PARENTING BEHAVIORS AND FAMILY SES:
AN EXAMINATION IN FAMILIES REFERRED FOR PRESCHOOL ODD

By

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To my undergraduate mentors: Harry Segal, who encouraged me to pursue my graduate work in clinical child psychology, and Gary Evans, whose research on poverty and child development inspired this thesis

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LIST OF ABBREVIATIONS

DMG	Demandingness
DPICS	Dyadic Parent-Child Interaction Coding System
HI	Hollingshead Four-Factor Index of Social Status
NTA	Negative Talk
PRO	Prosocial Talk
SES	Socioeconomic Status
TV	Total Verbalizations

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Family socioeconomic status (SES) has long been an area of focus for researchers in fields of psychology, sociology, public health, epidemiology, and economics. In addition to its relationship with income and social capital, SES has been linked to factors such as parenting practices, neighborhood and school stability, and exposure to violence. Past research has suggested causal relationships between the above-mentioned factors and child behavior problems, particularly in early childhood. One of the most studied mediators between SES and childhood behavior problems is parenting practices. However, what remains unclear is how family SES is related to parenting practices of parents with children who already exhibit behavior problems.

The relationship between family SES and observed parenting behaviors was examined for 89 families with children between 3 and 6 years of age. Families were 74% Caucasian, 9% African American, 5% Hispanic, 1% Asian, and 11% Biracial. Most of the children were boys (75%). Parenting behaviors were examined using the Dyadic Parent-Child Interaction Coding System (DPICS) composite categories of total verbalizations, prosocial talk, demandingness, and negative talk. Analyses were conducted with SES measured two ways. First, Hollingshead Four Factor Index of Social Status (HI) was correlated parenting behaviors. For the second set of

analyses, family income, parent education (5 categories), and parent occupation (5 categories) were used to predict parent behavior. SES was significantly related to mother and father prosocial talk, such that as SES increased, prosocial talk also increased. In addition, when SES was operationalized as income, occupation, and education, the model predicted three times as much variance in mother prosocial talk than HI alone. For fathers, the relationship between HI and prosocial talk was much stronger than for mothers, which is likely due to biases towards fathers in calculating HI.

This study emphasizes that relations between SES and parenting behaviors in a clinical sample differ from those relations already established in the general population. High SES parents of children with ODD use more prosocial talk than their lower SES counterparts. This is consistent with past research. However, past research also suggests that higher SES parents use less negative talk than lower SES parents. In this sample of clinic-referred children, no relations were found between SES and negative talk, thus parents were equally critical of their children, regardless of their SES. This study also emphasizes that researchers must carefully consider methodological advantages and disadvantages when deciding how to measure SES.

CHAPTER 1 INTRODUCTION

Family socioeconomic status (SES) has long been a focus for researchers in fields of psychology, sociology, public health, epidemiology, and economics. It has been considered a “fundamental determinant of human functioning” across the lifespan, spanning development, physical and mental health, and quality of life (APA, 2006). Low family SES has been linked to a higher prevalence of childhood disruptive behavior (Dodge, Pettit, & Bates, 1994) and a more negative parenting style (Barber, 1996; Conger, Ge, Elder, Lorenz, & Simons, 1994; Dodge et al., 1994; Grant et al., 2003).

Disruptive behaviors are the most common reason for referrals to mental health services for preschool children (Lavigne et al., 1998). These behaviors include, but are not limited to, aggression, noncompliance, and destructiveness. Although these behaviors occur in childhood, concern arises when levels become excessive for a child’s age and development and cause significant impairment in child functioning. Research has shown these behaviors worsen over time and are a considerable risk for adolescent delinquent and antisocial behaviors (Campbell, 1995; Moffitt & Caspi, 2001).

Research emphasizing an ecological model of child development has suggested that family socioeconomic status impacts child outcome not through one clear path, but through multiple processes (Bronfenbrenner, 1979). One of the most studied proximal processes between family SES and child outcome is parenting practices.

Studies have consistently found that socioeconomically disadvantaged families show more hostile, controlling, and punitive parenting (Barber, 1996; Conger, Ge, Elder, Lorenz, & Simons, 1994; Dodge et al., 1994; Grant et al., 2003). These parents also tend to be less responsive to their children (Bradley, Corwyn, Mcadoo, & Coll, 2001) and tend to show less warmth in

interactions than more advantaged families. For example, in a longitudinal study examining K-3rd graders, significant differences across SES were found in observed mother warmth toward her child during an interview (Dodge et al., 1994). Lastly, SES has been linked to parent communication with children, with studies suggesting lower SES families speak less frequently and in less sophisticated ways to their children (Tulkin & Kagan, 1972). Although these studies have demonstrated a relationship between SES and parenting, they present methodological concerns that may limit the generalizability of their findings. These concerns include the adequacy of measurement of the parenting behaviors and of SES, as well as the typically nonclinical nature of the samples.

SES has generally been associated with parenting behaviors as measured by parent self-report. Self-report data are subject to social desirability biases (Paulhus, 1984), which includes both impression management (attempting to portray oneself in a positive light) and self-deception (a more unconscious process that reflects respondents' beliefs that they are better than objective information suggests). Given the vulnerability of self-report to bias, it is important for researchers to consider more objective measures of parenting. Direct observation of parent behaviors allows behaviors to be defined more objectively by the researcher, rather than the parent or child.

Some past research on family SES has included observational methods to measure parenting in relation to SES (Bradley et al., 2001; Conger et al., 1994; Dodge et al., 1994; Hughes, Deater-Deckard, & Cutting, 1999); however, the observers rated the behaviors retrospectively, rather than coding them in real time during the observation. For example, Conger and colleagues (1994) rated each parent's overall hostility, angry coerciveness, and antisocial behavior toward the target child, based on behaviors observed during a home

interview. Behavior ratings that are completed at the end of an observation period are less objective than when completed in real time. Coding behavior in real time allows the researcher to quantify behavior by noting its duration or frequency. One prior study examining the relationship between SES and mother behavior (Bornstein, Hahn, Suwalsky, & Haynes, 2003) used real time coding of video-taped mother-infant interactions and found a significant relationship between SES and mother behavior. However, a major limitation of that study was its use of unstructured home observations.

Use of unstructured, naturalistic observation is a common shortcoming in prior observational research (Bradley et al., 2001; Dodge et al., 1994). Recording observations in such naturalistic settings may generate unwanted variability or noise from interruptions such as a telephone ringing or visitor arriving. Such uncontrolled, unstructured situations also may provide inadequate opportunity to observe target behaviors. Structured laboratory situations minimize noise and maximize interactions of interest, such as child responses to parent's attempts to direct the child's activity. One prior study (Hughes et al., 1999) correlated family SES with observed parenting behaviors (for example, general negativity, negative/positive affect) during structured parent-child interactions, but these behaviors were recorded retrospectively by observer-rated 7-point Likert scales. Thus, prior observational research has not combined real time coding with structured sessions to evaluate the relationship between SES and parenting behavior.

This study used the Dyadic Parent-Child Interaction Coding System (DPICS; Eyberg, Nelson, Duke, & Boggs, 2005) to record parent-child interactions on a moment to moment basis during structured activities. This more objective method of recording parent behaviors leaves less room for bias. In addition, the DPICS has demonstrated strong evidence of discriminative

validity. Studies have shown its ability to discriminate between neglectful and non-neglectful mothers (Aragona & Eyberg, 1981) and between physically abusive and non-abusive mothers (Borrego, Timmer, Urquiza, & Follette, 2004; Timmer, Borrego, & Urquiza, 2002). It has also discriminated between clinic referred and non-referred mother-child dyads in behaviors such as parent commands, parent and child inappropriate behavior, and child compliance (Bessmer, Brestan, & Eyberg, 2005). Similarly, referred and non-referred father-child dyads have shown different levels of child compliance and both father and child inappropriate behavior during interactions with one another (Brestan, Foote, & Eyberg, 2005).

A second major methodological limitation of prior research examining relations between parenting behavior and SES has been the measurement of SES. This limitation exists despite the quantity of work that has been done over the last several decades to examine trends in research on SES and child development (Ensminger & Fothergill, 2003; Smith & Graham, 1995). In their review of articles published in select journals between 1991 and 1993, Smith and Graham (1995) concluded that most researchers are not concerned with the theoretical and methodological issues surrounding the measurement of SES. Rather, they noted a “lack of systematic effort to identify the socioeconomic measures that would be most powerful in accounting for various aspects of family behavior.”

Historically, one particular controversy regarding measurement of SES is whether individual or composite measures should be used (Duncan & Magnuson, 2003; Smith & Graham, 1995). The current consensus seems to be that multiple components should be measured, but used in the analyses separately rather than combined into one index of SES (Duncan & Magnuson, 2003; Ensminger & Fothergill, 2003; Hamil-Luker & O’Rand, 2007; Lidfeldt, Hu, Manson, & Kawachi, 2007; Yang, Carmichael, Canfield, Song, & Shaw, 2008).

Liberatos and colleagues (1988) found that the three most commonly used indicators of SES – income, education, and occupation – are related to health, but not to each other. These indicators likely have differential effects on family behavior (Smith & Graham, 1995). In addition, they recommend that family researchers consider female and male sociodemographic characteristics separately, so that each can be compared independent of the other.

The measurement of SES in articles from three journals (*Child Development*, *Journal of Health and Social Behavior*, *Journal of Public Health*) over the last decade was recently reviewed (Ensminger & Fothergill, 2003). The review found that when SES was mentioned in an article, it was most often measured by education, followed by income, and lastly occupation. Articles found in *Child Development* were more likely than articles in the other two journals to use SES scales, particularly Hollingshead's (1975) *Four-Factor Index of Social Status*; however, the majority of articles did not use scales. The authors found that most articles reported SES variables when reporting demographic characteristics, but far fewer articles considered the potential influence of SES on outcome variables. The review also found that articles contained little discussion of methodology or standardization of SES measures, despite recommendations for this in earlier reviews (Ensminger & Fothergill, 2003).

This study measures SES with the common indicators of SES – education, income, and occupation, as well as the most common composite index - the *Hollingshead Four-Factor Index of Social Status* (HI). The reasons for this are two-fold. By including the three most common individual indicators of SES, this study seeks to quantify the relations that each indicator has with parenting behaviors. As emphasized in the Smith and Graham review (1995), it is important to understand the different relationship each indicator has with an outcome variable. HI was included as well, because it is the most widely used composite scale of SES. In

particular, child development researchers use this scale frequently (Ensminger & Fothergill, 2003), making it important to understand how HI relates to parenting behavior.

A final limitation of prior research examining relations between SES and parenting behavior is that the samples were not drawn from clinical populations. In these nonclinical samples, lower SES families have shown more hostile, controlling, and punitive parenting (Conger et al., 1994; Dodge et al., 1994; Barber, 1996; Grant et al., 2003), less responsiveness to their children (Bradley et al., 2001), and less warmth when interacting with their children (Dodge et al., 1994). Parenting styles are different in clinical versus nonclinical families regardless of SES (Bessmer et al., 2005); however, the question remains as to whether the above-mentioned patterns of parenting differences due to SES exist in clinical populations, or whether clinical families show different patterns of parenting as a function of SES.

The purpose of this study was to quantify the relations between family socioeconomic status and parenting behaviors in families referred for preschool ODD. These relations were examined separately for mother-child and father-child dyads. Based on findings from nonclinical populations, we hypothesized that SES would be positively correlated with parental prosocial talk and total verbalizations, and negatively correlated with negative talk and demandingness.

CHAPTER 2 METHODS

Participants

Participants were 89 families with 3 to 6-year-old children who had participated in a larger, treatment outcome study. Although 100 families participated in the larger study, 11 of these families had missing demographic data, thus reducing the sample size. The inclusion and exclusion criteria were as follows: (a) the child met DSM-IV diagnostic criteria for ODD; (b) the child's hyperactivity medication status and dosage, if any, were stable for at least one month prior to the pre-treatment assessment; (c) the child obtained a standard score equivalent of 70 or higher on a cognitive screening measure; and (d) the child's parents obtained standard score equivalents of 75 or higher on a cognitive screening measure. Children with a history of severe sensory or mental impairment or an immediate crisis requiring out-of-home placement were not included. Table 2.1 shows demographic characteristics of the families.

Measures

Diagnostic Interview Schedule for Children-IV-Parent (DISC-IV-P; Shaffer, Fisher, & Lucas, 2000). The DISC-IV-P is a structured diagnostic interview that was administered to mothers to determine whether a child met diagnostic criteria for oppositional defiant disorder. In a sample of parents of 9- to 17-year-old children, 1- week test-retest reliability was reported at .54 for ODD (Shaffer et al., 2000).

Peabody Picture Vocabulary Test – Third Edition (PPVT; Dunn & Dunn, 1981; 1997). The PPVT was used as a cognitive screening measure for children. It is a well-standardized test of receptive language in children as young as 2.6 years old. Each item consists of four pictures and requires that the child indicate which picture represents the stimulus word given by the examiner. This measure has a strong correlation with the WISC-III Full Scale IQ (Altepter,

1989), test-retest reliabilities ranging from .91 to .94, and high split half reliability coefficients for children (.86 to .97).

Wonderlic Personnel Test (Dodrill, 1981). The Wonderlic Personnel test is a 50-item test designed as a cognitive screening measure for adults. The test score is the number of items answered correctly in a 12 minute period. In a sample of 120 normal adults, the Wonderlic correlated .93 with the WAIS Full Scale IQ and was within 10 points of WAIS Full Scale IQ score for 90% of subjects (Dodrill, 1981). These findings were replicated and extended to psychiatric settings (Dodrill & Warner, 1988). It has also shown high (.94) test-retest reliability (Dodrill, 1983).

Dyadic Parent-Child Interaction Coding System (DPICS; Eyberg, Nelson, Duke, & Boggs, 2005). The DPICS is a behavioral observation coding system for parent-child social interactions during three 5-minute standard situations. The three situations, Child Led Play (CLP), Parent Led Play (PLP), and Clean Up (CU), vary in the amount of parental control required. Categories that may be coded include 12 verbalization categories (i.e., Praise), 3 vocalization categories (i.e., Yell), and 3 physical behaviors (i.e., Positive Touch). Overall kappa reliability for all categories used in this study was 0.75. For all but one category, kappa reliabilities ranged from 0.55 to 0.85. Parent Smart Talk had a kappa reliability of 0.31; however, a confusion matrix revealed that this was most often being confused with Criticism. For the purposes of this study, Smart Talk and Criticism were combined into one category (Negative Talk).

Coders were graduate students and advanced undergraduate students in psychology. Training involved approximately 3 hours of weekly study for 12 weeks, followed by surpassing 80% accuracy on all categories with a criterion tape. Coders attended weekly training meetings

throughout the study to prevent coder drift. Coders were uninformed of the study hypotheses and family SES. A second set of codes was produced on 33% of the observations to determine inter-rater reliability.

Scores for each coded behavior were determined by averaging the frequencies from two observations 1 week apart. This yielded 1 score for each of 3 different situations (Child Led Play, Parent Led Play, and Clean Up), but only scores from PLP and CU were used in this study. The reason for excluding CLP was to ensure that the observed interactions were similar to those the dyad experienced on a daily basis, i.e. with the parent “in charge.” Several composite variables, based on composites used in previous research, were used in this study: (a) Total Verbalizations, created by summing all verbalization categories; (b) Prosocial Talk, created by summing Reflections, Behavior Descriptions, Labeled Praises, and Unlabeled Praises; (c) Negative Talk, produced by summing Criticism and Smart Talk; (d) Demandingness, created by summing parent Direct and Indirect Commands. Table 2-2 lists the composite categories used in this study.

Hollingshead Four-Factor Index of Social Status (HI; Hollingshead, 1975). The Hollingshead Four-Factor Index is a measure of a family’s socioeconomic status. It is based on the education and occupation of each employed parent living at home. The education and occupation of homemakers, students and unemployed individuals are not included. However, if there is no gainfully employed individual at the time of the evaluation, then the scores are calculated for the person most likely to be head of the household. Thus, the occupation in which he/she is typically employed is rated. Occupations are rated on a 9-point scale (Appendix A-1), categorizing approximately 450 titles from the 1970 United States Census. Education is rated on a 7-point scale (Appendix A-2) based on the number of years of schooling. To calculate HI for a

family, the occupation and education scores are weighted and summed. The occupation score is multiplied by 5, and the education score is multiplied by 3. For dual-income families, HI is calculated by averaging the scores for each earner. HI scores range from 8 to 66.

Procedure

The 89 referred families completed pre-treatment assessments. Families arrived at the Psychology Clinic, were greeted by assessors, and consented to their participation in the study. During the assessment, they completed a demographic questionnaire, a clinical interview, and a structured diagnostic interview. To screen for cognitive impairment, the Wonderlic was administered to each parent and the PPVT-III was administered to each child. Each parent was then videotaped on two occasions (1 week apart) interacting with his or her child in three standard situations: 10 minutes of Child Led Play, 10 minutes of Parent Led Play and 5 minutes of Clean Up. The first 5 minutes of CLP and PLP were used as warm-up periods to allow the parent and child to adjust to the situation. The second 5 minutes of CLP and PLP and the entire 5 minutes of CU were coded.

Table 2-1. Demographics of sample

Characteristic	%	(n= 89)			
		M	SD	Min	Max
Child's Age (in years)		4.40	1.11	3	6
SES		38.38	13.63	11.0	66.0
Income (dollars yearly)		34167	25590	2004	122604
Child's Sex (%male)	74.5				
Child's ethnicity/race					
% Caucasian	74.2				
% African American	9.0				
% Hispanic	4.5				
% Asian	1.1				
% Biracial or Other	11.2				
Mother Education					
% Less than high school	7.8				
% High school	16.9				
% Partial college/tech.	40.4				
% College	28.1				
% Masters and beyond	6.7				
Father Education*					
% Less than high school	8.1				
% High school	29.7				
% Partial college, tech. school	18.9				
% College	21.6				
% Masters and beyond	21.6				
Mother Occupation					
% Employed	94.4				
% Unskilled, Semiskilled	9.0				
% Skilled, Clerical/Sales	28.1				
% Semiprofessional/Managers	24.7				
% Professional	5.6				
Father Occupation*					
% Employed	97.3				
% Unskilled, Semiskilled	13.5				
% Skilled, Clerical/Sales	29.7				
% Semiprofessional/Managers	37.8				
% Professional	16.2				

*Each family did not have a father participate, so father demographic information is based on a subsample of the original sample (n = 37).

Table 2-2. DPICS composite categories.

Category	Equation
Total Verbalizations	$NTA_p + DQ_p + IQ_p + LP_p + UP_p + DC_p + IC_p + RF_p + BD_p + TA_p$
% Demandingness	$(DC_p + IC_p) / TV_p$
% Prosocial Talk	$(BD_p + RF_p + UP_p + LP_p) / TV_p$
% Negative Talk	$(NTA_p) / TV_p$

CHAPTER 3 RESULTS

Initial analyses examined demographic variables across the sample. Father-child DPICS data existed for only 37 dyads, resulting from both lower father participation and missing data. The subsample of families with fathers included was demographically different from the entire sample. Hollingshead Four-Factor Index of Social Status was significantly higher in this subsample ($M = 43.16$, $SD = 13.69$) than the entire sample, $t(36) = 2.13$, $p < 0.05$. Income was also significantly higher in the father subsample ($M = 45,058$; $SD = 24,727$) than it was in the entire sample, $t(36) = 2.68$, $p < 0.05$.

To test the hypothesis that SES would be related to parenting behaviors, analyses were conducted separately for mother-child and father-child dyads, but due to the small subsample with father participation, analyses were limited for father behaviors. Mother behaviors were first correlated with a composite measure of SES (HI), and then regressions were used to determine the relations between separate indices of SES (education, income, and occupation) and parenting behaviors. Father behaviors were correlated only. Each set of analyses appears below.

Mother-Child Dyads

First, we examined the descriptive statistics of each composite DPICS category used in this study. Composite categories of parental Demandingness, Prosocial Talk, and Negative Talk were examined as percentages of parent Total Verbalizations. Total Verbalizations (TV; $M = 154$, $SD = 44$) and percent Demandingness (DMG; $M = 0.31$, $SD = 0.10$) were normally distributed. Values of skewness and kurtosis did not indicate non-normality, and the Kolmogorov-Smirnov(a) and Shapiro-Wilk tests indicated nonsignificant deviances from normality. However, percent Prosocial Talk (PRO; $M = 0.05$, $SD = 0.04$) and percent Negative Talk (NTA; $M = 0.09$, $SD = 0.06$) were skewed. To normalize the distributions, square-root

transformation were made on PRO ($M = 0.20$, $SD = 0.08$) and NTA ($M = 0.28$, $SD = 0.10$).

Distributions of transformed variables did not deviate significantly from normality.

Pearson correlations between the parent categories and HI showed that HI was minimally, but significantly related to maternal PRO ($r = .24$, $p < .05$) and DMG ($r = -.27$, $p < .01$). As hypothesized, mothers used more positive verbalizations and fewer commands as family SES increased. Mother TV and NTA were not significantly correlated with HI. Analyses were conducted to test if the significant correlations were significantly different from the nonsignificant ones, results suggested they were not significantly different. Thus, the relations between SES and PRO and between SES and DMG must be interpreted with caution, since they were not significantly different from the other, non-significant correlations. See Table 3-1 for all correlations.

To quantify the relations between the separate indices of SES and parenting behaviors, four multiple regression were used. To correct for family-wise alpha inflation models needed to be significant at $p < .0125$. For these regressions, categorical variables were dummy coded.

Education was dummy coded into five variables: (1) Less than high school, (2) High school, (3) Partial college or technical school, (4) College, (5) Masters and beyond. Four of these dummy variables were included in the regression. The middle education level was chosen as the reference group because more participants were in this category than other categories.

Occupation was also coded into five categories: (1) Unemployed/homemaker; (2) Unskilled or semi-skilled workers; (3) Skilled workers, sales, and clerical workers; (4) Semi-professional; (5) Professional. Again, the middle category was chosen as the reference group.

Lastly, to control for family size when considering income, family income was divided by the US Census poverty threshold for a given size family. A ratio less than 1.0 is regarded as

‘poor’ while ratios around 3.0 or 4.0 are considered middle-class. The income-to-needs ratios for this sample ranged between 0.1 and 7.9. Because the distribution of income-to-needs was significantly non-normal, a logarithmic transformation of the data was conducted.

Mother Prosocial Talk was significantly predicted by the multiple regression model, $R^2 = .23$, $F(9,79) = 2.60$ ($p = .011$). Table 3-2 shows that the main effect of this model was mother education. Mothers with a graduate degree ($\beta = .409$, $p < .01$) had a significantly higher proportion of Prosocial talk than the reference category (Partial college or technical school). When this model was rerun using “Masters or higher” as the reference category, mothers in this category had significantly higher percentages ($M = .32$, $SD = .09$) of Prosocial Talk than all other education categories.

The multiple regression model did not significantly predict Total Verbalizations, $R^2 = .140$, $F(9,79) = 1.429$ ($p = .19$), Demandingness, $R^2 = .168$, $F(9, 79) = 1.775$ ($p = .086$) and Negative Talk, $R^2 = .175$, $F(9, 79) = 1.857$ ($p = .071$). However, within NTA a main effect was observed. The main effect for this model was mother occupation. The model showed that mothers who were unemployed ($\beta = -.372$, $p < .01$) or semiprofessionals ($\beta = -.285$, $p < .05$) had a significantly lower percentage NTA compared to mothers with jobs in the skilled worker category. These main effects must be interpreted cautiously, however, because the overall model was non-significant.

Father-Child Dyads

Descriptive statistics were examined for each composite DPICS father category. As with mother analyses, composite categories of parental Demandingness, Prosocial Talk, and Negative Talk were examined as percentages of parent Total Verbalizations. All four composite categories appeared normal: Total Verbalizations ($M = 152$, $SD = 46.1$), Demandingness ($M = 0.32$, $SD = 0.11$), Prosocial Talk after removal of one outlier ($M = .05$, $SD = .03$), and Negative

Talk ($M = 0.08$, $SD = 0.04$). Values of skewness and kurtosis did not indicate non-normality, and the Kolmogorov-Smirnov(a) and Shapiro-Wilk tests indicated nonsignificant deviances from normality.

To examine the relations between father parenting behaviors and SES, correlations were conducted among the DPICS composites, HI, and income to needs. Because of the small sample size, regressions including education and occupation were not conducted. Table 3-3 displays correlations. Father PRO was significantly related to HI, $r = .524$ ($p < .01$), and Income to needs, $r = .412$ ($p < .05$). Of note, HI and income to needs were moderately correlated with each other, $r = .661$ ($p < .001$).

Table 3-1. Descriptive statistics and correlations of composite variables for mother-child dyads (N=89)

	Range	M	SD	1.	2.	3.	4.
1. Total Verbalization	67 – 297	154	44				
2. Percent Demandingness	0.10 – 0.60	0.31	0.29	.274** p = .009			
3. Percent Prosocial Talk [†]	0.05 – 0.44	0.20	0.08	-.055 p = <i>ns</i>	-.374** p = .000		
4. Percent Negative Talk [†]	0.07 – 0.53	0.28	0.10	.245* p = .021	.279** p = .008	-.365** p = .000	
5. Hollingshead SES	11.0 – 66.0	38.4	13.6	-.046 p = <i>ns</i>	-.272** p = .010	.246* p = .020	-.127 p = <i>ns</i>

* p < 0.05 level

** p < .01

† Percent Prosocial Talk and Percent Negative Talk were square root transformations of the original value.

Table 3-2. Regression of mother verbalizations onto income-to-needs, mother education, and mother occupation

Socioeconomic Status	Percent Prosocial Talk [†]		Total Verbalizations		Percent Demandingness		Percent Negative Talk [†]	
	B	β	B	β	B	β	B	β
	(SE)	p	(SE)	p	(SE)	p	(SE)	p
(Constant)	.186		174.06		.326		.342	
	(.024)	p = .000	(14.16)	p = .000	(.033)	p = .000	(.032)	p = .000
Income to needs	.015	.071	15.47	.131	-.061	-.220	-.041	-.150
	(.026)	p = .568	(15.47)	p = .320	(.036)	p = .091	(.035)	p = .244
Less than H.S. vs								
Partial college / tech. school	-.002	-.008	-10.20	-.063	.077	.204	.022	.058
	(.035)	p = .945	(20.23)	p = .616	(.046)	p = .099	(.045)	p = .633
H.S. vs								
Partial college / tech. school	-.025	-.119	2.017	.017	.030	.111	.002	.007
	(.027)	p = .350	(15.67)	p = .898	(.036)	p = .400	(.035)	p = .960
College vs								
Partial college / tech. school	.011	.067	-25.39	-.285	-.013	-.062	-.011	-.055
	(.021)	p = .610	(12.29)	p = .042	(.028)	p = .646	(.028)	p = .684
Masters or beyond vs								
Partial college / tech. school	.129	.409	-8.845	-.051	.018	.045	-.081	-.204
	(.040)	p = .002	(23.37)	p = .706	(.054)	p = .733	(.052)	p = .125
Homemaker vs								
Skilled worker	.014	.084	-5.325	-.057	-.022	-.103	-.079	-.372
	(.022)	p = .514	(12.64)	p = .675	(.029)	p = .443	(.028)	p = .006
Unskilled worker vs								
Skilled worker	-.032	-.115	-17.98	-.117	.016	.045	-.075	-.214
	(.031)	p = .314	(18.31)	p = .329	(.042)	p = .700	(.041)	p = .072
Semi-professional vs								
Skilled worker	.004	.022	-21.35	-.210	-.033	-.138	-.066	-.285
	(.024)	p = .867	(14.07)	p = .133	(.032)	p = .315	(.032)	p = .039
Professional vs								
Skilled worker	-.013	-.039	-30.99	-.163	-.017	-.039	.005	.011
	(.043)	p = .759	(25.14)	p = .221	(.058)	p = .763	(.056)	p = .934

[†] Percent Prosocial Talk and Percent Negative Talk were square root transformations of the original value.

Table 3-3. Descriptive statistics and correlations of composite variables for father-child dyads
(n = 37)

	Range	M	SD	1.	2.	3.	4.	5.
1. Total Verbalization	89.0 - 280	152	46.1					
2. Percent Demandingness	0.13 - 0.52	0.32	0.11	.190				
3. Percent Prosocial Talk ‡	0.01 - 0.20	.05	.04	-.166	-.336*			
4. Percent Negative Talk	0.01 - 0.19	.08	.04	.096	.063	-.395*		
5. Hollingshead SES	20.0 - 66.0	43.5	13.0	-.110	-.241	.524**	-.159	-.159
6. Income to needs §	-0.32 - 0.88	.30	.27	.043	-.188	.412*	-.054	.661**
				p = <i>ns</i>	p = <i>ns</i>	p = .012	p = <i>ns</i>	p < .001

* p < 0.05 level

** p < .01

‡ One outlier was removed when analyzing Prosocial Talk (n = 36).

§ Income to needs was a logarithmic transformation of family income divided by US poverty threshold for a given size family.

CHAPTER 4 DISCUSSION

The purpose of this study was to determine how various measures of SES influenced the relations between SES and parent behaviors in a clinical sample. First, we hypothesized that SES would be positively related to parent Prosocial Talk. Prosocial Talk includes praising the child, describing what he is doing, and reflecting, or repeating, what he is saying. We found that as HI increased, positive parent verbalizations increased for both mother- and father-child dyads. In addition, the three separate indices of SES – income, education and occupation – accounted for three times the observed differences in mother Prosocial Talk than accounted for by HI.. We found maternal education, specifically, was strongly related to Prosocial Talk. .

Our overall findings concur with results found in general population studies which suggests less responsiveness and warmth among lower SES mothers with their children (Dodge et al., 1994; Hart & Risley, 1995). Although past research has focused almost exclusively on mother-child interactions, we found that the relationship between warmth and SES was stronger in father-child than mother-child dyads. However, relations may have appeared stronger in father-child dyads due to the method of measuring SES than to a true phenomenon. Mothers are not always included in the calculation of HI. Instead, HI relies more strongly on the education and occupation of the primary earner in each family, often excluding mother education and occupation. By examining income, education, and occupation in the same model, we demonstrated the large role of maternal education in in relations between SES and mother Prosocial Talk. Our results suggest that any measure of SES that does not include mother education is unlikely to relate strongly to parental warmth and responsiveness.

Despite HI's inconsistent considering of maternal education, these findings are important for parent training programs for preschoolers that focus on reducing negative and increasing

positive interactions. Of note, the relationship between family SES and parent Prosocial Talk was found in standardized situations in which parents have more control, which are the times that children with ODD exhibit greater defiance and noncompliance. Although higher SES families also engage in more maladaptive coercive family processes during parent controlled situations, higher SES families make more positive statements than lower SES families do. If clinicians are knowledgeable about the relationship between SES and parenting skills, they may better recognize when they need to introduce treatment in a sensitive manner. Such sensitivity is particularly important considering Fernandez and Eyberg's (in press) finding suggesting that low Prosocial Talk is a predictor of treatment dropout in families with a preschooler with ODD.

The present study also sought to examine the way SES is related to parent Total Verbalizations, Demandingness, and Negative Talk. Findings for mother-child and father-child dyads did not support the hypothesis that SES would be positively related to Total Verbalizations. This negative finding is inconsistent with past research, which has established a strong relationship between family's social class and both the quantity and quality of parent speech to children (Hart & Risley, 1995).

Although mother Demandingness was significantly related to HI, this relationship was not significantly different from the other nonsignificant relationships. Mother demandingness was also not related to SES using the three separate indices of SES (income, education, occupation). No relationship was found between father demandingness and SES.

Negative Talk was not significantly related to SES, measured with HI or 3 separate indicators, as hypothesized. Past research has demonstrated that among non-clinic-referred mothers, those with lower SES are more critical and harsh to their children and that lower SES children are more likely to have disruptive behavior disorders. The absence of relations between

SES and NTA in our clinical suggests that parent NTA may mediate relations between SES and child disruptive behavior disorders. Our results emphasize that SES may be related to positive parent verbalizations, but not negative verbalizations, in clinical families in treatment for preschool ODD.

Our use of a clinical sample may be the strongest reason that our results diverge from earlier studies examining relations between SES and parenting. Future research utilizing standardized methods of parent-child observation should include families from the general population to determine if the population under study accounts for divergent results. Clinicians must be careful to dismiss any previous assumptions about the association between parenting styles and SES, and recognize that clinic families from both low and high SES show similar levels of criticism while interacting with their children.

Another possible reason for lack of significant is the measurement of SES. Hollingshead (1975) argued reasons for deriving the social status of a family from the breadwinner. Although some strengths for HI have been acknowledged, continued use is problematic in psychological research, particularly child research, because nonemployed mother education is not part of the score. Because many educated mothers self-select out of the workforce once they have children, it is important to consider maternal education when researching child outcomes. Early studies of social class were conducted by sociologists who focused on how families were evaluated by others in their community. Developmental researchers have continued to use HI, even though their focus is no longer on social status per se, but on the access to resources and on the home environment, both of which have direct implications for child development (Hoffman, 2003).

Although income, education and occupation, were used as different measures of SES in this study, problems associated with each of these indices of SES may have contributed to

nonsignificant findings. First, to control for family size when considering income, this study used an income-to-needs ratio as a measure of economic resources, but as with most SES measures, there are trade-offs. Income is quite volatile over the course of a child's life (Duncan & Magnuson, 2003). In addition, it is often difficult to obtain accurate self-report of household income. The demographic form had a list of various types of income for the participant to complete; however, there were 10 cases for which an additional working adult (ie. not mother or father) resided in the home. Income data were not given for these workers, although their incomes are considered household income. Future research can attempt to ameliorate this difficulty by clearly asking the parent to report *all* sources of income in the home (ie all working adults).

The measurement of occupation also presents problems as a measure of SES. Occupation was categorized occupation into four categories, a category was added for homemakers and unemployed. Occupation is meant to measure a broader set of skills than those learned through formal education. Occupations with higher status are linked to higher earnings, more control, and more prestige for workers (Jencks, Perman, & Rainwater, 1988). However, occupation is also volatile across the life span. As our sample demonstrated (22 of 89 mothers categorized themselves as homemakers), many women self-select out of the workforce, thus creating a fifth category of women with different skill sets. Although the correlations between maternal occupation and maternal NTA showed close to a statistically significant values, the inclusion of homemaker category may have eradicated a true association.

Our results have several important implications. First, it is likely that the relations previously documented between family SES and parenting styles may be different in clinic-referred and general population samples. Theories explaining the relations between SES and

parenting must be expanded to accommodate current findings. Second, our findings have clinical implications, as well. As stated, clinicians need to be cognizant that SES is significantly related to *positive* verbalizations rather than negative ones. Positive verbalizations, like praise, increase with SES, but criticisms remain the same while SES increases. For treatments of ODD, such as parent management training, this distinction may help clinicians introduce and frame therapy to families considering treatment for their children.

Lastly, the largest implications of this study are for research. When choosing a measure of SES, researchers need to consider carefully the theoretical foundations each measure. Young children today are more likely to have highly educated parents, come from families with incomes either below or well above the poverty line, and live in single parent households than children from previous generations (Shonkoff & Phillips, 2000). Thus, it is crucial for researchers to continue to seek understanding of how these different SES indicators fit together to produce risk or resiliency in children.

Our finding showing that HI relates differentially to parenting behaviors for mothers and fathers was largely due to the HI reliance on the primary breadwinner's education and occupation. To understand fully the complex interactions between SES and parenting, researchers must consider the entire context in which the child resides, not just the context of one parent. It is important to consider resources of both parents. Researchers must not only avoid bias toward one parent, but also refrain from condensing SES to a single component, such as education, because no single indicator can adequately cover the entire context of socioeconomic status.

Our study also had several limitations. First, the study is correlational, so causation cannot be inferred. It cannot be concluded that low SES *causes* parents to give fewer praises and

other prosocial verbalizations, nor can we conclude that higher SES families are better parents for praising their children more. Instead, we must be careful to interpret these differences within the context of culture and remain sensitive to the varying stresses and demands that lower SES parents endure.

In addition, the sample consists of families who have a preschool-aged child with oppositional defiant disorder, thus the findings may not be generalizable to families who have children with other diagnoses. Another aspect that limits generalizability is that the sample resides in north central Florida. This area is mainly rural, and family SES, in rural versus urban settings, likely has different pathways to child disruptive disorders and different barriers to treatment (Evans, 2003). Parenting practices that “work” in one environment may actually prove to be detrimental in the other. Future research should attempt to compare the parenting differences in families who seek treatment for preschool ODD in rural versus urban areas. Such differences could impact the success of intervention programs for young children with behavior disorders.

Categorization of education can also be considered a limitation of this study. In hindsight, asking parents to report number of years of formal schooling, would have provided richer information and possibly strengthened the findings. This study divided education into categories that Hollingshead (1975) used. Thus, a respondent with one semester of college would be placed in the same category as a respondent who had seven semesters of college. It would be useful for education to be expressed continuously to permit differentiation among “partial college” respondents.

Lastly, the small sample of fathers in the study limited statistical power to examine father occupation, education, and income simultaneously. Using both HI and 3 indices of SES for

fathers, as well as mothers, could have added additional findings of interest. Future research should attempt to include more fathers.

Future research should also strive to include self-report measures of parent behavior and parent-report measures of child behavior. If perceptions of parent and child behavior were compared to objective measures of the same behavior, researchers could estimate the degree to which a discrepancy may exist. Parental psychological distress should also be taken into account because it could be associated with both parental self-report and observed behavior. Such research could help clarify the divergence of results from past research on SES and parenting – were current findings nonsignificant because of the clinical nature of the sample or because of the use of observational methods?

It would also be useful for future research to examine discrepancies between parents' self-reported behaviors and observed behaviors in structured play situations. It is possible that the relationship between parent self-report and observed behaviors differs as a function of SES. Such an interaction would have clinical utility because therapists often rely on parents to describe the home environment.

The current study is just one step towards understanding the relations between a complicated SES and presentations of parents with children diagnosed with ODD. Although future research will be needed to further elucidate this relationship, clinicians can begin to keep in mind the possible association between SES (particularly mother education) and positive parent verbalizations. Researchers should continue to conceptualize SES as a multidimensional construct, without collapsing the dimensions into one composite score. It is especially important for psychologists and other social science researchers to continue to tease apart the various dimensions of SES – particularly in a time when young children are more likely to have highly

educated parents, come from families with incomes either below or well above the poverty line, and live in single parent households (Shonkoff & Phillips, 2000).

APPENDIX
HOLLINGSHEAD INDEX

A-1. Hollingshead Index Occupational Status Scale

- (1) Farm Laborers / Menial Service Workers
- (2) Unskilled Workers
- (3) Machine Operators and Semiskilled Workers
- (4) Smaller Business Owners, Skilled Manual Workers, Craftsmen, and Tenant Farmers
- (5) Clerical and Sales Workers, Small Farm and Business Owners
- (6) Technicians, Semiprofessionals, and Small Business Owners
- (7) Smaller Business Owners, Farm Owners, Managers, and Minor Professionals
- (8) Administrators, Lesser Professionals, and Proprietors of Medium-Sized Businesses
- (9) Higher Executives, Proprietors of Large Businesses, and Major Professionals

A-2. Hollingshead Index Education Scale.

- (1) Less than 7th grade
- (2) 7th, 8th, or 9th grade
- (3) 10th or 11th grade
- (4) High school graduate or GED
- (5) Partial college or technical/specialized training
- (6) Standard college or university
- (7) Graduate professional training

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BIOGRAPHICAL SKETCH

Corissa Callahan was born in Denville, New Jersey, on December 1, 1982. The oldest of five children, she was primarily raised in Wilkes-Barre, Pennsylvania, and she graduated from Bishop Hoban High School in 2000. In 2004, she obtained a Bachelor of Science degree in human development from Cornell University, where she completed an honors thesis under the mentorship of Gary Evans, Ph.D.

After graduation from Cornell, Corissa worked at the University of California–Los Angeles as a research assistant for Michelle Craske, Ph.D., in the Anxiety Disorders Behavioral Research Program. There, she coordinated an NIMH-funded study of risk factors for developing mood and anxiety disorders in late adolescence. In August 2006, Corissa entered the doctoral training program in Clinical and Health Psychology, in the Clinical Child Psychology track, at the University of Florida. At Florida, she is research assistant for Sheila Eyberg, Ph.D., on an NIMH-funded study examining group versus individual parent-child interaction therapy for preschoolers with attention deficit hyperactivity disorder.

Corissa plans to focus her research and clinical work on the psychological needs of United States military service members and their families, a passion she has already begun to pursue.