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Parental Depression and Child Behavior Problems: A Closer Examination

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Parental Depression and Child Behavior Problems: A Closer Examination

by

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the requirements for the degree
Doctor of Philosophy in Clinical Psychology

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Each person whose signature appears below certifies that this thesis, in his/her opinion is adequate, in scope and quality, as a thesis for the degree Doctor of Philosophy.

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ABSTRACT OF THE THESIS

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Parents of children with autism spectrum disorders (ASD) have higher rates of depressive symptoms, and parental depressive symptoms are strongly associated with problem behaviors in children. However, the direction of effect between parental depression and child behavior problems is unclear. Additionally, the mechanisms through which parental depression contributes to child behavior problems and vice versa are not well understood. The purpose of the present study is to examine the relationship between parental depression and child behavior problems among families of children with ASD; more specifically to investigate as mediating variables that may explain the mechanisms through which parental depression and child behavior problems are associated as well the temporal relationship between these two variables.

The sample consisted of 33 parents of children with ASD (ages 2 to 5 years old). Findings suggested that authoritative parenting style significantly mediated the relationship between parental depression and behavior problems. However, cross-lagged panel analyses did not support a transactional relationship between parental depression and child behavior problems. This study highlights the importance of considering parental mental health and its impact on parenting behavior in interventions targeting child behavior problems.

Keywords: Autism Spectrum Disorder (ASD), parental depression, child behavior problems, parenting style.

CHAPTER 1

OVERVIEW

Introduction

Parents of children with autism spectrum disorders (ASD) consistently report higher levels of parenting stress and psychological distress (Dabrowska & Pisula, 2010). The rates of depressive symptoms for parents of children with ASD are significantly higher than parents of typically developing children or parents of children with other developmental disorders (Meltzer, 2011). Previous research has shown that there is a correlation between parental depression and behavior problems; however, the direction of the relationship is currently unclear. Notably, previous research has not examined whether parental depression contributes to child behavior problems and vice versa among children with ASD.

The mental health of parents of children with ASD may be impacted by a variety of factors related to the characteristics of ASD. More importantly, persistent stress resulting from child behavior problems in everyday life may consequentially affect the quality of parents' personal and family life and may lead to negative outcomes such as parental depression (Murray, Stanley, Hooper, King, & Fiori-Cowley, 1996). The majority of studies have focused on mothers since they typically report being the primary caregiver, and mothers of children with ASD report challenges in family functioning related to job adjustments, inflexibility in family and personal life, and additional responsibilities related to child rearing (Meirsschaut, Roeyers & Warreyn, 2010). Additionally, maternal self-efficacy has been negatively associated with parenting stress

and depression among parents of children with ASD (Meirsschaut et al., 2010; Kuhn & Carter, 2006).

A number of researchers have investigated the effect of child behavioral or emotional problems on parents and found that an increase in child disruptive problems is strongly associated with elevated parental depressive symptoms (Gross et al., 2008; Civic & Holt, 2000). Children with ASD display higher levels of behavior problems than most children with other developmental delays (Estes et al., 2009). Previous studies suggest that parental depression is positively associated with negative child outcomes, including increased child behavior problems among typically developing children as well as children with ASD (Slatcher, Trenacosta, 2011; Gross et al., 2008). Having a child with ASD can be very stressful for parents. Problematic behaviors exhibited by these children may lead to changes in parenting behavior (e.g., lower tolerance), which results when parents can no longer cope with their children's behavior problems. Thus, the aims of the current study were to (1) investigate parenting style as a mediator of the relationship between parental depression and child behavior problems; (2) test the direction of the relationship between the parental depression and child behavior problems among children with ASD, none of which has been examined previously in children with ASD.

Method

Participants

The current study involved data from the Mindful Awareness for Parenting Stress (MAPS) Project, an intervention study that consisted parents of children, ages 2.5 to 5 years old, with ASD. Subjects were primarily recruited through the Inland Empire

Regional Center, a government agency that provides and purchases diagnostic and intervention services for persons with developmental disabilities. In California, nearly all families with young children with developmental delays register for services with one of a network of Regional Centers. Participants who met the inclusion criteria were selected by the Regional Center's computer databases and received a letter and brochure informing them of the study. Families were also recruited through the local newspaper, elementary schools, and the Regional Autism Society.

Criteria for inclusion in the study were: (1) Having a child ages 2.5 to 5 years, (2) the child was determined by Regional Center or by an independent assessment to have an ASD diagnosis, (3) parent(s) reported more than 10 child behavior problems (the recommended cutoff score for screening children for treatment of conduct problems) on the Eyberg Child Behavior Inventory (ECBI; Robinson, Eyberg, & Ross, 1978), (4) the parent was not receiving any form of psychological or behavioral treatment at the time of referral (e.g., counseling, parent training, parent support group, etc.), and (5) parent spoke and understood English. Parents were excluded from participation if they had children with debilitating physical disabilities or severe intellectual impairments that prevented the child from participating in the play assessment that was a part of the protocol for the larger study (e.g., child is not ambulatory). In order to be included, parents also must have completed all intake measures and attended the intake assessment before the beginning of the first intervention session.

Of the ninety-five families that were screened for the study, 63 were determined to be eligible, and 51 parents enrolled in the study originally. Five parents completed the initial assessments but dropped out of the study before the intervention began, leaving a

final sample of 46 parents; however, for this study the sample was further restricted to primary parents of children with ASD, which resulted in a total sample of 33 parents. There were no demographic differences between participants who completed the intervention and those who dropped out of the study. Similarly, there were no demographic differences between families of children with ASD and those with other developmental disabilities.

Table 1 depicts the demographics of the sample. The majority of the children were boys (72.7%) and the mean age of the children was 3.58 years (*SD* = .94). Parents reported 33.3% of the children as Caucasian, 33.3% as Hispanic, 9.1% as Asian, 2.5% as African American, and 24.2% as "Other". The majority of parents (76.8%) reported that their child's diagnosis was Autistic Disorder, and the remaining children were reported to have another diagnoses on the autism spectrum. Although we did not complete a full diagnostic screening, the Gilliam Autism Rating Scale (GARS; Gilliam, 1995) indicated that 83.3% of the children from the sample were very likely to have an ASD diagnosis and 16.7% of the children were considered to have a possible ASD diagnosis. At the time of the intake assessment, 90.9% of the children were reported to receive special education services in school and 78.8% of the children were enrolled in a special education classroom. Of the 33 participating parents (M_{age} = 33.26, SD_{age} = 7.38), the majority of parents were mothers (83.3%) and married (78.8%). There was a range of annual family income from $0 to over $95,000 (51.5% made greater than $50,000 in 2011), and parents completed an average of about three years of college (M_{years} = 14.82, SD_{years} = 2.93).

Table 1

Demographic Characteristics of Participants

	N (%)	X (*SD*)
Children		
Gender (% boys)	24 (72.7)	
Ethnicity (Caucasian)	11 (33.3)	
Mean Age in Years		3.58 (.94)
Participating Parent		
Marital Status (% Married)	26 (78.8)	
Family Income (% > $50K)	17 (51.5)	
Mean Age in Years		33.25 (7.38)
Education (Mean Grade in School)		14.82 (2.93)

Note. Children: n = 33; Participating Parents: n = 33.

Procedure

Interested parents contacted the MAPS project by phone, returned a postcard requesting the PI to contact them, or submitted their information on the MAPS website. The research team then conducted a phone screen assessing participants' eligibility once the families indicated their interest in the program. If the family met eligibility criteria for the study, an appointment for an intake laboratory assessment was scheduled. Prior to the initial laboratory assessment, a packet of questionnaires was mailed to parents to complete before coming into the lab. Only the parents participating in the study completed the packet. At the initial assessment, parents were given an informed consent form that the researchers reviewed with the parent. Demographic information was collected after consent was obtained. Parents also participated in a play assessment and

were assigned to a treatment group that was a part of the larger study. The present investigation used data from the intake assessment.

Measures

Center for Epidemiologic Studies Depression Scale (CES-D)

To assess for parental depression, parents completed the CES-D, a 20-item self-report measure of depressive symptoms including mood, somatic complaints, and cognitions (Radloff, 1977). Total scores can range from 0 to 60, with a cut-off of 16 for the clinical range. The CES-D has four subscales – somatic symptoms, depressed affect, positive affect, and interpersonal functioning. The total score of this measure was used to assess the level of depression in parents. Previous studies indicate that the CES-D has excellent internal consistency ($\alpha > .85$), acceptable test-retest reliability ($r > .5$), and strong construct validity (Radloff, 1977). The reliability for the total score in our sample was $\alpha = .77$.

Child Behavior Checklist (CBCL for ages $1^1/_2$ -5 years)

Child behavior problems were measured using the CBCL (Achenbach, 2000). The CBCL is one of the most widely used measures of child behavior problems and has demonstrated excellent test-retest reliability ($r = .94$) and validity (Achenbach, 2000). Each CBCL item indicates a child behavior problem (e.g., fails to finish things he/she starts, temper tantrums or hot temper, sleeps more than most kids). For each item, the parent reported whether it was "not true" (0), "somewhat or sometimes true" (1), or "very

true or often true" (2), now or within the past two months. The total problem score was used in the current study and the reliability for our sample was high (α = .93).

The Parenting Styles and Dimensions Questionnaire (PSDQ)

A short version of the PSDQ was used to assess parenting style (Robinson, Mandleco, Olsen, & Hart, 2001). The questionnaire consisted of 32 items that measure characteristics of authoritative, authoritarian, and permissive parenting styles. The Cronbach's alpha for the total score was acceptable (α = .70). Authoritative parenting style was measured with 15 items (associated factors include warmth/support, reasoning/induction, and democratic participation). Authoritarian parenting style was measured with 12 items (associated factors include physical coercion, verbal hostility, and non-reasoning/punitive dimension). Five items were used to measure permissive parenting style (Robinson, Mandleco, Olsen, & Hart, 2001). Subscales for authoritative parenting style (α = . 84), authoritarian parenting style (α = .71), and permissive parenting style (α = .50) were used in the current study.

Gilliam Autism Rating Scale, 2nd Ed. (GARS-2)

ASD symptoms were assessed using the GARS (Gilliam, 1995). The measure consisted 42 items that measures three subscales, including stereotyped behaviors, communication, and social interaction of the child. The ratings range from "Never Observed" to "Frequently Observed," and the subscales are combined to create the autism index score that indicates a very likely (> 85th percentile), possibly (70-84th percentile), and unlikely (< 69th percentile) ASD diagnosis. It is the mostly commonly

used measure by parents, clinicians, and teachers to identify and diagnose ASD. The GARS also provides an estimated severity of the disorder. The Cronbach's alpha for the current sample was α = .91.

Preliminary Analysis

Residual scatterplots were used for tests of normality, linearity, and homoscedasticity. No assumptions were violated. Tests for leverage, discrepancy and influence were used for detecting outliers. Data points that were more than three standard deviations above or below the mean of a variable were considered to be outliers (Tabachnick & Fidell, 2012). One case occurred that was more than three standard deviations above the mean on authoritative parenting style subscale and this case was removed from the analysis. Demographic variables that had a significant relationship ($p < .05$) with one or more of the independent variables and one or more of the dependent variables were tested as covariates in the analyses.

CHAPTER 2

PARENTAL DEPRESSION AND CHILD BEHAVIOR PROBLEMS: A PILOT STUDY EXAMINING PATHWAYS OF INFLUENCE

Introduction

Parents of children with autism spectrum disorders (ASD) consistently report high levels of parenting stress and psychological distress (Dabrowska & Pisula, 2010). The rates of depressive symptoms for parents of children with ASD are significantly higher than parents of typically developing children and parents of children with other developmental disorders (Meltzer, 2011; Pisula, 2007). Parental depression is negatively associated with positive child outcomes from infancy to adolescence (Goodman & Gotlib, 1999; 2002; Goodman, Adamson, Ritini, & Trentacosta, 1994; Jaser et al., 2005) and positively associated with multiple problem behaviors among typically developing preschool children (Slatcher & Trenacosta, 2011) and children with ASD (Hastings, 2003; Bromley, Hare, Davison, & Emerson, 2004; Higgins, Bailey, & Pearce; 2005). On average, children with ASD display higher levels of behavior problems than children with other developmental delays (Estes et al., 2009). Parenting behavior, and more specifically parenting style, may be one mechanism through which parental depression influences child behavior problems. Previous research also suggests that parental depression is correlated with parenting style (Aunola & Nurmi, 2005); specifically, parental depression has been associated with permissive parenting styles (Topham et al., 2010). The current study examined parenting style as a mediator of the relationship

between parental depression and child behavior problems, which has not been examined previously in families of children with ASD.

ASD and Child Behavior Problems

Children with ASD are at significant risk for exhibiting elevated behavior problems and developing a comorbid psychiatric disorder over time (Leyfer et al., 2006; Simonoff, Pickles, Charman, Chandler, Loucas, & Baird; 2008). Many children with ASD also exhibit comorbid intellectual disabilities (ID), which are also associated with increased risk for co-occurring psychopathology (Baker, Neece, Fenning, Crnic, & Blacher, 2010; Borthwick-Duffy & Eyman, 1990, Neece & Baker, 2012; Neece, Baker, Blacher, & Crnic, 2011). ADHD and anxiety disorders, which are common among children with ASD, are also associated with higher levels of behavior problems (Simonoff et al., 2008). Children with elevated behavior problems are at heightened risk for developing psychopathology and higher rates of behavior problems have been consistently documented in children with cognitive delays (Baker et al., 2010; Neece & Baker, 2012). Additionally, higher rates of behavioral problems and a variety of health concerns such as epilepsy, tuberous sclerosis, and seizures often co-occur with ASD (Boisjoli & Matson, 2009; Gillberg & Billstedt, 2000; Matson & Nebel-Schwalm, 2007).

Mental Health of Parents of Children with ASD

Higher levels of parental stress have been associated with increased behavior problems in children with developmental delays and ASD (Baker et al., 2003; Neece, Green, & Baker, 2012), which in turn may lead to parental depression (Murray et al.,

1996). Parents who have emotional difficulties and fewer coping resources also reported greater stress in response to children's problem behaviors (Olsson & Hwang, 2001; Hastings et al., 2005). While there have been many studies showing the significant mental health risks among parents of typically developing children with behavior problems, literature on the parents of children with ASD is very limited. Given the elevations in behavior problems among this population, there is an urgent need for further studies investigating the relationship between parental mental health and child behavior problems among families of children with ASD.

Parenting Style as a Potential Mechanism

Previous studies have suggested that parenting style may be a key predictor of children's development (Steinberg, 2001). The current study used Diana Baumrind's parenting style classifications and investigated parents' authoritative, authoritarian, and permissive parenting behavior (Baumrind, 1966).

Authoritative parenting style has been identified by a high level of parental control, clear expectations for behavior, responsibility, and self-regulation while simultaneously demonstrating affection and high responsiveness to the child's needs. Children of authoritative parents are generally friendly, independent, active, achievement-oriented (Baumrind, 1967) and demonstrate resilient, mature, responsible, self-regulated characteristics (Baumrind, 1991). The high level of parental affection and behavioral control characteristic of authoritative parenting is positively associated with adjustment in children as well as higher scores on attachment, resilience, school achievement, social and school competence, and prosocial behavior (Hart, Newell, &

Olsen 2003; Maccoby & Martin, 1983; Aunola & Nurmi, 2005; Alegre, 2010) and inversely associated with child misbehavior (Baumrind, 1991) compared to children of authoritarian, uninvolved, and permissive parents.

Conversely, authoritarian parenting style is characterized by high directive control and maintaining order, low affection and little communication toward the child, and the utilization of punishment. These parents typically discourage discussions with their children by enforcing strict expectations. They are highly demanding yet unresponsive to their child's needs (Baumrind, 1991). The children of parents with authoritarian parenting styles exhibit poorer outcomes such as lower scores on cognitive tests, fewer feelings of happiness and trust, less internalization of pro-social values, increased risk for conduct problems, and isolation from peers (Baumrind, 1991; Aunola & Nurmi, 2005).

Finally, permissive parenting style has been found to have the most adverse impact on children's development (Wolfradt, Hampel, & Miles, 2003). It is typically characterized by less demand, low behavioral control, and high responsiveness and warmth. Children of these parents are generally less self-regulated, more passive, tend to show withdrawn behavior, lack social responsibility, and are at risk for conduct problems (Baumrind, 1991; Heller, Baker, Henker, & Hinshaw, 1996; Wolfradt et al., 2003).

One factor that may lead to problematic parenting practices is parental psychological disorders (Howard, Thronicroft, Salmon, & Appleby, 2004). Depression in parents is related to more problematic parenting practices (Downey & Coyne, 1990), such as irritability, the absence of physical and emotional availability, negative or sad affect, and lack of responsiveness to the child's needs (Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985). Mustillo and colleagues (2011) reported that parental depression was

significantly related to child outcomes, specifically elevated emotional and behavior problems for both young children and adolescents and this relationship was mediated by neglectful parenting (Mustillo, Dorsey, Conover, & Burns, 2011). Despite the number of studies demonstrating associations between child behavior problems and parental depression (Goodman & Gotlib, 2002, Jaser et al., 2005, Mustillo et al., 2011; Gross et al., 2008), parental depression and parenting styles (Howard et al., 2004; Oyserman, Bybee, Mowbrazy, & Hart-Johnson, 2005; Topham et al., 2010), and parenting styles and child behavior problems (Hart et al., 2003; Baumrind, 1991; Heller et al., 1996; Wolfradt et al., 2003; Gadeyne et al., 2004; Alizadeh et al., 2011) among families of typically developing children, few studies have examined the specific mechanisms that mediate the impact of parental depression and child behavior problems and the full meditational model has not been investigated in families of children with ASD.

The Current Study

The current study examined the interrelationships between parental depression, parenting styles (permissive, authoritative, authoritarian), and child behavior problems among families of children with ASD, specifically investigating whether parenting style mediates the relationship between parental depression and child behavior problems. We hypothesized that parenting style (authoritative, authoritarian, and permissive) would significantly mediate the relationship between parental depression and child behavior problems among children with ASD; more specifically, parental depression would be associated more with permissive parenting behavior, which in turn, would be associated with higher levels of behavior problems. In addition, parental depression would be

inversely associated with authoritative parenting style and, subsequently, lower levels of behavior problems. Given that child behavior problems and parental depression likely have a mutually escalating effect on one another, it is important to investigate the mediating variables that account for this association. Findings may be important for clinicians working with families of children with ASD in terms of identifying additional targets for intervention (e.g. parenting style) that may reduce the impact of parental depression on children's behavior problems.

Data Analytic Plan

No demographic variables were identified to have a significant relationship ($p < .05$) with parental depression and child behavior problems, and thus no covariates were included in the mediation models.

A multiple mediation analysis using the bootstrapping method was used to examine the three parenting styles (Authoritative, Authoritarian, Permissive) as mediators of the relationship between parental depression and child behavior problems. Although the most common approach to test for mediation is the causal steps strategy (Baron & Kenny, 1986), studies have found this strategy is only constructive when used with very large samples (Hayes, 2009; Bauer, Preacher, & Gill, 2006). Current literature suggests that the bootstrapping method is the best method to test for significant indirect, or mediation, effects (Hayes, 2009). The bootstrapping method takes sample of size *n* with replacement from the original sample and calculates the indirect (mediation) effect, and the program repeats the process 5000 times. This procedure provides the total indirect effect, specific indirect effects for each mediating variable, and tests of all pairwise

comparisons among specific indirect effects, providing both standard errors and 95% confidence intervals (CIs). The confidence intervals are used to evaluate the significance of the indirect effect. These CIs typically have fewer problems with statistical power and Type I error and produce estimates that are more accurate. Bias Corrected and Accelerated (BCa) Confidence Intervals are an adjusted percentile method that are based upon the calculation of the ‘‘bias correction’’ and ‘‘acceleration’’ coefficients which adjust for bias in the bootstrapped sampling distributions relative to the actual sampling distribution (Haukoos & Lewis, 2008) (Efron & Tibshirani, 1993; Davison & Hinkley, 1997). The bias correction coefficient adjusts for skewness while the acceleration coefficient adjusts for non-constant variances within the re-sampled data sets (Haukoos & Lewis, 2005). This confidence interval was chosen to determine the significance of the results due to its accuracy and because it adjusts for both bias and skewness (Efron, 1987). If the bootstrap CI for the effect does not include 0 then the effect is determined to be statistically significant at $\alpha = .05$ (Preacher & Hayes, 2008). The total indirect effect (*c'*), specific indirect effects for each mediating variable (*ab*s), specific pairwise comparisons of all indirect effects, standard errors, and 95% CIs are reported (see Tables 2).

Furthermore, studies suggest that statistical analyses using multiple mediation are the best way to test the effects of mediators when there is more than one mediating variable (Preacher & Hayes, 2008). Multiple mediation has fewer problems with Type I error and has more power compared to other methods such as the causal steps approach or the Sobel test of the product-of-coefficients approach (Preacher & Hayes, 2008). Moreover, multiple mediation using bootstrapping has been found to be superior for small sample sizes, limits parameter bias resulting from omitted variables, and does not

assume that the sampling distributions of the mediation effects are normal (Preacher & Hayes, 2008). With this analysis we were able to determine both the total indirect effect of the combined mediators and the indirect effect of each individual mediator after controlling for the effects of all the other mediators in the model. Finally, this type of analysis provided the estimated strengths of the effects for each mediator and allowed us to compare the strength of different mediators.

Results

Preliminary analyses examining parental depression, child behavior problems, and parenting styles (authoritative parenting style, authoritarian parenting style, & permissive parenting style) were calculated using bivariate correlations. Only authoritative parenting style was positively correlated with child behavior problems ($r = .50$, $p < .05$) and parental depression ($r = .47$, $p < .05$). Additionally, authoritarian parenting style was positively correlated with permissive parenting style ($r = .43$, $p < .05$), but authoritative parenting style did not correlate with either of the other two styles. More than half of the participants (53.8%) in our current sample reported a score above 16 on the CES-D ($M = 17.23$, $SD = 8.89$), suggesting that the majority of the parents in our sample were experiencing clinically significant levels of depressive symptomatology.

Results from multiple mediation analyses, which tested parenting styles (authoritative, authoritarian, and permissive) as mediators of the relationship between parental depression and child behavior problems, are presented in Table 2. The total indirect effect of all mediators combined did not significantly mediate the relationship between parental depression and child behavior problems ($ab = .54$, $SE = .49$, BCa 95%

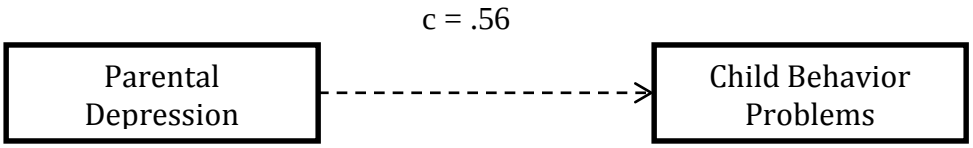
CI [-.19, 1.82]). The results of the specific indirect effects indicated that only authoritative parenting style significantly mediated the relationship between parental depression and child behavior problems (*ab* = .59, *SE* = .543, BCa 95% CI [.03, 1.81]), indicating that with each one-point increase in parental depression, child behavior problems increased by .59 points via the effect of the authoritative parenting style. Authoritarian parenting style and permissive parenting style did not mediate the relationship between parental depression and child behavior problems.

Table 2

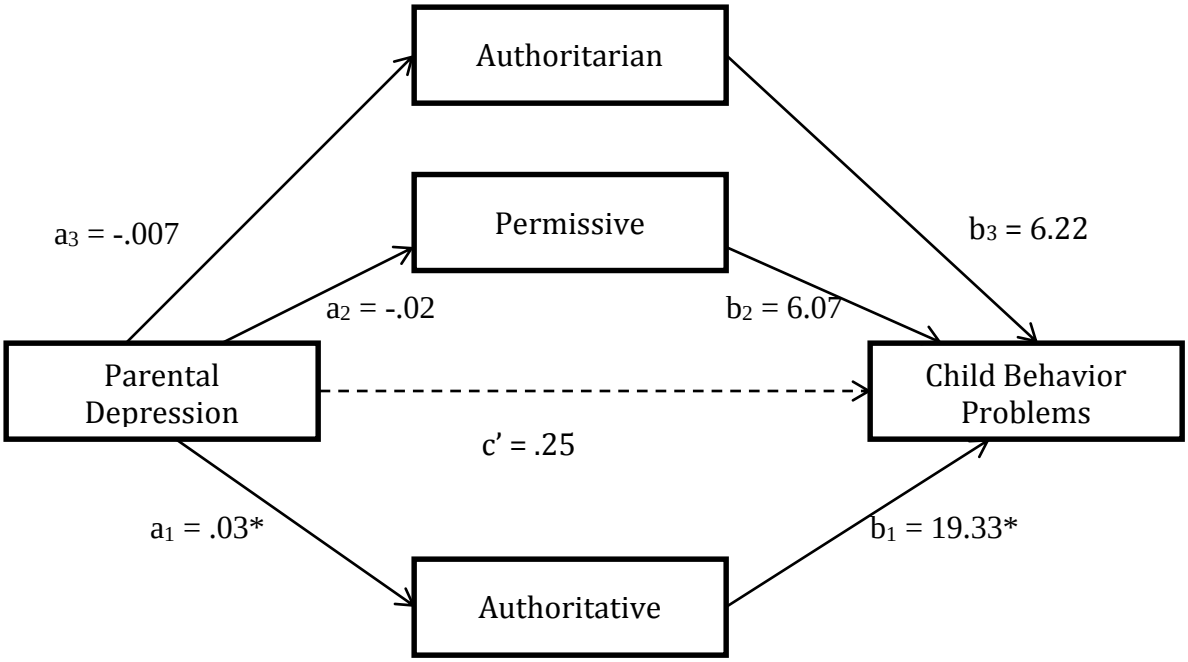
Results of Multiple Mediation Analyses Testing Parenting Styles as Mediators of the Relationship between Parental Depression and Child Behavior Problems

Independent Variable	Mediated Effect	Point Estimate	SE	BCa 95%
Parental Depression	**Authoritative Parenting Style**	**0.59**	**0.43**	**[0.03, 1.81]**
	Permissive Parenting Style	0.01	0.18	[-0.33, 0.44]
	Authoritarian Parenting Style	-0.05	0.15	[-0.45, 0.17]
	Total Indirect Effect	0.54	0.49	[-0.19, 1.82]
	Authoritative vs. Permissive	0.59	0.48	[-0.08, 1.88]
	Authoritative vs. Authoritarian	**0.64**	**0.44**	**[0.05, 1.92]**
	Permissive vs. Authoritarian	0.06	0.26	[-0.38, 0.66]

Note. BC 95% CI = 95% bias-corrected and accelerated confidence interval. Significant effects are highlighted in bold.



a) Direct Pathway



b) Indirect or Mediated Pathway

Figure 1. Multiple mediation model testing how parenting styles mediates the relationship between parental depression and child behavior problems. Path coefficients that are significant are indicated using asterisks, *$p < .05$.

Discussion

The present study advances our understanding of the relationship between parental mental health and child behavior by examining the mechanisms through which parental depression and child behavior problems are related to each other. We investigated parenting styles as mediators of the impact of parental depression on child

behavior problems. Contrary to our hypothesis that parental depression would be associated more with permissive parenting style, which in turn would be associated with higher levels of behavior problems, permissive parenting style did not mediate the relationship between parental depression and child behavior problems. Rather, authoritative parenting style was found to mediate the relationship between parental depression and child behavior problems. These findings are inconsistent with other studies showing that authoritative parenting style is inversely correlated with internalizing and externalizing child behavior problems (Gadeyne et al., 2004; Bronstein, Clauson, Stoll, & Abrams, 1993); however, with upon closer examination these findings become more clear.

Authoritative parenting style is achieved through firm parental control combined with high parental responsiveness and support. Authoritative parents also recognize their child's need for autonomy but impart proper boundaries and clear standards. The questionnaire we used to assess parenting style deconstructed authoritative parenting style into three domains: (a) Connection Dimension (i.e., Warmth and Support subscale), (b) Regulation Dimension (i.e., Reasoning/Induction subscale), and (c) Autonomy Dimension (i.e., Democratic Participation subscale) (Robinson, Mandleco, Olsen, & Hart, 1995; 2001). According to Baumrind's theory of parenting style, authoritative parenting requires multiple criteria where parents must simultaneously demonstrate both parental warmth and parental control, as well as encourage the child to be autonomous (Baumrind, 1966; 1991). However, on the PSDQ these dimensions are measured separately. Therefore, a parent can score well above the mean on one dimension (i.e., warmth) and lower on other dimensions (i.e., control) and still receive a relatively high score on

authoritative parenting, despite the fact that they only demonstrate one dimension of this construct.

Ideally, we could conduct an exploratory set of mediation analyses examining the three dimensions of authoritative parenting style in order to understand which specific dimension accounts for our findings. Unfortunately, the reliability for two of the dimensions (connection and autonomy) was not adequate. Post-hoc analyses examining individual items from the authoritative subscales of PSDQ indicated that our findings were largely driven by the degree to which the parent allows for the child to be autonomous. More specifically, the item "I allow my child to give input into family rules," was highly correlated with both parental depression (r = .43, p <.01) and child behavior problems (r = .55, p <.01). Although this item maps into the autonomy aspect of authoritative parenting, this type of parenting style is likely less effective in the absence of clear parental control and limits and, in practice, may resemble more permissive parenting behavior where the child has more control than the parent. Therefore, although our finding that authoritative parenting mediated the relationship between elevated parental depression and higher child behavior problems initially appeared contradictory to our expectations, after closer examination this relationship may be primarily accounted for by a style of parenting in which the parent tends to defer control to the child, which is consistent with previous findings. Elevated levels of parental control have been associated with negative outcomes in typically developing children (Nader-Gorsbois & Lefévre, 2012; Ispa et al., 2004; McDowell & Parke, 2005); however, among families of children with developmental risk some studies suggest that

these children are likely to benefit from higher levels of parental control (Cielinski, Vaughn, Seifer, & Conteras, 1995; Landry, Smith, Swank, & Miller-Loncar, 2000).

The present study also highlights the importance of examining various dimensions parenting styles rather than unitary categorical constructs. Traditionally, researchers have classified parenting behavior in one of three categories rather than examining where parents fall on each parenting style dimension (Baumrind, 1991). Actual parenting behavior may not completely fit the characteristics of one parenting style versus the others, and therefore it may be more informative to classify where on a continuum their parenting behavior fits on a particular dimension. Thus, the relationship between parental depression and child behavior problems in the current study does not appear to be influenced by authoritative parenting style more broadly, but rather accounted for a specific parenting behavior of this broader construct.

Despite the fact that permissive parenting style and authoritarian parenting style were not statistically significant mediators of the relationship between parental depression and child behavior problems, the coefficients from the path analyses suggested that child behavior problems increased with depression regardless of the parenting style used. This indicated that depression in parents plays some role in contributing to the increase in child behavior problems independent of parenting style. This further supports the importance of parental mental well-being and its consequential impact on child outcomes through other intervening variables, suggesting that it may be useful to focus on parental mental health rather than placing on emphasis solely on child behavior problems during clinical interventions.

Our findings must be considered within the context of several study limitations. First, the sample was small, limiting the statistical detection of smaller effects if they were present. Additionally, although the PSDQ is widely used to assess parenting style, observational measures of parenting behavior would likely be more objective indicators of parenting style.

Taken together, our findings highlight the influence of parental mental health on children's behavior problems, specifically via parenting styles and behaviors. Results of this study suggest that evaluating all dimensions of a parenting style may be effective in improvements in assessing parenting behavior, which may allow interventions to target specific potential problematic behaviors that in turn may improve parenting and child outcomes. Additionally, our study highlights the importance of both limit setting and the encouragement of independence, which consequently may lead to decreases in child behavior problems. These results provide valuable information for clinicians when working with families of children with ASD. Interventions aimed at early identification of parental depression as well as those designed to promote consistent parenting behavior with clear expectations may significantly reduce the risk for parental depression and optimize child outcomes.

CHAPTER 3

RELATIONSHIP BETWEEN PARENTAL DEPRESSION AND CHILD BEHAVIOR PROBLEMS AMONG CHILDREN WITH ASD: A TRANSACTIONAL MODEL

Introduction

A number of researchers have investigated the effect of child behavioral or emotional problems on parents and found that an increase in child disruptive problems is strongly associated with elevated parental depressive symptoms (Gross et al., 2008; Civic & Holt, 2000). Children with ASD display higher levels of behavior problems than most children with other developmental delays (Estes et al., 2009). As a result of repeated negative responses from their children, parents of children with ASD may have more feelings of inadequacy and helplessness, which in turn contribute to parental depression and mothers' well-being (Baker, Blacher, & Olsson, 2005).

Effects of Parental Depression among Children with ASD

The diagnosis of ASD requires major impairments in socialization, communication, and stereotyped or repetitive behaviors (APA, 2000). Children with developmental delays and ASD are at significant risk for developing a comorbid psychiatric disorder (Cormack, Brown, & Hastings, 2000; Koskentausta, Livanainen, & Almquvist, 2007), such as ADHD and anxiety disorders, which are associated with higher levels of behavior problems (Simonoff et al., 2008). Many children with ASD also exhibit comorbid intellectual disabilities (ID), which is associated with increased risk for

comorbid psychopathology (Baker, Neece, Fenning, Crnic, & Blacher, 2010; Borthwick-Duffy & Eyman, 1990, Neece, Baker, Blacher, & Crnic, 2011).

Furthermore, studies have found that behavior problems in children are one of the strongest predictors of parental stress (Blacher & McIntyre, 2006; Abeeduto, Seltzer, Shattuck, Krauss, Orsmond, & Murphy, 2004) and there is a significant relationship between parental stress and parental depression (Murray et al., 1996). Limited longitudinal studies suggest that there is a bidirectional relationship between child behavior problems and parenting stress (Neece, Green, & Baker, 2012; Baker et al., 2003). The present study extends this research and tested the direction of the relationship between parental depression and child behavior problems using longitudinal data. If early parental depression predicts later child behavior problems, it will provide further evidence that the mental health of parents of children with ASD contributes to the behavioral aspect of children's development. This study tests whether child behavior problems predict later parental depression, which has not been examined in the previous studies. We hypothesize that the relationship between child behavior problems and parental depression is bidirectional and the increase of one will exacerbate the other.

The mental health of parents of children with ASD can be compromised by a variety of factors related to typical characteristics of ASD. Parents of children with ASD reported increased levels of stress due to misperceptions or misunderstandings from strangers about behaviors displayed by the child in public settings (Estes, Munson, Dawson, Koehler, Zhou & Abbott, 2009). Behavior problems in children with ASD and other symptoms associated with ASD such as self-regulatory problems (Dominick et al., 2007) have been associated with increased maternal parenting stress and psychological

distress (Estes et al., 2009; Dabrowska & Pisula, 2010; Nachshen et al., 2005). These parents are often challenged by the specific behavioral patterns of children with ASD. Importantly, persistent stress resulting from child behavior problems in everyday life may consequentially affect the quality of parents' personal and family life and lead to negative outcomes such as maternal clinical depression (Murray, Stanley, Hooper, King, & Fiori-Cowley, 1996).

A substantial body of literature indicates that parental stress tend to increase behavior problems in children with developmental delays and ASD (Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Neece, Green, & Baker, 2012), and such trigger changes in parents well being and lead to parental depression (Murray et al., 1996). Emotional difficulties and fewer coping resources may contribute to greater stress response to child behavior problems (Olsson and Hwang, 2001; Hastings, Kovshoff, Brown, Ward, Degli Epinosa, & Remington, 2005). Notably, literature on children with ASD is very limited while there have been many studies showing the significant mental health risks of parents of children with typically developing children; which highlights the evidence for the need of further research with this population.

Impacts of Child Behavior Problems on Parental Mental Health

To author's knowledge, the direction of effect of the relationship between parental depression and child behavior problems among children with ASD has not been examined in the current literature. Therefore, it is unclear whether the parental depression experienced by these parents lead to changes in behavior problems or whether the child behavior problems exhibited by children with ASD lead to changes in parental

depression. We hypothesize that there is a bidirectional relationship between parental depression and child behavior problems. It is important to recognize that reciprocal effects models (Bell, 1968) have consistently provided support for a bidirectional relationship between parental rearing patterns and child problem behavior, specifically how parents' behavior influences children's development and vice versa (Belsky, 1984; Patterson et al., 1992; Sameroff, 2009). Such models may also be useful in conceptualizing and assessing the relationship between parental depression and child behavior problems.

Current literature suggest that parents of children with behavior problems often experience feelings of learned helplessness (Seligman, 1975; Patterson, 1980), worthlessness (Downey & Coyne, 1994, negative self-evaluations (Gross et al., 1994), and unsuccessful attempts to escape from an aversive situation, which may contribute to the development of parental depression (Patterson, 1980). Reduced self-efficacy (Maddux, 1991) and feelings of irritability caused by child behavior problems are also associated with the onset of parental depression (Murray et al., 1996). It is important to acknowledge that child behavior problems have been shown to have the most salient effect in predicting parental stress; parents of typically developing children with significant behavior problems report similar levels of stress in comparison to parents of children with intellectual disabilities who have significant behavior problems (Floyd & Gallagher, 1997; Donenberg & Baker, 1993). Similarly, child acting-out behaviors were also found to be associated with elevated parental depressive symptoms over time (Gartstein & Sheeber, 2004). Children's socio-emotional and instrumental functioning have also been found to be consistently associated with maternal depression throughout

childhood and in later life (Elgar, McGrath, Waschbusch, Stewart, & Curtis, 2004; Goodman & Gotlib, 1999). Studies have shown that parental depression is positively correlated with difficulties in marital relationships (Middleton, Scott, & Renk, 2009), child behavior problems (Murray, Stanley, Hooper, King, & Fiori-Cowley, 1996; Middleton, Scott, & Renk, 2009), and undesirable outcomes for the overall functioning of the family of children with ASD (Johnson, Frenn, Feetham, & Simpson, 2011). Compared with non-depressed parents, children of depressed parents are more likely to develop social and academic deficits, functional impairment, externalizing behavior problems, and psychiatric problems (Downey & Coyne, 1990) such as depression and anxiety (Brennan, Kartz, Harmmen, & Le Brocque, 2002; Lieb, Isensee, Hofler, Pfister, & Wittchen, 2002).

The Current Study

Researchers have documented an association between parental depression and child behavior problems; however, the direction of the relationship unclear, given the cross-sectional design of most former studies. The current study examined the existence of the temporal relationship between parental depression and child behavior problems across two time points.

Data Analytic Plan

To test our this hypothesis, two hierarchical multiple regression analyses were used to examine (a) whether early child behavior problem predicted parental depression at later time and (b) whether early parental depression predicted later child behavior

problems. A cross-lagged panel analysis was used to investigate the direction of the relationship between parental depression and child behavior problems across two time points (baseline and after the intervention). A cross-lagged panel design allows us to test the initial correlations among predictors and examine their stability over time while accounting for indirect influences. This model is a more conservative analysis that accounts for the multicollinearity between the independent and dependent variables, which allows less variance in the dependent variables to be explained. It also examines the bidirectional effects of interest (early parental depression to later child behavior problems and early child behavior problems to later parental depression) simultaneously by entering both dependent variables into the model and allowing the dependent variables to correlate. Additionally, cross-lagged models have been used previously in research on families of children with developmental and intellectual disabilities (Neece, Green, & Baker, 2012; Greenberg, Seltzer, Hong, &Orsmond, 2006). Mplus (Version 7.11) was used to conduct the analyses.

Results

Preliminary analyses using bivariate correlations revealed that no demographic variables were correlated with either parental depression or child behavior problems. Therefore, no covariates were included in the subsequent analyses.

Two sets of hierarchical multiple regression models were constructed to evaluate whether (1) early parental depression significantly predicted later child behavior problems, and (2) early child behavior problems significantly predicted later parental depression. First, to test whether early parental depression predicts later child behavior

problems, child behavior problems at baseline were entered in Step 1 of the regression model, and parental depression at baseline was entered in Step 2. With the first aim, early parental depression did not account for changes in later child behavior problems, but early child behavior problems accounted for 62.2% of the variance in child behavior problems at second time point (R^2 = .622).

Table 3

Hierarchical Multiples Regression Analyses Predicting Later Child Behavior Problems From Early Parental Depression

Predictor Variable	ΔR^2	β	B	95% CI (B)
Step 1 Early Child Behavior Problems	.622***	.788	.73	[.49, .96]
Step 2	.004			
Early Child Behavior Problems		.801	.74	[.50, .98]
Early Parental Depression		.066	-.16	[-.82, .49]

Note. ΔR^2 = R square change; β = standardized regression coefficient; 95% CI (B) = the 95% confidence interval associated with the unstandardized regression coefficient; B = unstandardized regression coefficient.
*** $p < .001$.

In the second model testing whether early child behavior problems predict later parental depression, parental depression at baseline was entered in Step 1, and child behavior problems at baseline in Step 2. The second set of hierarchical multiple regression analysis demonstrated that early child behavior problems did not predict parental depression at later time, but early parental depression accounted for 16.3% of the variance in later parental depression (R^2 = .163).

Table 4

Hierarchical Multiples Regression Analyses Predicting Later Parental Depression From Early Child Behavior Problems

Predictor Variable	ΔR^2	β	B	95% CI (B)
Step 1 Early Parental Depression	.163*	.404	.366	[.02, .71]
Step 2	.004			
Early Parental Depression		.422	.382	[.02, .74]
Early Child Behavior Problems		-.065	-.022	[-.16, .11]

Note. ΔR^2 = R square change; β = standardized regression coefficient; 95% CI (B) = the 95% confidence interval associated with the unstandardized regression coefficient; B = unstandardized regression coefficient.
* $p < .05$.

To examine the directionality of the relationship between parental depression and child behavior problems, we used a cross-lagged panel analysis. First, we examined the cross-lagged effects between early parental depressions with later child behavior problems. No significant association was found between early parental depression and later child behavior problems. Moreover, we examined cross-lagged effects between early child behavior problems and later parental depression and found no significant association. The stability effect was only significant for child behavior problems (β = 0.58, $p < .001$) over time.

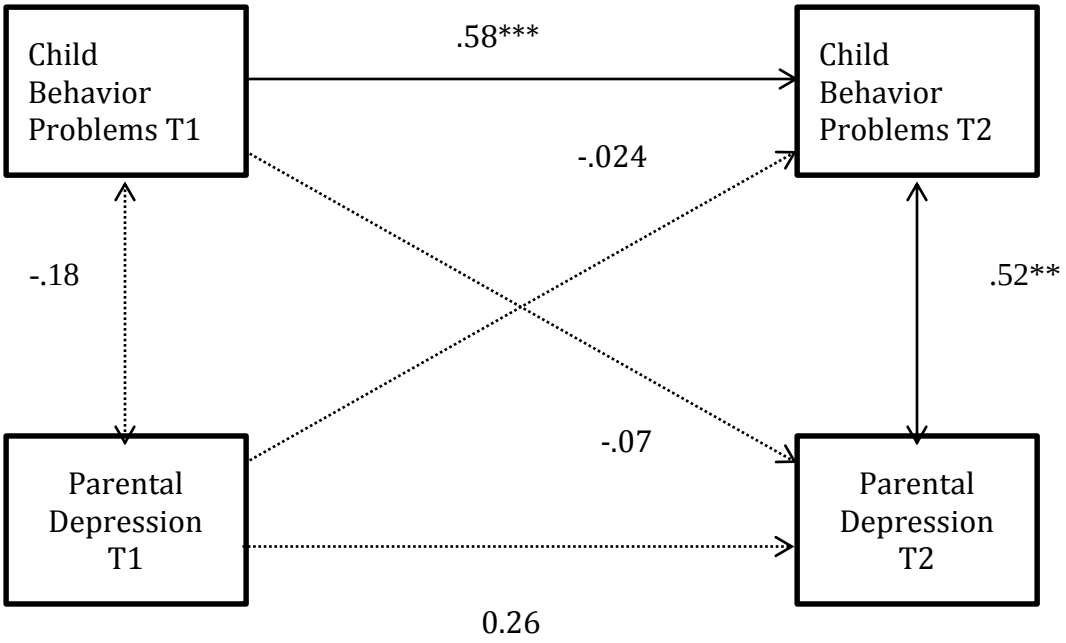


Figure 2. Cross-lagged panel analysis model predicting later child behavior problems and parental depression using unstandardized coefficients. $^{**}p<.01$; $^{***}p<.001$.

Discussion

The results of the present study indicated that there was no significant transactional effect between parental depression and child behavior problems. There are several potential reasons for our null findings. First, the small sample size limits the statistical power (f^2 = .003-.428) to detect any significant effects. We need approximately a sample size of 49 to achieve an 80% chance of detecting the average observed effect size; however, a power analyses indicated that a sample of over 2500 would be needed in order to have sufficient power to detect the smallest observed effect size (f^2 = .003).

Second, while the questionnaires were completed at two time points, it is important to note that the parents also participated in a Mindfulness-Based Stress Reduction intervention that was a larger part of the study in between the two assessment

time points. As MBSR is commonly used for stress management, it is possible that the MBSR intervention may have weakened or severed the link between parental depression and child behavior problems. Research has suggested that mindfulness changes the strength of social connectedness, which is defined as a cognitive structure associated with interpersonal relatedness (Baldwin, 1992). Enhanced relational behaviors such as elevation in maternal satisfaction in parenting skills and parent-child interaction after a mindfulness parenting intervention (Singh et al., 2006) may explain the non-significant findings of the current study. Furthermore, when parents have undergone an MBSR intervention, they are likely to have more mental flexibility and better psychological acceptance. Greater mental flexibility and psychological acceptance are achieved through being mindful of the present moment and recognizing the present moment will be replaced by a new experience (Kabat-Zinn, 2003). This leads to a reduction in automatic negative cognitive appraisal, as well as improvements in self-regulation abilities and parenting behaviors followed. As mindfulness and psychological flexibility increase, parents are more capable of viewing child behavior problems within the present-moment experience, rather than from a long-term relationship perspective that may be remarkably stressful (Brown et al., 2007; Duncan, Coatsworth, & Greenberg, 2009). Consequently, the link between stress, depression, and child behavior problems becomes weaker because mindfulness would lead to positive interpersonal behaviors and reduced psychological distress (Lee et al., 2001).

Overall, we suspect that the MBSR intervention interrupted the connection between parental depression and child behavior problems by strengthening psychological flexibility and reducing parental stress. This relationship, however, needs further

investigation. Future research may examine this relationship by implementing a randomized controlled trial to examine the relationship between parental depression and child behavior problems over time, as well as to investigate in what way the intervention may have influenced this relationship.

CHAPTER 4

CONCLUSION

The experience of parents of children with autism can be very stressful, and therefore studies of the transactional relationship between parental mental health and child outcomes are very important for the development of future intervention strategies. The current study takes a more in-depth look at this particular population that is at high risk for both parental mental health issues and child behavior problems. Our study investigated the longitudinal effects of parental depression and child behavior problems, as well as the role of parenting styles as mediating processes.

Considering the limitations of the current study, we were unable to establish the connection between parental depression and child behavior problems over time. It is likely that the relationship between these two variables is reciprocal and future studies should examine how parental mental health affects child behavior problems and vice versa in a longitudinal framework using a larger sample with a control group. Increased sample size may provide a more accurate representation of parents' mental health status and child behavior problems over time.

Our findings expand the understanding of authoritative parenting style as a mediator between parental depression and child behavior problems; the specific dimension that drives this finding was the autonomy aspect of authoritative parenting. While research suggests that high parental control leads to negative outcomes in typically developing children, studies have found that high parental control may have a positive benefit for families of children with developmental risks (Landry, Smith, Swank, & Miller-Loncar, 2000). This is especially relevant for those parents who report having an authoritative

parenting style. Providing adequate parental control and limits is likely to be challenging when the parent is experiencing depression. Furthermore, the results suggest that using unitary categorical variables may not be the most effective way to measure parenting styles, as a given parenting behavior may fall higher on a specific dimension within a category but not fit all dimensions of one parenting style. Thus, future research should include assessing parenting style within the context of dimensions rather than a broader construct of parenting style alone. In addition, examining changes in parental mental health and parenting styles pre-post mindfulness intervention and its effects on child outcomes will contribute significantly to understanding of distress and adjustment in this population.

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APPENDIX A

PHONE SCREEN FORM

SID#: _____
Interviewer: _____ Date: _____

M.A.P.S. Intervention Project
PHONE SCREENING FORM

I. Referral Information
How did you hear about us?
_____
_____
_____

II. Family Information
Child's Name: _____ Sex: M F
Date of Birth: _____ Age: ___yr.
Mother's Name: _____
Relation to child:
Biological Step Adoptive/Legal Guardian Foster
If non-biological: Length of time living with child: _____
Father's Name: _____
Relation to child:
Biological Step Adoptive/Legal Guardian Foster
If non-biological: Length of time living with child: _____
Marital Status:
Married Living Together Separated/Divorced Never Married

Address: _____
_____
Phone #: _____ Home
_____ Work
_____ Cell (Primary parent)
_____ ___Cell (Other:_____)
Email: Mother: _____
Father: _____
Preferred Method of Contact: _____

III. Diagnosis Information
Has the child been identified as having a developmental concern or developmental delay?
Yes No ****STOP. Explain that we're only recruiting children with developmental delays at the time****
If yes, specify:

Diagnosis ("What names have the doctors given you"):
_____
Details- symptomatology, specific behavioral/physiological problems, degree of developmental delay ("What are the main symptoms associated with your child's problem/delay"): _____
When were these symptoms first identified? _____-
Who first identified them? _____
What did the doctors tell you was causing the problems or delay, or do they know?

IV. Behavior Problems-

Now I am going to read you a number of phrases that describe childrens' behavior. Please indicate whether each of these behaviors is currently a concern you have with regard to [CHILD'S NAME].

1. Dawdles in getting dressed	**Yes**	**No**
2. Dawdles or lingers at mealtime	**Yes**	**No**
3. Has poor table manners	**Yes**	**No**
4. Refuses to eat food presented	**Yes**	**No**
5. Refuses to do chores when asked	**Yes**	**No**
6. Slow in getting ready for bed	**Yes**	**No**
7. Refuses to go to bed on time	**Yes**	**No**
8. Does not obey house rules on his/her own	**Yes**	**No**
9. Refuses to obey until threatened with punishment	**Yes**	**No**
10. Acts defiant when told to do something	**Yes**	**No**
11. Argues with parents about rules	**Yes**	**No**
12. Gets angry when doesn't get own way	**Yes**	**No**
13. Has temper tantrums	**Yes**	**No**
14. Sasses adults	**Yes**	**No**
15. Whines	**Yes**	**No**
16. Cries easily	**Yes**	**No**
17. Yells or screams	**Yes**	**No**
18. Hits parents	**Yes**	**No**

19. Destroys toys or other objects	**Yes**	**No**
20. Is careless with toys and other objects	**Yes**	**No**
21. Steals	**Yes**	**No**
22. Lies	**Yes**	**No**
23. Teases or provokes other children	**Yes**	**No**
24. Verbally fights with friends his/her own age	**Yes**	**No**
25. Verbally fights with brothers and sisters	**Yes**	**No**
26. Physically fights with friends	**Yes**	**No**
27. Physically fights with brothers and sisters	**Yes**	**No**
28. Constantly seeks attention	**Yes**	**No**
29. Interrupts	**Yes**	**No**
30. Is easily distracted	**Yes**	**No**
31. Has short attention span	**Yes**	**No**
32. Fails to finish tasks or projects	**Yes**	**No**
33. Has difficulty entertaining himself /herself alone	**Yes**	**No**
34. Has difficulty concentrating on one thing	**Yes**	**No**
35. Is overactive or restless	**Yes**	**No**
36. Wets the bed	**Yes**	**No**

TOTAL NUMBER OF "YES" ITEMS: _____

*****IF 10 OR MORE PROCEEDE. If less than 10 inform parent that "At this time we are only recruiting children with severe levels of behavior problems and currently your child does not appear to be experiencing the significant number of behavior problems that would qualify him/her for the study."**

V. Service Information-

Has your child or family received services/treatment for the diagnosis (concerns)? Yes No

If yes: Type of services received:_____

___

Where: _____

When: _____

Ongoing? Yes No

By whom: _____

Are you currently receiving any psychological or behavioral services for yourself such as counseling, parent training class, or participating in a regular parent support group?

Yes No

If yes:

Type of service received:

_____

Where: _____

When: _____

Ongoing? Yes No

By whom: _____

*****If parent is receiving ongoing services inform him/her that "Due to the nature of this intervention, if you are currently receiving psychological services I will review your specific case with the principal investigator and get back to you regarding your eligibility."**

VI. Exclusion Criteria Checklist

***Interviewer:** you should be able to complete this from the information above. Ask these questions ONLY if you are still unclear based on the parent's responses to the above.

A. Is child able to walk unassisted? Yes No

VII. Concerns, Comments, Questions

Can I please have the name of at least one person (family, friend, etc.) who will always know how to reach you?

Name:_____ Relationship:_____

Address:_____

_____

Phone Number: (_)_____

Name:_____ Relationship:_____

Address:_____

_____

Phone Number: (____)_____

Do you have any concerns or questions about the study at this time?

If yes, specify: _____

_____

_____

What do you hope to get out of the study?

_____

_____

_____

Is there anything important you think we should know about your child before we see you?

_____

_____

_____

"Thank you for your interest in our project. Would you like to schedule a time to come in for your initial assessment?"
If yes: "Great. We will mail you a packet of questionnaires to fill out as well as two questionnaires for _____ (name of spouse or other significant adult) to complete. Please bring these packets to your first assessment. The first meeting will take about 30 minutes and you will receive $10 for your visit at that time. Are you available…(schedule assessment)"
"Also, our groups are going to be held on Wednesday evenings. The Spring group will start on March 7th and the Summer group will begin on June 6th. Would you prefer if the group went from 6 to 8pm or from 6:30 to 8:30?
If no: when will be a good time for us to contact you to scheduled the first assessment? _____
If unsure they still want to participate, ask them specifically what the perceived barriers are._____

_____

_____

Regardless of outcome: Thank them for their time! If we need to get back to them, assure them we will be in contact as soon as possible.

VIII. Action Taken

Set up initial visit: Date- _____

Need to call back to schedule visit. Date/time when parent prefers to be called back:

_____

Hold for further discussion: Reason- _____

_____

Clearly inappropriate for study: Reason- _____

_____

Requested more information: Date sent- _____

Notes:

_____

_____

APPENDIX B

PARENTING STYLE QUESTIONNAIRE (PSQ)

Please rate how often you engage in the different parenting practices, listed below.
Scores range from 1-Never to 5-Always on a 5-point scale.

1. I am responsive to my child's feelings and needs.

   1 2 3 4 5

   Never Always

2. I use physical punishment as a way of disciplining my child.

   1 2 3 4 5

   Never Always

3. I take my child's desires into account before asking the child to do something.

   1 2 3 4 5

   Never Always

4. When my child asks why he/she has to conform, I state: because I said so, or I am your parent and I want you to.

   1 2 3 4 5

   Never Always

5. I explain to my child how I feel about the child's good and bad behavior.

   1 2 3 4 5

   Never Always

6. I spank when my child is disobedient.

   1 2 3 4 5

   Never Always

7. I encourage my child to talk about his/her troubles.

   1 2 3 4 5

   Never Always

8. I find it difficult to discipline our child.

1 2 3 4 5

Never Always

9. I encourage my child to freely express himself/herself even when disagreeing with parents.

1 2 3 4 5

Never Always

10. I punish by taking privileges away from my child with little if any explanations.

1 2 3 4 5

Never Always

11. I emphasize the reasons for rules.

1 2 3 4 5

Never Always

12. I give comfort and understanding when my child is upset.

1 2 3 4 5

Never Always

13. I yell or shout when my child misbehaves.

1 2 3 4 5

Never Always

14. I give praise when my child is good.

1 2 3 4 5

Never Always

15. I give into my child when the child causes a commotion about something.

1 2 3 4 5

Never Always

16. I explode in anger towards my child.

1 2 3 4 5

Never Always

17. I threaten my child with punishment more often than actually giving it.

1 2 3 4 5

Never Always

18. I take into account my child's preferences in making plans for the family.

1 2 3 4 5

Never Always

19. I grab my child when being disobedient.

1 2 3 4 5

Never Always

20. I state punishments to my child and does not actually do them.

1 2 3 4 5

Never Always

21. I show respect for my child's opinions by encouraging our child to express them.

1 2 3 4 5

Never Always

22. I allow my child to give input into family rules.

1 2 3 4 5

Never Always

23. I scold and criticize to make my child improve.

1 2 3 4 5

Never Always

24. I spoil my child.

1 2 3 4 5

Never Always

25. I give my child reasons why rules should be obeyed.

1 2 3 4 5

Never Always

26. I use threats as punishment with little or no justification.

1 2 3 4 5

Never Always

27. I have warm and intimate times together with my child.

1 2 3 4 5

Never Always

28. I punish by putting my child off somewhere alone with little if any explanations.

1 2 3 4 5

Never Always

29. I help my child to understand the impact of behavior by encouraging my child to talk about the consequences of his/her own actions.

1 2 3 4 5

Never Always

30. I scold or criticize when my child's behavior doesn't meet our expectations.

1 2 3 4 5

Never Always

31. I explain the consequences of the child's behavior.

1 2 3 4 5

Never Always

32. I slap my child when the child misbehaves.

1	2	3	4	5
Never				Always

APPENDIX C

CENTER FOR EPIDEMIOLOGIC STUDIES—DEPRESSION

SCALE

	Rarely or none of the time (less than 1 day)	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of the time (3-4 days)**	**Most or all of the time (5-7 days)**
During the past week:	0	1	2	3
1) I was bothered by things that usually don't bother me	0	1	2	3
2) I did not feel like eating; my appetite was poor	0	1	2	3
3) I felt that I could not shake off the blues even with help from my family and friends	0	1	2	3
4) I felt that I was just as good as other people	0	1	2	3
5) I had trouble keeping my mind on what I was doing	0	1	2	3
6) I felt depressed	0	1	2	3
7) I felt that everything I did was an effort	0	1	2	3
8) I felt hopeful about the future	0	1	2	3
9) I thought my life had been a failure	0	1	2	3
10) I felt fearful	0	1	2	3
11) My sleep was restless	0	1	2	3
12) I was happy	0	1	2	3
13) I talked less than usual	0	1	2	3
14) I felt lonely	0	1	2	3
15) People were unfriendly	0	1	2	3
16) I enjoyed life	0	1	2	3
17) I had crying spells	0	1	2	3
18) I felt sad	0	1	2	3
19) I felt that people disliked	0	1	2	3

me				
20) I could not get “going”	0	1	2	3

APPENDIX D

CBCL FOR AGES 1½ -5 YEARS

Please print. Be sure to answer all items.

CHILD BEHAVIOR CHECKLIST FOR AGES 1½ - 5

For office use only ID #

CHILD'S FULL NAME: First Middle Last

CHILD'S GENDER ☐ Boy ☐ Girl | CHILD'S AGE | CHILD'S ETHNIC GROUP OR RACE

TODAY'S DATE: Mo. _____ Date _____ Yr._____

CHILD'S BIRTHDATE: Mo. _____ Date _____ Yr._____

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. ***Be sure to answer all items.***

PARENTS' USUAL TYPE OF WORK, even if not working now. *Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.*

FATHER'S TYPE OF WORK: _____

MOTHER'S TYPE OF WORK: _____

THIS FORM FILLED OUT BY: (print your full name)

_____

Your relationship to child:

☐ Mother ☐ Father ☐ Other (specify):

Below is a list of items that describe children. For each item that describes the child ***now or within the past 2 months***, please circle the *2* if the item is ***very true*** or ***often true*** of the child. Circle the *1* if the item is ***somewhat or sometimes true*** of the child. If the item is ***not true*** of the child, circle the *0*. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	1.	Aches or pains (without medical cause; *do not* include stomach or headaches)
0	1	2	2.	Acts too young for age
0	1	2	3.	Afraid to try new things
0	1	2	4.	Avoids looking others in the eye
0	1	2	5.	Can't concentrate, can't pay attention for long
0	1	2	6.	Can't sit still, restless, or hyperactive
0	1	2	7.	Can't stand having things out of place
0	1	2	8.	Can't stand waiting; wants everything now
0	1	2	9.	Chews on things that aren't edible
0	1	2	10.	Clings to adults or too dependent
0	1	2	11.	Constantly seeks help
0	1	2	12.	Constipated, doesn't move bowels
0	1	2	13.	Cries a lot
0	1	2	14.	Cruel to animals
0	1	2	15.	Defiant
0	1	2	16.	Demands must be met immediately
0	1	2	17.	Destroys his/her own things
0	1	2	18.	Destroys things belonging to his/her family or other children
0	1	2	19.	Diarrhea or loose bowels when not sick
0	1	2	20.	Disobedient
0	1	2	21.	Disturbed by any change in routine
0	1	2	22.	Doesn't want to sleep alone
0	1	2	23.	Doesn't answer when people talk to him/her
0	1	2	24.	Doesn't eat well (describe): _____
0	1	2	25.	Doesn't get along with other children
0	1	2	26.	Doesn't know how to have fun, acts like a little adult
0	1	2	27.	Doesn't seem to feel guilty after misbehaving
0	1	2	28.	Doesn't want to go out of home
0	1	2	29.	Easily frustrated
0	1	2	30.	Easily jealous
0	1	2	31.	Eats or drinks things that are not food—*don't* include sweets (describe): _____
0	1	2	32.	Fears certain animals, situations, or places (describe): _____
0	1	2	33.	Feelings are easily hurt
0	1	2	34.	Gets hurt a lot, accident-prone
0	1	2	35.	Gets in many fights
0	1	2	36.	Gets into everything
0	1	2	37.	Gets too upset when separated from parents
0	1	2	38.	Has trouble getting to sleep
0	1	2	39.	Headaches (without medical cause)
0	1	2	40.	Hits others
0	1	2	41.	Holds his/her breath
0	1	2	42.	Hurts animals or people without meaning to
0	1	2	43.	Looks unhappy without good reason
0	1	2	44.	Angry moods
0	1	2	45.	Nausea, feels sick (without medical cause)
0	1	2	46.	Nervous movements or twitching (describe): _____
0	1	2	47.	Nervous, highstrung, or tense
0	1	2	48.	Nightmares
0	1	2	49.	Overeating
0	1	2	50.	Overtired
0	1	2	51.	Shows panic for no good reason
0	1	2	52.	Painful bowel movements
0	1	2	53.	Physically attacks people
0	1	2	54.	Picks nose, skin, or other parts of body (describe): _____
0	1	2	55.	Plays with own sex parts too much

Be sure you have answered all items. Then see other side.

PAGE 1

Please print your answers. Be sure to answer all items.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2	56.	Poorly coordinated or clumsy
0 1 2	57.	Problems with eyes (without medical cause) (describe): _____ _____
0 1 2	58.	Punishment doesn't change his/her behavior
0 1 2	59.	Quickly shifts from one activity to another
0 1 2	60.	Rashes or other skin problems (without medical cause)
0 1 2	61.	Refuses to eat
0 1 2	62.	Refuses to play active games
0 1 2	63.	Repeatedly rocks head or body
0 1 2	64.	Resists going to bed at night
0 1 2	65.	Resists toilet training (describe): _____ _____
0 1 2	66.	Screams a lot
0 1 2	67.	Seems unresponsive to affection
0 1 2	68.	Self-conscious or easily embarrassed
0 1 2	69.	Selfish or won't share
0 1 2	70.	Shows little affection toward people
0 1 2	71.	Shows little interest in things around him/her
0 1 2	72.	Shows too little fear of getting hurt
0 1 2	73.	Too shy or timid
0 1 2	74.	Sleeps less than most children during day and/or night (describe): _____ _____
0 1 2	75.	Smears or plays with bowel movements
0 1 2	76.	Speech problem (describe): _____ _____
0 1 2	77.	Stares into space or seems preoccupied
0 1 2	78.	Stomachaches or cramps (without medical cause)
0 1 2	79.	Rapid shifts between sadness and excitement
0 1 2	80.	Strange behavior (describe): _____ _____
0 1 2	81.	Stubborn, sullen, or irritable
0 1 2	82.	Sudden changes in mood or feelings
0 1 2	83.	Sulks a lot
0 1 2	84.	Talks or cries out in sleep
0 1 2	85.	Temper tantrums or hot temper
0 1 2	86.	Too concerned with neatness or cleanliness
0 1 2	87.	Too fearful or anxious
0 1 2	88.	Uncooperative
0 1 2	89.	Underactive, slow moving, or lacks energy
0 1 2	90.	Unhappy, sad, or depressed
0 1 2	91.	Unusually loud
0 1 2	92.	Upset by new people or situations (describe): _____ _____
0 1 2	93.	Vomiting, throwing up (without medical cause)
0 1 2	94.	Wakes up often at night
0 1 2	95.	Wanders away
0 1 2	96.	Wants a lot of attention
0 1 2	97.	Whining
0 1 2	98.	Withdrawn, doesn't get involved with others
0 1 2	99.	Worries
	100.	Please write in any problems the child has that were not listed above.
0 1 2		_____
0 1 2		_____
0 1 2		_____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS. *UNDERLINE ANY YOU ARE CONCERNED ABOUT.*

Does the child have any illness or disability (either physical or mental)? ☐ No ☐ Yes—Please describe:

What concerns you most about the child?

Please describe the best things about the child: