

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/273336047>

Marital Satisfaction, Parental Stress, and Child Behavior Problems among Parents of Young Children with Developmental Delays

Article in *Journal of Mental Health Research in Intellectual Disabilities* · November 2014

DOI: 10.1080/19315864.2014.994247

CITATIONS

71

READS

1,386

2 authors:



Merideth Robinson

Kennedy Krieger Institute

1 PUBLICATION 71 CITATIONS

[SEE PROFILE](#)



Cameron Neece

Loma Linda University

59 PUBLICATIONS 2,396 CITATIONS

[SEE PROFILE](#)

This article was downloaded by: [73.163.149.100]

On: 04 January 2015, At: 10:14

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Mental Health Research in Intellectual Disabilities

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/umid20>

Marital Satisfaction, Parental Stress, and Child Behavior Problems among Parents of Young Children with Developmental Delays

Merideth Robinson^a & Cameron L. Neece^a

^a Loma Linda University

Published online: 31 Dec 2014.



CrossMark

[Click for updates](#)

To cite this article: Merideth Robinson & Cameron L. Neece (2014): Marital Satisfaction, Parental Stress, and Child Behavior Problems among Parents of Young Children with Developmental Delays, *Journal of Mental Health Research in Intellectual Disabilities*, DOI: [10.1080/19315864.2014.994247](https://doi.org/10.1080/19315864.2014.994247)

To link to this article: <http://dx.doi.org/10.1080/19315864.2014.994247>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &

Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Marital Satisfaction, Parental Stress, and Child Behavior Problems among Parents of Young Children with Developmental Delays

MERIDETH ROBINSON AND CAMERON L. NEECE

Loma Linda University

Studies have found that low marital satisfaction, parenting stress, and child behavior problems are linked in families of children with developmental delays (DD). However, previous investigations examining the relationships between parenting stress, child behavior problems, and marital satisfaction rarely examine the interrelationships of these three variables simultaneously, and the samples used are often restricted in terms of age and ethnicity, limiting generalizability. The primary aim of the study was to examine the associations between marital satisfaction, child behavior problems, and parenting stress in a diverse sample of parents of young children with DD. The study included 44 parents of children ages 2.5 to 5 years with DD and high levels of behavior problems who participated in a larger study looking at the impact of Mindfulness-Based Stress Reduction (MBSR) in reducing parenting stress and child behavior problems. Marital satisfaction was significantly related to both parenting stress and child behavior problems, where parents with lower marital satisfaction reported higher parenting stress and child behavior problems. Additionally, preliminary analyses indicated that marital quality significantly moderated changes in child behavior problems from pre- to posttreatment but did not moderate changes in parenting stress as a result of the MBSR intervention.

KEYWORDS *developmental delays, marital satisfaction, parental stress, behavior problems, mindfulness*

Address correspondence to Cameron L. Neece, Department of Psychology, Loma Linda University, 11130 Anderson Street, Loma Linda, CA 92350. E-mail: cneece@llu.edu

Parents of children with developmental delays (DD) have been shown to have very high levels of parental stress (Baker, et al., 2003; Baxter, Cummins, & Yiolitis, 2000; Oelofsen & Richardson, 2006; Webster, Majnemer, Platt, & Shevell, 2008). Research has shown that the high levels of parenting stress experienced by these parents is better accounted for by elevated child behavior problems rather than child intellectual or developmental functioning (Baker, Blacher, & Olsson, 2005; Baker, Blacher, Crnic, & Edelbrock, 2002; Beck, Hastings, Daley, & Stevenson, 2004; Hastings, 2003; Neece, Green and Baker, 2012). Studies also indicate that parents' psychological health and well-being tends to decrease as children's behavior problems increase (Beck et al., 2004; Hassall, Rose, & McDonald, 2005; Hastings, 2003). This association has been found in specific areas such as depression and marital satisfaction (Baker et al., 2005), but has been particularly evident in parental stress. For parents of children with DD, greater marital quality has been associated with lower parenting stress, even after accounting for socioeconomic status, child characteristics and other measures of social support (Kersh et al., 2006).

Given that marital quality is associated with lower parenting stress, it is important to examine this construct in parents of children with DD who generally report high levels of parenting stress. Previous research comparing marital satisfaction among parents of children with or without DD has yielded mixed results. While some studies have found that parents of children with DD report lower levels of marital adjustment and satisfaction than parents of typically developing children (Santamaria et. al., 2012; Kersh, et al., 2006; Risdal and Singer, 2004), other studies have found no differences in marital satisfaction between parents of children with or without DD (Donovan, 1988; Stoneman & Gavidia-Payne, 2006). However, within samples of families of children with DD, studies have consistently found that high marital satisfaction is a compensatory factor that buffers the experience of parenting stress, whereby greater marital quality in these parents predicts lower parenting stress (Gerstein, et al., 2009; Kersh, et al., 2006).

Previous studies examining the relationships between parenting stress, child behavior problems, and marital satisfaction have several limitations. First, while numerous studies have looked at the relationships among these variables, all three variables are rarely examined together within one sample. Previous research with families of children with DD has demonstrated that parental stress and marital satisfaction are linked to one another (Gerstein, et al., 2009; Kersh, et al., 2006), and has repeatedly shown that both of these variables are individually linked to child behavior problems (Baker, Blacher, & Olsson, 2005; Baker, Blacher, Crnic, & Edelbrock, 2002; Bandura, 1977; Beck, Hastings, Daley, & Stevenson, 2004; Erel & Burman, 1995; Hastings, 2003; Henderson, Syger, & Home, 2003; Katz & Gottman, 1993; Neece, Green and Baker, 2012). However, only a few studies have examined these three variables together among families of children with DD (Baker, Blacher, &

Olsson, 2005; Donenberg & Baker, 1993). The current study examines the cross-sectional associations between parenting stress, child behavior problems, and marital satisfaction in a single sample, providing the foundation for future studies examining the interrelationships of these three variables over time.

Further, many of the existing studies done have focused on older children using a homogenous samples of primarily Caucasian/Euro-American families of relatively high socioeconomic standing, making their results potentially less generalizable to the general population (Kersh, et. al., 2006; Stoneman & Gavidia-Payne, 2006). Children in minority populations and with higher rates of poverty are also at higher risk for child behavior problems, and their parents are at higher risk for mental health issues such as parental stress, making it especially important to study this population (Bengi-Arslan, Verhulst, Van der Ende, & Erol, 1997; Horwitz, Leaf, & Leventhal, 1998; Stevens & Vollebergh, 2008). Previous investigations in this area have also often focused on heterogeneous samples with children in a wide age range (Erel & Burman, 1995; Risdal & Singer, 2004; Santamaria, et al., 2012) and studies examining a specific developmental period have largely focused on middle childhood with samples ages 6 to 12 (Henderson, et al., 2003; Kersh, et. al, 2006). However, research has shown the preschool period to be a critical developmental period where families are particularly vulnerable to experiencing high levels of stress and child behavior problems (Neece et al., 2012), further underscoring the need to study these variables in a sample of families of young children with DD. The current study aims to address these gaps in the literature by examining how marital satisfaction in parents of children with DD is associated with parenting stress and child behavior problems within a community-based diverse sample of parents of young children with DD.

Additionally, given that our investigation was carried out within the context of a larger intervention study, we also conducted a preliminary examination of marital satisfaction as a potential moderator of intervention outcomes, specifically changes in parental stress and child behavior problems. Previous research has underscored the impact that family environment plays on child development and parental mental health; however, research looking at environmental influences as potential mediators and moderators of intervention outcomes is rare (Lochman, Wells, Qu, & Chen, 2013). Limited studies have found that factors such as family cohesion, parental engagement, child temperament, parent dysfunction, and child-rearing practices moderate the effects of interventions on child outcomes (Beauchaine, Webster-Stratton, & Reid, 2005; Estrada-Martinez, et al., 2013; Jessee, et al., 2012; Kazdin, 1997; Gerstein, et al., 2009). Most relevant to the current study, Beauchaine and colleagues (2005) found that marital satisfaction moderated child outcomes in the Incredible Years Parent Training Program (Webster-Stratton, 1984), specifically that for mothers reporting low marital satisfaction,

interventions that included a parent training (as opposed to a child or teacher component) resulted in better outcomes with regard to externalizing behavior problems at 1-year posttreatment compared to interventions without parent training. Marital satisfaction may also play an important role in moderating parenting stress outcomes given the close relationship between marital satisfaction and child behavior problems, as well as previous research indicating marital quality may buffer stress among parents of children with DD (Gerstein, et al., 2009; Kersh, et al., 2006). We recognize that marital satisfaction is one of several potential moderators of the impact of mindfulness training on parental stress and subsequent child behavior problems; however, we hope that this initial analysis will lay the groundwork for further investigations examining the moderating role of family context more broadly in predicting parental mental health and child treatment outcomes for children with DD.

Mindfulness-Based Stress Reduction

The intervention used in the current study was Mindfulness-Based Stress Reduction (MBSR). MBSR is an empirically supported stress intervention developed by Jon Kabat-Zinn at UMass Medical Center (Kabat-Zinn et al., 1992). It has been shown to be very effective in reducing stress levels across a variety of populations and has significant health benefits with several randomized, controlled trials demonstrating its effectiveness (Chiesa, & Serretti, 2009; Grossman, Niemann, Schmidt, & Walach, 2004). Mindfulness involves purposefully paying attention without judgment to one's moment-to-moment experience as it is arising, and practices seek to cultivate an awareness of the here and now (Stahl & Goldstein, 2011). Shapiro and colleagues (2006) hypothesize that "intentionally attending with openness and non-judgmentalness leads to a significant shift in perspective" (p. 377), which they call "reperceiving," or changing from a self-centered subjective perspective to an objective point of view. Reperceiving leads to improvements in self-regulation, values clarification, cognitive, emotional and behavioral flexibility, and exposure, which account for the positive outcomes of mindfulness interventions, including reductions in stress.

Recent research conducted by Neece (2013), which used the same sample as the current study, found that MBSR was effective in significantly reducing parenting stress for parents of children with DD as well as improving child behavior problems in some domains. Studies have supported the efficacy of other mindfulness interventions with parents. More specifically, "mindful parenting" interventions, which incorporate mindfulness, self-awareness, and intentionality into the parent-child relationship, have been found to be effective in reducing children's externalizing behavior and attention problems as well as improving children's self-control, compliance, and attunement to others (Bögels et al., 2008; Singh et al., 2009, 2010). This

intervention has been used with typically developing children with externalizing behavior problems as well as children with autism (Singh et al., 2006).

The Current Study

The current study examined the association between parenting stress, child behavior problems, and marital satisfaction within a community population of parents of young children with DD. The first and primary aim of the study was to examine the associations between marital satisfaction, child behavior problems, and parenting stress. In addition, we conducted a preliminary analysis of marital satisfaction as a potential moderator of the impact of MBSR on parental stress and child behavior problems. Our hypotheses were: (1) marital satisfaction at intake would be associated with lower levels of parenting stress, (2) marital satisfaction at intake would be associated with lower levels of child behavior problems, (3) and parenting stress at intake would be associated with higher levels of child behavior problems. In addition, we explored whether marital satisfaction moderated changes in parenting stress and/or child behavior problems from pre- to posttreatment following an MBSR stress reduction intervention for parents of children with DD.

METHOD

Participants

This study used a subset of the larger sample described in Neece (2013) and employed similar procedures and measures. To be included in the current sample, participants needed to have complete data on the measures described below. The sample involved 44 parents who participated in the Mindfulness and Parenting Stress (MAPS) study, which included parents of children, ages 2.5 to 5 years old, with DD. Participants were primarily recruited through the Inland Regional Center, although some were recruited through the local newspaper, local elementary schools, and community disability groups. In California, practically all families of individuals with DD receive services from one of nine Regional Centers. Families 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. Information about the study was also posted on a website that allowed interested parents to submit their information.

Criteria for inclusion in the study were: (1) having a child ages 2.5 to 5 years, (2) parent reported child to have a developmental delay as determined by Regional Center (or by an independent assessment), (3) parent reported more than 10 child behavior problems (the recommended cutoff score for determining risk of conduct problems) on the Eyberg Child

Behavior Inventory (ECBI; Robinson, Eyberg, & Ross, 1980), (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.), (5) parent agreed to participate in the intervention, and (6) parent spoke and understood English. Exclusion criteria included parents of children with debilitating physical disabilities or severe intellectual impairments that prevented the child from participating in a parent-child interaction task that was a part of the larger laboratory assessment protocol (e.g., child is not ambulatory).

Ninety-five families were screened for the study, 63 were determined to be eligible, and 51 parents enrolled in the study originally. Five parents completed the intake assessments but dropped out of the study before the intervention began, leaving a final sample of 46 parents. To be included in the current analyses, participants had to have complete data at intake on the Parenting Stress Index-Short Form (PSI-SF), the Child Behavior Checklist (CBCL), and the Dyadic Adjustment Scale (DAS). Therefore, current analyses included a final sample of 44 parents, as two parents were missing DAS data at intake. There were no demographic differences between participants who completed the intervention and those who dropped out of the study (Neece, 2013).

Table 1 depicts the demographics of the current sample. The majority of the children (70.6%) were boys. Parents reported 29.4% of the children as Caucasian, 35.3% as Hispanic, 5.9% as Asian, 3.9% as African American, and 25.5% as "Other." The mean age of the children was 3.43 years with a standard deviation of 1.01. The majority of the participating parents were married (70.6%) and were mothers (76.5%). Families reported a range of annual income with 47.0% reporting an annual income of more than \$50,000 and incomes ranged from \$0 to over \$95,000. The average number of years parents completed in school was 14.51 years with a standard deviation of 2.85.

TABLE 1 Demographic Characteristics of Participants by Treatment Group

	<i>N</i> = 44
<i>Children</i>	
Gender (% boys)	70.60
Mean Age in Years (SD)	3.43 (1.01)
Ethnicity (% Caucasian)	29.40
<i>Participating Parent</i>	
Mean Age in Years (SD)	35.17 (8.49)
Marital Status (% Married)	70.60
Mean Grade in School (SD)	14.51 (2.85)
Family Income (% > \$50K)	47.00

Regarding the child's diagnosis, the majority of the children (88.6%) were reported to have a diagnosis on the autism spectrum. According to the Gilliam Autism Rating Scale-Second Edition (Gilliam, 2006), 82.4.9% of the children reported to have an ASD had a "very likely" diagnosis of autism and the remaining 17.6% had a "possible" diagnosis. Although not formally assessed, the majority of children were estimated to have intellectual functioning in the mild to moderate range given the demands of the laboratory assessment. Children needed to understand and follow directions in a structured play task to be eligible for the study.

Procedures

Procedures were approved by the Institutional Review Board at Loma Linda University. Interested parents contacted the MAPS project by phone, postcard, or submitting their information on the project website. Study personnel then conducted a phone screen to determine the eligibility of the parent. If the parent met inclusion criteria, an intake laboratory assessment was scheduled. Prior to the intake assessment, parents were mailed a packet of questionnaires that were to be completed before arrival at the assessment. Only the parents participating in the study completed the packet.

The intake assessment took place in the MAPS lab in the Department of Psychology at Loma Linda University. At this assessment, parents were given an informed consent form that was reviewed by study staff. After completing the informed consent and an interview to collect demographic information, the parents drew a piece of paper out of a box, which informed them of whether they were in the immediate treatment or waitlist-control group.

The MBSR intervention followed the manual outlined by Dr. Jon Kabat-Zinn at the University of Massachusetts Medical Center (Kabat-Zinn, Massion, Kristeller, & Peterson, 1992). This intervention consisted of three main components: (1) didactical material covering the concept of mindfulness, the psychology and physiology of stress and anxiety, and ways in which mindfulness can be implemented in everyday life to facilitate more adaptive responses to challenges and distress, (2) mindfulness exercises during the group meetings and as homework between sessions, and (3) discussion and sharing in pairs and in the larger group. The MBSR program included eight weekly 2-hour sessions, a daylong 6-hour meditation retreat after Class 6, and daily home practice based on audio CDs with instruction. Formal mindfulness exercises included the body scan, sitting meditation with awareness of breath, and mindful movement. The instructor for the group had over 20 years experience practicing mindfulness and teaching MBSR, completed the advanced MBSR teacher training at the University of

Massachusetts Medical Center, and had received supervision with senior MBSR teachers through the Center for Mindfulness at the University of Massachusetts Medical Center.

The MBSR intervention was completed in two waves, an immediate treatment group and a waitlist control group. After each wave, parents participated in a posttreatment assessment and completed the measures again. After the completion of the project (all assessments were conducted) parents received a short summary of their child's current and previous behavioral functioning to reinforce parents' efforts to improve their parenting skills as well as raise awareness of remaining concerns.

Due to the small sample size, we were underpowered to use the experimental design (treatment vs. waitlist-control) for the preliminary moderation analyses. With the two-group design, we had only 34.7% power to detect a medium effect size; however, with the combined sample we had 63.8% power to detect a medium effect size. Therefore, to maximize our power to detect an effect if it was present, we combined the treatment and control groups to investigate whether marital satisfaction moderated pre/post changes in parental stress and child behavior problems.

Measures

CHILD BEHAVIOR CHECKLIST FOR AGES 1½–5 (CBCL; ACHENBACH, 2000)

The CBCL 1 ½ to 5 was used to assess child behavior problems. The CBCL contains 99 items that are rated as “not true” (0), “somewhat or sometimes true” (1), or “very true or often true” (2). Each item represents a problem behavior, such as “acts too young for age” and “cries a lot.” The CBCL yields a total problem score, two broad-band externalizing and internalizing scores, seven narrow-band scales, and six DSM-oriented scales. The mean reliability for the total problem score in our sample was $\alpha = .93$. Parents completed the CBCL at intake and again at posttreatment (Neece, 2013).

PARENTING STRESS INDEX-SHORT FORM (ABIDIN, 1995)

The Parenting Stress Index-Short Form (PSI-SF) was used to assess parenting stress. The PSI-SF contains 36 items that are rated on a 5-point Likert scale ranging from “Strongly Agree” (1) to “Strongly Disagree” (5) and contains three subscales, parental distress, parent-child dysfunctional interaction, and difficult child, which are combined into a total stress score (Abidin, 1995). The PSI-SF also includes a validity index that measures the extent to which the parent is answering in a way that he/she thinks will make them look best. A score of 10 or less on this index suggests responding in a defensive manner and indicates that caution should be used in interpreting any of the scores. One participant had a defensive responding score less than 10 at the

intake assessment, and this score was removed from the present analyses. We chose to use the parental distress subscale of the PSI, which measures the extent to which the parent is experiencing stress in his or her role as a parent, because it assesses parental stress independent of child behavior issues, another key outcome variable of the current study. Reliability for the Parental Distress subscale in our sample was $\alpha = .83$. Like the CBCL, parents completed the PSI-SF at intake and again at posttreatment (Neece, 2013).

DYADIC ADJUSTMENT SCALE-SHORT FORM (DAS-SF; SPANIER, 1976)

The DAS-SF is a 7-item self-report measure designed to examine satisfaction and quality of a romantic relationship. Research has shown that these seven questions accurately categorize the majority of marriages as distressed or adjusted (Sharpley & Cross, 1982). Several studies have found that the DAS-SF possesses good internal consistency and criterion-related validity when administered as a separate scale or extracted from the full version of the DAS and consider the DAS-SF to be a psychometrically sound measure of marital adjustment (Hunsley, Pinsent, Lefebvre, James-Tanner, & Vito, 1995; Sharpley & Rogers, 1984; Hunsley, Best, Lefebvre, & Vito, 2001). The seven items on the DAS were combined to create a total score measuring overall marital satisfaction, which was used in the current analyses. Reliability for the DAS-SF total score in our sample was $\alpha = .83$.

Data Analytic Plan

The distributions of the parenting stress, child behavior problems, and marital satisfaction variables were examined at intake for the first set of analyses. Data points that were more than three standard deviations above or below the mean of a variable were considered to be outliers; however, there were no data points that met these criteria. For the moderation analyses, demographic variables listed in Table 1 that had a significant relationship ($p < .05$) with one or more of the independent variables *and* one or more of the dependent variables would have been tested as covariates in the analyses, but none of the demographic variables met these criteria, and, thus, no covariates were included in the analyses.

Pearson's correlations were used to examine the relationships between marital satisfaction, parenting stress, and child behavior problems at intake. To investigate marital satisfaction as a moderator of treatment outcomes, repeated measures analyses of variance were used. In conducting these moderation analyses, it was important to control for pretreatment levels so that the analyses could examine the actual change in outcomes throughout the course of the intervention. To examine marital satisfaction as a moderator

of changes in parent distress from intake to posttreatment, we included parental distress as our within-subjects factor and marital satisfaction as our between-subjects factor. To examine marital satisfaction as a moderator of changes in child behavior problems, we included total child behavior problems as our within-subjects factor and marital satisfaction as our between-subjects factor. A median split was used for both analyses to classify “high” and “low” levels of marital satisfaction.

RESULTS

Descriptive Analyses at Intake

Parents reported an average parental distress score of 36.93 (83rd percentile) before treatment, with 54.5% reporting levels in the clinical range (<90th percentile; Abidin, 1995). Parents also reported a significant number of total child behavior problems on the CBCL at intake ($M = 71.26$, $SD = 29.02$), with 67.4% of parents reporting clinical levels of behavior problems (Total Problems T-Score > 63, Achenbach, 2000). The mean marital satisfaction score reported on the DAS-SF for our study was 20.32 ($SD = 6.29$). According to Hunsley and colleagues (2001), scores above 25 on the DAS-SF indicate non-distressed marital status, while a score below 19 indicated marital distress. In our sample, the DAS mean score was 20.32, which falls in the middle of the non-distressed and distressed groups, suggesting that, on average, parents in our study had lower marital satisfaction than a non-distressed population, but not necessarily distressed marriages. More specifically, 27.5% of parents reported that they were distressed (<19), 17.6% reported that were non-distressed (>25), and 41.2% were in between (25–19).

Bivariate Associations Between Marital Satisfaction, Parental Stress, and Child Behavior Problems at Intake

As shown in Table 2, parenting stress was significantly associated with lower levels of child behavior problems, including total, externalizing, and internalizing behavior problems. In examining more specific behavioral concerns, parenting stress was related to externalizing problems including aggression, as well as internalizing problems such as emotional reactivity and withdrawal. In addition, sleep problems, affective problems, pervasive developmental problems, and oppositional defiant problems were also significantly related to parenting stress.

Parents' marital satisfaction was associated with lower levels of parental distress at intake ($r = -.39$, $t < .01$). Additionally, as shown in Table 2, marital satisfaction was significantly associated with lower levels of total, externalizing, and internalizing child behavior problems. In examining more specific

TABLE 2 Intake Pearson's Correlations between Marital Satisfaction, Parental Distress, and Child Behavior Problems

	DAS-SF Total Marital Satisfaction	PSI Parental Distress
PSI Parental Distress	−0.39**	
Total Problems Subscale	−0.49**	0.51**
Externalizing Problems Subscale	−0.46**	0.48**
Aggression Subscale	−0.44**	0.50**
Attention Problems Subscale	−0.35*	0.165
Internalizing Problems Subscale	−0.34*	0.41**
Emotionally Reactive Subscale	−0.35*	0.32*
Anxious/Depressed Subscale	−0.32*	0.23
Somatic Complaints Subscale	−0.07	0.06
Withdrawn Subscale	−0.10	0.52**
Sleep Problems Subscale	−0.33*	0.41**
Stress Problems Subscale	−0.32*	0.29
DSM-IV Codes		
Affective Subscale	−0.28	0.46**
Anxiety Problems Subscale	−0.24	0.24
Pervasive Developmental Problems Subscale	−0.26	0.45**
Attention Deficit Hyperactivity Problems	−0.39**	0.29
Oppositional/Defiant Problems	−0.30*	0.36*

* $p < .05$. ** $p < .01$.

behavior concerns, marital satisfaction was related to child externalizing problems including ADHD symptoms, aggression, oppositional defiance disorder symptoms, and attention problems, as well as internalizing problems such as anxious/depressed symptoms and emotional reactivity. Finally, sleep problems were also significantly related to marital satisfaction.

Preliminary Examination of Marital Satisfaction as a Moderator of Treatment Outcomes

Parents in the current sample reported significantly lower parental distress scores on the PSI-SF from intake ($M = 36.93$, $SD = 8.69$) to posttreatment ($M = 31.35$, $SD = 8.30$), indicating that the MBSR intervention may be successful in reducing parents' self-reported stress ($t(22) = 2.73$, $p < .05$, $d = 0.69$). Parents' mean distress scores were in the 83rd percentile before treatment and 70th percentile after treatment. At intake, 54.5% of parents reported clinical levels of parental distress compared to 32.3% of parents at posttreatment ($X^2(1, N = 28) = 8.81$, $p < .01$).

Paired samples t -tests were also used to examine differences in child behavior problems at intake and posttreatment. Parents reported significantly less total child behavior problems on the CBCL from intake ($M = 71.26$, $SD = 29.02$) to posttreatment ($M = 61.89$, $SD = 22.37$), suggesting that this intervention may also reduce parents' reports of child behavior problems

($t(26) = 2.47, p < .05, d = 0.36$). Additionally, a chi-square analysis revealed a significant reduction in clinical levels of child behavior problems from intake (66.7%) to posttreatment (25.7%), $X^2(1, N = 35) = 8.08, p < .01$.

A repeated measures ANOVA was run to determine if marital satisfaction moderated changes in parental distress from pre to posttreatment. Results are presented in Table 3. Marital satisfaction did not significantly moderate changes in parental distress over the course of the intervention ($F(1, 21) = .117, p = .736$). The moderation relationship is presented in Figure 1. Parents experienced similar reductions in parental distress from intake to post treatment regardless of their level of marital satisfaction.

A second analysis was conducted to determine if marital satisfaction moderated the changes in child behavior problems from intake to post-treatment. Results are presented in Table 4. Marital satisfaction significantly

TABLE 3 Repeated Measures ANOVA of Parental Distress and Marital Satisfaction

Effect	MS	df	F	<i>p</i>	Greenhouse-Geisser	Huynh-Feldt
Time	404.87	1	6.81*	.02	.02	.02
Time × Marital Satisfaction	6.96	1	.12	.74	.74	.74
Error	59.47	21				

* $p < .05$.

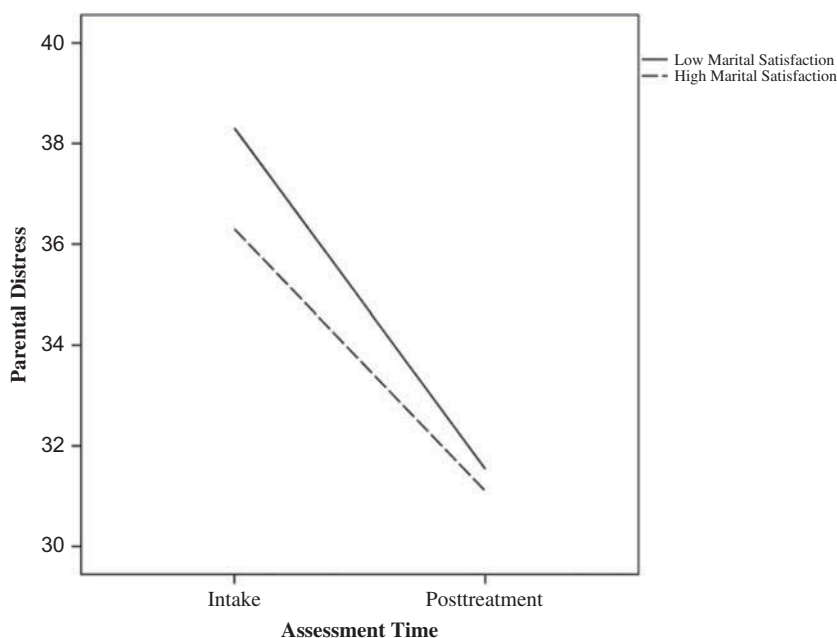
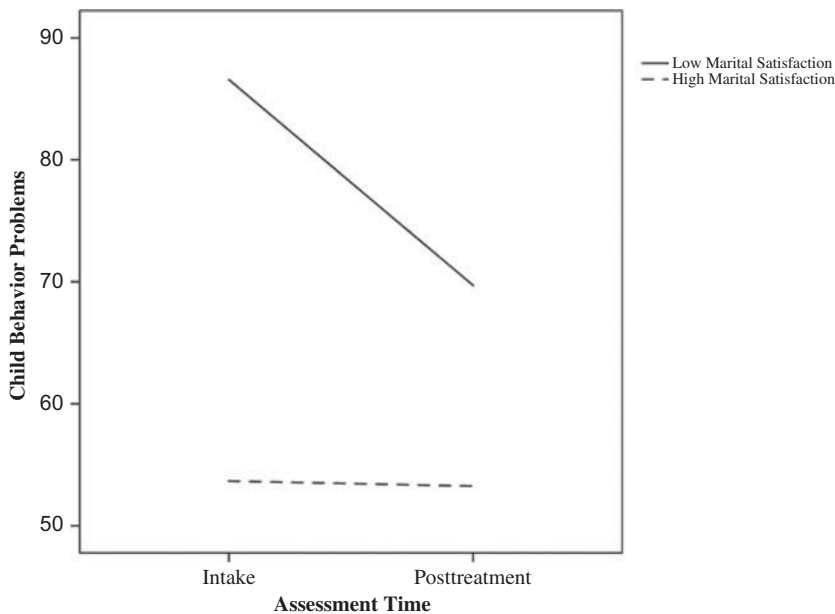


FIGURE 1 Moderation of parental distress. This figure illustrates how marital satisfaction interacts with levels of parental distress from intake to posttreatment.

TABLE 4 Repeated Measures ANOVA of Child Behavior Problems and Marital Satisfaction

Effect	MS	df	F	<i>p</i>	Greenhouse-Geisser	Huynh-Feldt
Time	1447.02	1	8.34*	.01	.01	.01
Time × Marital Satisfaction	887.98	1	5.12*	.03	.03	.03
Error	173.44	24				

p* < .05.FIGURE 2** Moderation of child behavior problems. This figure illustrates how marital satisfaction interacts with levels of child behavior problems from intake to posttreatment.

moderated changes in child behavior problems from intake to posttreatment ($F(1, 24) = 5.12, p < .05$). The moderation relationship is depicted in Figure 2. Parents with high marital satisfaction reported few child behavior problems both pre- and posttreatment and endorsed little changes in behavior problems across the intervention. However, parents with low marital satisfaction reported high levels of child behavior problems at intake, which were significantly reduced at posttreatment. Parents who reported high marital satisfaction did not report a significant decrease in child behavior problems from intake ($M = 55.56, SD = 20.97$) to posttreatment ($M = 55.75, SD = 16.16$), $t(15) = .06, p = .957, d = 0.01$. Conversely, parents who reported low marital satisfaction reported a decrease in child behavior problems from intake ($M = 93.69, SD = 29.48$) to posttreatment ($M = 67.81, SD = 24.32$), $t(15) = 2.96, p < .05, d = 0.96$. Therefore, the impact of a

parental stress reduction intervention on child behavior problems may be greater in families with low levels of marital satisfaction.

DISCUSSION

The current study looked at the associations between parenting stress, child behavior problems, and marital satisfaction in one sample at a single time point with a diverse sample to lay the groundwork for reciprocal models between these variables to be examined in future research. We found that parenting stress, child behavior problems, and marital satisfaction were significantly related, with marital satisfaction being most consistently associated with externalizing behavior problems. Additionally, we conducted a very preliminary investigation of whether marital satisfaction moderated changes in parenting stress and child behavior problems from intake to posttreatment following an MBSR intervention. Results suggested that marital satisfaction does play an important moderating role, specifically regarding the impact of parental MBSR on changes in child behavior problems from intake to posttreatment. We recognize that marital satisfaction is one of many potential moderators, and urge future investigators to provide a more comprehensive examination of potential moderators.

Parenting stress was significantly correlated with child behavior problems. Specifically, parenting stress was correlated with overall child externalizing and internalizing problems, as well as aggression, emotional reactivity, withdrawal symptoms, sleep problems, affective problems, pervasive developmental problems, and oppositional/defiant problems. However, parenting stress was not significantly correlated with attention problems, anxious/depressed symptoms, somatic complaints, stress problems, and ADHD symptoms. There are several possible explanations for this. The small sample size of the study may have limited the power and thus the correlations were not significant even though parenting stress is correlated with these behavior problems. For these correlations, our average power for the correlations observed was 72.3% and ranged from 10.4% (for the smallest correlation of .06) to 98.4% (for the largest correlation of .52). However, it may be that parenting stress is associated with certain behavior problems more than others, particularly disruptive behavior problems and conduct problems, which is supported by previous literature (Davis & Carter, 2008; Lecavalier, Leon, & Wiltz, 2006; Huang, Yen, Tseng, Tung, Chen, & Chen, 2014). Marital satisfaction was also associated with both internalizing and externalizing behavior problems, specifically ADHD symptoms, aggression, and attention problems, and emotional reactivity, which is also consistent with the literature (Cowan & Cowan, 1990; Cummings & Davies, 1994; Gottman & Katz, 1989; Grych & Fincham, 1990; Jouriles, Pfiffner, & O'Leary, 1988).

Marital satisfaction did not significantly moderate changes in parenting stress throughout the course of the intervention. There are a number of reasons for this. Again a lack of statistical power may have limited power to detect a significant moderation effect if one was present. However, the results might also indicate that a parent's level of marital satisfaction intake may not impact the efficacy of MBSR in reducing parental stress. Research has shown that marital satisfaction is tied to lower parental stress and is seen as a protective factor (Davies & Cummings, 2006). Parents with high marital satisfaction reported lower levels of parenting distress at the start of the study. The current findings, however, show that regardless of marital satisfaction families of children with DD have high levels of parental stress and experienced similar reductions in stress over the course of the intervention. Research has shown that families of children with DD typically have elevated levels of stress in general, which may be attributed more to the stress of raising a child with severe behavior problems than to marital dissatisfaction (Suárez & Baker, 1997). Parents in the current study reported very high levels of parenting stress at intake, which may have been past the threshold where marital satisfaction was a protective factor.

Marital satisfaction did significantly moderate changes in child behavior problems from pre to posttreatment. Parents with lower marital satisfaction reported higher levels of child behavior problems at the beginning of the study and showed significant reductions in child behavior problems at the completion of the study. In contrast, parents with high levels of marital satisfaction at the beginning of the study reported significantly fewer child behavior problems, and therefore the reduction of child behavior problems was much smaller. This finding is consistent with other literature suggesting that low marital satisfaction has a significant impact on parenting behavior and the quality of parent-child relationships, specifically less parental warmth and responsiveness to their child (Stroud, Durbin, Wilson, & Mendelsohn, 2011), which may lead to child behavior problems (Erel and Burgman; 1995; Stroud et al., 2011). Additionally, as marital satisfaction increases, consistency in parenting and co-parenting may also improve. This idea is supported by previous research on the "spillover model," which suggests that parents' marital satisfaction influences parenting and consistency in parenting in family contexts (Stroud, Durbin, Wilson, & Mendelsohn, 2011). This in turn may result in further reductions in child behavior problems, as research has found that inconsistency in parenting, particularly inconsistency in discipline practices, is linked to child behavior problems (Barry, Dunlap, Lochman, & Wells, 2009; Pederson & Fite, 2014). It is important to note that the benefit of consistency in parenting practices is likely limited to effective parenting behaviors, as increasing consistency of negative parenting behaviors likely increase child behavior problems (Ge, Conger, Lorenz, & Simons, 1994; McKee, Jones, Forehand, & Cuellar, 2013; Pettit, Laird, Dodge, Bates, & Criss, 2001). Further, there may be a superordinate construct like relationship satisfaction that is

impacted by MBSR and results in both improved marital satisfaction and child behavior problems. Nevertheless, examining the specific mechanisms through which marital satisfaction impacts behavior problems is an important direction for future research.

Although the findings in this study were promising, they must be considered within the context of several study limitations. The sample size of the study was relatively small, and therefore the power and effect size of the results were reduced. This may have impacted our ability to find smaller but still significant effect sizes, such as the moderation effect between marital satisfaction and parenting stress. Furthermore, there was no control group for comparison; therefore, there is no way to determine if the results are due to the intervention or other factors, specifically natural maturation changes over time. In addition, the relationships between marital satisfaction, parenting stress, and child behavior problems were examined only using correlational data, and therefore no causation or direction of effects could be examined. In addition, the relationships between these variables were only examined at a single time point, and therefore the stability of these relationships is unclear. Future longitudinal research should examine the likely complex reciprocal relationships that may exist between marital satisfaction and both parenting stress and child behavior problems, as well as the stability of these relationships over time.

The current study also relied on parent report data of marital satisfaction, parental stress, and child behavior problems, and reporting biases may have influenced the results. Therefore it is possible that the intervention may modify parent perceptions of child behavior problem frequency and severity rather than the child's actual behavior problems. Future studies should include additional reports of child behavior problems (from other parent/family members and teachers) or observational data as a direct measure of child behavior problems. In addition to possible perception bias, there may also have been a placebo effect of the intervention that may have influenced study outcomes. The current study did not examine how changes in parenting stress and child behavior are associated with changes in mindfulness. Therefore, changes in reported levels of parenting stress and child behavior problems may be a result of participating in a study rather than a result of learned mindfulness techniques. Finally, the current study only examined the effects of one potential moderator, marital satisfaction, while many other moderators are likely at play in explaining reductions in parenting stress and child behavior problems as a result of the MBSR intervention. Limited studies examining moderators of child intervention outcomes have found that factors such as family cohesion, parental engagement, child temperament, parent dysfunction, and child-rearing practices moderate the effects of interventions on child outcomes (Estrada-Martinez, et al., 2013; Jessee, et al., 2012; Kazdin, 1997;

Gerstein, et al., 2009). Future research is needed to provide a more comprehensive examination of potential moderators, as well as replicate these results.

Despite these limitations, the implications of this study are significant. This study highlights the high correlations between marital satisfaction, parenting stress, and child behavior problems, and highlights the need for a model that incorporates marital satisfaction into its understanding of parental mental health and child outcomes in families of children with DD. Parents' stress levels and relationship satisfaction has a significant impact on children's development, and this impact must be better understood in order to inform the focus on treatment for children with DD.

REFERENCES

- Abadin, R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology, 19*, 298–301.
- Abidin, R. R. (1995). *Parenting Stress Index, Professional Manual* (3rd ed.) Odessa, FL: Psychological Assessment Resources, Inc.
- Achenbach, T. M. (2000). Child behavior checklist. *Encyclopedia of Psychology, 2*, 69–70.
- Anthony, B. J., Anthony, L. G., Morrel, T. M., & Acosta, M. (2005). Evidence for social and behavior problems in low-income, urban preschoolers: Effects of site, classroom, and teacher. *Journal of Youth and Adolescence, 34*, 31–39.
- Baker, B. L., Blacher, J., Crnic, K. A., & Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year-old children with and without developmental delays. *American Journal of Mental Retardation, 107*(6), 433–44.
- Baker, B. L., Blacher, J., & Olsson, M. B. (2005). Preschool children with and without developmental delay: Behaviour problems, parents' optimism and well-being. *Journal of Intellectual Disability Research, 49*(Pt 8), 575–590.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Preschool children with and without developmental delay: Behaviour problems and parenting stress over time. *Journal of Intellectual Disability Research Special Issue on Family Research, 47*, 217–230.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bariola, E., Gullone, E., & Hughes, E. K. (2011). Child and adolescent emotion regulation: The role of parental emotion regulation and expression. *Clinical Child and Family Psychology Review, 14*, 198–212.
- Barry, T. D., Dunlap, S. T., Lochman, J. E., & Wells, K. C. (2009). Inconsistent discipline as a mediator between maternal distress and aggression in boys. *Child & Family Behavior Therapy, 31*(1), 1–19.
- Baxter, C., Cummins, R. A., & Yiolitis, L. (2000). Parental stress attributed to family members with and without disability: A longitudinal study. *Journal of Intellectual and Developmental Disability, 25*, 105–118.

- Beauchaine, T. P., Webster-Stratton, C., & Reid, M. J. (2005). Mediators, moderators, and predictors of 1-year outcomes among children treated for early-onset conduct problems: A latent growth curve analysis. *Journal of Consulting and Clinical Psychology, 73*(3), 371–388.
- Beck, A., Hastings, R. P., Daley, D., & Stevenson, J. (2004). Pro-social behaviour and behaviour problems independently predict maternal stress. *Journal of Intellectual and Developmental Disability, 29*, 339–349.
- Belsky, J., Woodworth, S., & Crnic, K. (1996). Trouble in the second year: Three questions about family interaction. *Child Development, 67*, 556–578.
- Bengi-Arslan, L., Verhulst, F. C., van der Ende, J., & Erol, N. (1997). Understanding childhood (problem) behaviors from a cultural perspective: Comparison of problem behaviors and competencies in Turkish immigrant, Turkish and Dutch children. *Social Psychiatry and Psychiatric Epidemiology, 32*(8), 477–484.
- Benzies, K. M., Harrison, M. J., & Magill-Evans, J. (1998). Impact of marital quality and parent-infant interaction on preschool behavior problems. *Public Health Nursing, 15*(1), 35–43.
- Blechman, E. A., Prinz, R. J., & Dumas, J. E. (1995). Coping, competence, and aggression prevention. *Applied & Preventive Psychology, 4*, 211–232.
- Bogels, S., Hoogstad, B., Van Dun, L., De Shutter, S., & Restifo, K. (2008). Mindfulness training for adolescents with externalizing disorders and their parents. *Behavioral and Cognitive Psychotherapy, 36*, 193–209.
- Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development and Psychopathology, 15*, 139–162.
- Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry, 36*, 113–149.
- Cappa, K. A., Begle, A. M., Conger, J. C., Dumas, J. E., & Conger, A. J. (2011). Bidirectional relationships between parenting stress and child coping competence: Findings from the PACE study. *Journal of Child and Family Studies, 20*, 334–342.
- Cassano, M., Perry-Parrish, C., & Zeman, J. (2007). Influence of gender on parental socialization of children's sadness regulation. *Social Development, 16*, 210–231.
- Chambers, R., Gullone, E., & Allen, N. B. (2009). Mindful emotion regulation: An integrative review. *Clinical Psychology Review, 29*, 560–572.
- Chiesa, A., & Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *The Journal of Alternative and Complementary Medicine, 15*, 593–600.
- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology, 8*, 597–600.
- Cleverly, K., Szatmari, P., Vaillancourt, T., et al. (2012). Developmental trajectories of physical and indirect aggression from late childhood to adolescence: Sex difference and outcomes in emerging adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 51*, 1037–1051.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2002). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.
- Compas, B., Conner-Smith, J., Saltzman, H., Thomsen, A., & Wadsworth, M. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin, 127*, 87–127.

- Cooper, C., McLanahan, S., Meadows, S., & Brooks-Gunn, J. (2009). Family structure transitions and maternal parenting stress. *Journal of Marriage and the Family, 71*, 558–574.
- Cowan, P. A., & Cowan, C. P. (1990). Becoming a family: Research and Intervention. In I. Sigel & G. Brody (Eds.), *Family research* (Vol. 1, pp. 1–51). Hillsdale, NJ: Erlbaum.
- Cummings, E. M., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution*. New York, NY: Guilford Press.
- Davies, P. T. & Cummings, E. M. (2006). Interparental discord, family process, and developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology, Vol. 3: Risk, Disorder, and Adaptation* (pp. 86–128). Hoboken, NJ: Wiley.
- Davis, N. O., & Carter, A. S. (2008). Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: Associations with child characteristics. *Journal of Autism and Developmental Disorders, 38*, 1278–1291.
- Deater-Deckard, K. (1998). Parenting stress and child adjustment: Some old hypotheses and new questions. *Clinical Psychology: Science and Practice, 5*, 314–332.
- Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Petit, G. S. (1998). Multiple risk factors in the development of externalizing behavior problems: Group and individual differences. *Development and Psychopathology, 10*, 469–493.
- Donenberg, G., & Baker, B. L. (1993). The impact of young children with externalizing behaviors on their families. *Journal of Abnormal Child Psychology, 21*(2), 179–198. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19404836>
- Donovan, A. (1988). Family stress and ways of coping with adolescents who have handicaps: maternal perceptions. *American Journal of Mental Retardation, 92*, 502–509.
- Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., et al. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development, 72*, 1112–1134.
- Eisenberg, N., Fabes, R. A., & Guthrie, I. (1997). Coping with stress: The roles and regulation of development. In J. N. Sandler & S. A. Wolchick (Eds.), *Handbook of children's coping with common stressors: Linking theory, research, and intervention* (pp. 41–70). New York: Plenum.
- Eisenberg, N., Fabes, R. A., Shepard, S. A., Guthrie, I. K., Murphy, B. C., & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development, 70*, 513–534.
- Erel, O., & Burman, B. (1995) Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin, 118*, 108–132.
- Estrada-Martinez, L. M., Caldwell, C. H., Schulz, A. J., Diez-Roux, A. V., & Pedraza, S. (2013). Families, neighborhood socio-demographic factors, and violent behaviors among Latino, White, and Black adolescents. *Youth and Society, 45*(2), 221–242.
- Gau, S. S., Chou, M., Chiang, H., Lee, J., Wong, C., Chou, W., & Wu, Y. (2011). Parental adjustment, marital relationship, and family function in families of children with autism. *Research in Autism Spectrum Disorders, 6*, 263–270.

- Ge, X., Conger, R. D., Cadoret, R. J., Neiderhiser, J. M., Yates, W., Troughton, E., & Steward, M. A. (1996). The developmental interface between nature and nurture: A mutual influence model of child antisocial behavior and parent behaviors. *Developmental Psychology, 32*, 574–589.
- Gerstein, E. D., Crnic, K. A., Blacher, J., & Baker, B. L. (2009). Resilience and the course of daily parenting stress in families of young children with intellectual disabilities. *Journal of Intellectual Disability Research, 53*.
- Gilliam, J. E. (2006). *Gilliam Autism Rating Scale* (2nd ed.). Austin, TX: PRO-ED, Inc.
- Gottman, J. M., & Katz, L. F. (1989). Effects of marital discord on young children's peer interaction and health. *Developmental Psychopathology, 25*, 373–381.
- Graham, J. M., Liu, Y. J., & Jeziorski, J. L. (2006). The dyadic adjustment scale: A reliability generalization meta-analysis. *Journal of Marriage and Family, 68*, 701–717.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research, 57*, 35–43.
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin, 108*, 267–290.
- Hassall, R., Rose, J., & McDonald, J. (2005). Parenting stress in mothers of children with an intellectual disability: The effects of parental cognitions in relation to child characteristics and family support. *Journal of Intellectual Disability Research, 49*(6), 405–418.
- Hastings, R. P. (2003). Child behaviour problems and partner mental health as correlates of stress in mothers and fathers of children with autism. *Journal of Intellectual Disability Research, 47*, 231–237.
- Henderson, A. D., Sayger, T. V., Horne, A. M. (2003). Mothers and sons: A look at the relationship between child behavior problems, marital satisfaction, maternal depression, and family cohesion. *The Family Journal, 11*(1), 33–41.
- Higgins, D. J., Bailey, S. R., & Pearce, J. C. (2005). Factors associated with functioning style and coping strategies of families with a child with an autism spectrum disorder. *Autism, 9*(2), 125–137.
- Hofstra, M. B., van der Ende, J., & Verhulst, F. C. (2000). Continuity and change of psychopathology from childhood into adulthood: A 14-year follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(7), 850–858.
- Horwitz, S. M., Leaf, P. J., & Leventhal, J. M. (1998). Identification of psychosocial problems in pediatric primary care: Do family attitudes make a difference? *Archives of Pediatrics & Adolescent Medicine, 152*(4), 367–371.
- Huang, C., Yen, H., Tseng, M., Tung, L., Chen, Y., & Chen, K. (2014). Impacts of autistic behaviors, emotional and behavioral problems on parenting stress in caregivers of children with autism. *Journal of Autism and Developmental Disorders, 44*(6), 1383–1390.
- Hudziak, J. J., & Novins, D. K. (2013). Illuminating the complexities of developmental psychopathology: Special series on longitudinal and birth cohort studies. *Journal of the American Academy of Child & Adolescent Psychiatry, 52*(1), 6–8.
- Hunsley, J., Pinsent, C., Lefebvre, M., James-Tanner, S., & Vito, D. (1995). Construct validity of the short forms of the Dyadic Adjustment Scale. *Family Relations, 44*, 231–237.

- Hunsley, J., Best, M., Lefebvre, M., & Vito, D. (2001). The seven-item short form of the Dyadic Adjustment Scale: Further evidence for construct validity. *The American Journal of Family Therapy, 29*, 325–335.
- Innocenti, M. S., Huh, K., & Boyce, G. C. (1992). Families of children with disabilities: Normative data and other considerations on parenting. *Topics in Early Childhood Special Education, 12*(3), 403–427.
- Jaffe, M., Gullone, E., & Hughes, E. K. (2010). The roles of temperamental dispositions and perceived parenting behaviours in the use of two emotion regulation strategies in late childhood. *Journal of Applied Developmental Psychology, 31*, 47–59.
- Jessee, A., Magelsdorf, S. C., Shigeto, A., & Wong, M. S. (2012). Temperament as a moderator of the effects of parental depressive symptoms on child behavior problems. *Social Development, 21*(3), 610–627.
- Joseffson, T., Lindwall, M., & Broberg, A. G. (2014). The effects of a short-term mindfulness based intervention on self-reported mindfulness, decentering, executive attention, psychological health, and coping style: Examining unique mindfulness effects and mediators. *Mindfulness, 5*(1), 18–35.
- Jouriles, E. N., Pfiffner, L. J., & O'Leary, K. D. (1988). Marital conflict, parenting, and toddler conduct problems. *Journal of Consulting and Clinical Psychology, 57*, 453–455.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., & Peterson, L. G. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *The American Journal of Psychiatry, 149*, 936–943.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. New York, NY: Hyperion.
- Katz, L. F., & Gottman, J. M. (1993). Patterns of marital conflict predict children's internalizing and externalizing behaviors. *Developmental Psychology, 29*, 940–950.
- Kazdin, A. (1997). Moderators of treatment outcome in cognitively based treatment of antisocial children. *Cognitive Therapy and Research, 21*(2), 185–207.
- Kersh, J., Hedvat, T. T., Hauser-Cram, P., & Warfield, M. E. (2006). The contribution of marital quality to the well-being of parents of children with developmental disabilities. *Journal of Intellectual Disability Research, 50*, 883–893.
- Koegel, R. L., Schreibman, L., O'Neill, R. E., & Burke, J. C. (1983). The personality and family-interaction characteristics of parents of autistic children. *Journal of Consulting and Clinical Psychology, 51*(5), 683–692.
- Kwok, S. Y. C. L., Cheng, L., Chow, B., & Ling, C. C. Y. (2013). The spillover effect of parenting on marital satisfaction among Chinese mothers. *Journal of Child and Family Studies, 22*, 100–108.
- Lavee, Y., Sharlin, S., & Katz, R. (1996). The effect of parenting stress on marital quality: An integrated mother-father model. *Journal of Family Issues, 17*(1), 114–135.
- Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behavior problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research, 50*, 172–183.
- Ledermann, T., Bodenmann, G., Rudaz, M., and Bradbury, T. (2010). Stress, communication, and marital quality in couples. *Family Relations, 59*, 195–206.

- Lochman, J. E., Wells, K. C., Qu, L., & Chen, L. (2013). Three-year follow-up of coping power intervention effects: Evidence of neighborhood moderation? *Prevention Science, 14*(4), 364–376.
- Magnavita, J. J. (2012). Advancing clinical science using system theory and the framework for expanding family psychology with unified psychotherapy. *Couple and Family Psychology: Research and Practice, 1*, 3–13.
- McDowell, D. J., Kim, M., O'Neil, R., & Parke, R. D. (2002). Children's emotional regulation and social competence in middle childhood: The role of maternal and paternal interactive style. *Marriage & Family Review, 34*, 345–364.
- McHale, J. P. (1995). Coparenting and triadic interactions during infancy: The role of marital distress and child gender. *Developmental Psychology, 31*(6), 985–996.
- McKee, L. G., Jones, D. J., Forehand, R., & Cueller, J. (2013). Assessment of parenting style, parenting relationships, and other parenting variables. In D. Saklofski (Ed.), *Handbook of psychological assessment of children and adolescents* (pp. 788–821). New York, NY: Oxford University Press.
- Moreland, A. D., & Dumas, J. E. (2007). Evaluating child coping competence: Theory and measurement. *Journal of Child and Family Studies, 17*, 437–454.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16*, 361–388.
- Morris, A. S., Silk, J. S., Steinberg, L., Sessa, F. M., Avenevoli, S., & Essex, M. J. (2002). Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *Journal of Marriage and the Family, 64*, 461–471.
- Neece, C. L. (2013). Mindfulness-based stress reduction for parents of young children with developmental delays: Implications for parental mental health and child behavior problems. *Journal of Applied Research in Intellectual Disabilities, 27*(2), 174–186.
- Neece, C. L., Greene, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities, 117*, 48–66.
- Oelofsen, N., & Richardson, P. (2006). Sense of coherence and parenting stress in mothers and fathers of preschool children with developmental disability. *Journal of Intellectual & Developmental Disability, 31*, 1–12.
- Pandolfi, V., Magyar, C., & Dill, C. A. (2009). Confirmatory factor analysis of the child behavior checklist 1.5–5 in a sample of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 39*, 986–995.
- Pederson, C. A., & Fite, P. J. (2014). The impact of parenting on the associations between child aggression subtypes and oppositional defiant disorder symptoms. *Child Psychiatry and Human Development, 45*(6), 728–735.
- Pesonen, A. K., Räikkönen, K., Heinonen, K., Komsu, N., Järvenpää, A. L., & Strandberg, T. (2008). A transactional model of temperamental development: Evidence of a relationship between child temperament and maternal stress over five years. *Social Development, 17*, 326–340.
- Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development, 72*, 583–598.

- Placone-Willey, P. M. (2002). A curriculum for mindful parenting: A model development dissertation. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 63, 568–568.
- Ponnet, K., Mortelmans, D., Wouters, E., Van Leeuwen, K., Bastaits, K., & Pasteels, I. (2013). Parenting stress and marital relationship as determinants of mothers' and fathers' parenting. *Personal Relationships*, 20, 259–276.
- Risdal, D., & Singer, G. H. S. (2004). Marital adjustment in parents of children with disabilities: A historical review and meta-analysis. *Research & Practice for Persons with Severe Disabilities*, 29(2), 95–103.
- Robinson, E. A., Eyberg, S. M., & Ross, A. W. (1980). The standardization of an inventory of child conduct problem behaviors. *Journal of Clinical Child Psychology*, 9, 22–28.
- Rodrigue, J., Morgan, S., & Geffken, G. (1990). Families of autistic children: Psychological functioning of mothers. *Journal of Clinical Child Psychology*, 19(4), 371–379.
- Rutter, M., Kumsta, R., Schlotz, W., & Sonuga-Barke, E. (2012). Longitudinal studies using a “natural experiment” design: The case of adoptees from Romanian institutions. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 762–770.
- Santamaria, F., Cuzzocrea, F., Gugliandolo, M. C., & Larcán, R. (2012). Marital satisfaction and attribution style in parents of children with Autism Spectrum Disorder, Down Syndrome, and non-disabled children. *Life Span and Disability*, 15(1), 19–37.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373–386.
- Sharpley, C. F., & Cross, D. G. (1982). A psychometric evaluation of the Spanier Dyadic Adjustment Scale. *Journal of Marriage and the Family*, 44, 739–741.
- Sharpley, C. F., & Rogers, H. J. (1984). Preliminary validation of the Abbreviated Spanier Dyadic Adjustment Scale: Some psychometric data regarding a screening test of marital adjustment. *Educational and Psychological Measurement*, 44, 1045–1049.
- Sheeber, L., Allen, N., Davis, B., & Sorensen, E. (2000). Regulation of negative affect during mother-child problem-solving interactions: Adolescent depressive status and family processes. *Journal of Abnormal Child Psychology*, 28, 467–479.
- Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behaviour. *Child Development*, 74, 1869–1880.
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Singh, A. N., Adkins, A. D., & Wahler, R. G. (2010). Training in mindful caregiving transfers to parent-child interactions. *Journal of Child and Family Studies*, 19, 167–174.
- Singh, N. N., Singh, A. N., Lancioni, G. E., Singh, J., Winton, A. S. W., & Adkins, A. D. (2010). Mindfulness training for parents and their children with ADHD increases the children's compliance. *Journal of Child and Family Studies*, 19, 157–166.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and Family*, 38, 15–28.
- Stahl, B., & Goldstein, E. (2011). Mindfulness meditation instructions. In B. Boyce (Ed.), *The mindfulness revolution: Leading psychologists, scientists, artists, and*

- meditation teachers on the power of mindfulness in daily life* (pp. 28–37). Boston, MA: Shambhala Publications.
- Stevens, G., & Vollebergh, W. A. M. (2008). Mental health in migrant children. *Journal of Child Psychology and Psychiatry*, *49*(3), 276–294.
- Stoneman, Z., & Gavidia-Payne, S. (2006). Marital adjustment in families of young children with disabilities: Associations with daily hassles and problem-focused coping. *American Journal on Mental Retardation*, *111*(1), 1–14.
- Stroud, C. B., Durbin, C. E., Wilson, S., & Mendelsohn, K. A. (2011). Spillover to triadic and dyadic system in young children. *Journal of Family Psychology*, *25*, 919–930.
- Suárez, L. M., & Baker, B. L. (1997). Child externalizing behavior and parents' stress: The role of social support. *Family Relations*, *46*(4), 373.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, *59*, 25–52.
- Trapolini, T., McMahon, C. A., & Ungerer, J. A. (2007). The effect of maternal depression and marital adjustment on young children's internalizing and externalizing behaviour problems. *Child: Care, Health and Development*, *33*(6), 794–803.
- Webster, R. I., Majnemer, A., Platt, R. W., & Shevell, M. I. (2008). Child health and parental stress in school-age children with a preschool diagnosis of developmental delay. *Journal of Child Neurology*, *23*, 32–8.
- Webster-Stratton, C. (1984). A randomized trial of two parent-training programs for families with conduct-disordered children. *Journal of Consulting and Clinical Psychology*, *52*, 666–678.
- Webster-Stratton, C. (1989). The relationship of marital support, conflict, and divorce to parent perceptions, behaviors, and childhood conduct problems. *Journal of Marriage and Family*, *51*.
- Wieland, N., & Baker, B. L. (2010). The role of marital quality and spousal support in behaviour problems of children with and without intellectual disability. *Journal of Intellectual Disability Research*, *54*(7), 620–633.
- Yap, M. B., Allen, N. B., & Ladouceur, C. D. (2008). Maternal socialization of positive affect: The impact of invalidation on adolescent emotion regulation and depressive symptomatology. *Child Development*, *79*, 1415–1431.