

**DOES PARENTAL COPING BUFFER THE RELATIONSHIP BETWEEN CHILD
BEHAVIOR PROBLEMS AND PARENTAL REACTIONS
IN FAMILIES OF CHILDREN WITH ASD?**

A Thesis By

**JASMIN ALOSTAZ
ORCID ID: 0000-0002-3203-5094**

**California State University, Fullerton
Spring, 2021**

In partial fulfillment of the degree:
Master of Science, Psychology

Department:
Department of Psychology

Committee:
Jason Baker, Department of Child and Adolescent Studies, Co-Chair
Yuko Okado, Department of Psychology, Co-Chair
Aaron Lukaszewski, Department of Psychology

DOI:
10.5281/zenodo.4748202

Keywords:
Autism Spectrum Disorder, externalizing behavior problems, parent coping, emotion socialization

Abstract:
Parents of children with autism spectrum disorder (ASD) experience high levels of stress related to their children's symptoms and comorbid behavior problems. Positive parental coping is proposed to serve a buffering function; however, few studies have examined whether coping moderates the association between possible child stressors and parent outcomes in this population. These studies have focused on parent well-being as the main outcome variable but have not studied the extent to which the child-related stressors may impact parenting and contribute to dysfunctional parent-child interactions. The current study examined the degree to which positive parental coping may buffer parent reactions to child negative emotions against the potentially adverse effects of comorbid externalizing problems in 63 families of children with ASD. Parents reported on their children's externalizing problems, their own coping behavior, and their reactions to their children's negative emotions. The main effect between children's externalizing problem behaviors and parent reactions to child negative emotion was not significant. However, positive coping moderated the association between children's behavior problems and supportive parent reactions such that the parents of children with more externalizing problems reported less supportive reactions, but only when positive coping was low. This cross-sectional study is the first to examine the degree to which parent coping may buffer parenting quality against the effects of child problems.

TABLE OF CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	iv
ACKNOWLEDGMENTS	v
Chapter	
1. INTRODUCTION	6
Parent Reaction to Child Negative Emotion	6
Child Behavior Problems and Parent Stress	9
Parent Coping as a Moderator	12
The Current Study	15
Hypotheses	16
2. METHODS	17
Participants	17
Missing Data	17
Procedure	17
Measures	18
Demographics and Potential Control Variables	18
CBCL	19
CCNES	20
Brief COPE	21
Statistical Analyses	22
3. RESULTS	25
Data Reduction	25
Correlations	26
Moderation	27
Exploration of Missing Data	29
4. DISCUSSION	31
Clinical Implications	36
Limitations	38
Future Directions	39
Conclusion	40
REFERENCES	42

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Principal Component Analysis of Brief COPE	25
2. Means and Standard Deviations for Positive Coping Subscales	26
3. Descriptive Statistics and Correlations among Variables of Interest.....	27
4. Linear Regressions Testing for Moderating Effects of Parental Positive Coping	28
5. Independent t-test Exploring the Effects of Missing Data.....	30

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Theoretical Diagram of Current Study	16
2. Prediction of Supportive Parent Reactions from Child Externalizing Problems	28

ACKNOWLEDGMENTS

I would like to express my appreciation and gratitude towards my mentor Dr. Jason Baker, for his patience, guidance, and support. Dr. Jason Baker has provided me with excellent support throughout this entire thesis process. Additionally, I would like to express my appreciation for my co-chair, Dr. Yuko Okado for her unwavering support and availability to aid in my thesis. Dr. Yuko Okado has guided me and provided excellent suggestions for improvement. Thank you, Dr. Aaron Lukaszewski, for agreeing to serve on my committee and offering suggestions and direction in my thesis.

Last but not least, I would like to thank the Clinical Psychology department at California State University, Fullerton, my family, fiancé, and friends, for constantly supporting me and allowing me to grow within my writing and clinical skills. I do not think this would be possible without the endless support from these wonderful individuals.

CHAPTER 1

INTRODUCTION

Autism spectrum disorder (ASD) is a developmental disorder that consists of deficits in social communication and the presence of restricted and repetitive behaviors (American Psychiatric Association, 2013). Parents of children with ASD report higher levels of stress as compared to parents of typically developing children (Bauminger et al., 2010; Hayes & Watson, 2013). Of note, children with ASD may present with co-morbid externalizing behavior problems. Externalizing problems are described as aggressiveness, impulsivity, and impulse control problems (Bauminger et al., 2010). Moreover, clinical observations suggest that high functioning individuals on the ASD spectrum may experience externalizing problems within some point in their development (Bauminger et al., 2010; Brereton et al., 2006; Gadow et al., 2005). Comorbid externalizing problems in children with ASD have been associated with more parenting stress (Bauminger et al., 2010) which, in turn, has been linked to reductions in parenting quality for parents of children with ASD (Osborne et al., 2008; Shawler & Sullivan, 2017). Although a few studies have examined whether positive coping strategies can buffer associations between child characteristics and parent stress (Shepherd et al., 2018) and well-being (Smith et al., 2007), the degree to which coping might buffer against the deleterious effects of child difficulty on parenting behavior is unknown.

One particular aspect of parenting behavior that is worth investigating is how parents respond to children when they exhibit high levels of negative emotions. These parental reactions are important outcomes to study because they contribute to the socialization of children's emotions and behaviors (Bjørk et al., 2020). Below, I will review the literature on this important outcome, with particular emphasis on parents of children with ASD.

Parent Reactions to Negative Child Emotion

An important outcome in this current study is how parents respond to children's negative emotions. Reactions may be classified as supportive or unsupportive (Breux et al., 2017). Supportive reactions validate child's negative feelings which in turn enhances prosocial development.

Examples of such reactions include parents encouraging child to talk about their nervous feelings instead of telling their child they are being a baby about a situation they are feeling anxious about. Other examples include a parent telling their child it is okay to cry and let out their emotions instead of shutting them down and encouraging their child to talk about how their feelings were hurt (Fabes et al., 2002). Showing supportive behavior in response to children's negative emotions has been positively correlated with the development of children's socioemotional development (Denham, 2007; Eisenberg et al., 1996; Eisenberg et al., 1998). Additionally, supportive reactions may guide children into having controlled and positive emotions and behaviors.

Conversely, non-supportive reactions intensify arousal and discourage the child's ability to process and control emotions. Examples of such reactions include discouraging or dismissing the child's emotions (Breux et al., 2017; Gottman et al., 1997). Receiving such non-supportive reactions from a parent may result in the child having rigid, unpredictable, or erratic ways of experiencing emotions (Breux et al., 2017).

The use of non-supportive parenting reactions could have significant influences on child behaviors. The use of negative parenting practices such as punishment or minimization in response to negative child emotion have been linked to child externalizing behavior (Bader et al., 2015). Although this association is often considered through parent-driven models (e.g., that parent reactions contribute to the emotional and behavioral functioning of their children), it is equally if not more reasonable, to posit that children with more challenging emotional displays may elicit stress in parents, resulting in less optimal parental reactions. While there is little research examining parental emotion socialization (e.g., supportive and unsupportive reactions) and externalizing behavior in ASD, evidence suggests that mothers who exhibit high levels of criticism showed increased conflict between children with ASD and siblings (Bader et al., 2014; Petalas et al., 2012; Wasserman et al., 2010). This suggests that unsupportive reactions, such as criticism, may create barriers in the way children respond emotionally towards others, including their siblings.

Since negative child behaviors can be aversive, parents may be quick to react to them using such approaches as punishment, particularly if the parents are experiencing increased stress. The decision to use punishment as a control strategy may be due to parents thinking that children who behave inappropriately have alternative motives (Fabes et al., 2002). These alternative motives that are attributed to the child may include manipulation and poor character. For instance, Gottman (1997) suggests that parents who view their children's behaviors as aversive are more inclined to punish their children in order to put a quick stop to their behaviors.

Liew et al. (2003) emphasized that a lack of sensitivity to empathic stimuli (e.g., when a child is unable to respond appropriately and compassionately to a situation) has been revealed to contribute to externalizing problems. Children being exposed to supportive reactions may give children the ability to foster an understanding of all emotions, regardless of if they are negative or positive. However, high levels of parent negative emotions including those that lead to unsupportive reactions may conflict with the child's ability to understand emotions within others. Some evidence even suggests that parental negative expression may negatively impact a child's ability to respond empathically. Moreover, having contact with parental negative emotion can be disappointing to children and disrupt their development (Eisenberg et al., 1992; Eisenberg et al., 2001; Liew et al., 2003). Poor parenting behaviors, like unsupportive reactions, can intensify not only internalizing behavior problems, but also increase externalizing behavior problems (Arikan & Kumru, 2020). These assumptions regarding negative parent emotion influencing child behavior and expression are key in understanding the fundamental connection and influences between externalizing behavior problems and parent negative emotion.

Research suggests that parents of children with developmental disabilities have an increased difficulty in managing their reactions to child's negative emotions. Breaux et al. (2017) longitudinally examined parents' reactions to emotions in children with attention deficit hyperactivity disorder (ADHD) using skin conductance level (SCL), positing that a way a parent reacts influences the child's emotional regulation. Results indicated that children with higher ADHD symptoms showed lower SCL

when parents practiced lower supportive reactions and high SCL when parents practiced high supportive reactions. Moreover, children who experienced higher levels of ADHD symptoms and higher supportive emotional parent reactions were expected to see a higher level of SCL in reaction to unpleasant stressors, which suggests that the child is able to emotionally respond to their parent's reactions. Conversely, children who experienced high levels of ADHD symptoms and lower supportive emotional parent reactions, were expected to see lower SCL which indicates that the child experiences insensitivity to punishment. Additionally, ADHD symptoms did not appear to moderate the association between supportive parenting reactions and children's emotional regulation. However, parent's reaction to children's negative emotions predicted emotional regulation abilities in their children. The results support the notion that children who exhibited greater symptoms of ADHD are more susceptible to both supportive and unsupportive parental socialization techniques, in expected directions.

Jordan et al. (2021) examined parent emotion socialization with children aged 8-15 years with ASD and a comorbid anxiety disorder and typically developing (TD) children. Typically developing children are characterized as individuals without a psychiatric diagnosis. Results revealed that parents of children with ASD and anxiety did not show any differences when compared to TD children in social emotionalization methods when using the Coping with Children's Negative Emotions Scale (CCNES), which is based on parental self-report. In contrast, greater anxiety levels found amongst children with comorbid ASD and anxiety were associated with more emotion-focused responses from parents, whereas children with fewer ASD and anxiety symptoms reportedly received more punitive reactions from parents. Emotion-focused responses are characterized as a part of the supportive reactions within the CCNES. A type of emotion-focused response is telling their child, "think of something relaxing" while experiencing distress (Fabes et al., 2002). These results imply that although emotion-focused methods of parental socialization may be protective efforts to discourage the child from expressing negative feelings, emotion-focused approaches may intensify anxiety rather than relieve it. Moreover, for children with ASD who fixate on thoughts or ideas, parental attempts to

shift away from negative thoughts may increase irritation and anxiety. These results also strongly identify the significant drive that parent socialization has on children with comorbid anxiety and ASD.

This research implies a strong and perhaps increased role for parental reactions to children's display of negative emotion, or parental emotion socialization, that may play an important role in the development of children with neurodevelopmental challenges. It may do so by influencing the development of the child's emotional regulation capacities. Moreover, positive parenting styles such as warmth and receptiveness to distress has been shown to predict emotional regulation with children with ADHD and other disruptive behaviors (Breux et al., 2018). This research offers straightforward suggestions on how supportive and unsupportive parenting can influence children with developmental disabilities. For example, supportive parenting offers children with disabilities an ability to foster healthy emotion regulation strategies, while unsupportive reactions may increase the child's tendency to dismiss and deny emotions.

Child Behavior Problems and Parent Stress

As noted above, parents of children with ASD have been found to report higher levels of stress than parents of children without developmental disabilities (Rodriguez et al., 2019), which increase the need for parental coping. Parental stress is defined as a "state perceived by parents resulting from demands associated with their parenting role" (Vernhet et al., 2018). Parent stress may add to a child's social capability and hostility, for example, Forman & Davies (2003) examined family instability and its association with internalizing and externalizing symptoms in typically developing adolescents which predicted that children feel less emotionally secure in their family structures with high stress. These results suggest that children's maladjusted behavior may be linked to parent stress. Externalizing problem behaviors in children, in particular, may influence the way a parent responds to negative child emotion. Moreover, among children with ASD, co-occurring externalizing problem behaviors have been fundamental in the predictor of parenting practices, including supportive and unsupportive reactions to child negative emotions. The link between externalizing behavior problem

and parental reactions to children's negative emotions (supportive and unsupportive) will be reviewed.

In addition to the core ASD symptoms, the presence of co-occurring externalizing behaviors (e.g., aggression and defiance) can cause increased stress for parents (Bader et al., 2015; Ekas et al., 2010) and has been associated with maladaptive parent coping approaches, such as escape and avoidance (e.g., coping in ways that avoid the stressor or denying the stressor exists; Hastings et al., 2005; Shepherd et al., 2018; van Stejin et al., 2014). Previous studies have noted an inverse association between child externalizing behavior problems and supportive parental reactions. For example, Bjørk et al. (2020) found that child behavior problems are lower when parents embolden their children to freely express their emotions (i.e., provide supportive reactions). Meteyer & Perry-Jenkins (2009) also showed that fewer externalizing behavior problems were linked to greater levels of supportive parenting. Thus, existing research suggests an inverse relationship between externalizing behavior problems and supportive parental reactions.

On the converse, the presence of externalizing problem behaviors is known to increase unsupportive parental reactions to children's negative emotion (Bjørk et al., 2020). Externalizing behavior problems may covary with unsupportive parental behaviors. For example, children that experience less supportive reactions from their parents are known to become aggressive, or emotionally withdrawn, and have difficulty managing their behaviors, leading to externalizing problem behaviors (Bjørk et al., 2020; Johnson et al., 2017). In turn, parents who view their children's behaviors in a negative light may respond in an aversive or unsupportive way to stop them from behaving in a negative way (Gottman, 1997). This could indicate that children who have more aversive behaviors may have parents who show less supportive reactions in response to their behaviors. Thus, co-occurring externalizing behavioral problems in children with ASD could affect the way a parent practices emotional socialization techniques, such that more unsupportive reactions will be prominent in their parents' parenting practices (Jordan et al., 2021).

In a study describing the difficulties of parents with pre-school children with developmental disabilities, such as intellectual disability (ID), increased problem behaviors in children appear to explain the relationship between children's developmental-disability status and parental stress (Baker et al., 2003; Firth & Dryer, 2013; Herring et al., 2006; Lecavalier et al., 2006; Neece et al., 2012). Although behavior problems may predict stress in parents, it has also been proposed that parental stress has harmful effects on behavior in children with cognitive delays; thus, both parenting stress and child behavior problems seem to be mutually involved in exacerbating one another (Baker et al., 2003; Neece et al., 2012). It is salient to consider parenting behavior in the context of raising children with externalizing problems. Parents may consider limiting certain parenting dynamics, such as child social emotionalization that may trigger child behavior problems.

Because externalizing behavior problems cause increased parental stress, understanding the mechanisms of parental stress and ways to reduce it is of utmost importance, including ways to respond appropriately to children's negative emotions. Stressors can cause a parent-child relationship to worsen and may lead to maladaptive parenting approaches (Shepherd et al., 2018). Higher parenting stress can worsen ASD symptoms (e.g., Lecavlier et al., 2006), and may cause a "mutually escalating effect," in other developmental disabilities such as intellectual disability in which parent stress elicits further behavior problems which then causes parents more stress (Baker et al., 2003; Benson & Karlof, 2009). Previous research has highlighted that aspects in a child's daily life, such as ASD-related behaviors (e.g., Haung et al. 2014; Lecavalier et al., 2006) and child's learning abilities (e.g., Lee et al., 2008) can moderate the intensity of stress in parents. Moreover, in addition to the stress that parents reported, parents of children with ASD reported more depressive symptoms than parents of typically developing children (Lai et al., 2015).

Parental Coping as a Moderator

Given the parental stress that is caused by externalizing behavior problems in ASD and the way in which parents cope with the stress of parenting their child with ASD and co-occurring externalizing behavior problems, positive coping styles may moderate the link between child

externalizing behavior problems and supportive and unsupportive reactions to child negative emotions. Coping is defined as a focused procedure that involves behavioral, emotional, and cognitive efforts to manage the difficulties of a stressor (Zaidman-Zait et al., 2017).

Certain coping skills can be effective or ineffective in reducing parental stress among parents of children with ASD. Both Hastings et al. (2005) and Benson et al. (2010) found that strategies involving avoidance and/or denial were related to maladaptive outcomes in families of children with ASD, including more stress, depression, and anger. In research with family caregivers, which included parents of children with ASD and intellectual disabilities, maladaptive coping strategies employed by the caregiver, such as denial and venting have been related to high levels of psychological distress in the caregiver (Abbeduto et al., 2004; Aldwin & Revenson, 1987; Benson, 2010; Seltzer et al., 1995).

In contrast, the use of positive coping strategies has shown to be related to better mental health outcomes for parents (Abbeduto et al., 2004; Aldwin & Revenson, 1987; Benson, 2010; Seltzer et al., 1995). Positive coping strategies may include strategies such as planning and taking action towards solving a problem. Benson (2010) found that the use of cognitive reframing (parents' ability to see negative situations in a positive light) was also associated with increased happiness. Moreover, there is evidence that emotion-focused and problem-focused coping approaches moderate the effects of stressors on caregiver distress. Smith et al., (2008) investigated coping in a study of mothers of preschool and adolescent children with ASD. It was found that the use of emotion-focused and problem-focused coping improved maternal well-being regardless of the severity of ASD symptoms.

Another type of problem-solving coping is instrumental coping, a type of coping that involves gaining advice from trusted family and friends about what to do (Carver, 1997). Familial and other social support systems are potential resources in helping parents reduce stress (Kuhn, et al., 2018; Zaidman-Zait et al., 2017). Having social systems in place such as family and community support may in itself be a coping mechanism used by parents of children with ASD. Parents may feel less inclined to resort to negative coping strategies when healthy familial support is in place, as it can

enhance problem-solving skills, communication, and empathetic responses when challenges arise (Zaidman-Zait et al., 2017). Ekas and colleagues (2010) examined that, when community resources (e.g., friends, support groups, professionals) are available, parents feel less lonely and more hopeful about life. Conversely, having non-supportive family and community members negatively impact the parents and may even be detrimental to their parenting (Zaidman-Zait et al., 2017). Unfortunately, less family support is more common among families with children with ASD compared to families with children without disabilities (Rao & Beidel, 2009). A lack of support from various resources may exacerbate the stress levels of parents of children with ASD. Therefore, positive coping such as social support systems is essential for parents of children with ASD.

Given the research that provides evidence that positive coping alleviates stress of parenting a child with ASD (e.g., Abbeduto et al., 2004; Aldwin & Revenson, 1987; Benson, 2010; Seltzer et al., 1995; Zaidman-Zait et al., 2017), we hypothesize that adaptive ways of coping may weaken the relationship between externalizing behavior problems and supportive and unsupportive parenting. For supportive parenting, parental adaptive coping may help decrease the effect of child behavior problems, which then allows for better and supportive parenting practices. For unsupportive parenting, positive coping may still weaken the relationship by teaching parents' adaptive skills and ways to communicate stress when children are experiencing externalizing behavior problems. In essence, better coping practices may allow parents to respond to their children's distress in more compassionate and appropriate ways. Essex (1999) studied mothers of adults with intellectual disability and found that high problem-focusing coping, such as direct planning and active measures to reduce stress, reduced the effect of stress on maternal depression over time. Moreover, Smith (2008) found that the use of problem-focused coping buffered increases in parental anger in response to high repetitive behaviors in their adolescents with ASD. However, Hastings et al. (2005) did not identify significant associations between problem-focused coping and well-being in parents of children with ASD, requiring further study of this form of coping.

Few studies have focused on how coping strategies may actually weaken the association between child characteristics and parental outcomes. Benson (2014) found that, over time, different forms of coping moderated associations between several different child characteristics and various indices of maternal well-being. For example, lower levels of distraction coping buffered the effect of child behavior problems on parenting efficacy. However, not every type of coping exhibited interactive effects, and other studies have found essentially no buffering effects from coping (Abbeduto et al., 2004), suggesting that some forms of coping may not actually be serving a coping function. Indeed, Smith et al. (2008) examined the degree to which coping might buffer the association between various child ASD symptoms and different aspects of parent well-being and found only 7 of the 108 interaction analyses (6%) to be significant, with more evidence for buffering in the parenting of adolescents as compared to toddlers. In addition to these mixed findings, the outcomes of each of these studies related to parent well-being only, and no study to our knowledge has examined the degree to which coping may buffer the effects of child problems on the *parenting* of children with ASD. Thus, it is all the more important to study how positive parental coping influences the emotional socialization of children who experience high externalizing problem behaviors.

Current Study

In sum, parents of children with ASD are known to be stressed. These children's externalizing problem behaviors increase parental stress in ways that negatively impact the way parents react to their children's emotional distress, but parents' utilization of positive coping strategies may provide ways to alleviate the stress that parents experience and thereby decrease its impact in the context of children's emotional difficulties. The current study examined the degree to which parental coping moderates the relationship between child behavior problems (specifically externalizing problems) and supportive and unsupportive parental reactions to children's negative emotions. Understanding ways to buffer child-driven stress may allow parents of children with ASD to acquire ways to use coping strategies that can aid in the challenges that parents of children with ASD face. This may be important in supporting parents to react supportively to children's emotional experiences.

In this thesis, I first investigated our outcome variable, parents' negative reactions to their children, and its relation to children's externalizing problem behaviors among families with children with ASD. Then, coping strategies in parents with ASD was examined, to determine if coping weakens the association between child externalizing problem behaviors and both supportive and unsupportive parent reactions to child negative emotion. See Figure 1 for the main model of the current study.

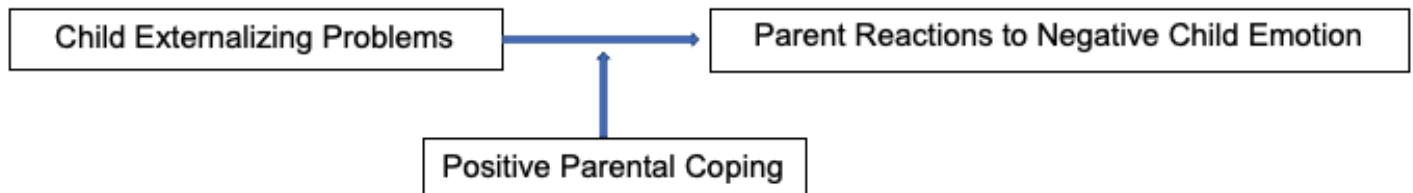


Figure 1. Theoretical Diagram of Current Study

Hypotheses

- Hypothesis 1: There is a significant association between child externalizing problem behaviors and parental reactions to children's negative emotions. Specifically;
- H1a. There is a significant negative association between child externalizing behavior problems and supportive parental reactions to children's negative emotions.
 - H1b. There is a significant positive association between child externalizing behavior problems and unsupportive parental reactions to children's negative emotions.
- Hypothesis 2: The relationship between externalizing behavior problems and parental reactions to children's negative emotion (supportive and unsupportive) will be moderated by positive parental coping behaviors, such that positive parental coping weakens the relationship. Specifically;
- H2a. The association between externalizing behavior problems and supportive parental reactions to children's negative emotions will be moderated by positive parental coping behaviors, such that the relation is weaker when positive parental coping is high.
 - H2b. The association between externalizing behavior problems and unsupportive parental reactions to children's negative emotions will be moderated by positive parental coping behaviors, such that the relation is weaker when positive parental coping is high.

CHAPTER 2

METHODS

Participants

This study included 63 (82%) families of children with ASD who provided the necessary data, from a larger study of 77 families. The sample of the current study included 79% male and 21% female children. The children were aged between 6 and 10 years ($M = 7.89$, $SD = 1.48$) and held a community diagnosis of ASD which was confirmed through a clinical best estimate including testing with the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2; Lord et al., 2012). The child sample was diverse with regard to ethnicity (39% Hispanic; 39% Caucasian, non-Hispanic, 8% multi-racial, 6% African American, 6% Asian American, and 3% “other”).

The current study is a part of a larger study that examined how physiological arousal tendencies may place children with ASD at risk for behavior problems and if and how parenting may moderate that risk (e.g., Baker et al., 2015; Baker et al., 2018; Fenning et al., 2017). The current study does not examine the central questions of the larger project, but instead utilizes important parent well-being data.

Missing Data

Out of the 77 participants, 63 completed all the questionnaires utilized in the present study. Fourteen participants were not included in this analysis due to a lack of completion of the Child Coping Negative Emotion Scale (CCNES; Fabes et al., 2002) and the Brief COPE (Carver, 1997). See Results Section for further analysis of missing data.

Procedure

All procedures were approved by the California State University, Fullerton (CSUF) institutional review board. Informed consent was obtained from all parents in this study, and assent was obtained from all of the children. As a part of a larger study, parents visited the Center for Autism with their children for lab assessments that included diagnostic confirmation and testing of estimated child IQ.

Families were recruited through postings at local community agencies that serve children with ASD and laboratories at other universities. Additionally, ads were posted throughout the education building located at California State University, Fullerton (CSUF) stating criteria for the research project named, "Autism Emotion and Family Project." Criteria for the project included having a child between 6 and 10 years old diagnosed with ASD and an interest to help researchers understand the emotional development of children with ASD and what families can do to help.

The visit included one session that lasted about 2-3 hours. The visit took place in the Education-Classroom building at CSUF. Completion of measures were required at the end of the visit. The Child Behavior Checklist was completed at the end of the visit, while the Brief COPE and Child Coping Negative Emotions Scale were taken home to complete and returned by mail. All the measures were administered in hard copy. A compensation of \$50 was provided to the participating parent for completing the entire visit, or a portion thereof.

Measures

Parents reported on all measures of interest. As described below, the Child Behavior Checklist (CBCL 6-18 years) (Achenbach & Rescorla, 2001) externalizing T-score is used to index children's externalizing behavior problems, which served as the predictor variable. The Coping with Children's Negative Emotions Scale (CCNES) measured parent reactions to negative child emotions, which served as the outcome variable, and the Brief COPE assessed parental coping strategies, from which the moderator variable was derived.

Demographic and Potential Control Variables

Parents reported on child and their demographic information. Family income was measured by parent self-report. Parent income were assigned values to better organize data. Income was coded as follows: 1 = \$0-\$15,000, 2 = \$15,001-\$25,000, 3 = \$25,001-\$35,000, 4 = \$35,001-\$50,000, 5 = \$50,001-\$70,000, 6 = \$70,001-\$95,000, and 7 = >\$95,000. Families tended to score in the middle of the scale ($M = 4.82$, $SD = 1.98$).

In addition, child IQ and Autism Diagnostic Observation Schedule, Second Edition (ADOS-2; Lord et al., 2012) comparison score were assessed. An estimate of child IQ was obtained using the Stanford-Binet 5 (Roid, 2003). For the purpose of this study, we are focusing on the Abbreviated Battery IQ (ABIQ) quotient. The ABIQ is comprised of two subscales with high loading on the general intelligence factor: a Matrix Reasoning task that assesses non-verbal fluid reasoning and a Vocabulary task that evaluates expressive word knowledge. The ABIQ has a mean of 100 and a standard deviation of 15. The Stanford Binet 5 has wide-ranging psychometric properties and has been previously used for children with ASD (Matthews et al., 2015; Roid, 2003). ABIQ ranged from 47-121 ($M = 77.29$, $SD = 21.96$). The ADOS-2 (Lord et al., 2012) comparison scores represented assigned values to organize ASD symptom severity. The coding to represent severity of ASD symptoms was generated by the author of the ADOS-2. ASD symptom severity was coded as follows: “Minimal-to-no evidence” = 1 and 2, “low” = 3 and 4, “moderate” = 5, 6, and 7 and “high” = 8, 9, 10. Children in the present sample tended to score between moderate and high ($M = 7.21$, $SD = 2.04$).

Externalizing Child Behavior Problems

The Child Behavior Checklist (CBCL 6-18 years; Achenbach & Rescorla, 2001) measures behavior problems in children. It includes attention problems, rule-breaking behavior, aggressive behaviors, internalizing problems and externalizing problems. This measure is the most widely used parent-report measure of child behavior problems (Neece & Baker, 2008). The parent responds to 112 items representing specific child behaviors using a 3-point scale, 0 (*not true*), 1 (*somewhat/sometimes true*) and 2 (*very/often true*). The full CBCL was administered to parents, however only the externalizing problems broadband were of interest in this current study, as these have been found to produce the most stress in parents. The externalizing problems score has a composite of Rule-Breaking Behavior and Aggressive Behavior scales (Achenbach & Rescorla, 2001). The externalizing total score is the sum of Rule-Breaking Behavior and Aggressive Behavior. The scale contains questions such as, ‘argues a lot’ and ‘doesn’t seem to feel guilty after misbehaving.’ The cut-off for the normal range is a T score of < 60, borderline range is considered a T

score of 60 to 63, and clinical range is considered a T score of > 63 . The externalizing problems scale has established strong test-retest reliability and internal consistency, $r = .92$ and $\alpha = .94$, respectively, and demonstrates good construct validity when correlated with other measures measuring externalizing behaviors (Achenbach & Rescorla, 2001; Bader et al., 2014).

Outcome: Parental Reactions to Child Negative Emotions

Child Coping Negative Emotions Scale (CCNES; Fabes et al., 2002) was used to assess supportive and unsupportive reactions to children's negative emotions. The CCNES includes six subscales that identify ways parents tend to react to their child's negative emotions. For each statement describing a scenario, the parents rated on a 7-point Likert scale ranging from 1 (*very unlikely*) to 5 (*very likely*) the likelihood to which they would respond with six contrasting kinds of reactions (Breux et al., 2018; Fabes et al., 2002). For example, for the question that states, "If my child is panicky and can't go to sleep after watching a scary TV show, I would a. encourage my child to talk about what scared him/her, b. get upset with him/her for being silly, c. tell my child that he/she is over-reacting, d. help my child of something to do so that he/she can get to sleep (e.g., take a toy to bed, leave the lights on), e. tell him/her to go to bed or he/she won't allow to watch any more TV, f. do something fun with my child to help him/her forget about what scared him/her." The instructions are as follows, "In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7."

Each subscale is scored by the mean of the total questions (12 questions per subscale) pertaining to that subscale. The CCNES includes 12 different questions. Parents were instructed to read each item carefully and respond as honestly and sincerely as they could. The subscales include distress reactions (DR), punitive reactions (PR), expressive encouragement (EE), emotion-focused reactions (EFR), problem-focused reactions (PFR) and minimization reactions (MR). Distress reactions (DR) are parents' own internalizing feeling/reaction regarding a child's expression (e.g.,

‘feeling upset and uncomfortable because of my child’s reaction.’). Punitive reactions (PR) include examples such as, ‘tell him/her to shape up or he/she won’t be allowed to do something he/she likes’ and minimization reactions (MR) include examples such as ‘tell my child to quit over-reacting and being a baby.’ An example of expressive encouragement (EE) is ‘encourage my child to talk about his/her fears’ and an example of emotion-focused reactions (EFR) is ‘suggest that my child think of something relaxing.’ An example of problem-focused reactions (PFR) is ‘help my child think of things to do that would make meeting friends less scary.’ These scales are commonly separated into supportive (EE, EFR, and PFR) and unsupportive composites (DR, PR, and MR; e.g., Fabes et al., 2002), and these composites were utilized in the current study. The reliability of the CCNES has been previously defined as good. Cronbach’s alphas were .73 for supportive reactions and .78 for non-supportive reactions in previous research studies (Fabes et al., 2002).

Parent Coping

The Brief COPE (Carver, 1997) is a 28-item self-report measure that is a revised and shortened version of the COPE (Carver et al., 1989), a 60-item scale. The Brief COPE identifies a wide range of coping strategies that respondents use when encountering a stressful experience. The 14 subscales are self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. Parents’ instruction was stated as, “Each item says something about a particular way of coping. I want to know to what extent you’ve been doing what the items say. How much or how frequently. Don’t answer on the basis of whether it seems to be working or not—just whether or not you’re doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.” Questions are answered on a 4-point scale which are identified as 1 (*I haven’t been doing this at all*), 2 (*I’ve been doing this a little bit*), 3 (*I’ve been doing this a medium amount*), and 4 (*I’ve been doing this a lot*). Reliabilities for the subscales from $\alpha = .50$ to $\alpha = .90$ (Carver, 1997). The reliability coefficients should be interpreted with caution, as each subscale is comprised of two items. For example, planning ($\alpha =$

.73) consists of statements such as, “I am trying to come up with a strategy about what to do” and “I’ve been thinking hard about what steps to take.” In contrast, in the subscale labeled venting ($\alpha = .50$) the two statements include, “I’ve been saying things to let my unpleasant feelings escape” and “I’ve been expressing my negative feelings” (Carver, 1997).

Statistical Analyses

Prior to other analyses, a principal component analysis was used in order to extract our moderating variable, positive parental coping from the Brief COPE. This approach was taken because, despite the high number of subscales, no formal composites were recommended by the authors of the Brief COPE (Carver, 1997). Various structures have been proposed by different researchers, often based on factor analysis. A primary adaptive coping factor emerged in analyses by both Hastings et al. (2005) and Benson (2010). This factor was virtually identical across these studies and included active coping, planning, emotional support, and instrumental support subscales. Smith et al. (2008) selected six subscales for her sample of families of toddlers and adolescents with ASD that included theoretical constructs of problem-focused coping and emotion-focused coping. Problem-focused coping was measured using active coping, planning, and positive reinterpretation and growth. Emotion-focused coping measured denial, focusing on and venting of emotions, and behavioral disengagement. Given important differences between the sample utilized by Hastings et al. (2005), Smith et al. (2008) and the current sample, a separate analysis was performed in order to guide subsequent use of the measure in the current study. Because the subscales were internally reliable, and had a relatively low sample size, we did a PCA on the subscales rather than the individual items (Benson, 2010).

Then descriptive statistics of several variables were examined. Pearson correlations were run between all continuous variables (e.g., externalizing problem behaviors, supportive parent reactions, unsupportive parent reactions, positive coping, family income, child IQ, and ADOS-2 comparison scores). Point biserial correlations were run between continuous variables and one dichotomous variable (child gender, where 1 = male and 0 = female). Potential covariates were examined to see

whether they were associated with both predictor and outcome variables, which was our criterion for identifying confounding variables (e.g., child IQ), which is an approach taken by a prior study (Neece et al., 2012).

In order to test Hypothesis 1, two Pearson correlations were run. First, to test Hypothesis 1a, a Pearson correlation between child externalizing behavior problems and supportive reactions to child negative emotions was obtained. Second, to test Hypothesis 1b, a Pearson correlation was obtained between child externalizing behavior problems and unsupportive reactions to child negative emotion.

To test hypothesis 2, two linear multiple regression models were run in SPSS version 27. For the first linear regression model, supportive reactions were regressed on the interaction term between child externalizing behavior problems and positive coping after entering child externalizing behavior problems and positive coping. For the second regression model, unsupportive reactions were regressed on the interaction term between child externalizing behavior problems and positive coping after entering child externalizing behavior problems and positive coping. Prior to running the regression models, the predictor and moderating variable were mean-centered.

Significant interactions, when found, were explored using simple slope analysis using a modgraph moderation website (Moderation – modgraph, n.d). Modgraph was used to test the significance of the slope (regression coefficient) at three different levels of the moderator (low = $-1SD$ below the mean, moderate = mean, and high = $1SD$ above the mean). Modgraph generates t-scores for each coefficient to test for its significance, using the significance level of $\alpha = .05$. Modgraph also generates a two-dimensional graph that shows the relationship between the predictor and the outcome variables at the three different levels of the moderator described above, represented using three corresponding lines.

Lastly, an examination of missing data using independent t-tests and chi-square tests of independence were conducted. Missing data is characterized as participants who were missing the CCNES and the Brief COPE. Missing data analyses was explored using a set of independent samples t-tests on the following variables: child IQ, family annual income, ADOS-2 comparison

scores, externalizing problem behaviors, and positive coping. Chi-square tests of independence were explored on child gender and child race. For all of these analyses, missing data was coded as 0 = not included in thesis, and 1 = included in thesis. This was to ensure that the data being used included participants who completed the necessary measures and did not distort results. The data software program used to analyze data in this study was IBM SPSS Statistics v. 27.

CHAPTER 3

RESULTS

Data Reduction

A principal component analysis (PCA) was used on the 14 theoretically derived subscales of the Brief COPE. A total of five components were extracted. Although five components had eigenvalues over one, the first component had a particularly high score (much higher than the rest), consistent with previous work. Eigenvalues for each subscale and how they have been organized and generated is shown in Table 1. Additionally, our first component, named positive coping, for the purposes of the present study, had the highest variance accounted for, explaining 31.02% of the variance. Positive coping was calculated by taking the mean value of the four subscales included, which were planning, active coping, instrumental support, and emotional support subscales. For moderation simple-slope analyses, positive coping was specified as low, medium and high and was based on the total mean and standard deviation. For example, medium coping is defined by the total mean of positive coping ($M = 5.76$, $SD = 1.39$), and high coping is defined by $+1SD$ above the mean, while low coping is defined by $-1SD$ below the mean. Additionally, Table 2 shows means and standard deviations for positive coping subscales.

Table 1. Principal Component Analysis of Brief COPE

Factor Names	Subscales	Component Loadings	Total Eigenvalue	Variance (%)
Positive Coping	Active Coping	.699	4.34	31.02%
	Planning	.821		
	Instrumental Support	.656		
	Emotional Support	.658		
Negative Coping	Distraction	.562	1.78	12.71%
	Behavioral Disengagement	.598		
	Self-Blame	.637		
	Venting	.641		
Religion	Positive reframing	.712	1.32	9.44%
	Religion	.673		
	Acceptance	.679		
Making Light	Denial	.494	1.12	8.0%
	Humor	.401		
Substance Use	Substance Use	.734	1.09	7.80%

Note: Each factor name was generated by researcher

Table 2. Means and Standard Deviations for Positive Coping Subscales

	<i>M</i>	<i>SD</i>
Planning	6.05	1.83
Active Coping	6.38	1.69
Instrumental Support	5.45	1.77
Emotional Support	5.17	1.76

Correlations

Descriptive statistics and correlations among variables of interest are presented in Table 3. Correlations and descriptive statistics were also analyzed between variables of interest and demographic variables. There was a significant positive correlation between child IQ and positive coping, $r(61) = .28, p = .026$ and positive coping with externalizing behavior problems, $r(61) = .45, p < .001$. Additionally, it was shown that positive coping and supportive parenting reactions were significantly positively correlated, $r(61) = .34, p = .006$. Unsupportive reactions was positively correlated with family annual income, $r(61) = .35, p = .006$. Family annual income did not appear to be correlated with both the predictor and outcome variables within the current study. Because family annual income was not associated with both types of variables, predictor and outcome, it was not considered a potential confounding variable. All in all, using criteria described above, no potential confounding variables were identified.

The first hypothesis was tested using bivariate Pearson correlations. Child externalizing behavior problems were not significantly related to parent supportive reactions, $r(61) = .01, p = .93$ or unsupportive reactions, $r(61) = .19, p = .15$. Thus, Hypothesis 1 was not supported.

Table 3. Descriptive Statistics and Correlations Among Variables of Interest ($N = 63$)

	1	2	3	4	5	6	7	8	9	$M (SD)$
1. Child Age in Years	--									7.89 (1.48)
2. Child Gender	-.20	--								1.21 (0.41)
3. Child IQ	-.10	.03	--							77.29 (21.95)
4. Family Annual Income	.11	-.22	.21	--						4.80 (1.99)
5. ADOS-2 Comparison Score	-.13	.08	-.10	.00	--					7.45 (2.00)
6. Externalizing Problem Behaviors	-.21	.20	.07	-.03	-.07	--				59.62 (10.07)
7. Positive Coping	-.12	-.12	.28*	.06	.06	.45***	--			5.76 (1.39)
8. Supportive Reactions	.15	-.04	.10	-.08	-.06	.01	.34**	--		5.71 (0.59)
9. Unsupportive Reactions	-.10	-.08	.02	.35*	.06	.19	.10	-.21†	--	2.26 (0.64)

Note: Family Annual Income refers to caregiver annual income, Positive Coping refers to planning, active coping, emotional and instrumental coping within the Brief COPE, unsupportive and supportive reactions refer to subcategories within the CCNES, and externalizing problems refer to total composite score of rule-breaking behavior and aggression within the CBCL.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Moderation

Two linear regressions were used to test for moderating effects of parental positive coping on the relationship between child externalizing behavior problems and parental reactions to child negative emotion (Table 5). Regression findings indicated that behavior problems significantly interacted with positive coping in the prediction of supportive reactions to child negative emotion, $\beta = .010$, $t(61) = 2.22$, $p = .03$. As hypothesized, follow-up simple-slope analyses (depicted in Figure 2) revealed that higher externalizing problems predicted less supportive reactions under conditions of low ($-1SD$), $t(61) = 2.36$, $p = .021$, but not high levels of positive coping ($+1SD$), $t(61) = 0.45$, $p = .651$. Thus, Hypothesis 2a was supported.

However, positive coping did not appear to moderate the association between child externalizing behavior problems and unsupportive parental reactions to child negative emotions, $b = -.004$, $t(61) = -.82$, $p = .42$. Thus, Hypothesis 2b was not supported.

As mentioned previously, child IQ was positively correlated with positive coping, $r(63) = .28$, $p = .03$. To explore the possibility that coping may have served as a significant moderator due to its association with child IQ, we performed the first regression with coping replaced with child IQ, which

did not emerge as a significant moderator, $\beta = 0.06$, $p = .639$. Thus, this exploratory analysis found that child IQ did not moderate the relationship between child externalizing problem behaviors and parental reactions to child negative emotions (supportive and unsupportive).

Table 5. Linear Regressions Testing for Moderating Effects of Parental Positive Coping

	Supportive Parent Reactions						Unsupportive Parent Reactions					
	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²
Externalizing Problem Behaviors	-.01	.01	-.16	-1.24	.221	0.21	.01	.01	.17	1.16	.251	0.05
Positive Coping	.22	.06	.51***	3.81	.000		.01	.07	-.02	-.11	.895	
Externalizing x Positive Coping	.01	.01	.27*	2.22	.030		-.00	.01	-.11	-.82	.416	

Note: Confidence interval for the significant interaction was 0.001 to 0.019. Externalizing Behavior Problems and Positive Coping were mean-centered.

* $p < .05$. *** $p < .001$

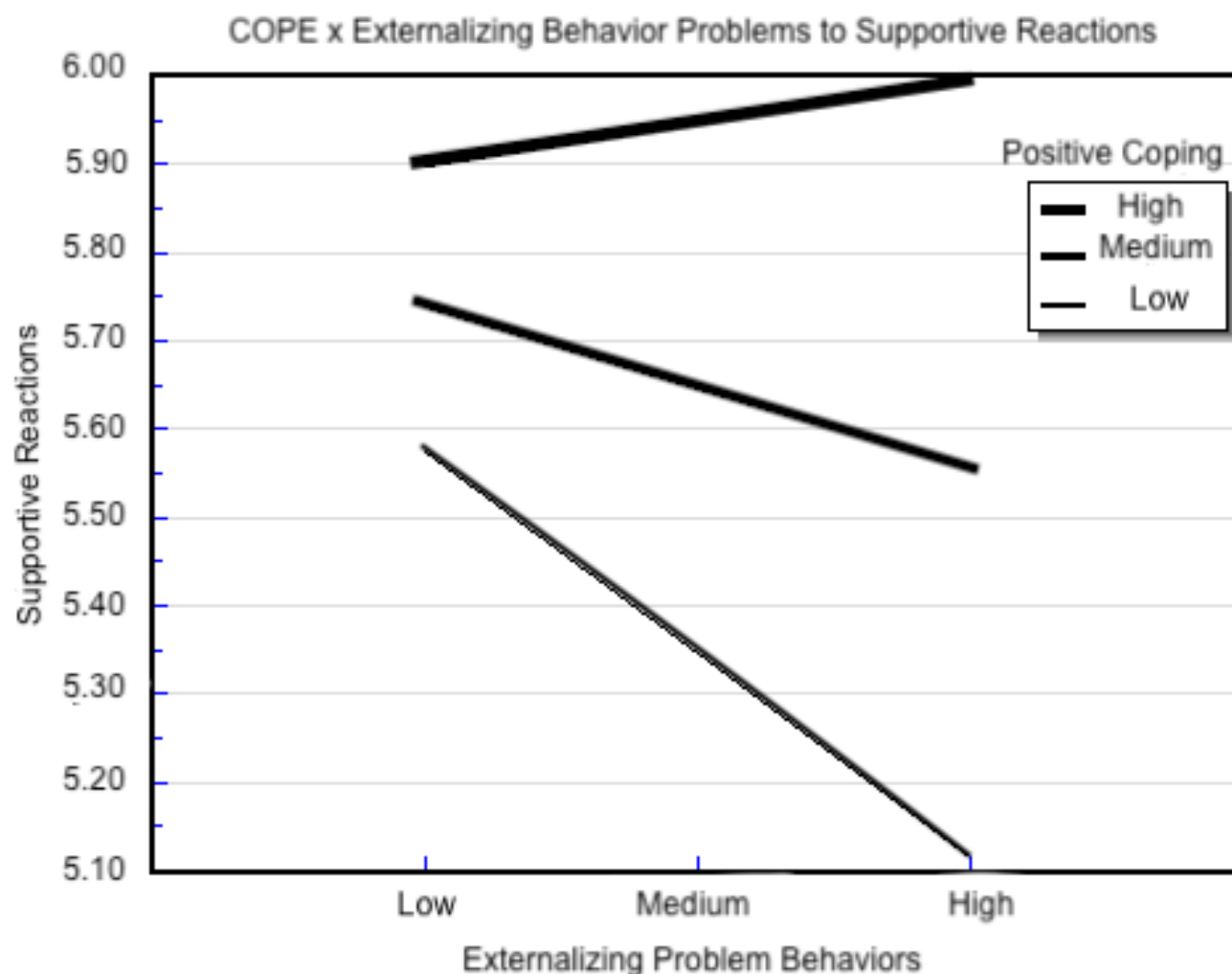


Figure 2. Prediction of supportive parent reactions from child externalizing problems at different levels (high, medium, low) of parent positive coping. Only the slope for low positive coping was found to be significant at the .05 level.

Exploration of Missing Data

As noted above, the present study had sufficient data for a subset ($n = 63$, 82%) of the parent study participants ($N = 77$) due to missingness in the outcome measure (CCNES). To identify any mean differences between those who were included in the present study and those that were excluded due to missing data, independent t-tests were performed on several continuous variables (Table 6). With the exception of ASD symptom comparison scores, no significant differences were found between those included and excluded in the study, including externalizing behavior problems, ($M = 59.62$, $SD = 10.07$ for those included; $M = 61.43$, $SD = 9.30$ for those excluded), child IQ ($M = 77.29$, $SD = 21.95$ for those included; $M = 83.36$, $SD = 22.99$ for those excluded), child age ($M = 7.89$, $SD = 1.48$ for those included; $M = 7.36$, $SD = 1.15$ for those excluded), parent income ($M = 4.80$, $SD = 1.99$ for those included, $M = 4.50$, $SD = 2.10$ for those excluded), positive coping ($M = 5.67$, $SD = 1.39$ for those included and $M = 5.69$, $SD = .94$ for those excluded). However, there was a significant mean difference between ASD symptom comparison scores for participants included ($M = 7.25$, $SD = 2.05$) versus excluded ($M = 8.46$, $SD = 1.33$). In this study, those who were excluded from the study tended to score higher, indicating more severe ASD symptoms. See Table 6 for a summary of the t-test results.

A set of chi-square tests of independence was used to compare those included and excluded from the present study on child gender and child race. Chi-square analyses revealed no significant differences in distribution of gender (e.g., female, male), $X^2(5, N = 76) = 2.04$, $p = .844$ and child race (e.g., African American, Asian, Caucasian, Hispanic, Multiracial, and "other"), $X^2(5, N = 76) = 4.64$, $p = .462$, between those included and excluded in the present study. Thus, there were no differences in these two demographic variables between participants included and excluded in this study.

Table 6. Independent Samples t-tests Exploring the Effects of Missing Data

	t	df	p-value (2-tailed)	Mean Difference	Std. Error Difference
Child Age	1.25	74	.215	0.53	0.42
Family Annual Income	0.51	73	.612	0.30	0.61
Child IQ	-0.93	74	.357	-6.08	6.55
ASD Comparison Score	-2.38**	75	.004	-1.37	0.57
Externalizing Problems	-0.62	75	.540	-1.81	2.94
Positive Coping	-0.11	65	.913	0.08	0.71

** $p < .01$.

CHAPTER 4

DISCUSSION

Raising a child with ASD can be a stressful experience (Abbeduto et al., 2004) and may cause parents to adopt and practice maladaptive coping styles which may result in poor parent well-being (Ekas & Whitman, 2010; Hastings et al., 2005). Comorbid externalizing problems in children with ASD have been associated with more parenting stress (Bauminger et al., 2010) which, in turn, has been linked to reductions in parenting quality for parents of children with ASD (Osborne et al., 2008; Shawler & Sullivan, 2017). These difficulties parents endure are arguably related to parents' maladaptive coping strategies, such as coping in ways that deny or avoid the stressor (Hastings et al., 2005; Shepherd et al., 2018; van Stejin et al., 2014). Thus, it is important to consider the role of parent coping in externalizing behavior problems and emotional socialization. Effective coping has shown to be a successful buffer between child ASD-related stressors and the negative impact of these stressors on the mother (Smith et al., 2008). Thus, positive coping may help break cycles that maintain or worsen both parenting quality and child difficulties.

The purpose of this study was to examine how child-driven effects influence how parents respond to children's negative emotions, and how this influence may be affected by parents' coping strategies that aid their parenting practices. The way a parent reacts to their child's negative emotions is of critical importance because it may affect how children later develop emotion regulation capabilities (Denham et al., 2007). The study sought to understand the alternate potential direction of effects. Studying this alternative direction may provide evidence that children affect parents, which in turn, offers ways parents can respond to children's negative emotions. If parents understand that their parenting is being affected by their children's behaviors, this may influence parents to respond in more supportive ways to their children's difficult behaviors.

More research is needed to understand the impact children have on their parents in terms of emotion socialization (Bornstein et al., 2017). This study sought to fill in some existing gaps in the literature about child-driven effects among families of children with ASD. Although there is limited

research of how children affect parents (Bornstein et al., 2017), it is known that parents with elevated stress may drift away from ideal emotion socialization techniques, which provokes child behavior problems. For example, mothers diagnosed with psychological disorders can be negatively impacted in their ability to incorporate supportive responses as they engage with their children (Arikan & Kumru, 2020).

The externalizing behaviors of children with ASD were conceptualized as potential stressor that could predict how parents respond to negative emotions, and parental positive coping was examined as a potential buffer of this effect. Our study was intended to help identify coping strategies parents may utilize to buffer their supportive or unsupportive reactions from the potential effects of stressful child behavior.

Our first hypothesis, that externalizing problems would be associated with both supportive and unsupportive parenting reactions, was not supported. Child externalizing behavior problems were not significantly related to parent supportive or unsupportive reactions. This finding was surprising, as previous research has shown an association for externalizing problem behaviors and parental supportive and unsupportive reactions in families of children without ASD (e.g., Bjørk et al., 2020). Specifically, Bjørk et al. (2020) states that children who experience less supportive reactions from their parents, are known to become angrier, or emotionally withdrawn, and have difficulty managing their behaviors in socially acceptable ways. Although this research examines the relationship between child behavior problems and parental reactions to child negative emotion in the alternate direction, it still shows the effects and relationship between these two important variables.

Of note, the non-significant association between externalizing behavior problems and supportive and unsupportive parental reactions to children's negative emotions could have been influenced by the different environmental settings in which each questionnaire was filled out. For example, the CBCL was filled out at the end of the visit, while the CCNES is filled out at the participants' home due to limited time during the session. The absence of association between these two measures may be, at least in part, influenced by low shared method variance. In other words,

because the CBCL and the CCNES were filled out in different environments and at different time points, parents may not have had shared cues for recall or responding that would have linked the two measures in the same way as has been found in other studies (e.g., Arian & Kumru, 2020; Bjørk et al., 2020). Although this is only a speculation, it may be important in future studies to further explore the potential influence of shared method variance on the links found between child externalizing behaviors and parental responses to negative child emotions.

Our second hypothesis, that the relationship between externalizing behavior problems and parental reactions to children's negative emotion (supportive and unsupportive) would be moderated by positive parental coping styles, was partially supported. With regard to the supported finding, high externalizing problems predicted less supportive reactions under conditions of low positive coping, but not under moderate or high levels of positive coping. In other words, children with higher externalizing behavior problems (e.g., aggressiveness) had parents who would respond to their children's negative emotions in a less supportive manner, but only under the condition of lower parental positive coping strategies. Findings from the present study suggest that positive coping may not only offer a supplementary function in maintaining supportive parent reactions to child negative emotions in families of children with ASD but might also buffer against the harmful effects of children's behavior problems on this aspect of parenting. This is consistent with previous research by Smith et al. (2008), indicating that problem-focused coping strategies moderate the association between children's ASD symptoms and maternal well-being by buffering mothers from difficulties increased by the presence of ASD symptoms. The present study adds another example of how positive coping strategies might buffer the effects of child symptoms on parental behavior. Moreover, the present study extends the understanding of these processes to families with children that may have comorbid ASD and externalizing problems. This suggests that effective coping strategies may have an important influence on parents of children with ASD.

Contrary to expectations, the second portion of hypothesis two was not supported. Positive parental coping did not moderate the relationship between externalizing behavior problems and

unsupportive parental reactions to child negative emotion. This result suggests that the association between externalizing problem behaviors and unsupportive reactions is not influenced by positive parental coping. Consistent with speculation made by Fabes et al. (2002), it is possible that social desirability played a role in the lack of findings, as parents may be less inclined to report on their undesirable negative reactions to their children's emotions. This may restrict the variability in unsupportive parental reactions and lower the likelihood that a significant explanatory or moderating effects could be detected. Indeed, a lower mean and a slightly more limited range in unsupportive reactions were reported by parents in our sample compared to their reports on supportive reactions. Moreover, our data found no link between positive coping and unsupportive parental reactions but found a positive link between positive coping and supportive parental reactions, suggesting that positive coping may be less influential on unsupportive parenting reactions compared to supportive parent reactions.

Of note, a relationship was found between positive coping and supportive, but not unsupportive, parenting responses to child negative emotion. This suggests that the more positive coping a parent is participating in, the more supportive behaviors they are practicing. This is important to the current study and is not a surprising finding. This shows the direct link between positive coping and supportive parenting to children's negative emotion. Denham (2007) describes the importance of a parent emotionally expressing themselves. Specifically, when a child is exposed to negative emotions, it could be an unhelpful experience for children. However, it is important to expose children to some negative emotion, which encourages understanding of emotions, instead of discouraging communication and the understanding of emotions. The current study shows that positive coping is linked to parental reactions to negative emotion which may lead to the generation of both supportive and unsupportive parental reactions to children's negative emotions.

Surprisingly, a positive relationship between positive coping and externalizing child behavior problems was found. Even though this finding is surprising, these results could mean that parents who are significantly stressed with experiencing high levels of child externalizing problem behaviors in

their children with ASD, are engaging in positive coping skills to alleviate their stress. This represents 'good news' in the literature on parenting in the context of ASD, as effective coping has been shown to be successful in weakening the link between child ASD-related stressors and the negative impact of these stressors on the mother (Smith et al., 2008). Thus, children with ASD that exhibit high levels of externalizing behavior problems also have parents who are utilizing more positive coping strategies to manage their stress. Somewhat consistent with this perspective, Salas et al. (2017) also found that parent satisfaction and adaptive coping strategies (e.g., cognitive restructuring, social support, and problem solving) were linked in parents of children with ASD. Moreover, coping approaches such as acceptance, active coping, positive reinterpretation and growth, planning was mostly used by parents of children with ASD that are experiencing high stress (Wang et al., 2011), further indicating the importance positive parental coping has on families with ASD and other related developmental disabilities.

These findings build upon previous literature by suggesting that positive coping strategies may buffer certain parenting practices against the adverse effects of children's challenging behavior. Our findings indicate that, among parents of children with ASD and elevated externalizing problems, parents' use of positive coping strategies may lead to better parent outcomes, such as supportive parent reactions to child negative emotions. Moreover, these research findings supplement Benson's (2014) findings in that cognitive reframing had a positive effect on parenting and was found to decrease deleterious effects of dysfunctional child behavior on parenting stress. Moreover, Benson's (2014) research shows that cognitive reframing decreased the negative effects of maladaptive child behaviors on mother stress. Thus, this suggests that positive coping helps parents alleviate stress caused by child behavior.

The present study extends the current literature by providing suggestions that positive coping may aid the way parents respond to children's negative emotions, specifically among families with children diagnosed with ASD. In addition to being one of the first studies to evaluate the buffering effects of positive coping on the relationship between externalizing problem behaviors and parent

reactions to children's negative emotions, it is important to note the diverse population in this study. This study contributes to the literature by including a diverse sample in regard to race and ethnicity. While most studies of children with ASD tend to draw heavily from Caucasian families (e.g., Jordan et al., 2021; Shepherd et al., 2018; Smith et al., 2007), our sample was quite diverse, with minority of the children being Caucasian, non-Hispanic, including more than one-third being of Hispanic origin. Moreover, the present study had a sample that was diverse in the level of child cognitive functioning, reflected in its wide range of child IQ scores (e.g., Jordan et al., 2021). Both of these constitute important contributions to the literature on children with ASD and their families. Eisenberg et al. (2001) acknowledges that when parents are supportive to their children, children become less aroused in stressful situations and are better able to manage and process their parents' emotional messages. Limited studies have investigated how coping approaches alleviate parent stress between child characteristics and parental outcomes in families of children with ASD. In fact, many of these studies that have examined coping approaches as a moderator only examined maternal well-being as an outcome (i.e., Benson 2014, Smith et al. 2008). Moreover, parental coping as a moderator has not been researched extensively within the autism literature. No study to our knowledge has studied the degree to which coping may moderate the effects of child problems on the parenting of children with ASD.

Clinical Implications

Our findings indicate that positive coping strategies may lead to better parenting practices, such as responding in a supportive way to children's negative emotions and may also alleviate the deleterious effects of stress associated with elevated child externalizing problems. This adds to previous literature suggesting that coping strategies moderate the association between ASD symptoms and maternal wellbeing (Smith et al., 2008) and extends the findings to families with children that have comorbid ASD and externalizing behaviors and to the outcome of parental responses to child negative emotions. This study also adds to previous literature showing that

maladaptive coping strategies are used in management of parental stress which serves as a primary buffer in managing ASD related symptoms (Lai et al., 2015).

The findings from this study suggest that it is important for mental health care professionals to be aware of the need for support for parents of children with ASD and identifies planning, active coping, and emotional and instrumental support as potential sources of resilience in these families. Due to the importance of the well-being of parents caring for children with ASD, which is an area that is oftentimes overlooked (Lai et al., 2015), it is important for mental health professionals to identify and foster effective coping for parents of children with ASD.

Two promising approaches to intervention with parents of children with ASD, to help them reduce parenting-related stress, have been developed. The first, developed by Keen et al. (2009), incorporated two approaches: one approach was called a professional supported intervention, and the other was named a self-directed intervention. The professionally supported intervention provided parents with parent education on ways to improve social interactions and communication, taught ways to incorporating coping in their daily routines and choosing a child-focused early intervention program for their child. The self-directed intervention provided parents with a workshop with a DVD that showed real-life examples of how parents can utilize strategies in their daily lives that would provide communication and social support for them and their child. Results revealed that individuals in the professionally supported intervention decreased the stress between the parent-child relationship and elevated parents' self-competence than the self-directed intervention. Moreover, a study by Feinberg et al. (2014) reported significant reduction in the likelihood of clinically-significant stress in mothers who participated in a brief problem-solving-focused intervention following their children's diagnosis of ASD in randomized control trial. These results show the importance of parents incorporating interventions to help decrease stress and enhance parent-child relationship of parents of children with ASD, and may be a promising venue by which to also teach positive coping skills.

Another potential approach to intervention with parents of children with ASD was developed by Jones et al. (2018), which is a mindfulness program for parents of children with developmental

disabilities, including ASD, to reduce stress. This mindfulness program included psychoeducation components, such as learning about stress, and working with stress. Moreover, this program incorporated ways to respond to difficulties, communication guidance, and practiced self-reflection on home practices. This mindfulness program was initially intended for parents to have a universal experience—shared experience amongst other parent of children with ASD. While results revealed no significant change in mindfulness while parenting per se, there was a general decrease in parent stress. This study suggests that mindful interventions can be used as a powerful tool to decrease parent stress associated with parenting a child with ASD and, again, some of the intervention components such as psychoeducation and reflection on ways to respond to difficulties of parenting a child with ASD may be relevant components in future clinical interventions where positive coping skills could be taught to parents.

Limitations

It is imperative to note the limitations within the current study. First, our sample size was modest for a moderation model. With 63 participants in this study, this small sample size may have a limiting effect on detecting relationships amongst variables. Secondly, our three variables were measured by three different questionnaires completed by the same parent. This study included and examined only questionnaires as opposed to in-person interviewing for the main findings. Moreover, using the same reporter for each measure (parents) yields shared method variance. Since all questionnaires were parent-reported, there may have been a possibility for shared informant variance. However, while these factors could conceivably inflate bivariate associations, the lack of significant bivariate associations suggest that shared method variance was not a significant issue. Finally, all data were collected at a single timepoint, and thus direction of the effects could not be examined. Longitudinal designs will clarify how these associations may operate over time and allow causal inferences.

Future Directions

There are several suggested future directions that emerged from this study. For one, even though these factors were not found to significantly affect the variables in this study, child race and socioeconomic status (SES) can still be significant factors that determine parent coping (Solem et al., 2011) and understanding various demographic factors could help additional insights to the literature. Arikan & Kumru (2020) found that unsupportive parental reactions to child emotion mediated the association between SES and child behavior problems, which reveals that low SES is a possible a risk factor for adverse parenting by way of increased behavior problems. As mentioned above, replicating this study longitudinally with a larger sample size will increase the results' reliability as well as provide important information regarding the direction and timing of effects. Comparing these processes in families of individuals diagnosed with ASD and those with typically developing children may provide additional information about the unique role the child's ASD symptoms, or associated stressors may play in their effects on parental coping and their potential as buffers.

Moreover, examining parental depression and anxiety symptomatology, which is linked to parenting stress and its relationship to coping styles (Hastings et al., 2005), may inform the findings by validating the difficulty for parents of children with ASD in managing stress. Hastings et al. (2005) examined avoidant, religious, and denial coping which was strongly related to parent stress, anxiety, and depression and Morris et al. (2007) has shown that depressed mothers are known to be less responsive to children's emotional displays, suggesting that children of depressed mothers are known to have problems responding supportively to their children's emotions. These results could align with the difficulty of incorporating positive coping in parent lifestyles and possibly illuminate an underlying process by which both parental positive coping and ability to provide supportive responses could be compromised in parents of children with ASD.

Although stress was an important construct that informed the models tested within this study, it was not operationally measured. Rather, child externalizing problem behaviors served as an established stressor for parents of children with ASD. In order to strengthen the literature on parent

stress and coping, it would be beneficial to include a measure of parental stress when examining externalizing problem behaviors and parental coping in this population. For instance, using the Parent Stress Index (PSI; Abidin, 1995), which includes 3 subscales (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child), may provide more insight on the type of stress parents are encountering when parenting a child with ASD. Davis & Neece (2017) investigated the relationship among child behavior problems and parent stress using the PSI with children with pervasive developmental disorder (PDD). They found that internalizing and externalizing behavior problems, specifically social problems, speech, and tantrums were associated with parental stress with parents in children with PDD, suggesting the importance for parents of children with ASD to manage their stress with positive coping strategies, or therapeutic interventions.

Finally, a significant difference in ASD comparison scores emerged between those included in the study and those excluded due to missing data on the outcome and moderating measure. As families that were excluded scored higher than those that were included, caution should be taken in generalizing the findings to families of highly symptomatic children. However, most children in this study fell into the moderate to high category (more symptomatic) in the Autism Diagnostic Observation Schedule (ADOS-2; Lord et al., 2012), and the sample of children included in the present study exhibited greater severity of ASD symptoms than are present in most studies of children with ASD. Thus, while it is recommended that future studies replicate the findings using samples that have a higher density of children with severe ASD symptom levels, the results are not expected to differ greatly, given that the present sample and the excluded sample did not differ drastically in ASD symptom severity.

Conclusion

The current study represents an early but important step in understanding how the behavior of children with ASD may influence the parenting behavior that they receive, and how positive parental coping may offer benefit to these processes. Positive coping strategies identified and examined in the present study have the potential to decrease parent stress and encourage supportive emotional

socialization towards children with challenging behaviors. By showing that parental coping can modulate the impact children's difficulties can have on parenting behaviors, it is hoped that parents will be encouraged to attend to their own coping behaviors. In conclusion, parents of children with ASD experience elevated stress, and this study provides initial and important steps parents can take to potentially improve their parenting behaviors and possibly even their own well-being.

REFERENCES

- Abbeduto, L., Seltzer, M.M., & Shattuck, P. (2004). Psychological well-being and coping in mothers of youths with autism Down syndrome, or fragile X syndrome. *American Journal on Mental Retardation*, *109*, 237-254.
- Abidin, R. R. (1995). *Parenting stress index manual* (3rd ed.). Pediatric Psychology Press.
- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology*, *53*(2), 337–348. <https://doi-org.lib-proxy.fullerton.edu/10.1037/0022-3514.53.2.337>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Arikan, G., & Kumru, A. (2020). Patterns of associations between maternal symptoms and child problem behaviors: The mediating role of mentalization, negative intentionality, and unsupportive emotion socialization. *Child Psychiatry and Human Development*. doi: 10.1007/s10578-020-01046-w
- Assor, A., & Tal, K. (2012). When parents' affection depends on child's achievement: Parental conditional positive regard, self-aggrandizement, shame and coping in adolescents. *Journal of Adolescence*, *35*(2), 249–260. <https://doi-org.lib-proxy.fullerton.edu/10.1016/j.adolescence.2011.10.004>
- Bader, S. H., Barry, T. D., & Hann, J. A. H. (2015). The relation between parental expressed emotion and externalizing behaviors in children and adolescents with an autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities*, *30*(1), 23–34.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without develop- mental delay: Behaviour problems and parenting stress over time. *Journal of Intellectual Disability Research*, *47*(4-5), 217–230.
- Baker, J.K., Fenning, R.M., Erath, S.A., Baucom, B.R., Moffitt, J. M., & Howland, M.A. (2018). Sympathetic under-arousal and externalizing behavior problems in children with autism spectrum disorder. *Journal of Abnormal Child Psychology*, *46*, 895-906. doi: 10.1007/s10802-017-0332-3
- Baker, J.K., Fenning, R.M., Howland, M.A., Baucom, B., Moffitt, J.M., & Erath, S.A (2015). Brief Report: A pilot study of parent-child biobehavioral synchrony in autism spectrum disorder. *Journal of Autism and Developmental Disorders*. *45*(12), 4140-4146. <https://doi-org.lib-proxy.fullerton.edu/10.1007/s10803-015-2528-0>
- Bauminger, N., Solomon, M., & Rogers, S. J. (2010). Externalizing and internalizing behaviors in ASD. *Autism Research*, *3*(3), 101–112.
- Bebko., JM, Konstantareas., M & Springer J. (1987). Parent and professional evaluations of family stress associated with characteristics of autism. *Journal of Autism and Developmental Disorders* *17*(4): 565–576.
- Benson, P. R. (2010). Coping, distress, and well-being in mothers of children with autism. *Research in Autism Spectrum Disorders*, *4*(2), 217–228.

- Benson, P. R. (2014). Coping and psychological adjustment among mothers of children with ASD: An accelerated longitudinal study. *Journal of Autism and Developmental Disorders*, 44(8), 1793–1807.
- Benson, P. R., & Karlof, K. L. (2009). Anger, stress proliferation, and depressed mood among parents of children with ASD: A longitudinal replication. *Journal of Autism and Developmental Disorders*, 39(2), 350–362.
- Bjørk, R. F., Havighurst, S. S., Pons, F., & Karevold, E. B. (2020). Pathways to behavior problems in Norwegian kindergarten children: The role of parent emotion socialization and child EMOTION understanding. *Scandinavian Journal of Psychology*, 61(6), 751–762. doi:10.1111/sjop.12652
- Breaux, R. P., McQuade, J. D., Harvey, E. A., & Zakarian, R. J. (2018). Longitudinal associations of parental emotion socialization and children's emotion regulation: The moderating role of ADHD symptomatology. *Journal of Abnormal Child Psychology*, 46(4), 671–683. <https://doi-org.lib-proxy.fullerton.edu/10.1007/s10802-017-0327-0>
- Brereton, A.V., Tonge, B.J., & Einfeld, S.L. (2006). Psychopathology in children and adolescents with autism compared to young people with intellectual disability. *Journal of Autism and Developmental Disorders*, 36, 863–870.
- Bornstein, M. H., Putnick, D. L., & Suwalsky, J. T. D. (2018). Parenting cognitions → parenting practices → child adjustment? The standard model. *Development and Psychopathology*, 30(2), 399–416. <https://doi-org.lib-proxy.fullerton.edu/10.1017/S0954579417000931>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92–100. https://doi-org.lib-proxy.fullerton.edu/10.1207/s15327558ijbm0401_6
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. <https://doi-org.lib-proxy.fullerton.edu/10.1037/0022-3514.56.2.267>
- Davis, A. L., & Neece, C. L. (2017). An examination of specific child behavior problems as predictors of parenting stress among families of children with pervasive developmental disorders. *Journal of Mental Health Research in Intellectual Disabilities*, 10(3), 163–177.
- Denham, S. A. (2007). Dealing with feelings: How children negotiate the worlds of emotions and social relationships. *Cogniție Creier Comportament*, 11(1), 1–48.
- 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.
- Eisenberg, N., Fabes, R. A., & Murphy, B. C. (1996). Parents' reactions to children's negative emotions: Relations to children's social competence and comforting behavior. *Child Development*, 67, 2227–2247.
- Eisenberg, N., Fabes, R. A., Carlo, G., Troyer, D., Speer, A. L., Karbon, M., & Switzer, G. (1992). The relations of maternal practices and characteristics to children's vicarious emotional responsiveness. *Child Development*, 63, 583–602.

- Eisenberg, N., Gershoff, E. T., Fabes, R. A., Shepard, S. A., Cumberland, A. J., Losoya, S. H., Guthrie, I. K., & Murphy, B. C. (2001). Mother's emotional expressivity and children's behavior problems and social competence: Mediation through children's regulation. *Developmental Psychology, 37*(4), 475–490. <https://doi-org.lib-proxy.fullerton.edu/10.1037/0012-1649.37.4.475>
- Eisenberg, N., Liew, J., & Pidada, S. (2001). The relations of parental emotional expressivity with the quality of Indonesian children's social functioning. *Emotion, 1*, 107–115.
- Eisenberg, N., Valiente, C., Spinrad, T. L., Cumberland, A., Liew, J., Reiser, M., Zhou, Q., & Losoya, S. H. (2009). Longitudinal relations of children's effortful control, impulsivity, and negative emotionality to their externalizing, internalizing, and co-occurring behavior problems. *Developmental Psychology, 45*(4), 988–1008. <https://doi-org.lib-proxy.fullerton.edu/10.1037/a0016213>
- Ekas, N. V., Lickenbrock, D. M., & Whitman, T. L. (2010). Optimism, social support, and well-being in mothers of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 40*, 1274–1284.
- Fabes, R. A., Leonard, S. A., Kupanoff, K., & Martin, C. L. (2001). Parental coping with children's negative emotions: Relations with children's emotional and social responding. *Child Development, 72*(3), 907–920. <https://doi-org.lib-proxy.fullerton.edu/10.1111/1467-8624.00323>
- Fabes, R. A., Poulin, R. E., Eisenberg, N., & Madden-Derdich, D. A. (2002). The Coping with Children's Negative Emotions Scale (CCNES): Psychometric properties and relations with children's emotional competence. *Marriage & Family Review, 34*(3–4), 285–310.
- Feinberg, E., Augustyn, M., Fitzgerald, E., Sandler, J., Ferreira-Cesar Suarez, Z., Chen, N., Cabral, H., Beardslee, W., & Silverstein, M. (2014). Improving Maternal Mental Health After a Child's Diagnosis of Autism Spectrum Disorder: Results from a Randomized Clinical Trial. *JAMA Pediatrics, 168*(1), 40–46. doi:10.1001/jamapediatrics.2013.3445
- Fenning, R.M., Baker, J.K., Baucom, B.R., Erath, S.A., Howland, M.A., & Moffitt, J.M. (2017). Electrodermal variability and symptom severity in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 47*, 1062–1072. doi: 10.1007/s10803-016-3021-0
- Firth, I., & Dryer, R. (2013). The predictors of distress in parents of children with autism spectrum disorder. *Journal of Intellectual and Developmental Disability, 38*(2), 163–171.
- Forman, E. M., & Davies, P. T. (2003). Family instability and young adolescent maladjustment: The mediating effects of parenting quality and adolescent appraisals of family security. *Journal of Clinical Child and Adolescent Psychology, 32*(1), 94–105. <https://doi-org.lib-proxy.fullerton.edu/10.1207/15374420360533095>
- Gadow, K. D., Devincent, C. J., Pomeroy, J., & Azizian, A. (2005). Comparison of DSM-IV symptoms in elementary school-age children with PDD versus clinic and community samples. *Autism, 9*(4), 392–415. <https://doi-org.lib-proxy.fullerton.edu/10.1177/1362361305056079>
- Gottman, J. M., Katz, L. F., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Psychology Press.

- Guralnick, M. J. (2011). Why early intervention works: A systems perspective. *Infants & Young Children, 24*(1), 6–28. <https://doi-org.lib-proxy.fullerton.edu/10.1097/IYC.0b013e3182002cfe>
- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., Espinosa, F. D., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism, 9*(4), 377–391.
- Herring, S., Gray, K., Taffe, J., Tonge, B., Sweeney, D., & Einfeld, S. (2006). Behaviour and emotional problems in toddlers with pervasive developmental disorders and developmental delay: Associations with parental mental health and family functioning. *Journal of Intellectual Disability Research, 50*, 874–882.
- Huang, C.-Y., Yen, H.-C., Tseng, M.-H., Tung, L.-C., Chen, Y.-D., & Chen, K.-L. (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.
- Jones, L., Gold, E., Totsika, V., Hastings, R. P., Jones, M., Griffiths, A., & Silverton, S. (2018). A mindfulness parent well-being course: Evaluation of outcomes for parents of children with autism and related disabilities recruited through special schools. *European Journal of Special Needs Education, 33*(1), 16–30. <https://doi-org.lib-proxy.fullerton.edu/10.1080/08856257.2017.1297571>
- Jordan, R., Kalvin, C. B., Ibrahim, K., & Sukhodolsky, D. G. (2021). Parent emotion socialization in children with autism spectrum disorder and co-occurring anxiety. *Research on Child and Adolescent Psychopathology, 49*(1), 125–137. <https://doi-org.lib-proxy.fullerton.edu/10.1007/s10802-020-00731-7>
- Keen, D., Couzens, D., Muspratt, S., & Rodger, S. (2010). The effects of a parent-focused intervention for children with a recent diagnosis of autism spectrum disorder on parenting stress and competence. *Research in Autism Spectrum Disorders, 4*(2), 229–241. <https://doi-org.lib-proxy.fullerton.edu/10.1016/j.rasd.2009.09.009>
- Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research, 50*(3), 172–183.
- Lee, L. C., Harrington R.A., Louie B.B & Newschaffer C.J. (2008) Children with Autism: Quality of life and parental concerns. *Journal of Autism and Developmental Disorders, 38*(6), 1147-1160.
- Liew, J., Eisenberg, N., Losoya, S. H., Fabes, R. A., Guthrie, I. K., & Murphy, B. C. (2003). Children's Physiological Indices of Empathy and Their Socioemotional Adjustment: Does Caregivers' Expressivity Matter? *Journal of Family Psychology, 17*(4), 584–597. <https://doi-org.lib-proxy.fullerton.edu/10.1037/0893-3200.17.4.584>
- Lord, C., Rutter, M., DiLavore, P., Risi, R., Gotham, K., & Bishop, S. (2012). *Autism Diagnostic Observation Schedule, Second Edition (ADOS-2)*. Manual. WPS.
- Matthews, N. L., Pollard, E., Ober-Reynolds, S., Kirwan, J., Malligo, A., & Smith, C. J. (2015). Revisiting cognitive and adaptive functioning in children and adolescents with autism spectrum disorder. *Journal of Autism and Developmental Disabilities, 45*, 138-156. doi: 10.1007/s10803-014-2200-0

- Meteyer, K. B., & Perry-Jenkins, M. (2009). Dyadic parenting and children's externalizing symptoms. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 58(3), 289–302. <https://doi-org.lib-proxy.fullerton.edu/10.1111/j.1741-3729.2009.00553.x>
- Jose, P.E (2013). ModGraph-I: A programme to compute cell means for the graphical display of moderational analyses: The internet version. <https://psychology.victoria.ac.nz/modgraph/>
- 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(2), 361–388. <https://doi-org.lib-proxy.fullerton.edu/10.1111/j.1467-9507.2007.00389.x>
- Neece, C. L., Green, 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(1), 48–66.
- Neece, C., & Baker, B. (2008). Predicting maternal parenting stress in middle childhood: The roles of child intellectual status, behaviour problems and social skills. *Journal of Intellectual Disability Research*, 52(12), 1114–1128. doi: 10.1111/j.1365-2788.2008.01071.x
- O'Neal, C. R., & Magai, C. (2005). Do parents respond in different ways when children feel different emotions? The emotional context of parenting. *Development and Psychopathology*, 17(2), 467–487.
- Osborne, L. A., McHugh, L., Saunders, J., & Reed, P. (2008). The effect of parenting behaviors on subsequent behavior problems in autistic spectrum conditions. *Research in Autism Spectrum Disorders*, 2(2), 249–263.
- Petalas, M. A., Hastings, R. P., Nash, S., Hall, L. M., Joannidi, H., & Dowey, A. (2012). Psychological adjustment and sibling relationships in siblings of children with autism spectrum disorders: Environmental stressors and the broad autism phenotype. *Research in Autism Spectrum Disorders*, 6, 546–555.
- Rao, P. A., & Beidel, D. C. (2009). The impact of children with high-functioning autism on parental stress, sibling adjustment, and family functioning. *Behavior Modification*, 33(4), 437–451.
- Rodriguez, G., Hartley, S. L., & Bolt, D. (2019). Transactional relations between parenting stress and child autism symptoms and behavior problems. *Journal of Autism and Developmental Disorders*, 49(5), 1887–1898.
- Roid, G. H. (2003). *Stanford-Binet Intelligence Scales* (5th ed.). Riverside.
- Salas, B. L., Rodríguez, V. Y., Urbieto, C. T., & Cuadrado, E. (2017). The role of coping strategies and self-efficacy as predictors of life satisfaction in a sample of parents of children with autism spectrum disorder. *Psicothema*, 29(1), 55–60.
- Seltzer, M. M., Greenberg, J. S., & Krauss, M. W. (1995). A comparison of coping strategies of aging mothers of adults with mental illness and mental retardation. *Psychology and Aging*, 10(1), 64–75.
- Shawler, P. M., & Sullivan, M. A. (2017). Parental stress, discipline strategies, and child behavior problems in families with young children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 32(2), 142–151.

- Shepherd, D., Landon, J., Taylor, S., & Goedeke, S. (2018). Coping and care-related stress in parents of a child with autism spectrum disorder. *Anxiety, Stress & Coping: An International Journal*, 31(3), 277–290.
- Smith, L. E., Seltzer, M. M., Tager-Flusberg, H., Greenberg, J. S., & Carter, A. S. (2008). A comparative analysis of well-being and coping among mothers of toddlers and mothers of adolescents with ASD. *Journal of Autism and Developmental Disorders*, 38, 876–889.
- Solem, M., Christophersen, K., & Martinussen, M. (2011). Predicting parenting stress: Children's behavioural problems and parents' coping. *Infant and Child Development*, 20(2), 162–180. <https://doi-org.lib-proxy.fullerton.edu/10.1002/icd.681>
- Vernhet, C., Dellapiazza, F., Blanc, N., Cousson-Gélie, F., Miot, S., Roeyers, H., & Baghdadli, A. (2018). Coping strategies of parents of children with autism spectrum disorder: A systematic review. *European Child & Adolescent Psychiatry*, 28(6), 747-758.
- Wasserman, S., de Mamani, A., & Mundy, P. (2010). Parents' criticisms and attributions about their adult children with high functioning autism or schizophrenia. *Autism*, 14, 127–137.
- Wang, P., Michaels, C. A., & Day, M. S. (2011). Stresses and coping strategies of Chinese families with children with autism and other developmental disabilities. *Journal of Autism and Developmental Disorders*, 41(6), 783–795. doi: 10.1007/s10803-010-1099-3
- Xu, Y., Neece, C. L., & Parker, K. H. (2014). Parental depression and child behavior problems: A pilot study examining pathways of influence. *Journal of Mental Health Research in Intellectual Disabilities*, 7(2), 126–142.
- Zaidman-Zait, A., Mirenda, P., Duku, E., Vaillancourt, T., Smith, I. M., Szatmari, P., Bryson, S., Fombonne, E., Volden, J., Waddell, C., Zwaigenbaum, L., Georgiades, S., Bennett, T., Elsabaggh, M., & Thompson, A. (2017). Impact of personal and social resources on parenting stress in mothers of children with autism spectrum disorder. *Autism*, 21(2), 155–166.