Spring 2022

Examining Parenting Practices and Routines as Possible Mediators of Parenting Inflexibility and Child Behaviors

Lauren S. Erp
University of Southern Mississippi

EXAMINING PARENTING PRACTICES AND ROUTINES AS POSSIBLE MEDIATORS OF PARENTING INFLEXIBILITY AND CHILD BEHAVIORS

by

Lauren Short Erp

A Thesis
Submitted to the Graduate School,
the College of Education and Human Sciences
and the School of Psychology
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

Approved by:

Dr. Sara S. Jordan, Committee Chair
Dr. Bonnie C. Nicholson
Dr. Kristy D. McRaney

May 2022

Published by the Graduate School

ABSTRACT

Due to the high prevalence rates of child behavioral problems, considerable research has focused on factors that contribute to child behavioral problems. Parenting inflexibility has been shown to relate to child internalizing and externalizing behaviors through ineffective parenting practices. However, child routines, another related yet distinct parenting behavior, has yet to be explored in this relationship. The primary purpose of this study was to examine parenting practices and child routines as mediators of the relationship between parenting inflexibility and child behavioral outcomes. Mothers of school-aged children (N = 157) were recruited through Amazon's Mechanical Turk and completed self-report measures of parenting inflexibility and parenting practices and parent-report measures of child routines, internalizing behaviors, and externalizing behaviors. Ordinary least squares regression models indicated that negative parenting practices partially mediated the relationship between parenting inflexibility and child internalizing and externalizing behaviors (separately). Alternative models were also supported when the predictor and mediator were reversed, suggesting a bidirectional relationship between negative parenting practices and parenting inflexibility. Contrary to hypotheses, positive parenting practices and child routines (independently) did not mediate the relationship between parenting inflexibility and child internalizing behaviors (or externalizing behaviors). Significant results from this study suggest that parenting inflexibility may be displayed through negative parenting practices, resulting in child internalizing and externalizing behaviors. Moreover, parenting inflexibility and negative parenting practices (i.e., poor monitoring/supervision, inconsistent discipline, and

corporal punishment) may be important targets for interventions to prevent or reduce child behavioral problems.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my major professor and committee chair, Dr. Sara Jordan, for her constructive advice, continuous support, and patience throughout my thesis project. Her extensive knowledge, expertise, and guidance have been invaluable in completing my thesis. I would also like to thank my committee members, Dr. Bonnie Nicholson and Dr. Kristy McRaney, for their insightful feedback and helpful contributions to this project. Lastly, I would like to acknowledge my fellow colleagues for their professional and personal support.

DEDICATION

First, thank you God for giving me the strength and knowledge to complete my thesis project. I would like to dedicate my thesis to my husband, Sean, for his tremendous support and encouragement throughout the entire process and every day. I would like to give special thanks to my parents, Rob and Suzanne, for always believing in me and encouraging me to pursue my dreams. I also appreciate the immense love and support I received from my family. Finally, my appreciation goes out to Overflow Church for their endless support and prayers throughout my studies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

CHAPTER I - INTRODUCTION

Based on the 2016 National Survey of Children's Health (NSCH), approximately 17.7% of children in the United States experience clinically significant child behavioral problems (Ghandour et al., 2019). Among school-age children (ages 6-11), 8.3% are diagnosed with depression or anxiety, and 9.1% are diagnosed with externalizing behavioral problems (Ghandour et al., 2019). As parents play an important role in their child's development, studies have focused on examining specific parenting factors that relate to child internalizing behaviors (e.g., anxiety, depression; Rose et al., 2017) or externalizing behaviors (e.g., aggression, noncompliance; Tichovolsky et al., 2013). Parenting-specific predictors of child internalizing or externalizing behaviors include parenting inflexibility (Cheron et al., 2009), parenting practices (Stormshak et al., 2000), and child routines (Jordan, 2003). Due to the prevalence of child behavioral problems, researchers have begun to explore potential mechanisms through which child internalizing or externalizing behaviors are developed and maintained (Brassell et al., 2016; Jordan et al., 2013); however, researchers have not yet examined the link between parenting inflexibility, parenting practices, child routines, and child internalizing or externalizing behaviors. Thus, the purpose of this study was to explore parenting practices and child routines as potential mechanisms through which parenting inflexibility relates to child internalizing and externalizing behaviors.

Psychological Flexibility/Inflexibility

From a contextual perspective, parents' responses to their own distressing thoughts and feelings have an important influence on parents' experiences with their children (Coyne & Wilson, 2004; Shea & Coyne, 2011). Research suggests that children

may experience the impact of parental distress when parents are unwilling to accept their own negative thoughts and feelings and have difficulty engaging in values-consistent behaviors (Moyer & Sandoz, 2015; Shea & Coyne, 2011). In other words, psychological inflexibility appears to play an important role in the relationship between parental distress and child internalizing or externalizing behaviors. *Psychological inflexibility* can be defined as engaging in rigid responses that are inconsistent with one's values due to an unwillingness to accept distressing thoughts and feelings (Bond et al., 2011). This construct consists of six core processes in which an individual experiences: (1) *Experiential avoidance*, an attempt to avoid, escape, or suppress difficult thoughts, emotions, or bodily sensations; (2) *Cognitive fusion*, being consumed by one's thoughts and allowing them to control one's behavior; (3) *Attachment to the conceptualized self*, overly identifying with one's self-description; (4) *Dominance of the conceptualized past and future*, losing contact with the present moment by ruminating about the past or worrying about the future; (5) *Lack of values clarity*, not being in contact with how one wants to behave; and (6) *Inaction*, not behaving in accordance with one's chosen values (Harris, 2009). Wilson and Dufrene (2008) assert that these processes are not distinct from each other, instead they are a manageable way of describing psychological suffering.

On the other hand, *psychological flexibility* refers to the ability to openly experience thoughts and feelings and engage in behaviors that are consistent with one's values (Leeming & Hayes, 2016). Studies have shown that psychological flexibility is associated with overall psychological well-being, whereas psychological inflexibility is related to a variety of psychological disorders (e.g., depression, anxiety) among

adolescents and adults (Kashdan & Rottenberg, 2010; Levin et al., 2014). Moreover, Levin et al. (2014) indicate that psychological inflexibility is not simply measuring psychological distress, as psychological inflexibility still relates to psychopathology after controlling for distress; rather, psychological flexibility is the way in which one chooses to behave in the presence of distress. Although general psychological inflexibility is most commonly measured across multiple contexts (Bond et al., 2011), Ong et al. (2019) suggest that this construct is best measured within the specific context of interest (i.e., parenting) because context-specific measures are more sensitive and better predict treatment outcomes.

Parenting Flexibility/Inflexibility

One of the contexts in which psychological flexibility/inflexibility has been examined is parenting (Brassell et al., 2016; Burke & Moore, 2015; Cheron et al., 2009; Greene et al., 2015). *Parenting flexibility* occurs when parents accept their distressing thoughts and feelings (e.g., self-doubt, anger) concerning their parenting and engage in behaviors that are consistent with their parenting values (Brassell et al., 2016; Burke & Moore, 2015). On the other hand, *parenting inflexibility* occurs when parents are unwilling to experience difficult thoughts and feelings related to their parenting and are unable to effectively respond to their own distress or their child's distress (Cheron et al., 2009; Moyer & Sandoz, 2015). Cheron et al. (2009) found that parenting inflexibility significantly predicted child maladjustment even after controlling for parental distress and general psychological inflexibility, although this study only examined two of the six processes of psychological inflexibility (i.e., experiential avoidance and inaction) among parents. More recently, Greene et al. (2015) developed a more comprehensive measure

assessing all six components of parenting psychological inflexibility (Parental Acceptance Questionnaire [6-PAQ]). In a Spanish validation study of the 6-PAQ, Flujas-Contreras et al. (2020) demonstrated that parenting inflexibility is significantly related to life dissatisfaction and greater levels of anxiety among parents. However, additional research is needed with this construct, including all aspects of psychological inflexibility, and its relations to other parenting factors.

While limited research exists on psychological inflexibility in the context of parenting, studies have shown that parenting inflexibility is associated with parental distress (i.e., depression, anxiety, stress; Brown et al., 2015; Cheron et al., 2009; Emerson et al., 2019; Moyer & Sandoz, 2015) as well as child internalizing and externalizing behaviors (Brassell et al., 2016; Cheron et al., 2009; Emerson et al., 2019). In a clinical sample of children with anxiety disorders, Cheron et al. (2009) found that parenting inflexibility among mothers is significantly correlated with greater maternal distress and more child externalizing behaviors but is not significantly correlated with child internalizing behaviors. However, the parenting inflexibility measure in that study only accounted for 2 processes of parenting psychological inflexibility (i.e., experiential avoidance and inaction; Cheron et al., 2009). In a different study measuring a composite of all 6 processes in a community sample, parenting inflexibility was significantly related to both more internalizing and externalizing behaviors across preschoolers, school-age children, and adolescents (Brassell et al., 2016). With respect to internalizing behaviors, Emerson et al. (2019) demonstrated that parenting inflexibility is a mechanism through which parent anxiety relates to child anxiety in a community sample of children between the ages of 8 and 12. Additionally, an indirect effect of parent anxiety on parental control

(i.e., excessive control or restriction of child autonomy) through parenting inflexibility was observed, suggesting that parents' intolerance to their own and their child's distress may be an antecedent to ineffective parenting behaviors (i.e., parental control; Emerson et al., 2019). Of note, the direct effects continued to be significant (Emerson et al., 2019), emphasizing the importance of exploring other parenting factors involved in the relationships between these variables.

Parenting Practices

Another parenting factor that influences child behaviors is parenting practices, which have been defined as "specific, goal-directed behaviors through which parents perform their parental duties" (Darling & Steinberg, 1993, p. 488). Specific parenting practices include parental involvement, positive parenting (e.g., reinforcement, warmth), monitoring/supervision, and discipline strategies (e.g., inconsistent/laxness, corporal punishment/overreactivity; Frick et al., 2010). Past research has suggested that parenting practices can be divided into two categories: positive parenting (i.e., involvement, praise) and negative parenting (i.e., poor monitoring/supervision, inconsistent discipline, corporal punishment; Coln et al., 2013; Shelton et al., 1996). According to Patterson et al. (1989), a lack of positive parenting and increased negative parenting practices set the context for child behavioral problems as well as social and academic difficulties.

Based on the literature, more negative parenting practices and less positive parenting practices are related to more child externalizing behaviors (Bater & Jordan, 2017; Coln et al., 2013; Gryczkowski et al., 2010; Stormshak et al., 2000). Among negative parenting, harsh discipline practices (i.e., corporal punishment, inconsistent discipline) are consistently predictive of externalizing behaviors (Brenner & Fox, 1998;

Gryczkowski, 2010; Stormshak et al., 2000), and inconsistent discipline strongly predicts externalizing behaviors, compared to other parenting factors (Duncombe et al., 2012). Duncombe et al. (2012) explain that parents may try different discipline practices in an attempt to manage their child's behavioral problems, thus resulting in inconsistent discipline. Moreover, discipline practices (i.e., laxness, overreactivity, and corporal punishment) are associated with higher levels of internalizing behaviors (Eisenberg et al., 2009; Guajardo et al., 2009). In terms of positive parenting, Koblinsky et al. (2006) showed that maternal warmth, involvement, and consistency predict both fewer externalizing and internalizing behaviors in African American preschoolers. It is theorized that mothers who engage in positive parenting model desirable behaviors, utilize effective discipline strategies, ignore problematic behaviors, and appropriately respond to their child's emotional needs, which results in less child externalizing and internalizing behaviors. Among a sample of mothers with school-aged children, Coln et al. (2013) demonstrated that more negative and less positive parenting practices are associated with more child externalizing behaviors but not with internalizing behaviors; however, the relationship between parenting practices and internalizing behaviors may be better examined in relation to parenting inflexibility.

Parenting Practices and Parenting Inflexibility

Parenting inflexibility may be displayed through ineffective parenting practices, influencing maladaptive child behaviors (Cheron et al., 2009; Coyne & Wilson, 2004). One theoretical framework that has been proposed to understand the impact of parent-child interactions on child behavioral problems is Relational Frame Theory (RFT; Coyne & Wilson, 2004). This theory expands upon traditional behavioral theories of parenting

from a functional contextualist perspective by examining the relational networks that may help explain the role of thoughts and feelings in dysfunctional parent-child interactions. For instance, when a child misbehaves, the parent may have negative thoughts (e.g., "I'm a bad parent") and feelings (e.g., hopelessness, anxiety). If these aversive experiences are viewed as things that should be avoided or controlled, the parent may avoid interacting with his or her child or engage in coercive behaviors. While these parenting practices may relieve parental distress or obtain compliance from the child in the moment, they may ultimately reinforce maladaptive child behaviors (Brown et al., 2015; Coyne & Wilson, 2004).

Consistent with this theory, research shows that parenting inflexibility is associated with ineffective parenting practices (Brassell et al., 2016; Brown et al., 2015; Burke & Moore, 2015; Cheron et al., 2009). In particular, parenting inflexibility is related to less positive parenting practices and more negative parenting practices (i.e., laxness, overreactivity, inconsistent discipline, and poor supervision; Burke & Moore, 2015). According to Daks and Rogge (2020), parents who engage in avoidant and rigid behaviors towards difficult thoughts and feelings may be more susceptible to respond to their children with reactive and negative parenting practices. In contrast, parents who engage in more accepting and flexible behaviors towards difficult experiences are able to refrain from responding to challenges with reactive and negative parenting (Daks & Rogge, 2020). In a meta-analysis, parents' general psychological flexibility strongly predicted more adaptive parenting among eight different studies, which demonstrates the impact that psychological flexibility has on family functioning and the importance of teaching parents to respond to their children's misbehavior in a more understanding

manner (Daks & Rogge, 2020). Moreover, reducing parenting inflexibility through interventions accounted for decreases in lax and over-reactive parenting practices as well as parental distress among parents of children with pediatric acquired brain injury (Brown et al., 2015). In relation to child behaviors, Brassell et al. (2016) found that parenting inflexibility is indirectly associated with more child internalizing and externalizing behaviors through maladaptive parenting practices (i.e., less positive and more negative parenting practices). Therefore, initial research indicates that parenting practices are behavioral mechanisms through which parenting inflexibility impacts child internalizing and externalizing behaviors; however, the role of another important parenting behavior, child routines, has not been examined in this relationship.

Child Routines

Among parenting behaviors, the frequent use of child routines is associated with fewer child externalizing (Bater & Jordan, 2017; Larsen & Jordan, 2019; Sytsma et al., 2001) and internalizing behaviors (Bridley & Jordan, 2012; Harris et al., 2014; Jordan, 2003). Child routines consist of "observable, repetitive behaviors which directly involve the child and at least one adult acting in an interactive or supervisory role, and which occur with predictable regularity in the daily and/or weekly life of the child" (Sytsma et al., 2001, p. 243). Some examples of child routines include reading a story before bed, getting dressed in the morning, and having regular chores (Sytsma et al., 2001). According to a behavioral theory, the predictable and consistent nature of child routines may promote child compliance because the child is aware of expected behaviors (Sytsma et al., 2001). Moreover, Harris et al. (2014) suggested that establishing child routines are a cost-effective intervention for reducing child behavioral problems, thus it is important

to understand its relation to both child internalizing and externalizing behaviors in the context of other parenting factors.

Child Routines and Parenting Practices

Studies report that the frequency of child routines is related to positive and negative parenting practices (Bater & Jordan, 2017; Jordan, 2003; Koblinsky et al., 2006). More specifically, parental involvement predicts more child routines, while poor monitoring and supervision predict less child routines (Jordan, 2003). Conceptually, it makes sense that parents who are more involved in their child's daily activities are likely to implement more routines; thus, child routines may extend from positive parenting (Bater & Jordan, 2017; Koblinsky et al., 2006). In addition, child routines account for a greater percent of the variability in child externalizing behaviors than positive parenting practices, suggesting that it's important to consider child routines separate from parenting practices (Sytsma-Jordan & Kelley, 2004). Moreover, studies have provided evidence for a relational path from parenting practices through child routines to externalizing behaviors (Bater & Jordan, 2017; Jordan et al., 2013). For example, Bater and Jordan (2017) demonstrated that child routines and then child self-regulation are mechanisms through which positive and negative parenting practices (separately) relate to externalizing behaviors in preschoolers. In another serial mediation model with a sample of school-aged children, negative parenting practices and child routines mediated the relationship between maternal distress and externalizing behaviors, such that mothers with more distress displayed more negative parenting practices and then engaged in less child routines, which was associated with more child externalizing behaviors (Jordan et al., 2013). It may be the case that distressed mothers engage in more negative parenting

practices and are thus less likely to be consistent in their interactions with their children (i.e., engage in infrequent child routines), which set the context for child externalizing behaviors. Although researchers have evaluated maternal distress, parenting practices, and child self-regulation in relation to child routines (Bater & Jordan, 2017; Jordan et al., 2013), previous studies have not considered how mothers' responses to their own distressing thoughts and feelings related to their parenting may influence the consistency of their children's routines.

Current Study

The literature indicates that parenting inflexibility is associated with child maladaptive behaviors (Brassell et al., 2016; Cheron et al., 2009; Emerson et al., 2019). Understanding the mechanisms within this relationship is important due to the prevalence of child behavioral problems and the need to understand possible ways in which they can be reduced or prevented. This is especially important to examine among school-aged children because behavioral problems are more prevalent during the school age years compared to preschool years (Ghandour et al., 2019), and during the school age years, mothers play a critical role in their child's behaviors through their parenting practices and routines (Jordan et al., 2013). Theory and empirical research suggest that parenting inflexibility may influence child behavioral problems through ineffective parenting practices (Cheron et al., 2009; Coyne & Wilson, 2004). Preliminary research offers support for an indirect effect of parenting inflexibility on child behaviors through parenting practices, such that parents with more inflexibility display more negative parenting practices and less positive parenting practices, resulting in child behavioral problems (Brassell et al., 2016). Further, there is initial evidence to suggest that child

routines are a mechanism through which parenting practices relate to child behavioral problems (Bater & Jordan, 2017; Jordan et al., 2013). Given the importance of child routines on child behavioral outcomes, research examining its relation to parenting inflexibility may indicate important targets for interventions to reduce or prevent child behavioral problems.

The aims of this study were to further explore the relationship between parenting inflexibility and child behavioral problems and to test mediation models with parenting practices and child routines as serial mediators of the relation between parenting inflexibility and child internalizing and externalizing behaviors. The current study expanded upon past research in several ways. First, previous studies have not evaluated the relationship between parenting inflexibility and child routines. Greene et al. (2015) proposed that parents with greater parenting inflexibility find it difficult to initiate/maintain routines because they do not want to deal with their child's reactions. Second, given that most of the literature on parenting inflexibility has focused on child internalizing behaviors, specifically anxiety, both internalizing and externalizing behaviors were examined separately as outcome variables. This also broadens the literature on child routines because previous research using serial mediation models with child routines as a mediator have only examined externalizing behaviors.

Hypotheses

Based on theories and results from prior studies, hypothesis 1 proposed the following significant bivariate relations: (a) parenting inflexibility would negatively correlate with positive parenting practices and with child routines but positively correlate with negative parenting practices and with child internalizing/externalizing behaviors.

Consistent with previous research, it was hypothesized that (b) negative parenting practices would negatively correlate with child routines but positively correlate with child internalizing/externalizing behaviors; (c) the relations would be observed in the opposite direction for positive parenting practices; (d) child routines would negatively correlate with child internalizing/externalizing behaviors. Replicating existing research, hypothesis 2 was that simple indirect effects of parenting inflexibility through negative and positive parenting practices (separately) to internalizing and externalizing behaviors (separately) would be observed. Extending the literature, hypothesis 3 stated that simple indirect effects of parenting inflexibility through child routines to internalizing and externalizing behaviors (separately) would be observed, as it was hypothesized that parenting inflexibility influences child behavioral problems through the infrequent use of child routines. If these hypotheses were supported, it was proposed that serial mediation model(s) would be examined in which parenting inflexibility relates to child behaviors through first parenting practices and then child routines (Hypothesis 4), as the literature has shown a link from parenting practices through child routines to child behaviors (Jordan et al., 2013). Indirect effects of parenting inflexibility through positive and/or negative parenting practices and child routines to internalizing and/or externalizing behaviors were to be examined.

CHAPTER II - METHOD

Participants

A sample of 160 mothers of children between the ages of 6 and 12 were recruited to participate in this study. This sample size was chosen to ensure adequate power when testing for mediation using the bias-corrected bootstrap test (Fritz & MacKinnon, 2007). A sample size of 118 was recommended to detect a simple mediating effect for a model with a projected medium-small a path (i.e., the predictor to the mediator) and a projected medium b path (i.e., the mediator to the outcome; Fritz & MacKinnon, 2007). Given that the current study was also planning to test serial mediation models, a larger sample than the posed sample size by Fritz and MacKinnon (2007) was collected to achieve sufficient power for the serial mediation models. Moreover, a study by Bater and Jordan (2017) with some of the same variables (i.e., parenting practices, child routines, externalizing behaviors) utilized a sample size of 146, which had adequate power to detect significant indirect effects for their serial mediation models.

To be eligible for this study, participants had to be a mother of a child between the ages of 6 and 12. Participants had to also be at least 18 years old, a resident of the United States, and be able to read and write in English because all of the measures were presented in English. Also, children diagnosed with autism spectrum disorder (ASD) or an intellectual disability (ID) were excluded from this study based on prior literature (e.g., Henderson et al., 2011) suggesting that the relation between child routines and externalizing behaviors differs among ASD and typically developing children.

After screening the data (see preliminary analyses in the Results), the final sample included 157 maternal caregivers. The sample of maternal caregivers had an average age

of 38.26 (SD = 6.27) years, and most of the maternal caregivers (n = 147; 93.6%) were the child's biological parent. With regard to marital status, 66.2% of maternal caregivers were married, 14.6% were single (never married), and 12.7% were divorced. The majority of maternal caregivers (n = 117; 74.5%) reported another caregiver in the home. The sample appears to be well-educated as 68.1% of maternal caregivers and 39.5% of the other caregivers had at least one college degree. In terms of employment status, 56.1% of maternal caregivers were employed full-time, 22.3% were employed part-time, and 20.4% were unemployed; most of the other caregivers (n = 100; 63.7%) were employed full-time. The median family income was between $50,000 to $74,999. Descriptive characteristics of maternal caregivers and their household are shown in Table A1.

The sample of children was relatively evenly dispersed in terms of gender, with 42.7% males and 57.3% females. The children had an average age of 8.80 (SD = 1.91) and were primarily White (n = 120; 76.4%). Based on the maternal caregivers' reports, 17.2% (n = 27) of the children in the sample were diagnosed with a clinical disorder, and 5.1% (n = 8) took medication for attention and/or behavior. Only 1.2% (n = 2) of the children had comorbid clinical disorders. Descriptive characteristics of the target child are also shown in Table A2.

Given that the data was gathered during the COVID-19 pandemic, specifically from April 2021 to June 2021, the impact of COVID-19 on the sample was examined (Table A3). It is important to note that during this time in the COVID-19 pandemic, people in the United States may have been feeling optimistic because vaccines were available for all adults and COVID-19 variants (e.g., Delta) were relatively rare. Slightly

over half (n = 79; 50.3%) of the maternal caregivers rated their stress level as higher than usual due to COVID-19, and slightly less than half (n = 69; 43.9%) of the maternal caregivers rated that their stress level as about the same as usual. In terms of current school arrangements, 42% (n = 66) of the children were receiving in-person instruction for the whole day, and 25.5% (n = 40) were in virtual classes all day (e.g., Zoom; Google classroom; Microsoft Teams). Regarding routines, 36.9% (n = 58) of the sample reported that their overall level of routine in the past month was similar to before COVID-19, and 35.7% (n = 56) of the sample reported that their overall level of routine in the past month was mildly disrupted. Among those who were working, 47.7% (n = 75) of the maternal caregivers were working exclusively or part-time from home, and 31.8% (n = 50) of the maternal caregivers were working full-time at their usual place of work. Additionally, about half of the caregivers' partners (n = 85; 54.1%) were working full-time at work.

Materials

Demographic Questionnaire

Participants completed a demographic questionnaire (see Appendix B) to obtain descriptive information about the sample. Personal information about the child was gathered such as the child's age, grade level, gender, race/ethnicity, diagnostic status, and medication status. Descriptive information about the caregivers was also obtained such as age, occupation, hours of work per week, highest level of education, marital status, number of adults and children in the home, and family income.

Impact of COVID-19 Supplemental Measure. Information about the impact of the COVID-19 pandemic on the child's education, routines, and parents' employment and stress level was also gathered. Some of these questions are part of the COVID Impact

Survey (Wozniak et al., 2020) and the Household Pulse Survey During COVID-19 (U.S. Census Bureau, 2020), and other questions were developed by the authors. This measure provided additional descriptive information about the sample.

Parental Acceptance Questionnaire (6-PAQ)

The 6-PAQ (Greene et al., 2015) is an 18-item, self-report measure of psychological flexibility in the context of parenting. The 6-PAQ includes six subscales that reflect the core processes of psychological flexibility: Acceptance, Defusion, Being Present, Self as Context, Values, and Committed Action (Greene et al., 2015). Participants were asked to indicate the degree to which the statement describes their thoughts, feelings, or style of interacting with their child, using a 4-point scale from 1 (*strongly disagree/never*) to 4 (*strongly agree/almost always*). Lower scores are reflective of greater parenting psychological flexibility, and higher scores are reflective of greater parenting psychological inflexibility. The following are some example items: "I have negative thoughts about myself when my child behaves in a negative way" and "When spending time with my child, I find myself planning my day and thinking of the things I need to get done." This measure has good overall internal consistency ($\alpha = .88$), and all six subscales have demonstrated adequate internal consistency ($\alpha = .60$ - $.83$; Greene et al., 2015). The overall internal consistency for the 6-PAQ in this study was $\alpha = .89$. For this study, the 6-PAQ total score, the sum of all the items, was used as a measure of parenting psychological inflexibility, which was the predictor variable in this study.

Alabama Parenting Questionnaire (APQ) – Parent Form

The APQ (Shelton et al., 1996) is a 42-item, self-report measure of parenting practices among parents of school-age children. The APQ consists of five subscales

assessing dimensions of parenting (Involvement, Positive Parenting, Poor Monitoring/Supervision, Inconsistent Discipline, Corporal Punishment) that have been related to child behavioral problems (Shelton et al., 1996). Participants were asked to rate how often each parenting behavior typically occurs in the home, using 5-point Likert scale from 1 (*never*) to 5 (*always*). Good internal consistency (α = .74 - .80) has been shown among the subscales, with the exception of the Corporal Punishment subscale which has only three items (α = .49; Shelton et al., 1996). The Involvement and Positive Parenting subscales were converted into z-scores, summed, and divided by 2 to form a Positive Parenting composite. The Poor Monitoring/Supervision, Inconsistent Discipline, and Corporal Punishment subscales were converted into z-scores, summed, and divided by 3 to form a Negative Parenting composite. The internal consistency of the composites for this study were as followed: Positive Parenting (α = .89) and Negative Parenting (α = .91). The Positive Parenting and Negative Parenting composites were examined separately as possible mediators.

Child Routines Questionnaire (CRQ)

The CRQ (Sytsma et al., 2001) is a 39-item, parent-report measure of common child routines in school-age children. More specifically, the CRQ assesses daily living routines, household responsibilities, discipline routines, and homework routines. Participants were asked to rate how often their child engages in each routine at about the same time or in the same way, using a 5-point Likert scale from 0 (*never*) to 4 (*nearly always*). Example items include, "My child eats meals with family at the table each day" and "My child straightens bedroom daily." The CRQ has demonstrated excellent internal consistency (α = .90) and good test-retest reliability (*r* = .86; Sytsma et al., 2001).

Moreover, the CRQ has demonstrated adequate construct validity by correlating with family routines and child behavioral problems in the hypothesized directions (Sytsma et al., 2001). The internal consistency for the CRQ in this study was $\alpha = .92$. For this study, the CRQ total score was used to measure child routines as a possible mediator.

Child Behavior Checklist/6-18 (CBCL)

The CBCL (Achenbach & Rescorla, 2001) is a 113-item, parent-report measure of internalizing and externalizing behaviors in children. The CBCL is a widely used, standardized measure with two broadband scales of Internalizing Problems (i.e., anxious/depressed, withdrawn, somatic complaints) and Externalizing Problems (i.e., rule-breaking behavior, aggressive behavior). Participants were asked to indicate the degree to which the behaviors describe their child currently or within the past 6 months, using a 3-point scale from 0 (*not true*) and 2 (*very true or often true*). Higher scores reflect more child behavioral problems. The CBCL has demonstrated good internal consistency ($\alpha = .76$ - .93) and good test-retest reliability ($r = .90$; Achenbach & Rescorla, 2001). The internal consistency of the composites for this study were as followed: Internalizing Problems ($\alpha = .89$) and Externalizing Problems ($\alpha = .91$). To account for possible age and gender differences in child behavioral problems, corrected z-scores for the Internalizing Problems and Externalizing Problems were calculated by taking each participant's raw score and subtracting the mean score for the child's gender and age group (from the standardization sample; Achenbach & Rescorla, 2001) and dividing by the standard deviation for the child's gender and age group. For example, the Externalizing composite corrected z-score formula for a 7-year-old boy would be as follows: Corrected z-score $_{\text{Externalizing}}$ = (Participant raw score $_{\text{Externalizing}} - M_{\text{boys 6-11}}$)/SD

boys 6-11. Separate norms for boys ages 6-11 and 12-18 and for girls 6-11 and 12-18 from the standardization sample were used. The Internalizing Problems and Externalizing Problems composites served as separate outcome variables of child internalizing behaviors and externalizing behaviors in this study.

Procedure

Following IRB approval (Appendix C), participants were recruited through Amazon's Mechanical Turk (MTurk), an online participant recruitment and data collection system. MTurk is an efficient method to collect large samples at relatively low costs (Buhrmester et al., 2011). Data obtained through MTurk has been shown to be more demographically diverse and just as reliable as data from more traditional methods (Buhrmester et al., 2011). The current study used the following qualification requirements in MTurk: "female", "parenthood status", and "United States." To ensure study eligibility, participants were also presented with 3 screener questions (i.e., asking if they lived in the United States, were a mother of a child between the ages of 6 and 12, and if their child had been diagnosed with ASD or an intellectual disability).

Individuals who met the study requirements and were interested in participating in the study were presented with a consent form (Appendix D). The consent form explained the purpose and procedures of the study, potential risks and benefits, their rights as participants (e.g., right to withdraw from the study and the consequences), and compensation for their participation. After participants read the consent form, they were asked to indicate their consent by checking a box if they would like to proceed with the study. Then, participants were asked to complete the demographic questionnaire, 6-PAQ, APQ, CRQ, and CBCL, as well as other measures of psychological flexibility, home

environment, and parenting (e.g., household chaos, parenting stress) as part of a larger data collection. These measures were presented in a randomized order to minimize order effects. Parents with more than one child between the ages of 6 and 12 were asked to randomly select one child and answer all questionnaires with that particular child in mind. The survey took approximately 25 minutes to complete. Upon completion of the survey, participants were debriefed and thanked for their participation.

The data was downloaded from MTurk and stored in password protected data files, and access to the data was restricted to the researchers and research assistants. To ensure high-quality data was obtained, attention checks were included throughout the survey. More specifically, 4 directed items (e.g., "For this item, select strongly agree") were embedded throughout the questionnaires. Additionally, 2 questions from the screener were randomly repeated throughout the survey to ensure consistency in responding, and 1 open-ended question was used to identify unusual responses (e.g., all capital letters, one-word answers that do not align with the question; Chmielewski & Kucker, 2020). Participants who completed the study and passed the majority of the checks (i.e., 3 of the 4 attention checks and all the validity checks) were fully compensated $3.00, and their data was included in the study. The amount of compensation attempted to mirror minimum wage based on the length of the study (~25 minutes). It has been recommended that participants who provide invalid data should not receive compensation to prevent reinforcement and make it less likely for them to qualify for additional studies (Chmielewski & Kucker, 2020). Thus, participants who did not pass the attention and validity checks as described above received a prorated compensation of $0.01, which was clearly stated in the consent form, and their data was

not included in the study. Fifteen participants were excluded from the study for not passing the attention and validity checks, and 28 participants were excluded for not passing the screener questions ensuring eligibility for the study. In addition, although screened as eligible for having a child between the ages of 6 and 12, two participants were excluded for indicating that they completed the questionnaires for a child below the age criterion (i.e., 4 and 5 years old), resulting in a sample of 160 participants.

CHAPTER III - RESULTS

Preliminary Analyses

The data were screened for invalid data (i.e., out-of-range values) and missing data. Out-of-range values were not identified, and data were not missing on the PAQ and APQ. Items 5 and 6 on the CRQ were missing for 1 participant, and these missing values were replaced with prorated values (i.e., the values of items completed on the subscale were summed and divided by the number of items completed). Twelve participants omitted questions on the CBCL (i.e., 9 participants missed 1 question, 3 participants missed 3 questions). Multiple imputation for missing data is incompatible with PROCESS (Hayes, 2020), so missing data on the CBCL were replaced with a value of 0 because missing data are not taken into account when hand-scoring or computer-scoring the CBCL (Achenbach & Rescorla, 2001). Achenbach and Rescorla (2001) recommend not including participants in statistical analyses if more than eight problem items are missing, which was not the case for this sample. Composites for the study variables were developed as discussed in the Methods section. Higher scores indicate more of the construct (e.g., more parenting inflexibility, more positive parenting, more negative parenting, more routines, more internalizing and externalizing behaviors).

The data were also screened for outliers, skewness, and kurtosis. Multivariate outliers were identified using Mahalanobis (1936) distance. Each case in the sample was evaluated based on the criterion of an α value below .001 (Meyers et al., 2017). Three participants were identified as multivariate outliers based on this criterion and were removed from the analyses. Internalizing behaviors and externalizing behaviors were positively skewed and four outliers were identified, which were replaced through

winsorization (i.e., recoding the data points with the nearest maximum values that are not considered outliers; Tukey, 1962). After screening the data, a total of 157 participants were included in the analyses.

Primary Analyses

Descriptive statistics and bivariate correlations (see Table A4) were conducted among demographic/descriptive variables and the study variables. Four variables (i.e., child race, child disorder status, child medication status, and marital status) were dichotomized. Child race was dichotomized as White and Non-White due to limited diversity among racial groups in the sample (e.g., Black or African American = 7.0%, Multiracial = 4.5%, and Asian = 1.9%). Child disorder status and child medication status were dichotomized due to limited representation among specific diagnoses (e.g., ADHD = 6.4%, Speech/Language Impairment = 7.0%) and medication types (e.g., Psychostimulants = 1.9%, Antidepressants/Antianxiety medication =1.3%). Marital status was dichotomized to compare coparenting (i.e., married or living together) to single parenting (i.e., not married or living together). Bivariate correlations among demographic variables and model outcome variables were examined to identify control variables. No significant relationships ($p < .05$) with internalizing behaviors were observed; however, child gender (Male = 1, Female = 2; $r = .17$), child disorder status (No Disorder = 0, Disorder = 1; $r = .16$), and child medication status (Not Medicated = 0, Medicated = 1; $r = .24$) were significantly correlated with child externalizing behaviors. Specifically, being female, having a clinical diagnosis, and taking medication for attention/behavior were associated with more externalizing behaviors. Child disorder status and child medication status were significantly and positively correlated ($r = .36$),

and child medication status had a higher correlation with child externalizing behaviors than child disorder status and externalizing behaviors. Therefore, child medication status and child gender were included as covariates in the mediation models with child externalizing behaviors as the outcome variable.

Bivariate correlations (see Table A4 for the correlation matrix) were consistent with hypothesis 1. Parenting inflexibility was significantly and negatively correlated with positive parenting practices (r = -.34) and with child routines (r = -.54), and parenting inflexibility was significantly and positively correlated with negative parenting practices (r = .61) and with child internalizing behaviors (r = .51) and externalizing behaviors (r = .49). Positive parenting practices were significantly and positively correlated with child routines (r = .57) and significantly and negatively correlated with child internalizing behaviors (r = -.28) and externalizing behaviors (r = -.25). For negative parenting practices, the correlations were in the opposite directions: negative parenting practices were significantly and negatively correlated with child routines (r = -.36) and significantly and positively correlated with child internalizing behaviors (r = .52) and externalizing behaviors (r = .51). Lastly, child routines were significantly and negatively correlated with child internalizing behaviors (r = -.24) and externalizing behaviors (r = -.28).

Means and standard deviations of the study variables (see Table A4 for standardized descriptive statistics) were compared to other studies. The mean sum score of the 6-PAQ in the current study was 32.17 (SD = 8.11), whereas the mean sum score of the 6-PAQ in the development and validation study was 56.30 (SD = 9.36; Greene et al., 2015). Moreover, the raw means and standard deviations of parenting practices

(Involvement: *M* = 39.37, *SD* = 6.26; Positive Parenting: *M* = 25.00, *SD* = 3.46; Poor Monitoring and Supervision: *M* = 14.23, *SD* = 6.18; Inconsistent Discipline: *M* = 12.90, *SD* = 4.30; Corporal Punishment: *M* = 5.13, *SD* = 1.91) were similar to previous community samples of school-aged children (e.g., Involvement: *M* = 41.77, *SD* = 4.89; Positive Parenting: *M* = 26.57, *SD* = 2.55; Poor Monitoring and Supervision: *M* = 13.00, *SD* = 4.16; Inconsistent Discipline: *M* = 12.99, *SD* = 3.26; Corporal Punishment: *M* = 5.16, *SD* = 1.89; Coln et al., 2013). Lastly, the raw mean and standard deviation of child routines (*M* = 106.98, *SD* = 18.48) were comparable to previous community samples with school-aged children (e.g., *M* = 112.44, *SD* = 16.52; Bridley & Jordan, 2012; Jordan, 2003).

Simple Mediation Models

Ordinary Least Squares (OLS) regression using 5,000 bootstrap samples to generate 95% bias-corrected confidence intervals was conducted in PROCESS (Model 4; Hayes, 2017). When interpreting the results, confidence intervals exclusive of zero indicate significant indirect effects (Hayes, 2017). In contradiction of hypothesis 2, there was not a significant indirect effect of parenting inflexibility on child internalizing behaviors through positive parenting practices (*B* = .04, *SE* = .03, CI [-.01, .12]). Mothers who endorsed high levels of parenting inflexibility reported engaging in less positive parenting practices; however, less positive parenting practices were not associated with more child internalizing behaviors (*B* = -.14, *SE* = .08, *p* = .10). The total effect of parenting inflexibility on child internalizing behaviors (*B* = .54, *SE* = .07, *p* < .001) and the direct effect (*B* = .50, *SE* = .08, *p* < .001) were significant. Consistent with hypothesis 2, there was a significant indirect effect of parenting inflexibility on child internalizing

behaviors through negative parenting practices (*B* = .22, *SE* = .08, CI [.08, .39]). As shown in Figure A1, mothers who endorsed high levels of parenting inflexibility reported engaging in more negative parenting practices, which in turn was associated with more child internalizing behaviors. The total effect of parenting inflexibility on child internalizing behaviors (*B* = .54, *SE* = .07, $p < .001$) and the direct effect (*B* = .32, *SE* = .09, $p < .001$) were significant.

Contrary to hypothesis 2 with externalizing behaviors as the outcome variable and with child medication status and child gender as covariates, there was not a significant indirect effect of parenting inflexibility on child externalizing behaviors through positive parenting practices (*B* = .02, *SE* = .03, CI [-.02, .08]). Mothers who endorsed high levels of parenting inflexibility reported engaging in less positive parenting practices; however, less positive parenting practices was not associated with more child externalizing behaviors (*B* = -.08, *SE* = .08, $p = .34$). The total effect of parenting inflexibility on child externalizing behaviors (*B* = .49, *SE* = .07, $p < .001$) and the direct effect (*B* = .47, *SE* = .08, $p < .001$) were significant. As hypothesized, there was a significant indirect effect of parenting inflexibility on child externalizing behaviors through negative parenting practices (*B* = .21, *SE* = .08, CI [.07, .37]) with child medication status and child gender as covariates. As shown in Figure A2, mothers who endorsed high levels of parenting inflexibility reported engaging in more negative parenting practices, which in turn was associated with more child externalizing behaviors. The total effect of parenting inflexibility on child externalizing behaviors (*B* = .49, *SE* = .07, $p < .001$) and the direct effect (*B* = .28, *SE* = .09, $p = .002$) were significant. When the covariates were not included in the model, all the above results remained statistically significant.

The next two simple mediation models examined whether there were significant indirect effects of parenting inflexibility on child behaviors through child routines. Contrary to hypothesis 3, there was not a significant indirect effect of parenting inflexibility on child internalizing behaviors through child routines (*B* = -.03, *SE* = .05, CI [-.13, .07]). Mothers who endorsed high levels of parenting inflexibility reported engaging in less frequent routines; however, less frequent routines were not associated with more child internalizing behaviors (*B* = .06, *SE* = .09, *p* = .54). The total effect of parenting inflexibility on child internalizing behaviors (*B* = .54, *SE* = .07, *p* < .001) and the direct effect (*B* = .57, *SE* = .09, *p* = < .001) were significant.

Similarly with externalizing behaviors as the outcome variable and with child medication status and child gender as covariates, there was not a significant indirect effect of parenting inflexibility on child externalizing behaviors through child routines (*B* = .01, *SE* = .05, CI [-.08, .09]). Mothers who endorsed high levels of parenting inflexibility reported engaging in less frequent routines; however, less frequent routines were not associated with more child externalizing behaviors (*B* = -.02, *SE* = .09, *p* = .84). The total effect of parenting inflexibility on child externalizing behaviors (*B* = .49, *SE* = .07, *p* < .001) and the direct effect (*B* = .48, *SE* = .09, *p* < .001) were significant. The statistical significance did not change when the covariates were not included in the model. Given that the simple mediation models with child routines as a mediator of parenting inflexibility and child behaviors were not significant, the hypothesized serial mediation models, which each included child routines as a mediator, were not tested.

Post-Hoc Analyses

Given the cross-sectional design of the current study, the temporal relationship among the variables was further assessed by reversing the mediator (i.e., negative parenting practices) and the predictor (i.e., parenting inflexibility) in the significant models. With child internalizing behaviors as the outcome variable (Figure A3), the indirect effect was statistically significant (B = .25, SE = .08, CI [.10, .43]), suggesting that mothers who reported engaging in more negative parenting practices endorsed higher levels of parenting inflexibility, which in turn was associated with more child internalizing behaviors. The total effect of negative parenting practices on child internalizing behaviors (B = .73, SE = .10, $p < .001$) and the direct effect (B = .47, SE = .12, $p < .001$) were significant. Also, with externalizing behaviors as the outcome variable and with child medication status and child gender as covariates (Figure A4), the indirect effect was statistically significant (B = .23, SE = .09, CI [.08, .42]), suggesting that mothers who reported engaging in more negative parenting practices endorsed higher levels of parenting inflexibility, which in turn was associated with more child externalizing behaviors. The total effect of negative parenting practices on child externalizing behaviors (B = .69, SE = .09, $p < .001$) and the direct effect (B = .47, SE = .12, $p < .001$) were significant.

CHAPTER IV – DISCUSSION

Studies have consistently shown that parenting inflexibility relates to child behavioral problems (Brassell et al., 2016; Cheron et al., 2009; Emerson et al., 2019). Yet, an understanding of the mechanisms underlying this relationship is not as clear. Moreover, preliminary research indicates that parenting practices are behavioral mechanisms through which parenting inflexibility impacts child internalizing and externalizing behaviors (Brassell et al., 2016). The literature also suggests that child routines are a mechanism through which parenting practices relate to child behavioral problems (Bater & Jordan, 2017; Jordan et al., 2013). However, to our knowledge, the role of child routines has not been examined in relation to parenting inflexibility. Given that researchers suggest child routines as a cost-effective intervention for reducing child behavioral problems (Harris et al., 2014), it is important to understand their role in the relation between parenting inflexibility and child behavioral problems. Thus, the current study sought to examine parenting practices and child routines as mediators through which parenting inflexibility relates to child internalizing and externalizing behaviors.

Consistent with previous findings, parenting inflexibility was positively correlated with child internalizing and externalizing behaviors among school-aged children (Brassell et al., 2016; Cheron et al., 2009; Emerson et al., 2019), indicating that mothers with higher parenting inflexibility reported more child behavioral problems. Also, consistent with previous research, parenting inflexibility was negatively correlated with positive parenting practices and positively correlated with negative parenting practices (Brassell et al., 2016; Burke & Moore, 2015), and child routines were positively correlated with positive parenting practices and negatively correlated with negative

parenting practices (Bater & Jordan, 2017; Jordan et al., 2013). Expanding upon the literature, this study demonstrated that parenting inflexibility was negatively correlated with child routines, such that mothers with high levels of parenting inflexibility reported engaging in less frequent child routines.

Further, this study found that negative parenting practices partially mediated the relationship between parenting inflexibility and child internalizing behaviors, suggesting that negative parenting practices are a mechanism through which parenting inflexibility is related to child internalizing behaviors. Thus, parenting inflexibility leads to more negative parenting practices, and in turn, more negative parenting practices are linked to more child internalizing behaviors in school-aged children. Similarly, negative parenting practices partially mediated the relationship between parenting inflexibility and child externalizing behaviors, after accounting for child gender and medication status. Therefore, parenting inflexibility relates to negative parenting practices, which in turn, are linked to more child externalizing behaviors in school-aged children, even after controlling for child gender and medication status. Importantly, these significant relations were detected among mothers who reported low levels of parenting inflexibility relative to previous reports found in the literature, further underscoring the impact of negative parenting practices on the relation between parenting inflexibility and child behavioral problems. These findings are consistent with the proposed theory that parenting inflexibility may be displayed through ineffective parenting practices, resulting in child behavioral problems (Cheron et al., 2009; Coyne & Wilson, 2004). More specifically, when parents are intolerant of their own and their child's distress (i.e., parenting inflexibility), parents may avoid interacting with their children (e.g., poor monitoring and

supervision) or be more likely to respond to their children with coercive parenting practices (e.g., corporal punishment, inconsistent discipline; Daks & Rogge, 2020), which set the context for child behavioral problems (Patterson et al., 1989). This also corroborates Brassell and colleagues' (2016) finding that negative parenting (e.g., reactive and intrusive parenting), harsh discipline (e.g., corporal punishment), and lax discipline (i.e., inconsistent discipline and permissive parenting) mediate relations between parenting inflexibility and child internalizing and externalizing behaviors.

As a cross-sectional design was used in the current study, alternate models were tested wherein the mediator (i.e., negative parenting practices) and the predictor (i.e., parenting inflexibility) were reversed to further assess the temporal relationship among the variables in the model. Of note, these models were also significant, suggesting that mothers who engage in negative parenting practices were more likely to report higher levels of parenting inflexibility, which in turn, was related to more child internalizing (and externalizing behaviors). These results indicate a potential bidirectional relationship between parenting inflexibility and negative parenting practices, which provides empirical support for Shea and Coyne's (2011) conceptual framework that mothers may try to control their own negative thoughts and feelings by engaging in negative parenting practices (e.g., inconsistent or punitive parenting), which are negatively reinforced because these parenting practices may provide mothers with immediate relief from their distress or obtain compliance from their child in the short-term. However, in the long-term, negative parenting practices may further exacerbate parenting inflexibility (i.e., mothers are more likely to respond in rigid and inflexible manners to their internal experiences), resulting in child behavioral problems.

These results contribute to the literature by suggesting that negative parenting practices, specifically poor monitoring/supervision, inconsistent discipline, and corporal punishment, may be important targets for interventions to reduce child behavioral problems. This aligns with Patterson et al.'s (1989) theory that parents' susceptibility to stressors disrupt parenting practices, resulting in the development of child behavioral problems. In addition to behavioral parent training, incorporating interventions aimed specifically at building flexibility in the context of parenting (e.g., Acceptance and Commitment Therapy) may be beneficial for reducing and preventing both child internalizing and externalizing behaviors, as parents are taught ways to attend to their distressing thoughts and feelings without judgement and thus are more likely to refrain from negative parenting practices, resulting in less child internalizing and externalizing behaviors (Brassell et al., 2016; Daks & Rogge, 2020; Moyer & Sandoz, 2015; Tiwari et al., 2008). Moreover, Brown et al. (2015) demonstrated that reducing parenting inflexibility was a mechanism through which a parenting intervention (i.e., Acceptance and Commitment Therapy plus a behavioral family intervention) led to reductions in lax and over-reactive parenting practices and parental distress.

Contrary to our hypotheses, positive parenting practices did not mediate the relationship between parenting inflexibility and child internalizing behaviors (or externalizing behaviors). Parenting inflexibility predicted less positive parenting practices; yet, less positive parenting practices were not, in turn, linked to more child internalizing or externalizing behaviors. The finding that parenting inflexibility is predictive of less positive parenting practices provides further empirical evidence for Daks and Rogge's (2020) argument that parents who respond rigidly to stressful

experiences may find it more difficult to respond to their children's misbehavior in a sensitive, compassionate, and responsive manner. However, contrary to prior research (Brassell et al., 2016), after taking parenting inflexibility into account, the paths from positive parenting to child behavioral problems were not significant in this study. Because parenting inflexibility was more strongly related to child behavioral problems than positive parenting, there may not have been enough unique variance for positive parenting practices to mediate these relations. Although these findings were unexpected, there are a few potential explanations that may account for inconsistencies with prior research. First, positive parenting practices were examined separately from negative parenting practices in the current study, while a composite of both positive and negative parenting practices were shown to mediate the relationship between parenting inflexibility and child internalizing and externalizing behaviors in Brassell and colleagues' (2016) study. In addition, given that our mediation analyses were based on a group of mothers who reported significantly lower levels of parenting inflexibility compared to prior research (Greene et al., 2015), range restriction may have been a factor in the current sample. It is possible that because mothers in the current sample endorsed low levels of parenting inflexibility, their children did not engage in a clinically significant number of internalizing or externalizing behaviors, as only 10.8% of the sample reported clinically significant internalizing and/or externalizing behaviors (i.e., z-score greater than or equal to 1.5 SD above the mean). Lastly, perhaps the 6-PAQ better captures parenting *in*flexibility than parenting *flex*ibility, as low-levels on this measure may not necessarily indicate parenting flexibility. Daks and Rogge (2020) recommend measuring psychological flexibility separately from psychological inflexibility and

examining these variables as separate constructs because the literature has demonstrated that flexibility and inflexibility have unique relations. For instance, they found that a process of parenting inflexibility (i.e., cognitive fusion) was more strongly related to negative parenting practices than a process of parenting flexibility (i.e., acceptance), and cognitive fusion was not as strongly related to positive parenting practices compared to acceptance (Burke & Moore, 2015). Therefore, the fact that we measured parenting inflexibility (rather than flexibility) and the sample of mothers had low levels of inflexibility in the current study may have resulted in the non-significant effect of parenting inflexibility on child behaviors through positive parenting practices.

Another aim of the current study was to examine the relationship between parenting inflexibility and child routines. As hypothesized, a significant negative correlation was observed between parenting inflexibility and child routines; however, counter to our hypotheses, child routines did not mediate the relationship between parenting inflexibility and child internalizing behaviors (or externalizing behaviors). Mothers who endorsed high levels of parenting inflexibility reported less frequent child routines, consistent with Greene et al. (2015)'s theory that parents with high levels of parenting inflexibility may not want to deal with their children's reactions, and thus may have a difficult time initiating or maintaining routines.

However, less frequent child routines were not, in turn, linked to more child internalizing or externalizing behaviors. This unexpected finding may be attributable to the weak correlations between child routines and child internalizing behaviors (r = -.24) and between child routines and child externalizing behaviors (r = -.28). Of note, the correlation between child routines and child externalizing behaviors is weaker in

magnitude than observed in previous studies, which have demonstrated correlations of -.35 to -.42 between child routines and externalizing behavior among school-aged children (Jordan, 2003; Sytsma et al., 2001). Unlike prior studies, winsorization was used to address outliers on externalizing behavior in the current study. While this approach reduced skewness of the variable, this may have resulted in a weaker correlation coefficient because the outliers replaced through winsorization were likely clinical cases. These contrasting results may also relate to sampling differences observed in this predominantly White and geographically diverse sample recruited from MTurk, whereas previous samples were recruited from clinics and schools in the South and included a greater percentage (i.e., 34% to 38%) of Black individuals.

The correlation between child routines and internalizing behaviors was comparable to previous studies (i.e., r = -.17 to -.26; Bridley & Jordan, 2012; Jordan, 2003); nevertheless, the use of a community sample may have contributed to the non-significant path from child routines to child behaviors. Given the current study demonstrated a significant relation between parenting inflexibility and child routines, it is suggested that future research examine this relationship further using a more diverse sample (i.e., with more clinical cases).

Given that our data were collected during the COVID-19 pandemic, it was important to assess whether the current sample differed from previous samples in regard to child routines. As mentioned in the Results section, the raw mean and standard deviation of child routines were comparable to previous community samples with school-aged children (Bridley & Jordan, 2012; Jordan, 2003). However, it is important to acknowledge that school arrangements and working situations still deviated from

"normal" for some of the sample; specifically, 25.5% of the children were attending school virtually and 47.7% of their maternal caregivers were working from home. Because the data were collected slightly over one year from the beginning of the COVID-19 pandemic and these school arrangements/working situations had been in place for approximately one year, the families in the current study had likely re-established consistent routines by the time our data were collected. Accordingly, most of the sample rated that their overall level of routine as similar to before COVID-19 or mildly disrupted. Because the mean and standard deviation of child routines were similar to those obtained from prior samples, we are able to more confidently generalize the results of the current study to current and future situations.

Future Research

Research on psychological inflexibility in the context of parenting is relatively limited, and the findings of the current study highlight the need for future research. Primarily, research in this area could benefit from exploring other parenting factors as possible mediators of the relation between parenting inflexibility and child behavioral problem. Since there were direct effects in our mediation models, this suggests that there may be other mechanisms in play to explain these relations that were not tested in these models. For example, children's self-regulation could be a potential mediator, as it has been shown to be a mechanism through which negative parenting practices, positive parenting practices, and child routines relate to externalizing behaviors among preschoolers (Bater, 2018; Bater & Jordan, 2017). Moreover, the path from positive parenting practices (and from child routines) to child behavioral problems may also have been nonsignificant because these relationships are mediated by child self-regulation.

Self-regulation would make sense as an additional mediator because parents model how to respond to and regulate their own negative emotions for their children, and it may be through their parenting practices and routines that children learn to develop self-regulation (Bater & Jordan, 2017; Shea & Coyne, 2011). Another potential mechanism is parenting stress, which has been associated with more psychological inflexibility, more negative parenting practices, less positive parenting practices, and more child behavioral problems (Jordan, 2003; Mak et al., 2020; Shea & Coyne, 2011; Stone et al., 2016). Future research also should examine parenting inflexibility in relation to more adaptive outcomes (e.g., prosocial behaviors), given the importance of prosocial behaviors in developing resilience in children and preventing long-term behavioral problems (Leeming & Hayes, 2016).

Future research would also benefit from examining parent psychopathology (e.g., depression, anxiety) in the models. In the literature, parent psychopathology is linked with more parenting inflexibility and more negative parenting practices (Emerson et al., 2019; Shea & Coyne, 2011) as well as child behavioral problems. Coyne and Wilson (2004) assert that parents with anxiety or depression are more likely to avoid distressing thoughts and feelings concerning their parenting. Thus, the relations among the study variables may be more robust when examined in the context of parent psychopathology. Future studies that consider parent psychopathology in the models may help identify important targets (e.g., parenting inflexibility) for interventions.

Lastly, future researchers may want to identify which specific processes of parenting inflexibility are more likely to predict child behavioral problems. Of note, two processes (i.e., experiential avoidance and inaction) have most consistently been

examined in the parenting inflexibility research (Brown et al., 2015; Cheron et al., 2009; Emerson et al., 2019; Moyer & Sandoz, 2015). Identifying the specific ways that parents respond in rigid and inflexible manners to distressing experiences which lead to child behavioral problems is important because the identified processes may specifically be targeted for intervention.

Limitations

The study has limitations that should be considered when interpreting the findings. First, self- and parent-report measures from a single informant (i.e., maternal primary caregiver) were used to collect the data for this study. A multi-informant, multi-method approach would strengthen the results of this study. Although MTurk was used to obtain a more geographically diverse sample, this sample was predominantly White, married, and well-educated with middle income; therefore, the implications of this study's findings to families from more diverse backgrounds should be generalized with caution. Additionally, this study utilized a cross-sectional design to examine a caregiver's behavior, frequency of routines, and child behavior at a single point in time instead of across several time points. Moreover, when the significant models were reversed to further test the temporal relationship between the variables, the alternate models were also significant. Thus, the use of a longitudinal design should be employed in future studies to further examine the temporal relationship (including bidirectional relationships) among these variables. Another limitation was only including school-aged children in the study, thus limiting the generalizability of the findings to other age groups (e.g., preschool-aged children). Finally, this sample exhibited lower levels of parenting inflexibility compared to prior research (Greene et al., 2015) and low levels on this

measure may not necessarily indicate parenting flexibility, suggesting that more robust findings may be demonstrated if the sample had greater parenting inflexibility and if parenting flexibility was measured and examined separately.

Conclusion

The current study expanded upon the relatively limited research on psychological flexibility in the context of parenting. Findings from this study offer support for the theory that parenting inflexibility is displayed through negative parenting practices, leading to more child behavioral problems (Cheron et al., 2009; Coyne & Wilson, 2004). Moreover, a bidirectional relationship was identified suggesting that parenting inflexibility and negative parenting practices likely exacerbate each other and are both associated with child internalizing and externalizing behaviors. Although positive parenting practices and child routines were not mechanisms through which parenting inflexibility relates to child internalizing and externalizing behaviors in the current study, mothers who endorsed high levels of parenting inflexibility did report engaging in less positive parenting practices and less frequent child routines. Thus, the results highlight the importance of utilizing techniques aimed at reducing parenting inflexibility in clinical practice to help reduce and prevent child behavioral problems.

APPENDIX A – Tables and Figures

Table A1.

Descriptive Characteristics of Maternal Caregivers

Caregiver Characteristics	**N**	**%**
Respondent Relation to Target Child		
Biological parent	147	93.6
Step-parent	5	3.2
Adoptive parent	2	1.3
Legal Guardian (e.g., foster parent)	1	0.6
Other (i.e., grandmother, aunt)	2	1.3
Household Highest Education Level		
Maternal Caregiver Education		
High school graduate	8	5.1
Some College (At least 1 Year) Or Specialized Training	42	26.8
Standard College or University Graduate	74	47.1
Graduate Professional Degree (Master's Doctorate)	33	21.0
Other Caregiver Education		
Junior high school (7th, 8th, 9th grade)	1	0.6
Some high school (10th, 11th grade)	4	2.5
High school graduate	19	12.1
Some College (At least 1 Year) Or Specialized Training	31	19.7
Standard College or University Graduate	38	24.2
Graduate Professional Degree (Master's Doctorate)	24	15.3
Marital Status		
Single (never married)	23	14.6
Currently married	104	66.2
Currently living together (not married)	8	5.1
Separated	2	1.3
Divorced	20	12.7
Household Employment		
Maternal Caregiver Employment		
None, Unemployed	32	20.4
None, Disabled	2	1.3
Yes, Part-Time	35	22.3
Yes, Full-Time	88	56.1
Other Caregiver Employment		
None, Unemployed	5	3.2

Table A1 Continued.

None, Disabled	3	1.9
Yes, Part-Time	9	5.7
Yes, Full-Time	100	63.7
Number of Hours of Work per Week		
Maternal Caregiver Work Hours		
0 hours	32	20.3
Less than 40 hours	50	31.7
40 or more hours	75	47.6
Other Caregiver Work Hours		
0 hours	8	5.1
Less than 40 hours	10	6.2
40 or more hours	99	62.8
Family Income		
Earns Less Than $10,000	3	1.9
$10,000-19,999	5	3.2
$20,000-29,999	7	4.5
$30,000- $ 39,999	19	12.1
$40,000- $49,999	18	11.5
$50,000- $74,999	40	25.5
$75,000- $99,999	26	16.6
$100,000- 124,999	14	8.9
$125,000- $149,999	13	8.3
$150,000- $ 199,999	9	5.7
More than $200,000	3	1.9
Number of Adults in the Home		
1	30	19.1
2	108	68.8
3	17	10.8
4	1	0.6
5	1	0.6
Number of Children in the Home		
1	34	21.7
2	66	42.0
3	36	22.9
4	17	10.8
5	3	1.9
7	1	0.6

Table A2.

Descriptive Characteristics of Target Child

Child Characteristics	**N**	**%**
Child Gender		
Male	67	42.7
Female	90	57.3
Child Age		
6	21	13.4
7	28	17.8
8	21	13.4
9	29	18.5
10	27	17.2
11	11	7.0
12	20	12.7
Child Race		
White	120	76.4
Black or African American	11	7.0
Asian	3	1.9
White Hispanic	10	6.4
Non-White Hispanic	2	1.3
American Indian or Alaska Native	2	1.3
Native Hawaiian or Other Pacific Islander	1	0.6
Multiracial	7	4.5
Other (i.e., Hispanic)	1	0.6
Child Clinical Diagnosis		
ADHD	10	6.4
Oppositional Defiant Disorder (ODD)	1	0.6
Speech/Language Impairment	11	7.0
Separation Anxiety Disorder	3	1.9
Specific Phobia	1	0.6
Other (e.g., anxiety, OCD)	4	2.5
Medication for Attention/Behavior		
Psychostimulants/ADHD Medication	3	1.9
Nonstimulant ADHD Medication	3	1.9
Antidepressants/Antianxiety Medication	2	1.3

Table A2 Continued.

Antipsychotics	1	0.6

Table A3.

Descriptive Characteristics of the Impact of COVID-19

COVID-19 Characteristics	**N**	**%**
Stress Level due to COVID-19		
Lower than usual	9	5.7
About the same as usual	69	43.9
Higher than usual	79	50.3
Current School Arrangements		
In-person instruction for the whole day	66	42.0
In-person instruction for part of the day	11	7.0
In-person instruction some days, virtual classes the other days	21	13.4
Virtual classes all day	40	25.5
Virtual classes for part of the day	16	10.2
Paper materials sent home	9	5.7
Home schooling	20	12.7
Current Child-Care		
Child at home all the time	113	72.0
Child in day-care all day	12	7.6
Child in day-care part of the day	12	7.6
Child in care of other caregiver	18	11.5
Level of Routine		
Similar to before COVID-19	58	36.9
Mildly disrupted	56	35.7
Moderately disrupted	34	21.7
Severely disrupted	9	5.7
Maternal Caregiver's Current Work Situation		
Working exclusively from home	50	31.8
Working part-time from home/part-time at work	25	15.9
Working full-time at work	50	31.8
Not currently working	32	20.4

Table A3 Continued.

Other Caregiver's Current Work Situation		
Working exclusively from home	30	19.1
Working part-time from home/part-time at work	17	10.8
Working full-time at work	85	54.1
Not currently working	21	13.4

Table A4.

Bivariate Correlations and Descriptive Statistics for Study Variables and Demographic Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Parenting Inflexibility	--												
2. Positive Parenting Practices	-.34***	--											
3. Negative Parenting Practices	.61***	-.22**	--										
4. Child Routines	-.54***	.57***	-.36***	--									
5. Child Internalizing Behaviors	.51***	-.28***	.52***	-.24**	--								
6. Child Externalizing Behaviors	.49***	-.25**	.51***	-.28***	.67***	--							
7. Child Gender	.03	-.04	-.08	.01	.03	.17*	--						
8. Child Age	-.17*	-.14	-.08	.09	.05	-.08	-.01	--					
9. Child Race	-.02	.11	-.06	-.0004	-.04	.04	.09	-.06	--				
10. Child Disorder Status	.06	.02	.15	-.01	.07	.16*	-.02	-.23**	.03	--			
11. Child Medication Status	.12	-.14	.22**	-.11	.13	.24**	.08	-.04	-.20*	.36***	--		
12. Mother Age	-.16*	.07	-.01	.08	-.07	-.07	.03	.29***	.03	-.01	.02	--	
13. Parental Marital Status	.18*	-.01	.05	.06	-.003	-.06	.02	-.17*	.05	-.05	.08	-.03	--
14. Family Income	.11	.06	-.11	.004	-.04	-.10	-.01	-.08	.04	-.05	-.04	.29***	.37***
Mean	-0.03	0.01	-0.05	0.03	-0.22	-0.29	--	--	--	--	--	--	--
SD	0.98	0.91	0.75	0.95	1.04	1.03	--	--	--	--	--	--	--
Skewness	0.38	-0.45	1.60	-0.49	1.71	1.88	--	--	--	--	--	--	--
Kurtosis	-0.27	-0.18	3.43	-0.05	2.96	3.14	--	--	--	--	--	--	--
Minimum	-1.74	-3.00	-1.09	-2.63	-1.20	-1.10	--	--	--	--	--	--	--
Maximum	2.85	1.55	2.87	1.83	3.40	3.20	--	--	--	--	--	--	--
Range	4.60	4.54	3.96	4.46	4.60	4.30	--	--	--	--	--	--	--

Note. [a]Child Gender was coded as Male = 1 and Female = 2. [b]Child Race was dichotomized as Non-White = 0 and White = 1. [c]Child Disorder Status was dichotomized as No Disorder = 0 and Disorder = 1. [d]Child Medication Status was dichotomized as Not Medicated = 0 and Medicated = 1. [e]Marital Status was coded as Not Married or Living Together = 0 and Married or Living Together = 1. * p < .05 **p < .01 *** p < .001.

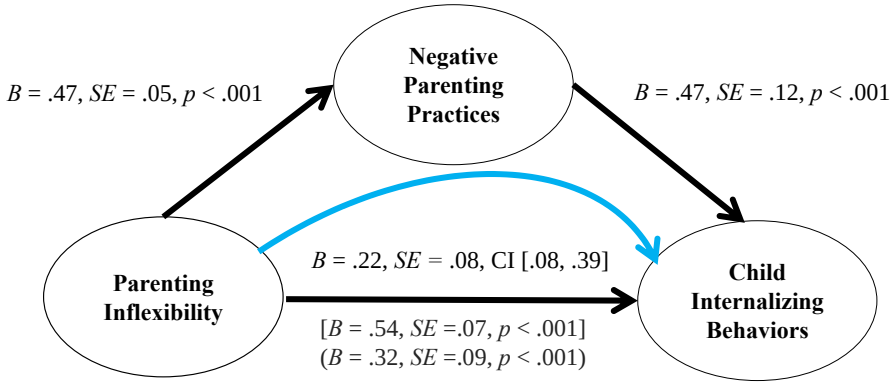

Figure A1. *Simple Mediation Model of Parenting Inflexibility on Child Internalizing Behaviors through Negative Parenting Practices*

Note. Unstandardized regression coefficients are reported. The statistics in brackets show the total effect of parenting inflexibility on child internalizing behaviors. The statistics in parenthesis show the direct effect of parenting inflexibility on child internalizing behaviors, after controlling for the indirect effect of negative parenting practices. The indirect effect (depicted in blue below the curved arrow) was significant based on an asymmetric 95% confidence interval with 5,000 resamples with replacement (Hayes, 2017).

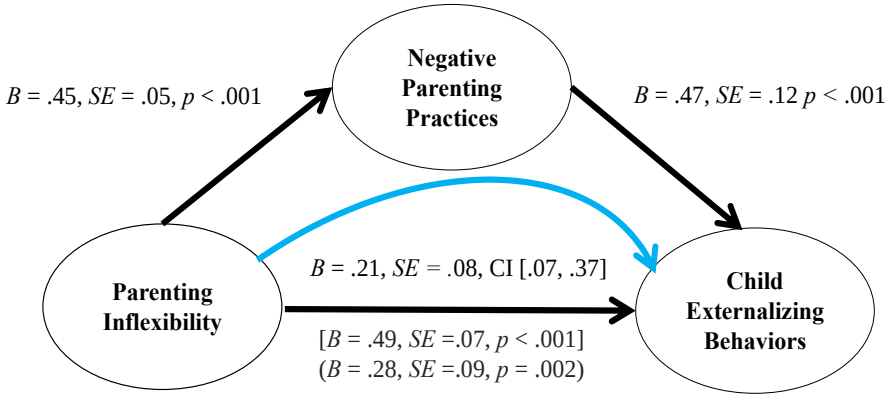

Figure A2. *Simple Mediation Model of Parenting Inflexibility on Child Externalizing Behaviors through Negative Parenting Practices*

Note. Unstandardized regression coefficients are reported. The statistics in brackets show the total effect of parenting inflexibility on child externalizing behaviors. The statistics in parenthesis show the direct effect of parenting inflexibility on child externalizing behaviors, after controlling for the indirect effect of negative parenting practices. The indirect effect (depicted in blue below the curved arrow) was significant based on an asymmetric 95% confidence interval with 5,000 resamples with replacement (Hayes, 2017).

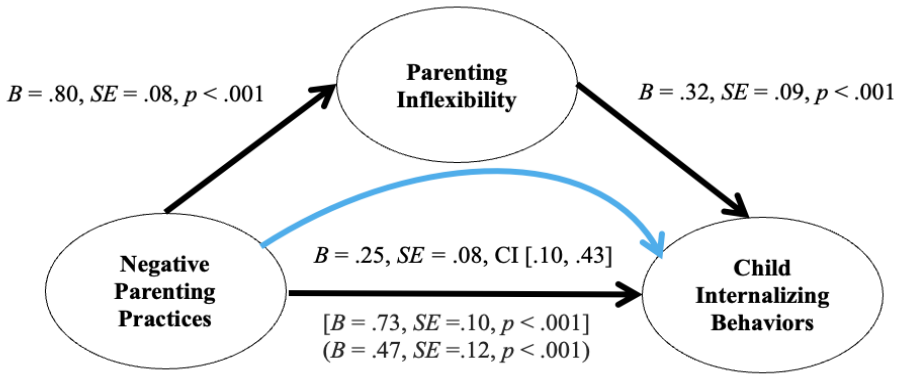

Figure A3. *Simple Mediation Model of Negative Parenting Practices on Child Internalizing Behaviors through Parenting Inflexibility*

Note. Unstandardized regression coefficients are reported. The statistics in brackets show the total effect of negative parenting practices on child internalizing behaviors. The statistics in parenthesis show the direct effect of negative parenting practices on child internalizing behaviors, after controlling for the indirect effect of parenting inflexibility. The indirect effect (depicted in blue below the curved arrow) was significant based on an asymmetric 95% confidence interval with 5,000 resamples with replacement (Hayes, 2017).

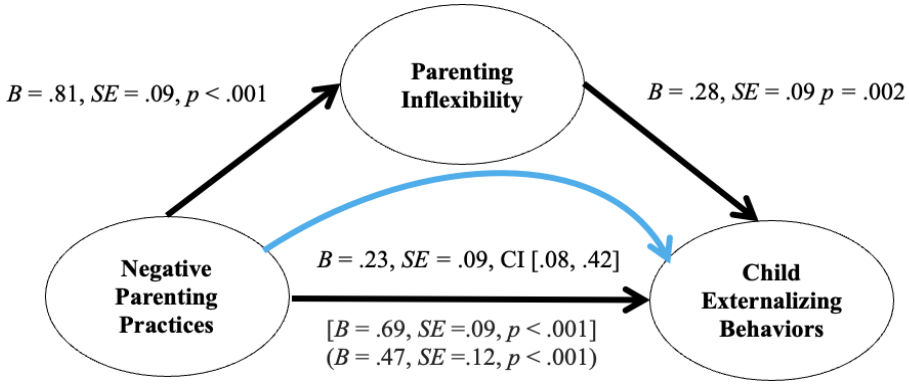

Figure A4. *Simple Mediation Model of Negative Parenting Practices on Child Externalizing Behaviors through Parenting Inflexibility*

Note. Unstandardized regression coefficients are reported. The statistics in brackets show the total effect of negative parenting practices on child externalizing behaviors. The statistics in parenthesis show the direct effect of negative parenting practices on child externalizing behaviors, after controlling for the indirect effect of parenting inflexibility. The indirect effect (depicted in blue below the curved arrow) was significant based on an asymmetric 95% confidence interval with 5,000 resamples with replacement (Hayes, 2017).

APPENDIX B – Demographic Questionnaire

Directions: This questionnaire is for maternal caregivers with a child between 6 and 12 years old. **If you have more than one child in the age range, select one child randomly and answer all questionnaires with that child in mind**. There are no right or wrong answers. Please answer as honestly as possible. If there is an item that you do not wish to answer, you may skip it and move to the next one.

GENERAL INFORMATION

Do you live in the United States of America? _____ YES _____ NO

Are you a mother of a child between the ages of 6 and 12? _____ YES _____ NO

Does your child have an autism spectrum disorder? _____ YES _____ NO

Has your child been diagnosed with an intellectual disability?
_____ YES _____ NO

Child's Date of Birth: _____ Child's Age: _____
Child's Grade Level: _____

Child's Gender (Select one): _____ Male _____ Female
___ Other (please specify):_____

Child's Race/Ethnicity (Select one):
_____ American Indian/Alaska Native
_____ Asian
_____ Black/African American
_____ Native Hawaiian/Other Pacific Islander
_____ White
_____ White Hispanic
_____ Non-White Hispanic
_____ Multiracial
_____ Other (please explain): _____

Has your child ever received services from a counselor, psychologist, or physician for behavior problems? _____ YES _____ NO

If yes, indicate dates of service:
Start Date: _____ End Date: _____

Has your child been diagnosed with:
_____ Attention-Deficit/Hyperactivity Disorder
_____ Oppositional Defiant Disorder
_____ Speech/Language Impairment
_____ Separation Anxiety Disorder
_____ Specific Phobia (If yes, state type of fear:_____)
_____ Other (please explain): _____

Who diagnosed your child?
___ Pediatrician/Physician/Nurse Practitioner
___ Psychologist
___ Licensed Professional Counselor (LPC)
___ Licensed Clinical Social Worker
___ Other (please explain): _____

Does your child take medication for his or her attention or behavior?
_____YES _____NO
If yes, what?
____ Psychostimulants/ADHD Medication (Ritalin, Concerta, Adderall, Vyvanse, etc.)
____ Nonstimulant ADHD Medication (Straterra, Guanfacine, etc.)
____ Antidepressants/Anti-Anxiety Medication (Zoloft, Prozac, etc.)
____ Antipsychotics (Risperdal/Risperadone, Geodon, Seroquel, Clonidine, etc.)
____ Other (please list): _____

INFORMATION ON PRIMARY *MATERNAL* CAREGIVER OF CHILD

Your Age: _____
Your Gender (Select one): _____Male _____ Female
___ Other (please specify):_____

Are you the child's legal guardian or parent? _____ YES _____ NO

Your relation to the child:
___ Biological parent
___ Step parent
___ Adoptive parent
___ Legal guardian (e.g., foster parent)
___ N/A
___ Other (please explain):_____

Current employment: ___ None, unemployed
___ None, disabled
___ Yes, part-time
___ Yes, full-time

On average, how many hours per week do you work? ____

Occupation/ job position (please be very specific e.g., cashier at a supermarket, high school teacher):
_____

Highest grade completed in school (mark one):

_____ 6th grade or less

_____ Junior high school (7th, 8th, 9th grade)

_____ Some high school (10th, 11th grade)

_____ High school graduate

_____ Some college (at least 1 year) or specialized training

_____ Standard college or university graduate

_____ Graduate professional degree (Master's, Doctorate)

INFORMATION ON *OTHER* CAREGIVER OF CHILD

Is there ANOTHER CAREGIVER in the home? _____ YES _____ NO

Other caregiver's gender: _____Male _____ Female
___ Other (please specify):_____

Other caregiver's age: _____

Other caregiver's relation to child: ___ Biological parent
___ Step parent
___ Adoptive parent
___ Legal guardian (e.g., foster parent)
___ N/A
___ Other (please explain):_____

Other caregiver's current employment: ___ None, unemployed
___ None, disabled
___ Yes, part-time
___ Yes, full-time

On average, how many hours per week does the other caregiver work? ____

Other caregiver's occupation/ job position (please be very specific e.g., cashier at a supermarket, high school teacher):

_____
_____

Other caregiver's highest grade completed in school (mark one):

_____ 6th grade or less

_____ Junior high school (7th, 8th, 9th grade)

_____ Some high school (10th, 11th grade)

_____ High school graduate

_____ Some college (at least 1 year) or specialized training

_____ Standard college or university graduate

_____ Graduate professional degree (Master's, Doctorate)

PARENTAL AND FAMILY STATUS

Marital status of child's biological parents: _____ Single (never married)
_____ Currently married
_____ Currently living together (not married)
_____ Separated
_____ Divorced
_____ Widowed

If Separated or Divorced, please indicate your legal custody arrangements:
___Sole custody ___Joint custody

If Separated or Divorced, please indicate your physical custody arrangements:
___Sole custody ___Joint custody

If Separated or Divorced, please rate the following statement:
My child's daily routines are the same at both households.

Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1	2	3	4	5

Not Applicable
Don't Know

Are you currently: ___ raising your child alone?
___ raising your child with a husband/wife, or partner/significant other?
___ raising your child with the help of family members?

How many adults (age 18+), including yourself, live in your home? _____

How many children (<18), including the target child, live in your home? _____

Your level of involvement with child care for this particular child?

Almost None	Low	Moderate	High	Nearly All
1	2	3	4	5

Other caregiver's level of involvement with child care for this particular child?

Almost None	Low	Moderate	High	Nearly All
1	2	3	4	5

List all the people living in your household (e.g., Mother, Cousin etc.).

How many people are involved in this child's care?

Taking into account all sources of income (wages, interest, government assistance, child support, etc.), please estimate the total family income on a yearly basis BEFORE taxes.

*(This is for research purposes **ONLY**. No identifying information will be listed with these data*)

(**Enter corresponding Number from column at right)** _____

0= Earns no income/dependent on welfare
1=Earns less than $10,000
2= $10,000- $19,999
3= $20,000- $ 29,999
4= $30,000- $ 39,999
5= $40,000- $49,999
6= $50,000- $74,999
7= $75,000- $99,999
8= $100,000- 124,999
9= $125,000- $149,999
10= $150,000- $ 199,999
11= More than $200,000

Are you receiving any form of government assistance (e.g. AFCD, SSI)?
_____ YES _____ NO

*(This is for research purposes **ONLY**. No identifying information will be paired with these data*)

Who is the primary wage earner in the family?

___ Mother
___ Father
___ Both equally
___ Other (please explain):
_____

Primary language spoken in the home: _____

Other languages spoken in the home: _____

COVID-19 SPECIFIC DEMOGRAPHIC QUESTIONS

Has a doctor or other health care provider ever told you that <u>you</u> have COVID-19?

1. Yes
2. No
3. Not sure

Has a doctor or other health care provider ever told someone you live with that they have COVID-19?

1. Yes
2. No
3. Not sure

Have you had a family member or close friend die from COVID-19 or respiratory illness since March 2020?

1. Yes
2. No
3. Not sure

How would you rate your stress level due to COVID-19?

1. Higher than usual
2. About the same as usual
3. Lower than usual

How did your child's school arrangements change in March 2020 after COVID-19? Select all that apply.

1. Classes normally taught in person at the school were cancelled
2. Classes normally taught in person moved to a distance-learning format using online resources, either self-paced or in real time
3. Classes normally taught in person moved to a distance-learning format using paper materials sent home to the child
4. Classes normally taught in person changed in some other way -- Please specify: _____
5. There was no change because schools did not close

What is your child's current school arrangements? Select all that apply.

1. In-person instruction for the whole day
2. In-person instruction for part of the day
3. In-person instruction some days, virtual classes the other days
4. Virtual classes all day (e.g., zoom; google classroom; Microsoft Teams)
5. Virtual classes for part of the day
6. Paper materials sent home
7. Home schooling
8. Other -- Please specify: _____

How did your child-care change in March 2020 after COVID-19?

1. Child at home all the time
2. Child in day-care all day
3. Child in day-care part of the day
4. Child in care of other caregiver (e.g., babysitter; grandparent)
5. There was no change in child-care

How would you describe your child-care in the past month?

1. Child at home all the time
2. Child in day-care all day
3. Child in day-care part of the day
4. Child in care of other caregiver (e.g., babysitter; grandparent)

How would you rate your overall level of routine in the past month?

1. Similar to before COVID-19
2. Mildly disrupted
3. Moderately disrupted
4. Severely disrupted

How did your work situation change in March 2020 after COVID-19?

1. Working stayed the same
2. Worked exclusively from home
3. Worked part-time from home/part-time at work
4. Was not working

How did the other caregiver/parent's work situation change in March 2020 after COVID-19?

1. Working stayed the same
2. Worked exclusively from home
3. Worked part-time from home/part-time at work
4. Was not working

What is your current work situation?

1. Working exclusively from home
2. Working part-time from home/part-time at work
3. Working full-time at work
4. Not currently working

What is the other caregiver/parent's current work situation?

1. Working exclusively from home
2. Working part-time from home/part-time at work
3. Working full-time at work
4. Not currently working

Have you, or has anyone in your household experienced a loss of employment income since March 2020?

1. Yes
2. No

APPENDIX C – IRB Approval Letter

Office *of*
Research Integrity

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

118 COLLEGE DRIVE #5125 • HATTIESBURG, MS | 601.266.6576 | USM.EDU/ORI

NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.
- Face-to-Face data collection may not commence without prior approval from the Vice President for Research's Office.

PROTOCOL NUMBER: IRB-21-23
PROJECT TITLE: Parenting Practices and Routines as Mediators of Parenting Inflexibility and Child Behaviors
SCHOOL/PROGRAM: School of Psychology, Psychology
RESEARCHER(S): Lauren Short, Sara Jordan, Kristy Larsen, Abigail Keenum

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: February 17, 2021

Donald Sacco Jr.

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

APPENDIX D – Consent Form

Consent for Participation in a Research Study

Title of Research Project: Parenting Inflexibility and Child Behavior Study

Project Director:

Sara Jordan, Ph.D.
School of Psychology
University of Southern Mississippi
(601) 266-4587

Student Researcher: Lauren A. Short, B. S.

Purpose: We, researchers at the University of Southern Mississippi, invite you, as a maternal caregiver of a child ages 6-12, to participate in a research project regarding potential characteristics of you, your child, your parenting, and your child's behaviors. The information you provide about yourself and your child will assist in research about the complex relations between child and parent characteristics, parenting strategies, home environments, and child behaviors.

Procedures: As a participant for this research project, you will be asked to complete a few questionnaires about your own history (e.g., age, ethnicity, annual income), various aspects of your psychological well-being, along with your child's personal information (e.g., age, ethnicity, gender) and behaviors. You will also be asked about your parenting strategies and your home environment. Based on testing and norming of the study completed without distractions, these questionnaires should take about 25 minutes to complete. The projected time it takes to complete this study is the basis of compensation ($3.00). **Attention and validity checks will be used to make sure participants are reading the questions and answering thoughtfully. Participants who pass the majority of the checks (i.e., 3 of the 4 attention checks and all the validity checks) will receive full compensation. Participants who do NOT pass these checks will ONLY be compensated $0.01. Additionally, you will be given a survey code at the end of the survey. You MUST enter your survey code to obtain compensation. If you enter your TurkID, there is no way to verify your data and you will not be compensated.**

****INCLUSION/EXCLUSION CRITERIA****
In order to participate in this study, you must be at least 18 years old, live in the United States, be a maternal caregiver of a child between the ages of 6 to 12, and be able to read in English. Your child must NOT have been diagnosed with autism spectrum disorder or an intellectually disability.

If you would like more information about the procedures used, or any other questions regarding this research project, please contact Lauren Short, B. S. at lauren.short@usm.edu, or Sara Jordan, Ph.D. at sara.jordan@usm.edu.

Potential Benefits: You will obtain **$3.00** for completing the entire study and passing the attention and validity checks. If you do NOT pass the majority of the attention and validity checks, as mentioned above, then you will ONLY be compensated $0.01. If you only complete a portion of the study, but pass the attention and validity checks, you will receive a pro-rated compensation via the "pay bonus" feature in MTurk for the number of questionnaires completed (e.g., $1.50 for completing half of the questionnaires). Results obtained from the information provided by you, along with other participants, will assist in our understanding of the relations between parenting behaviors and child behavioral problems. Thus, you may feel satisfied knowing that your responses are assisting researchers in understanding these complex relations, which may aid in the development of future research and interventions designed to help reduce child behavioral problems.

Potential Risks: The risks of your participation are minimal. There is the possibility that you may experience discomfort responding to these questions if you find the information requested to be private. Some questions ask about specific parenting and discipline practices you may not want to answer. If there are specific questions that you do not feel comfortable answering, you are welcome to skip those questions. Skipping such questions will not affect your compensation. If you become so uncomfortable that you wish to discontinue, you may do so by closing your browser window at any time. In addition, you may not receive full compensation for this study if you fail the attention and validity checks and/or prematurely discontinue the survey; however, you would still be compensated a pro-rated amount as detailed in the potential benefits section.

Voluntary Participation: Participation in this research project is entirely voluntary. You may withdraw from the research project at any time by closing the browser window or closing the program to withdraw from the study. You may also skip certain questions if you do not feel comfortable answering them.

Confidentiality: This consent form will be signed electronically via a checkbox at the bottom of the screen if you choose to participate in the study. You will be credited for your participation once the survey has been carefully and thoughtfully completed. Your MTurk ID will be entered into the database to allow the research team to ensure that individuals who provide survey codes indicating that they completed the survey actually did so and provided valid answers in a reasonable timeframe. No other personally identifying information will be recorded.

When the data are used in research, no specific or identifying information will be provided that could result in being able to identify your personal responses. Any reports and presentations about the findings from this study will not include your name or any other information that could identify you.

Alternative Procedures: MTurk provides a large number of surveys at any given time. Individuals can freely choose to participate in these other surveys.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects following federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (609) 266-6820.

Please indicate, in the box below, that you are at least 18 years old, live in the United States, are the maternal caregiver of a child between the ages of 6 and 12, and have read and understand this consent form, and you voluntarily agree to participate in this online research study.

REFERENCES

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for ASEBA school-age forms & profiles.* University of Vermont, Research Center for Children, Youth, and Families.

Bater, L. R. (2018). Structural model of child routines and self-regulation in relation to parenting and externalizing behavior problems in young children (Publication No. 1607) [Doctoral dissertation, University of Southern Mississippi]. The Aquila Digital Community.

Bater, L. R., & Jordan, S. S. (2017). Child routines and self-regulation serially mediate parenting practices and externalizing problems in preschool children. *Child & Youth Care Forum*, *46*(2), 243–259. https://doi.org/10.1007/s10566-016-9377-7

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, *42*(4), 676–688. https://doi.org/10.1016/j.beth.2011.03.007

Brassell, A. A., Rosenberg, E., Parent, J., Rough, J. N., Fondacaro, K., & Seehuus, M. (2016). Parent's psychological flexibility: Associations with parenting and child psychosocial well-being. *Journal of Contextual Behavioral Science*, *5*(2), 111–120. https://doi.org/10.1016/j.jcbs.2016.03.001

Brenner, V., & Fox, R. A. (1998). Parental discipline and behavior problems in young children. *Journal of Genetic Psychology*, *159*(2), 251. https://doi.org/10.1080/00221329809596149

Bridley, A., & Jordan, S. S. (2012). Child routines moderate daily hassles and children's psychological adjustment. *Children's Health Care*, *41*(2), 129–144. https://doi.org/10.1080/02739615.2012.657040

Brown, F. L., Whittingham, K., & Sofronoff, K. (2015). Parental experiential avoidance as a potential mechanism of change in a parenting intervention for parents of children with pediatric acquired brain injury. *Journal of Pediatric Psychology*, *40*(4), 464–474. https://doi.org/10.1093/jpepsy/jsu109

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, *6*, 3-5. https://doi.org/10.1177/1745691610393980

Burke, K., & Moore, S. (2015). Development of the parental psychological flexibility questionnaire. *Child Psychiatry & Human Development*, *46*(4), 548–557. https://doi.org/10.1007/s10578-014-0495-x

Cheron, D. M., Ehrenreich, J. T., & Pincus, D. B. (2009). Assessment of parental experiential avoidance in a clinical sample of children with anxiety disorders. *Child Psychiatry & Human Development*, *40*(3), 383–403. https://doi.org/10.1007/s10578-009-0135-z

Chmielewski, M., & Kucker, S. C. (2020). An MTurk crisis? Shifts in data quality and the impact on study results. *Social Psychological and Personality Science*, *11*(4), 464–473. https://doi.org/10.1177/1948550619875149

Coln, K., Jordan, S., & Mercer, S. (2013). A unified model exploring parenting practices as mediators of marital conflict and children's adjustment. *Child Psychiatry & Human Development*, *44*(3), 419–429. https://doi.org/10.1007/s10578-012-0336-8

Coyne, L. W., & Wilson, K. G. (2004). The role of cognitive fusion in impaired parenting: An RFT analysis. *International Journal of Psychology & Psychological Therapy*, *4*(3), 469–486.

Daks, J. S., & Rogge, R. D. (2020). Examining the correlates of psychological flexibility in romantic relationship and family dynamics: A meta-analysis. *Journal of Contextual Behavioral Science, 18,* 214-238. https://doi.org/10.1016/j.jcbs.2020.09.010

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, *113*(3), 487–496. https://doi.org/10.1037/0033-2909.113.3.487

Duncombe, M., Havighurst, S., Holland, K., & Frankling, E. (2012). The contribution of parenting practices and parent emotion factors in children at risk for disruptive behavior disorders. *Child Psychiatry & Human Development*, *43*(5), 715–733. https://doi.org/10.1007/s10578-012-0290-5

Eisenberg, N., Chang, L., Ma, Y., & Huang, X. (2009). Relations of parenting style to Chinese children's effortful control, ego resilience, and maladjustment. *Development and Psychopathology*, *21*(2), 455–477. https://doi.org/10.1017/S095457940900025X

Emerson, L. M., Ogielda, C., & Rowse, G. (2019). The role of experiential avoidance and parental control in the association between parent and child anxiety. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00262

Flujas-Contreras, J. M., García-Palacios, A., & Gómez, I. (2020). Spanish validation of the Parental Acceptance Questionnaire (6-PAQ). *International Journal of Clinical*

and Health Psychology, *20*(2), 163–172. https://doi-org.lynx.lib.usm.edu/10.1016/j.ijchp.2020.03.002

Frick, P. J., Barry, C. T., & Kamphaus, R. W. (2010). *Clinical assessment of child and adolescent personality and behavior* (3rd ed.). New York, NY: Springer.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, *18*, 233-239. http://doi.org/10.1111/j.1467-9280.2007.01882.x

Ghandour, R. M., Sherman, L. J., Vladutiu, C. J., Ali, M. M., Lynch, S. E., Bitsko, R. H., & Blumberg, S. J. (2019). Prevalence and treatment of depression, anxiety, and conduct problems in US children. *The Journal of Pediatrics*, *206*, 256. https://doi-org.lynx.lib.usm.edu/10.1016/j.jpeds.2018.09.021

Greene, R. L., Field, C. E., Fargo, J. D., & Twohig, M. P. (2015). Development and validation of the Parental Acceptance Questionnaire (6-PAQ). *Journal of Contextual Behavioral Science*, *4*(3), 170–175. http://dx.doi.org.lynx.lib.usm.edu/10.1016/j.jcbs.2015.05.003

Gryczkowski, M. R. (2010). *An examination of potential moderators in the relations between mothers' and fathers' parenting practices and children's behavior* (Publication No. 554) [Doctoral dissertation, University of Southern Mississippi]. The Aquila Digital Community.

Gryczkowski, M. R., Jordan, S., & Mercer, S. (2010). Differential relations between mothers' and fathers' parenting practices and child externalizing behavior. *Journal of Child & Family Studies*, *19*(5), 539–546. https://doi.org/10.1007/s10826-009-9326-2

Guajardo, N. R., Snyder, G., & Petersen, R. (2009). Relationships among parenting practices, parental stress, child behaviour, and children's social-cognitive development. *Infant & Child Development*, *18*(1), 37–60. https://doi.org/10.1002/icd.578

Harris, A. N., Stoppelbein, L., Greening, L., Becker, S. P., Luebbe, A., & Fite, P. (2014). Child routines and parental adjustment as correlates of internalizing and externalizing symptoms in children diagnosed with ADHD. *Child Psychiatry and Human Development*, *45*, 243–253. http://doi.org/10.1007/s10578-013-0396-4

Harris, R. (2009). ACT made simple: An easy-to-read-primer on acceptance and commitment therapy. New Harbinger Publications, Inc.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis* (2nd ed.). The Guilford Press.

Hayes, A. F. (2020). *The PROCESS macro for SPSS, SAS and R*. Retrieved October 6, 2020, from http://www.processmacro.org/faq.html

Henderson, J. A., Barry, T. D., Bader, S. H., & Jordan, S. S. (2011). The relation among sleep, routines, and externalizing behavior in children with an autism spectrum disorder. *Research in Autism Spectrum Disorders*, *5*(2), 758–767. https://doi.org/10.1016/j.rasd.2010.09.003

Jordan, S. S. (2003). *Further validation of the Child Routines Inventory (CRI): Relationship to parenting practices, maternal distress, and child externalizing behavior* (Unpublished doctoral dissertation). Louisiana State University, Baton Rouge, Louisiana.

Jordan, S. S., Stary, A. K., & Barry, T. D. (2013, November). Negative parenting practices and child routines as mediators of the relation between maternal distress and child externalizing behavior: Serial and parallel models. In S. S. Jordan (Chair), *Exploring the role of child routines and externalizing disorders across childhood: Implications for prevention and intervention.* A symposium at the 47th annual meeting of the Association for Behavioral and Cognitive Therapies, Nashville, TN.

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, *30*(7), 865–878. https://doi.org/10.1016/j.cpr.2010.03.001

Koblinsky, S. A., Kuvalanka, K. A., & Randolph, S. M. (2006). Social skills and behavior problems of urban, African American preschoolers: Role of parenting practices, family conflict, and maternal depression. *American Journal of Orthopsychiatry*, *76*(4), 554–563. https://doi.org/10.1037/0002-9432.76.4.554

Larsen, K. L., & Jordan, S. S. (2019). Organized chaos: Daily routines link household chaos and child behavior problems. *Journal of Child and Family Studies*. https://doi.org/10.1007/s10826-019-01645-9

Leeming, E., & Hayes, S. C. (2016). Parents are people too: The importance of parental psychological flexibility. *Clinical Psychology: Science and Practice*, *23*(2), 158–160. https://doi.org/10.1111/cpsp.12147

Levin, M. E., MacLane, C., Daflos, S., Seeley, J. R., Hayes, S. C., Biglan, A., & Pistorello, J. (2014). Examining psychological inflexibility as a transdiagnostic

process across psychological disorders. *Journal of Contextual Behavioral Science*, *3*(3), 155–163. https://doi.org/10.1016/j.jcbs.2014.06.003

Mahalanobis, P. C. (1936). On the generalized distance in statistics. *Proceedings of the National Institute of Sciences of India*. 2 (1): 49–55.

Mak, M. C. K., Yin, L., Li, M., Cheung, R. Y.-h., & Oon, P.-T. (2020). The relation between parenting stress and child behavior problems: Negative parenting styles as mediator. *Journal of Child and Family Studies.* Advance online publication. https://doi.org/10.1007/s10826-020-01785-3

Meyers, L. S., Gamst, G., & Guarino, A. J. (2017). *Applied Multivariate Research: Design and Interpretation*, 3rd ed. Thousand Oaks, CA: Sage.

Moyer, D. N., & Sandoz, E. K. (2015). The role of psychological flexibility in the relationship between parent and adolescent distress. *Journal of Child & Family Studies*, *24*(5), 1406–1418. https://doi.org/10.1007/s10826-014-9947-y

Ong, C. W., Lee, E. B., Levin, M. E., & Twohig, M. P. (2019). A review of AAQ variants and other context-specific measures of psychological flexibility. *Journal of Contextual Behavioral Science*, *12*, 329–346. https://doi.org/10.1016/j.jcbs.2019.02.007

Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, *44*, 329–335. https://doi.org/10.1037/0003-066X.44.2.329

Rose, J., Roman, N., Mwaba, K., & Ismail, K. (2017). The relationship between parenting and internalizing behaviours of children: A systematic review. *Early*

Child Development & Care, *188*(10), 1468–1486. https://doi.org/10.1080/03004430.2016.1269762

Shea, S. E., & Coyne, L. W. (2011). Maternal dysphoric mood, stress, and parenting practices in mothers of head start preschoolers: The role of experiential avoidance. *Child & Family Behavior Therapy*, *33*(3), 231–247. https://doi.org/10.1080/07317107.2011.596004

Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child Psychology*, *25*(3), 317-329. https://doi.org/10.1207/s15374424jccp2503_8

Stone, L. L., Mares, S. H. W., Otten, R., Engels, R. C. M. E., & Janssens, J. M. A. M. (2016). The co-development of parenting stress and childhood internalizing and externalizing problems. *Journal of Psychopathology and Behavioral Assessment*, *38*(1), 76–86. https://doi.org/10.1007/s10862-015-9500-3

Stormshak, E. A., Bierman, K. L., McMahon, R. J., & Lengua, L. J. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology*, *29*(1), 17–29. https://doi.org/10.1207/S15374424jccp2901_3

Sytsma, S. E., Kelley, M. L., & Wymer, J. H. (2001). Development and initial validation of the Child Routines Inventory. *Journal of Psychopathology and Behavioral Assessment*, *23*, 241-251. https://doi.org/10.1023/A:1012727419873

Sytsma-Jordan, S., & Kelley, M. L. (2004, November). *The role of child routines in relation to maternal distress and parenting practices in the prevention of child*

externalizing behavior problems. A poster presented at the 38th annual meeting of the Association for the Advancement of Behavior Therapy, New Orleans, LA.

Tichovolsky, M. H., Arnold, D. H., & Baker, C. N. (2013). Parent predictors of changes in child behavior problems. *Journal of Applied Developmental Psychology*, *34*(6), 336–345. https://doi.org/10.1016/j.appdev.2013.09.001

Tiwari, S., Podell, J. C., Martin, E. D., Mychailyszyn, M. P., Furr, J. M., & Kendall, P. C. (2008). Experiential avoidance in the parenting of anxious youth: Theory, research, and future directions. *Cognition and Emotion, 22*(3), 480–496. https://doi.org/10.1080/02699930801886599

Tukey, J. W. (1962). The future of data analysis. *The Annals of Mathematical Statistics*, *33*(1), 1-67.

U.S. Census Bureau. (2020). *Household Pulse Survey During COVID-19.* U.S. Department of Commerce. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase_2_Questionnaire_09_09_2020_English.pdf

Wilson, K. G., & Dufrene, T. (2008). *Mindfulness for two: an acceptance and commitment therapy approach to mindfulness in psychotherapy.* Oakland, CA: New Harbinger Publications, Inc.

Wozniak, A., Willey, J., Benz, J., & Hart, N. (2020). *COVID Impact Survey*. National Opinion Research Center. https://static1.squarespace.com/static/5e8769b34812765cff8111f7/t/5e99d902ca4a0277b8b5fb51/1587140880354/COVID-19+Tracking+Survey+Questionnaire+041720.pdf