Summer 8-2022

Contextual Factors of Harsh Parenting: Investigating the Role of Impulsivity and Parent Attribution Bias Under Conditions of Household Chaos

Kelsey T. Ellis
Old Dominion University, kelseytellis@outlook.com

CONTEXTUAL FACTORS OF HARSH PARENTING: INVESTIGATING THE ROLE OF IMPULSIVITY AND PARENT ATTRIBUTION BIAS UNDER CONDITIONS OF HOUSEHOLD CHAOS

by

Kelsey T. Ellis
B.S. May 2016, Old Dominion University
M.S. December 2018, Old Dominion University

A Dissertation Submitted to the Faculties of
Old Dominion University
The Virginia Consortium Program in Clinical Psychology
In Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

CLINICAL PSYCHOLOGY

VIRGINIA CONSORTIUM PROGRAM IN CLINICAL PSYCHOLOGY
August 2022

Approved by:

James Paulson (Director)
Old Dominion University

Alan Meca (Member)
Old Dominion University

Jennifer Flaherty (Member)
Eastern Virginia Medical School

ABSTRACT

CONTEXTUAL FACTORS OF HARSH PARENTING: INVESTIGATING THE ROLE OF IMPULSIVITY AND PARENT ATTRIBUTION BIAS UNDER CONDITIONS OF HOUSEHOLD CHAOS

Kelsey Takara Ellis, Old Dominion University, 2021
Director: Dr. James Paulson

The use of harsh parenting strategies as a form of disciplining child misbehavior has been identified as an underlying factor for child abuse; thus, it is important to examine underlying causal factors for harsh parenting. While not originally formulated around harsh parenting, social information processing models of reactive aggression have highlighted internal attributions and impulsivity as key processes in social decision-making. Therefore, the current study integrated these theoretical models to explore how these processes are involved in harsh parenting behaviors and how these processes may interact in the context of environmental factors such as household chaos. Results revealed significant direct effects of internal parent attributions and impulsivity on harsh parenting behaviors. These effects remained significant above and beyond identified covariates (i.e., race/ethnicity, traditional authoritarian beliefs, cognitive reappraisal in emotion regulation, and negative affect). Furthermore, race/ethnicity and negative affect were no longer significant after internal parent attributions and impulsivity were entered into the full model. However, results revealed that impulsivity did not moderate the positive relationship between internal parent attributions and reported harsh parenting behavior. Furthermore, the study did not observe a conditional effect of household chaos on the proposed moderating effect of impulsivity. Nonetheless, these nonsignificant results may be indicative of limitations in the study's attempts to recruit of a diverse parent sample. Future studies should closely examine interactions within a more diverse parent sample that reflects higher dysfunctional impulsivity.

DEDICATION

I dedicate this dissertation work to my husband, Benjamin Yoder, for his unconditional support; for the many coffee refills and reminders to practice self-care; for always listening to my late-night ramblings on statistics and the many rabbit holes I found myself in during my literature search; for his unwavering love, patience, and encouragement across every step of this journey. Thank you for being my person.

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support of many important people. First, I want to express my gratitude to my advisor, Dr. James Paulson, for his countless hours of mentoring and support over the years. I would not be where I am today without his insightful advice, patience, and his witty jokes. I am truly grateful for this mentorship. In addition, I would like to thank the members of my dissertation committee, including Dr. Alan Meca and Dr. Jennifer Flaherty, for their willingness to provide constructive feedback and their investment in my professional development. I would also like to recognize and thank my cohort members for our many pep talks, inside jokes, and for their emotional support throughout my graduate training. I am grateful to all of you.

I would also like to thank my family and close friends for their unending inspiration. Specifically, I would like to thank the powerful women in my life who have consistently modeled strength and resilience: Tara Asare, Aveanna Colburn, Bilgé Yilmaz, Laurel Brockenberry, Dominique Blanchette, and so many others who have truly inspired me over the years. I also would like to recognize my extended family, who all live around the world and continue to send love and affirmations from afar. I want to extend my deepest appreciation to my parents, Taeko and Russell Westfall, and my brother, Ray Ellis, for keeping me grounded, honest, and encouraging me to believe in myself. You have been my rock, not only during this dissertation, but also throughout my life. I would not be where I am today without your love and support. Finally, a special recognition must be given to all the fur babies out there that provide unconditional love and cuddles as we navigate the challenges of the world, especially to my cat, Rick Sanchez – the Rickest Rick of them all.

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

In 2019, the Children's Bureau of the U.S. Department of Health and Human Services published the National Child Abuse and Neglect Data System (NCANDS) for the federal fiscal year (FFY) of 2017. The NCANDS report revealed that in the year of 2017 there were 674,000 victims of child abuse nationally, which equates to 9.1 victims per 1,000 children in the population. Their report indicated that the rate of child abuse victims has increased 2.7 percent since 2013 (U.S. Department of Health & Human Services, 2019). In 2021, a more recent report of the NCANDS revealed that in the FFY of 2019 there were 656,000 victims of child abuse nationally, which equates to 8.9 victims per 1,000 children in the population. Their report indicated that three-quarters (74.9%) of reported child maltreatment cases reflected neglect, 17.5 percent were physically abused, 9.3 percent were sexually abused, and 6.8 percent of victims reported their maltreatment as "other" if it did not fit in one of the NCANDS categories (i.e., medical neglect, neglect, physical abuse, psychological maltreatment, sexual abuse, sex trafficking; U.S. Department of Health & Human Services, 2021). Although rates of child abuse victims have declined in the past two years, the 2019 national estimate of child fatalities from abuse and neglect remained relatively stable (1,840 child fatalities) compared to the FFY of 2017 (1,720 child fatalities). Furthermore, this most recent report indicated that child fatalities from abuse and neglect increased 10.8 percent compared to 2015 (1,660 child fatalities; U.S. Department of Health & Human Services, 2021); thus, highlighting that there is still work to be done to further our understanding of the underlying factors of child abuse, specifically harsh parenting.

Parenting models have identified a number of risk factors for harsh parenting related to sociodemographic characteristics (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Jocson, Rosanne, Alampay, & Lansford, 2012), attitudes and beliefs towards parenting (Jocson et al., 2012), history of harsh parenting (Conger, Belsky, & Capaldi, 2009), negative affect (Atea & Durrant, 2005; Le, Fredman, & Feinburg, 2017), and self-regulatory processes such as emotion regulation (Ateah & Durrant, 2005; Crandall, Deater-Deckard, & Riley, 2015). Despite vast research examining parents' predisposed vulnerabilities for harsh parenting, limited research has explored how environmental factors such as noise, crowding, and organization may change the impact of these vulnerabilities. While limited, studies exploring environmental factors within the home suggest higher levels of household chaos (i.e., noise and distraction, lack of routine, crowding) directly and indirectly influence self-regulatory processes and adjustment outcomes that contribute to parenting behavior (Brieant, Holmes, Deater-Deckard, King-Casas, & Kim-Spoon, 2017; Vernon-Feagans, Garrett-Peters, & Willoughby, 2016). Additionally, there is a gap in current parenting models that addresses how parental cognitive capacities and social-emotional processing may contribute to parent decision-making. Literature suggests that parent attributions (i.e., the way in which parents interpret the causes of child misbehavior; Wang, Deater-Deckard, & Bell, 2013) may contribute to our understanding of parental socialization and harsh parenting (Bugental & Johnston, 2000; Miller, 1995). Furthermore, the literature emphasizes the role of cognitive deficits, such as impulsivity, in harsh parenting behavior (Chen & Johnston, 2007; Harrison, 2018; Rhoades, Grice, & Del Vecchio, 2017). However, these cognitive and social-emotional processes are not thoroughly addressed in current models of parenting. The current study integrated social information processing theories of reactive aggression into our understanding of how more distal determinants of parenting lead to in-the-

moment parenting decisions related to harsh parenting. Additionally, this study also examined how environmental factors such as household chaos modifies decision-making about parenting behaviors.

Harsh Parenting Behavior

Harsh parenting is operationalized as psychological (verbal) and/or physical (nonverbal) parenting behaviors that are utilized to correct a child's behavior by inflicting pain or discomfort (Maduro, 2016; Pakalniskiene, 2008; Straus & Field, 2003; Straus & Paschall, 2009). Psychological harsh parenting behaviors typically include shouting, calling the child names, threatening the child, rejection, and deprecation (Maduro, 2016; Straus & Field, 2003). Physical harsh parenting behaviors typically include spanking, slapping, kicking, and beating the child (Maduro, 2016; Straus & Paschall, 2009; Pakalniskiene, 2008). These harsh parenting practices have been linked to both psychological and physical negative outcomes in children.

Broadly, harsh parenting has been associated with negative psychological child outcomes such as externalizing problems (Criss, Pettit, Bates, Dodge, & Lapp, 2002; Kim et al. 2003; Strassberg, Dodge, Pettit, & Bates, 1994; Weiss, Dodge, Bates, & Pettit, 1992), aggression (Xu, Farver, & Zhang, 2009), emotion dysregulation (Chang et al., 2003; Eisenberg et al., 1996), lower emotional security (Davies & Cummings, 1994), and lower child cognitive abilities such as global cognitive ability and IQ scores (Maduro, Oettinger, & Paulson, 2014). Physical harsh parenting in particular has been associated with later child abuse and injury (Azar & Weinzierl, 2005). In addition, a meta-analysis only looking at child outcomes of spanking reported that parents' use of spanking was associated with higher levels of child aggression, antisocial behavior, more mental health problems such as depression, more externalizing problems as well as internalizing problems, and more negative relationships with parents. In addition, spanking

was also significantly related to lower moral internalization, lower cognitive ability, and lower self-esteem. The largest effect sizes reported were for physical abuse, in that the more children were spanked, the greater the risk for physical abuse by their parents (Gershoff & Grogan-Kaylor, 2016). Studies looking at other forms of physical harsh parenting have reported similar findings (Bender et al., 2007; Fréchette, Zoratti, & Romano, 2015; Gershoff, 2002). While child outcomes of physical harsh parenting have been well documented, limited research has considered the negative effects of verbal harsh parenting. Verbal harsh parenting is uniquely associated with child outcomes such as physical aggression, conduct problems, interpersonal problems, and depressive symptoms (Vissing, Straus, Gelles, & Harrop, 1991; Wang & Kenny, 2014). Overall, these deleterious effects of harsh parenting on child outcomes highlight the importance of understanding the determinants of harsh parenting behavior.

Theoretical Foundations of Parenting Behavior

Belsky's process model. In an effort to further our understanding of the etiology of child maltreatment, Belsky (1984) proposed a process model of the determinants of parenting behavior, which identifies three domains: parents' personal psychological resources, child characteristics, and contextual factors that contribute stress and/or support. Belsky proposed that an individuals' developmental history, personality, socioeconomic context, and marital relationship quality are the strongest predictors of parenting behavior. Belsky's model also proposed that external factors such as child characteristics (e.g., child temperament) and contextual sources of stress and support, such as parents' social network, marital relationship, and source of employment, work as supporting or undermining influences of parental functioning (Belsky, 1984).

These individual and contextual factors play a unique role in parental functioning while also interacting with one another, highlighting the complexities inherent in understanding the etiology of parent behavior. Belsky's (1984) process model proposed a buffering system against threats to parenting behavior, which derive from weaknesses in any single source of the model (i.e., parents' individual characteristics, child characteristics, and contextual factors of stress/support). Moreover, Belsky proposed that if two of the three determinants of parenting are at risk, parental functioning is more protected when parents' individual characteristics, or personal resources, are intact; whereas, parental functioning is weakest when the only functional subsystem is the child's characteristics. The model posits that unless the subsystems of personal resources or support are at risk, it is less likely that difficult child characteristics will hinder parental functioning (Belsky, 1984). Figure 1 presents a visual representation of Belsky's process model. Overall, the model suggests that these determinants, particularly developmental history and personality, are inherently constant or slow-changing; thus, it is important to examine more malleable factors as well.

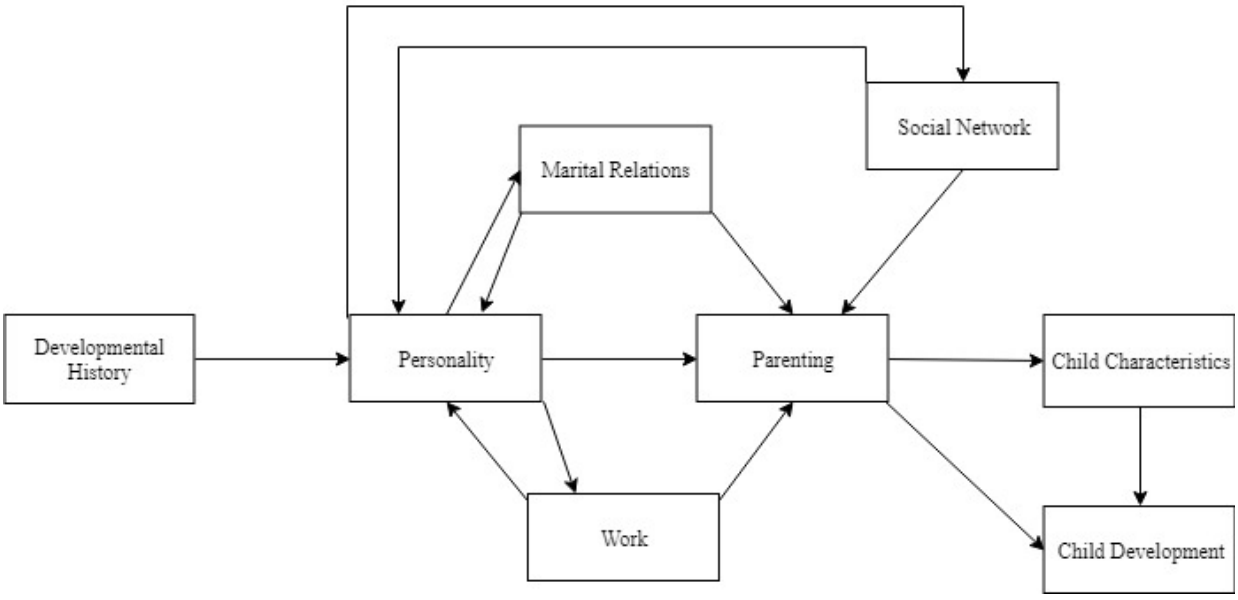

Figure 1. Belsky's process model of the determinants of parenting.

Abidin's model of determinants of parenting behavior. Abidin's (1990; 1992) model of determinants of parenting behavior expands upon Belsky's process model by emphasizing the role of parenting stress, which is placed at the center of this revised model. The model emphasizes that parents individually differ on their parenting role. According to Abidin, the parenting role encompasses the parent's internal working model of himself or herself as a parent. This working model is built from their attachment history, goals for themselves, and expectations of others (Abidin, 1992). Through this working model of the parenting role, parents will evaluate the harm or benefit associated with the parent role, which ultimately produces the level of stress that is experienced by the parent. Abidin conceptualized parenting stress as a motivational variable, which encourages parents to utilize available resources that will support their parenting. These resources include variables from Belsky's model such as the marital relationship and social support and additional variables such as competencies in parenting skills and cognitive coping. The model refers to cognitive coping as the ability to engage in reappraisal of parenting stress. Figure 2 presents a visual representation of Abidin's model of determinants of parenting behavior. Additionally, Abidin theorized that the parents' interpretations of their children's behavior, in context to their own belief system (i.e., expectations), may play a pivotal role in parental self-regulation and, ultimately, their behavioral responses. Moreover, this would suggest that child behaviors interpreted as inconsistent with parents internal working model may be at risk for more dysfunctional parenting.

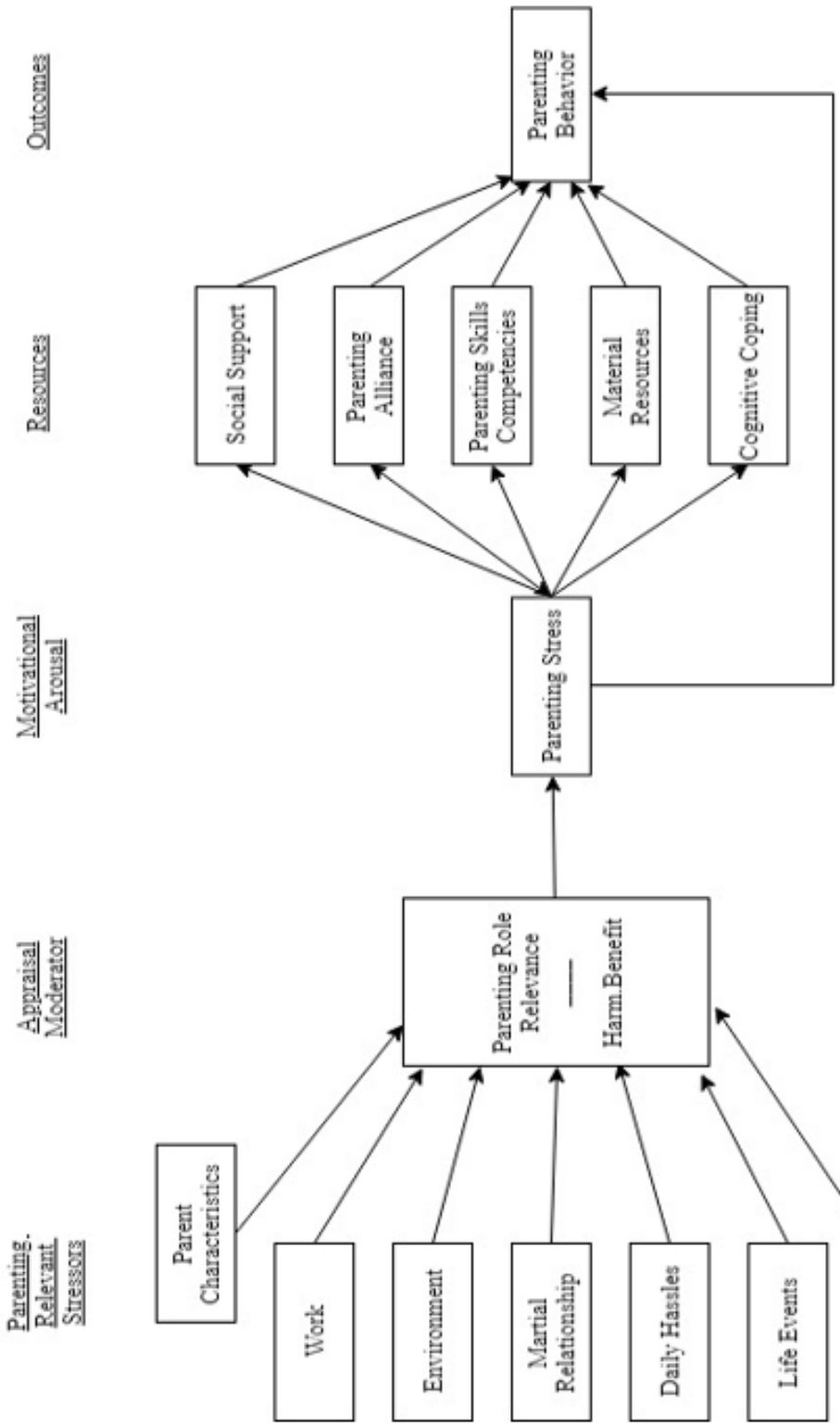

Figure 2. Abidin's model of determinants of parenting behavior

Constructs addressed within Belsky's and Abidin's parenting model.

Sociodemographic predictors. The extant literature has identified several sociodemographic factors that are associated with harsh parenting behavior. Although much of this research is cross-sectional, longitudinal studies also suggest that non-Caucasians, particularly African American parents (Deater-Deckard, Dodge, Bates, & Pettit, 1996), and lower income households tend to report a higher frequency of harsh parenting behaviors (Hill, Bush, & Roosa, 2003; Lee, Brooks-Gunn, McLanahan, Notterman, & Garfinkel, 2013; McGroder, 2000). However, literature exploring the role of intersectionality in harsh parenting suggest that financial pressures and persistent employment status may account for ethnic differences in harsh parenting (Hill et al., 2003). Financial pressures such as single earner households and/or households with multiple children are other sociodemographic stressors that have been associated with harsh parenting behavior (Whitbeck et al., 1997). Unemployment status along with limited opportunities for employment have also been linked to harsh parenting (Whitbeck et al., 1997). Additionally, higher educational achievement has been associated with more constructive, authoritative parenting (Chen & Kaplan, 2001), while lower educational achievement has been associated with harsher parenting behavior (Jensen et al., 2012).

Beliefs towards parenting. Parenting values and beliefs are also predictors of harsh parenting. Schaefer and Edgerton (1985) identified two dimensions of child rearing beliefs: (1) progressive democratic beliefs and (2) traditional authoritarian beliefs. Parents with progressive democratic beliefs encourage and implement methods that facilitate curiosity, imagination, initiative, and self-directed child behavior and has been associated with higher family income and parent education (Jocson et al., 2012). Parents who report more traditional authoritarian beliefs assert that children must obey their parents and respect authority at all times, which is

facilitated through parenting behaviors such as intrusiveness and breaking the child's will to ensure compliancy from the child at all times. These traditional authoritarian beliefs have been associated with lower family income and parent education (Jocson et al., 2012; Schaefer, 1991; Schaefer & Edgerton, 1985). Parents who endorse traditional authoritarian beliefs often report harsher parenting practices compared to parents who endorse more progressive beliefs (Jocson et al., 2012).

History of harsh parenting. The extant literature suggests that exposure to harsh parenting beliefs and practices in early childhood is linked to later harsh parenting behavior (Simons, Whitbeck, Conger, & Wu, 1991; Conger et al., 2009). Early longitudinal studies report a relationship between abusive and/or neglectful parents and their child's later parenting beliefs and behavior (Dowdney, Skuse, Rutter, Quinton, & Mrazek, 1985; Quinton & Rutter, 1984; Quinton, Rutter, & Liddle, 1984). These reports have been corroborated by more recent longitudinal studies. Capaldi, Pears, Patterson, and Owen (2003) examined this intergenerational transmission of parenting behavior in boys growing up in impoverished and high crime-rate cities. They found that boys who experienced neglectful parental supervision and harsh discipline later reported more use of similar parenting behaviors with their own children. Conger, Neppl, Kim, and Scaramella (2003) reported similar findings of intergenerational transmission of harsh parenting behavior in their longitudinal study with rural Iowan adolescents.

Negative affect. The role of parental affect (i.e., mood state; Dix, 1991) on harsh parenting behavior has been well documented in the parenting literature. Negative affect (e.g., anger, irritation, or anxiety) is associated with psychological or physical punishment by parents onto their children, while positive affect (e.g., joy, excitement, or interest) has been associated with positive parenting strategies such as accepting the child through affection, activities, and

emotional support (Le et al., 2017; Rueger, Katz, Risser, & Lovejoy, 2011). In their study examining depressive symptoms in mothers and mother-child interactions, Dix and colleagues (2004) reported that supportive parenting practices such as lower restrictive behavior decreased as negative emotions such as sadness and anger increased. Conversely, supportive parenting behavior increased as positive emotions such as joy increased. Furthermore, a study examining the effect of anger on physical harsh parenting by mothers reported that anger in response to child misbehavior predicted physical discipline (Ateah & Durrant, 2005).

Emotion regulation. Emotion regulation involves processes by which individuals' experience, control, and express their emotions (Gross, 1998). While emotion regulation is most often studied as a trait that remains relatively stable, some studies also examine this process as a state in which emotion regulation is directed by a reward system, in which strategies used to regulate emotional responses are driven by a single goal or reward (Koole, 2009). Emotion dysregulation involves rapid, poorly controlled shifts in emotions that results in excessive or inappropriate emotional expressions and experiences (Shaw, Stringaris, Nigg, & Leibenluft, 2014). Trait emotion dysregulation has been linked to internalizing symptomatology such as anxiety and depression (Aldao, Nolen-Hoeksema, & Schweizer, 2010) as well as substance use and eating disorders (Aldao et al., 2010; Carver, Johnson, & Joormann, 2008). Additionally, the association between trait emotion dysregulation, harsh parenting, and child maltreatment has been well documented in the extant literature (Crandall, Deater-Deckard, & Riley, 2015; Hughes & Gullone, 2010; Lorber, 2012; Lorber & O'Leary, 2005; Martini, Root, & Jenkins, 2004). A study looking at mothers with children ages five to fourteen reported that mothers with lower trait emotion regulation were at higher risk for using harsh parenting strategies, while mothers

with higher trait emotion regulation were less likely to use harsh parenting strategies and more likely to practice positive parenting behaviors (Skowron, Kozlowski, & Pincus, 2010).

The Gap in Parenting Models

While Belsky's and Abidin's parenting models provide a comprehensive overview of risk factors for harsh parenting, the nature of these risk factors, particularly cognitive coping, is unclear. Abidin (1992) defines cognitive coping as the reappraisal of parenting stress; however, this broad interpretation of cognitive coping leaves limited insight into the specific mechanisms through which this reappraisal occurs. While not originally formulated around hostile and aggressive parenting behavior, the literature examining reactive aggression in adults addresses these processes in finer detail. In particular, researchers in this area often utilize theories of social information processing to understand the cognitive-emotional processes involved in behavioral responses in social settings. These theories suggest that cognitive factors such as bias in causal inferences (i.e., attribution) and higher impulsivity play a pivotal role in aggressive behaviors. Thus, to address this gap in parenting models, the current study used social information processing theories to further explore cognitive coping as it relates to reactive aggression and, ultimately, harsh parenting.

Cognitive Processes in Reactive Aggression

Social Information Processing Model. Theories of social information processing have begun to highlight the role of attribution and impulsivity in reactive aggression. In their social information processing model, Crick and Dodge (1994) proposed a series of social-cognitive and cognitive-emotional processes involved in behavioral responses in social settings. According to their model, individuals respond to social stimulus through the following steps: (1) *encoding of cues* (perceiving stimulus cues); (2) *interpretation of cues* (making social inferences, or

attributions of intent, about the stimulus and social context); (3) *clarification of goals* (individual clarifying their own personal interests); (4) *response access or construction* (developing alternative ways to respond to stimulus); (5) *response decision* (evaluating alternative responses and selecting preferred response); and (6) *behavioral enactment* (carrying out selected behavioral response to stimulus). Their model emphasized the influence of hostile attributional biases in subsequent goal development and response access and selection. Specifically, individuals may construct different goals and responses when they perceive malintent behind the stimulus or interaction, resulting in retaliatory aggressive behavior. Figure 3 illustrates Crick and Dodge's social information processing model.

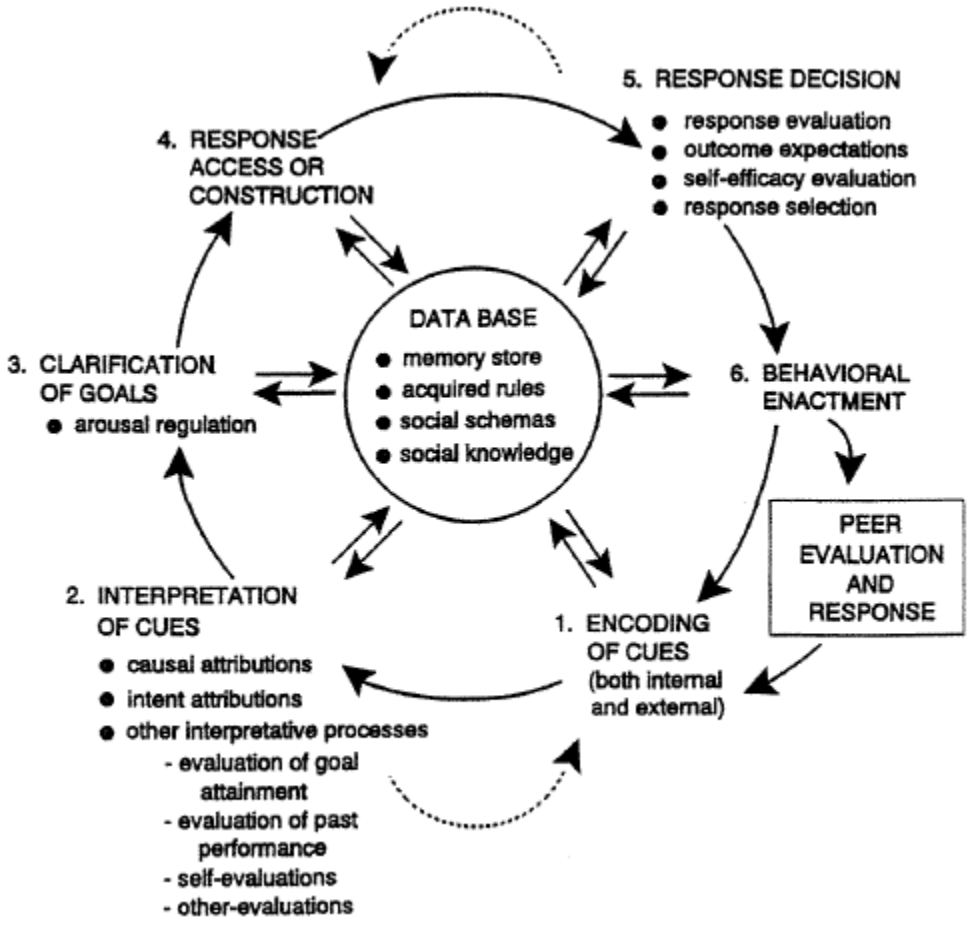

Figure 3. The social information processing model proposed by Crick and Dodge (1994).

Response evaluation and decision-making model. Fontaine and Dodge (2006) expanded Crick's and Dodge's model with the response evaluation and decision-making (RED) model, which focuses on step 5 (*response decision*) of the social information processing model to provide a framework for real-time decision-making that incorporates both behavioral judgements (i.e., attribution) and impulsive actions in aggressive behavior. The RED model presents a sequence of five evaluative processes in which behavioral decisions may be enacted: (1) *application of a primary threshold of acceptability* (constructing alternative responses from schemas stored in memory or creating new potential responses to meet situational demands), (2) *response efficacy and valuation* (estimating the likelihood that he or she is capable of enacting the response option), (3) *outcome expectancy and valuation* (estimating the likelihood of a particular outcome of the response option), (4) *response comparison* (evaluating which response has the highest overall strength), and (5) *response selection* (selecting response for behavioral enactment). According to the model, the degree to which each of these processes are actually applied varies across social settings. Response selection may occur at any time in the course of the RED model due to impulsive processing that interrupts the evaluative decision process. Some situations require more rapid responding, resulting in more impulsive processing that involves immediate gratification and little or no executive control. According to the RED model, responses based on "complete impulsivity" are characterized by the "immediate enactment of a behavioral script that has been accessed from memory" (p. 17). This impulsive response bypasses the *response decision* step altogether. Figure 4 illustrates the RED model.

In the context of social situations, the RED model proposes that hostile attribution biases are more likely to be associated with aggressive behaviors in individuals with higher impulsivity compared to those with lower impulsivity. The model proposes that the association between

hostile attribution bias and aggressive behaviors is strongest in individuals with higher levels of impulsivity, as they are more likely to respond to a negative stimulus without evaluating the possible consequences of their behavior. In contrast, this association is weakest in individuals with lower levels of impulsivity because they are my more likely to inhibit their automatic responses to evaluate their decision and are therefore less likely to react aggressively when they make hostile attributions to other's intent.

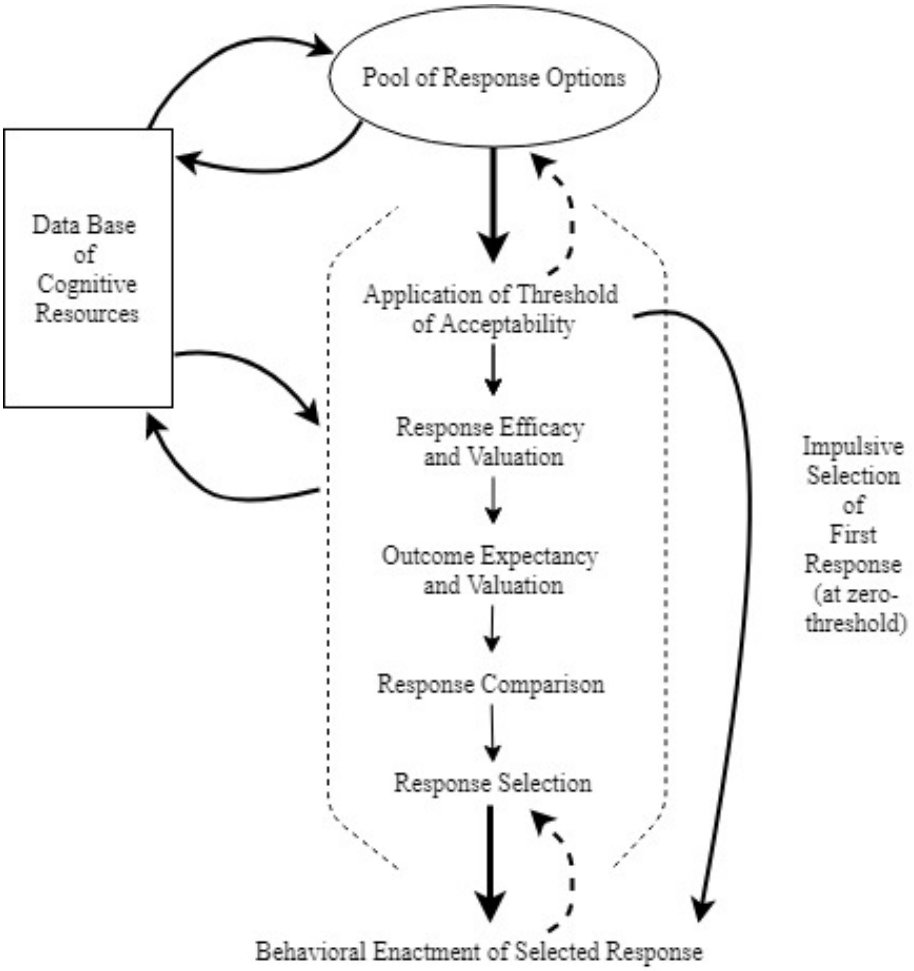

Figure 4. The heuristic model of response evaluation and decision.

Support for the RED model has been well documented in aggression literature (Chen, Coccaro, & Jacobson, 2012; Fontaine, 2010; Fontaine et al., 2013). Chen and colleagues (2012) observed this moderating effect of impulsivity on the association between attribution and

aggressive behaviors in adults. The authors reported a significant interaction between hostile attribution bias and impulsivity for general aggression, in that this positive relationship was weaker for individuals with lower impulsivity. Moreover, hostile attribution bias was not significantly associated with aggression among individuals with "below-average levels of impulsivity" (p. 15). In contrast, hostile attribution bias predicted aggression among individuals with "average or higher levels" of impulsivity (p. 15), which is consistent with Fontaine and Dodge's (2006) heuristic model of response evaluation. These effects may be observed within the parenting context. More specifically, the association between hostile parent attributions regarding child misbehavior and harsh parenting practices may be moderated by impulsivity.

Constructs addressed within the SIP and RED Models.

***Attribution*.** Attribution refers to how individuals assign causations to specific events and/or behaviors (Wang et al., 2013). Attributions can be characterized along multiple related dimensions (Miller, 1995), which are generally classified as internal versus external attribution (Coplan, Hastings, Legace-Seguine, & Moulton, 2002; Hastings & Rubin, 1999; Miller, 1995; Wang et al., 2013). Internal attribution reflects behaviors that are perceived as dispositional and intentional, whereas external attribution reflects behaviors that are perceived as "situated in context, transitory, and even accidental" (Wang et al., 2013, p. 2). Hostile attribution bias (i.e., the tendency to interpret the intent of others as hostile and intentional; Helfritz-Sinville & Stanford, 2014) is characterized as a subset of internal attribution bias. Hostile attribution bias has been linked to anger (Crick, 1995; Quigley & Tedeschi, 1996) and, in turn, to conflict and aggression (Matthews & Norris, 2002; Reijntijes et al., 2011; Slep & O'Leary, 1998; Weiner, 1993). Additionally, hostile attribution bias has been viewed as a key element in the etiology of aggression and problematic behavior (Chen, Coccaro, & Jacobson, 2012; Orobio de Castro,

Veerman, Koops, Bosch, & Monshouwer, 2002). Empirical studies have routinely found a positive association between these hostile attribution biases and aggressive behavior (Bailey & Ostroy, 2008; Chen et al., 2012; Orobio de Castro et al., 2002). A meta-analysis examining the relationship between hostile attribution biases and aggressive behaviors reported a weighted mean effect size of $r = .17$ across 24 studies (Orobio de Castro et al., 2002). Hostile attribution bias in the context of parenting has been well documented as a predictor of harsh parenting.

Parent attribution and harsh parenting. Parent attribution refers to parents' causal explanations for child behavior, which play an essential role in how parents behave toward their children (Snarr, Slep, & Grande, 2009; Wang et al., 2013). Previous studies have shown that internal parent attributions of child misbehavior covary with other aspects of parenting behavior such as authoritarianism (Milburn et al., 2014), negative affect (Dix, Ruble, Grusec, & Nixon, 1986), overreactivity to child misconduct (Smith & O'Leary, 1995), power assertion (Dix, Ruble, & Zambarabo, 1989; Strassberg & Treboux, 2000), and harsh parenting (Nix et al., 1999; Smith & O'Leary, 1995). Furthermore, higher levels of hostile attribution bias toward problematic child behavior are more prevalent among abusive and/or neglectful parents compared to nonabusive parents (Azar & Hauser, 1993; Larrance & Twentyman, 1983) and among authoritarian compared to authoritative parents (Hastings & Rubin, 1991; Milburn, Niwa, & Patterson, 2014). Additionally, several studies have reported that parental internal attribution is only associated with negative affectivity and harsh parenting when the child behavior is challenging, but is not associated when the child is compliant and nonaggressive (Coplan et al., 2002; Katsurada & Sugawara, 2000).

Research has continuously demonstrated that parental cognitive control capacities may serve an important role in clarifying how parent attribution may influence parent behavior (e.g.,

Crandall et al., 2015; Chen & Johnston, 2007; Deater-Deckard, Wang, et al., 2012). Sturge-Apple, Suor, and Skibo (2013) examined individual differences in maternal working memory and how this may influence the relationship between maternal attributions and the use of harsh discipline. Their results indicated that working memory moderated the relationship between maternal attributions and harsh parenting, in that the relationship between maternal attributions and harsh parenting was strongest among mothers with lower working memory capacities. These findings not only highlight the direct influence of working memory, but also suggests there may be other attention related processes that play a pivotal role in parent decision-making, as working memory is a foundational executive function that influences self-regulatory processes related to attention such as behavioral inhibition and impulsivity (Barkley, 1990; Barkley, 1997; Schachar & Logan, 1990; Schachar, Tannock, Marriott, & Logan, 1995). While understanding the role of these individual processes is important, there is limited research that explores overarching cognitive control capacities such as impulsivity, which is inherently comprised of working memory and other executive functions, as it relates to internal parent attribution and harsh parenting behavior.

Impulsivity. Impulsivity is defined as a tendency to act quickly to a given stimulus without foresight or deliberation and evaluation of the consequences of this behavior (Buss & Plomin, 1975; Chen, Coccaro, & Jacobson, 2012; Dickman, 1993; White et al., 1994). Higher impulsivity has been associated with a wide range of negative outcomes such as general aggression (Chen et al., 2012; Fite, Goodnight, Bates, Dodge, & Pettit, 2008), verbal aggression (Campbell & Muncer, 2009; Vilgil-Colet et al., 2008), physical aggression (Campbell & Muncer; Ferguson et al., 2005), and antisocial behavior including rule breaking, vandalism, theft, and drug use (Luengo, Carrillo-de-la-Peña, Otero, & Romero, 1994). Although higher levels of

impulsivity are mainly linked to attention-deficit/hyperactivity disorder (ADHD), it has also been associated with other psychiatric disorders related to mania, substance abuse, and personality disorders (American Psychiatric Association, 2013).

Linking impulsivity to harsh parenting. Among parents, dysregulated cognitions, emotions, and behaviors have been associated with family concerns such as domestic violence, child maltreatment, and neglect (Stith et al., 2009). The literature suggests that higher levels of impulsivity inhibit other self-regulatory processes and are linked to emotion dysregulation (Schreiber, Grant, & Odlaug, 2012), compulsivity (Dalley, Everitt, & Robbins, 2011), and risk-taking behavior (Baumann & Odum, 2012). More specifically, higher levels of impulsivity disrupt evaluative processes in decision-making, resulting in failures to regulate one's emotions and behaviors (Nigg, 2017). In addition, the literature suggests that higher impulsivity is associated with harsher parenting and other ineffective parenting strategies (Chen & Johnston, 2007; Harrison, 2018; Rhoades et al., 2017; Rohrbeck & Twentyman, 1986; Sanders, Turner, & Metzler, 2019). Impulsivity can have deleterious effects on parents' decision-making, and potentially result in parents selecting less beneficial strategies that offer short-term relief or gratification (e.g., conceding to demanding behavior to end a child's tantrum and therefore reinforcing the behavior) over more beneficial strategies that promise long-term gain (e.g., teaching the child effective communication skills; Harrison, 2017; Sanders et al., 2019). Furthermore, in addition to its direct link to parent overreactivity and inconsistent discipline, Chen and Johnston (2007) found that maternal impulsivity had a unique negative association with positive parenting behavior (e.g., positive reinforcement) above and beyond inattention and other control predictors. The authors reported that individuals with higher levels of impulsivity may not have the capacity for the level of premeditation and evaluation required for positive

parenting behavior, particularly positive reinforcement. While parenting studies have explored executive functions (e.g., working memory, inhibitory control, and short-term memory) and other emotion and cognitive control capacities as moderators for parenting behavior (Deater-Deckard, Wang et al., 2012; Hechler, Beijers, & Weerth, 2012), limited research has examined the specific role of impulsivity in harsh parenting while under stress due to household chaos.

Contextual Factors of Parenting: Household Chaos

In addition to parenting behavior being conditional upon parents' level of impulsivity, the household environment may also be an important influence. Calm predictable households are a critical component of healthy family dynamics and child development (Deater-Deckard, Chen, Wang, & Bell, 2012). Household chaos is operationalized as "high levels of noise and distractions, human crowding and traffic, low levels of predictability in the environment, and lack of family routines" (Deater-Deckard, Chen, et al., 2012, p. 391). Chaotic households have been linked to several negative child outcomes, such as lower cognitive ability and achievement (Deater-Deckard et al., 2009; Hart, Petrill, Deater-Deckard, & Thompson, 2007; Pike, Iervolino, Eley, Price, & Plomin, 2006), internalizing problems (Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999), externalizing behavior problems (Cooper, Osborne, Beck, & McLanahan, 2008), conduct problems (Deater-Deckard et al., 2009), isolation (Evans & Lepore, 1993), loneliness, and sadness (Merrell, 1995; Rubin & Rose-Krasnor, 1992).

Literature examining the role of household chaos in family functioning has suggested two processes by which chaos impacts child development (Coldwell, Pike, & Dunn, 2006). First, environmental confusion may require children to develop strategies to filter out high levels of stress and/or unwanted stimulation, which in turn may also result in children filtering out developmentally supportive stimulation as well (Evans, Kliewer, & Martin, 1991; Deater-

Deckard, Chen, et al., 2012). The second process highlights the indirect effects of household chaos on caregiver behavior (Coldwell et al., 2006). Household chaos has been reported to have a positive relationship with harsh parenting (Deater-Deckard et al., 2012). Recently, several studies have identified indirect effects of household chaos on harsh parenting via disruption in parents' social-cognitive processing. Wang, Deater-Deckard, and Bell (2013) reported that the negative relationship between internal parent attribution bias (i.e., intentionality) and harsh parenting behavior was moderated by household chaos, in that the strongest link was found in higher chaotic households and the weakest link found in calmer households. The authors suggested that highly stressful conditions may heavily tax "effortful regulatory processes," and in turn activate "nonexecutive or noneffortful cognitive processes" such as memory-based attribution biases or "default" responses to compensate for this stress (Wang et al., 2013, p.10). This is consistent with previous research that suggests executive regulation is minimized under chaotic household conditions. Deater-Deckard, Wang, and colleagues (2012) examined the moderating role of household chaos on the relationship between maternal executive function (i.e., attention, working memory, and inhibition) and harsh parenting. Their results indicated that the negative relationship between maternal executive function and harsh parenting was only stronger in calmer households. Mothers with stronger executive functions practiced less harsh parenting strategies, especially in calmer households, suggesting that regulating harsh parenting through these processes may not function well in chaotic environments. Chen, Deater-Deckard, and Bell (2014) observed a similar moderating effect of household chaos in the relationship between problematic child behavior and maternal harsh parenting. They reported that child problem behavior and harsh parenting were most strongly associated for children with low effortful control and living in chaotic households. Altogether, chaos appears to have an

underlying influence via mechanisms of stress and distraction that reduce efficiency and effectiveness of self-regulatory processes on attribution and ultimately parent decision making (Crandall et al., 2015; Lupien, McEwen, Gunnar, & Heim, 2009). Moreover, stress induced by chaotic environments may indicate a threshold effect on these self-regulatory processes, in which effortful self-regulation of cognition and emotion may be taxed beyond the individual's self-regulatory threshold, resulting in more rapid and impulsive decision-making. However, there are no studies to the author's knowledge that specifically examine the nature of this influence.

Present Study

Models of parenting behavior suggest individual differences in childrearing derive from transactions among parents' personal attributes, child characteristics, and contextual factors (Belsky, 1984; Abidin, 1990; Abidin, 1992). Most of the parenting literature has focused on distal factors such as sociodemographic characteristics (i.e., age, race, and income), parenting beliefs and attitudes, emotion regulation, and previous exposure to harsh parenting as predispositions for the use of harsh parenting strategies. In contrast, relatively less attention has been paid to proximal processes, although some findings suggest negative affect and impulsivity play a key role in harsh parenting. Furthermore, integration and interactions among proximal factors have not been extensively addressed. Thus, the current study expanded on models of parenting by integrating theories of social information processing to shed light on how social-cognitive processes impact aggressive parenting behaviors, particularly harsh parenting. Although recent studies have begun to explore processes such as parent attribution, little of this work has addressed how cognitive control capacities (e.g., impulsivity) may underscore this relationship. Moreover, limited research has examined how contextual factors such as household chaos may impact these processes. In sum, the purpose of this study was to understand the role

of parental cognitive capacities, specifically impulsivity, on the relationship between parent attribution and harsh parenting and to investigate how this may be impacted by chaotic households. Therefore, the current study examined the nature of these relationships using a parent sample. By addressing these social-cognitive and contextual factors in a parent sample, prevention interventions can adapt parent training based on parents' attributes and home environment to address a population that is more prone to harsh parenting behaviors.

Hypothesis 1 and 1a: Direct relationships. Parents' causal interpretations of child misbehavior have been linked to maladaptive parenting strategies such as overreactivity and harsh parenting (Nix et al., 1999; Smith & O'Leary, 1995; Wang et al., 2013); thus, it is important to explore underlying processes that may affect parent attributions. Parents with higher levels of impulsivity have reported using harsher parenting strategies compared to those with lower impulsivity (Chen & Johnston, 2007; Harrison, 2018; Rhoades et al., 2017; Rohrbeck & Twentyman, 1986; Sanders et al., 2019). The present study attempted to replicate previous findings that directly link parent attribution and impulsivity to harsh parenting; therefore, the current study evaluated the following hypotheses:

Hypothesis 1: Internal parent attribution will have a positive association with harsh parenting, such that parents with higher internal attributions will report more harsh parenting behaviors.

Hypothesis 1A: Impulsivity will have a positive association with harsh parenting, such that parents with higher impulsivity will report more harsh parenting behaviors.

Hypothesis 2: Impulsivity as a moderator. Despite an extensive literature looking at the direct impact of impulsivity on harsh parenting behavior, there is limited research that explores this impact in relation to attribution. While the results reported by Chen, Coccaro, & Jacobson (2012) identifying impulsivity as a moderator between attribution and aggression may

speak indirectly to this system, this moderating effect has not been explored in the context of harsh parenting. To expand this research, the present study examined whether impulsivity has a moderating impact on internal parent attribution and harsh parenting behavior via the following hypothesis:

Hypothesis 2: The relationship between internal parent attribution and harsh parenting behavior will be moderated by impulsivity, such that the positive relationship between internal parent attribution and harsh parenting behavior will be stronger in the presence of higher levels of parent impulsivity.

Hypothesis 3: Testing the full model. The present study also tested whether these effects persist after accounting for other predictors of harsh parenting such as sociodemographic characteristics (e.g., income, education, race/ethnicity), attitudes towards parenting, emotion regulation, negative affect, and previous exposure to harsh parenting. Based on this, the current study evaluated the following hypothesis:

Hypothesis 3: The hypothesized effects will persist after accounting for confounding variables such as sociodemographic factors, attitudes towards parenting, history of harsh parenting, emotion regulation, and negative affect.

Research question: Moderated moderation. Contextual factors such as household chaos have also been linked to parenting behavior. Household chaos is a well-studied correlate of harsher parenting behavior and it appears to play a moderating role on the relationship between cognitive processes such as parent attribution and executive function and harsh parenting (Deater-Deckard, Wang et al., 2012; Wang et al., 2013). Studies looking at household chaos suggest that this indirect effect may occur due to conditions of stress and distractions that make it difficult for self-regulatory processes to occur (Crandall et al., 2015; Deater-Deckard et al., 2012;

Lupien et al., 2009; Wang et al., 2013). Despite the growing literature on understanding the nature of household chaos' influence on parent attribution and impulsivity in the context of harsh parenting, there are no studies to the author's knowledge that examine how these conditional processes occur together in harsh parenting behavior. Therefore, the present study examined how the moderating effect of impulsivity on internal parent attribution and harsh parenting may function conditionally by household chaos. A conceptual model and statistical diagram are portrayed in Figure 5 and 6. This moderated moderation was examined via the following research question:

Research Question: Will the moderating effect of impulsivity on internal parent attribution and harsh parenting be conditional to household chaos, such that the moderating effect of impulsivity will be weaker or stronger in the presence of more chaotic households versus less chaotic households?

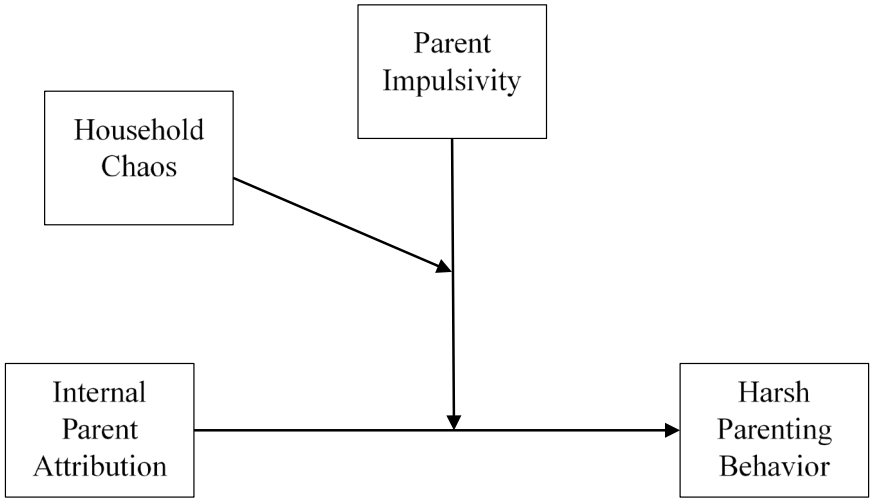

Figure 5. A conceptual model of the proposed moderated moderation for the research question.

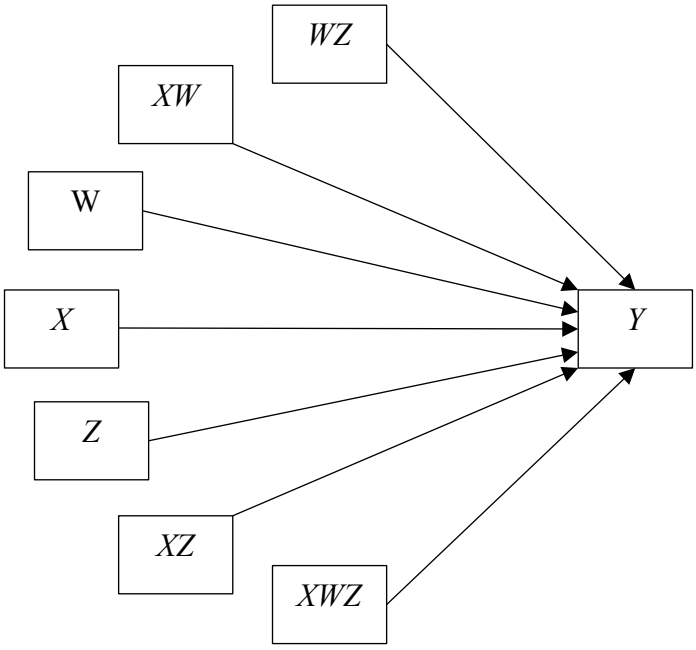

Figure 6. A statistical diagram of all main effects and interactions included in the moderated moderation model.

CHAPTER II

METHOD

Participants

Inclusion criteria. In order to participate in this study, individuals had to be at least 18 years old and identify as a parent. Literature examining harsh parenting trends report that children up to 11-years-old are at higher risk for corporal punishment and physical abuse (Berlin et al., 2009; Turner & Finkelhor, 1996; Zolotor, Theodore, Runyan, Chang, & Laskey, 2011). A study looking at U.S. population-based trends for children ages three to eleven reported that children up to age eleven still experience harsh discipline (e.g., spanked, slapped, hit with an object) and that this has remained consistent throughout the past three decades (Zolotor, Theodore, Runyan, Chang, & Laskey, 2011). Additionally, Kim and colleagues (2010) reported that harsh parenting behavior increased significantly between ages one and two and remained high and stable at age three. Therefore, the current study only recruited parents with children between ages one to eleven. Additionally, participants had to currently live with their children to be eligible for the study.

Recruitment. Recruitment was conducted in waves. The first wave of recruitment utilized the psychology research participation system (SONA) at Old Dominion University. Participants recruited through SONA used their SONA ID as a form of identification, which allowed the researcher to grant SONA research participation hours to participants. These participants were informed that their SONA ID would not be linked to their data to preserve their anonymity. Only participants who met inclusion criteria were eligible to sign up for the study via SONA.

The second wave of recruitment utilized advertisements of the study through social media sites. Paid advertisements through Facebook were distributed to a targeted audience using the following target demographic parameters: gender (all), age (18-65+), new parents (0-12 months), parents with toddlers (1-2 years), parents with preschoolers (3-8), parents with early school-age children (6-8 years) and parents with preteens (8-12 years). Based on these parameters, Facebook estimated that there were 6,400,000 parents eligible to participate in this study. Although this number does not reflect how many parents saw the ad, it did provide an idea of the potential scope of data collections via Facebook advertisement. Snowball participant collection methods (i.e., participants were invited to share the current study with other eligible individuals who may be interested) were also utilized. To increase participation in the current study, participants who were not recruited through SONA were offered entry into a raffle for four $25 VISA gift cards.

Finally, an additional round of Facebook advertisements with specific target audience parameters addressing ethnicity was utilized in an effort to collect a more diverse sample. However, it is important to note that due to Facebook advertisement regulations, ads were not permitted to target audiences based on ethnicity demographics and could only target individuals based on behaviors that reflect "multicultural affinity" (e.g., purchase behaviors or intents, device usage, etc.). Furthermore, this "multicultural affinity" category was limited to African American (US), Asian American (US), Hispanic (US – All), Hispanic (US – Bilingual), Hispanic (US – English dominant), and Hispanic (US – Spanish dominant). Therefore, using these additional parameters did not guarantee that individuals identified with these ethnicities demographically and did not provide a full representation diversity.

Final sample. The final sample included a total of 384 parents. Of the 384 participants, 4.7% (n = 18) were men and 95.3% women (n = 366) and the mean age of participants was 34.09

(*SD* = 5.70). Most participants reported household incomes more than $75,000 (43.5%; *n* = 167). Sample race/ethnicity included Caucasian (87.5%; *n* = 336), African American (6.8%; n = 26), American Indian or Alaskan Native (1.6; n = 6), Asian (0.8%; n = 3), Multiracial (1.0%; n = 4), and "other" (2.3%; n = 9). Table 1 presents sample demographic characteristics.

Table 1

Demographic Characteristics of Final Sample (N = 384)

Characteristic	*n*	%
Gender		
Male	18	4.7%
Female	366	95.3%
Transgender	0	0.0%
Other	0	0.0%
Race		
Latinx or Hispanic	24	6.3%
Not Latinx or Hispanic	359	93.5%
Missing	1	0.3%
Ethnicity[a]		
Caucasian	336	87.5%
African American	26	6.8%
American Indian or Alaska Native	6	1.6%
Asian	3	0.8%
Native Hawaiian or Other Pacific Islander	0	0.0%
Multiracial	4	1.0%
Other	9	2.3%
Relationship Status		
Married/Civil Union	309	80.5%
Divorced/Separated	20	5.2%
Living with Partner	21	5.5%
In a Committed Relationship	23	6.0%
In an Open Relationship	1	0.3%
Single	9	2.3%
Other	1	0.3%

Table 1 continued.

Characteristic	*n*	%
Education		
High School	35	9.1%
Trade School	7	1.8%
Some College	90	23.4%
Associate's Degree	75	19.5%
Bachelor's Degree	89	23.2%
Master's Degree	65	16.9%
Doctoral Degree	19	4.9%
Other	4	1.0%
Employment Status[a]		
Not Employed	13	3.4%
Staying at home with child(ren)	117	30.5%
Part-Time Student	3	0.8%
Full-Time Student	12	3.1%
Employed Part-Time	33	8.6%
Employed Full-Time	133	34.6%
Endorsed more than one employment option	73	19.0%
Household Income		
Less than $10,000	12	3.1%
$10,000 - $19,999	17	4.4%
$20,000 - $29,999	35	9.1%
$30,000 - $39,999	34	8.9%
$40,000 - $49,999	34	8.9%
$50,000 - $59,999	46	12.0%
$60,000 - $69,999	39	10.2%
More than $70,000	167	43.5%

[a] Participants could endorse more than one option on these demographic items. Those who endorsed more than one item were categorized accordingly.

Measures

Parenting Scale (Appendix A). The *Parenting Scale* (PS) was used to assess self-reported harsh parenting behavior during the past two months (Arnold, O'Leary, Wolff, & Acker, 1993). The PS is a 30-item questionnaire that uses a 7-point Likert-type scale, where 1 indicates effective discipline and 7 indicates ineffective discipline. This scale presents parental discipline "mistakes" that relate to inconsistent or harsh parenting behaviors and its "effective

counterpart." For example, for one item, "When my child misbehaves, I spank, slap, grab, or hit my child…", participants are asked to respond on a scale of *1 = never or rarely* to *7 = most of the time*. The PS consists of three subscales: laxness (e.g., "When my child is out of my sight…"), over-reactivity (e.g., "When I'm upset or under stress.."), and hostility (e.g., "When my child misbehaves, I spank, slap, grab, or hit my child…"; Arnold et al., 1993). For the purposes of the current study and its operationalization of harsh parenting, the over-reactivity and hostility subscales was combined for a total harsh parenting score. Arnold and colleagues (1993) reported good internal consistency (α = .84) and test-retest reliability at two weeks (r = .84). In addition, they reported that the PS was significantly related to the Child Behavior Checklist (CBCL; r = .53) and the short form of the Marital Adjustment Test (SMAT; r = -.53), suggesting evidence of concurrent validity. In addition, observations of structured parent-child interactions in the home were conducted to compare these observations to parents' self-report on the PS. The authors reported a strong association between total PS scores and observed general dysfunctional discipline (r = .73), demonstrating evidence of construct validity. In the current study, the PS demonstrated good overall consistency (α = .81) with a Cronbach's alpha of .74 for Harsh Parenting, which is comprised of items on the Over-reactivity and Hostility subscales.

Parent Cognition Scale (Appendix B). The *Parent Cognition Scale* (PCS) is a 30-item questionnaire and was used to measure internal parent attributions for child misbehavior (Snarr, Slep, & Grande, 2009). The PCS asks participants to think about a target child's misbehavior while completing the questionnaire and uses a 6-point Likert-type scale from *1 = always true* to *6 = never true* to capture parents' degree of attribution. All items were reverse scored so that higher scores indicated greater endorsement (Snarr et al., 2009). For consistency with other measures used in the current study, the Likert scale was labeled in the reverse order (*1 = never*

true to *6 = always true*); therefore, reverse scoring was not required. Participants received two scores that capture the degree to which they endorse dysfunctional child-responsible attribution (i.e., internal attribution; "My child purposely tries to get me angry.") and parent-causal attribution (i.e., external attribution; "I handle my child in a non-confident way."). For the purposes of the current study, the study used the dysfunctional child-responsible subscale score to capture parental internal attribution. Snarr and colleagues (2009) reported good internal consistency for both mothers (α = .90) and fathers (α = .88). In addition, they reported good test-retest reliability at 5.6 months for both mothers (r = .68) and fathers (r = .76). Evidence of convergent validity was demonstrated through significant correlations between the child-responsible subscale and variables such as child externalizing behavior (mothers, r = .58; fathers, r = .56), poor parent emotional functioning (i.e., anger expression and depressive symptoms; mothers, r = .58; fathers, r = .56), and parenting satisfaction (mothers, r = -.47; fathers, r = -.30). The authors reported good discriminant validity by demonstrating that both subscales, particularly the child-responsible subscale, predicted parent-child aggression (mothers, r = .26; fathers, r = .26) and parenting satisfaction (mothers, r = -.47; fathers, r = -.30) more strongly than partner aggression (mothers, r = .14; fathers, r = .03) or relationship satisfaction (mothers, r = -.17; fathers, r = -.20). In the current study, the PCS demonstrated evidence of good internal consistency with a Cronbach's alpha of .89 for internal attribution and .75 for External Attribution.

Barratt Impulsiveness Scale – 11 (Appendix C). The *Barratt Impulsiveness Scale – 11* (BIS-11) was used to assess the personality/behavioral construct of impulsiveness (Patton, Stanford, & Barratt, 1995). The BIS-11 consists of 30 items using a 4-point Likert-type scale from *1 = rarely/never* to *4 = almost always/always*. Patton and colleagues (1995) identified six

oblique first order factors within the BIS-11: attention, cognitive instability, motor, perseverance, self-control, and cognitive complexity. These first order factors load onto the following second order factors within the BIS-11: attentional (attention and cognitive instability), motor (motor and perseverance), and nonplanning (self-control and cognitive complexity. The total BIS-11 score reflects participants' overall level of impulsivity. Patton and colleagues (1995) provided evidence of good internal consistency (α = .83) and test-retest reliability at one month (r = 0.83). In addition, the BIS-11 has good convergent validity. The BIS-11 correlates with measures such as the Eysenck Impulsiveness Scale (r = .63), the Behavioral Inhibition/Activation Scales (r = .15), and subscales of the Zuckerman Sensation-Seeking Scale (e.g., BIS-11 Motor and Thrill-Adventure Seeking scales were significantly related, r = .17; Stanford et al., 2009). In the current study, the BIS-11 demonstrated good internal consistency (α = .83), with subscale Cronbach's alphas ranging from .52 to .73.

Confusion, Hubbub, and Order Scale (Appendix D). The *Confusion, Hubbub, and Order Scale* (CHAOS) is a 15-item questionnaire that was used to measure environmental confusion (i.e., "ambient noise, crowding, and environmental traffic patterns"; p. 430) and disorganization within the home and uses a 4-point Likert-type scale from *1 = Very much like your own home* to *4 = Not at all like your home* (Matheny, Wachs, Ludwig, & Phillips, 1995). For consistency with other measures used in the current study, the Likert scale was labeled in the reverse order (*1 = Not at all like your home* to *4 = Very much like your own home*). The CHAOS produces two scores indicating the degree of routines and organization (e.g., "First thing in the day, we have a regular routine at home.") and disorganization, confusion, and noise (e.g., "It's a real zoo in our home."). Items on the routines and organization subscale are reverse scored before adding the total number of endorsed items. The total score reflects the degree of home

chaos, with higher scores reflecting more environmental confusion and disorganization (Matheny et al., 1995); therefore, the current study used the total score to capture participants degree of household chaos. Matheny and colleagues (1995) reported good internal consistency (α = .79) and test-retest reliability at twelve months (r = .74). In addition, the authors demonstrated evidence of construct validity by reporting significant correlations between CHAOS scores and the Purdue Home Stimulation Inventory (PHSI), which is an observation-based measure that includes household noise (number of sound sources on, noise intensity rating), crowding (rooms to people ratio, number of siblings), and home traffic pattern (number of people coming and going in the home). They reported that higher scores on the CHAOS were associated with observers coding homes as noisier (noise rating, r = .31; dB, r = .34), more crowded (number of siblings, r = .55; rooms to people ratio, r = -.33), and higher traffic patterns (number of persons in home, r = .30). In the current study, the CHAOS demonstrated good internal consistency with a Cronbach's alpha of .83.

Demographic Questionnaire (Appendix E). A demographic questionnaire was included to obtain demographic background information about participants. The measure requested participants' age, gender, race/ethnicity, income, education, relationship status, partner demographic information (if applicable), number of children, and age of child(ren), whether they currently live with their child(ren), and time spent on parenting tasks. A definition of parenting tasks was provided to participants: "Parenting tasks include meeting physical needs (such as feeding or bathing), as well as meeting psychosocial needs (such as talking or playing with children, driving them to activities and attending their recitals or sporting events)" (Jolly et al., 2014, p. 3).

Parental Modernity Inventory (Appendix F). The *Parental Modernity Inventory* (PMI; Schaefer & Edgerton, 1985) was be used to assess participants' attitudes toward childrearing. The questionnaire consists of 30 items using a 5-point Likert-type scale from *1 = strongly disagree* to *5 = strongly agree*. Participants received two scores indicating progressive and authoritarian childrearing attitudes based on their responses to items such as "Children have a right to their own point of view and should be allowed to express it." Schaefer and Edgerton's (1985) original study reported a Cronbach's alpha range for progressive and traditional scores of .88 to .94, which indicates good internal consistency. In addition, their results presented good test-retest reliability with a correlation of .84 between time points. Schaefer and Edgerton (1985) reported evidence of concurrent validity by examining the relationship between parent's scores on the PMI and teachers reports via the Classroom Behavior Inventory, which reflects teachers' self-report on child adaptive behavior in the classroom setting. They reported that parental modernity scores were correlated with teacher ratings of child verbal intelligence (r = .55). In the current study, the PMI demonstrated good internal consistency with a Cronbach's alpha of .83, with Cronbach's alphas of .63 and .89 for Progressive and Traditional.

Emotion Regulation Questionnaire (Appendix G). The *Emotion Regulation Questionnaire* (ERQ) was used to measure participants' overall capacity to self-regulate emotions (Gross & John, 2013). The ERQ consists of 10 items that use a 7-point Likert-type scale (*1 = strongly disagree* to *7 = strongly agree*). These items fall on two dimensions: cognitive reappraisal and expressive suppression. Cognitive reappraisal refers to individuals' ability to interpret potentially emotion-evoking situations in a way that changes its emotional impact (e.g., "When I want to feel less negative emotion (such as anger), I change what I'm thinking about."). Expressive suppression refers to individuals' capacity to moderate or inhibit

behaviors related to expressing emotions (e.g., “I keep my emotions to myself.”; Gross & John, 2003). Gross and John (2003) reported good reliability for both Reappraisal (α = .88) and Suppression (α = .71) subscales. The authors also reported a significant correlation (r = .53) between the participants’ ERQ score and their peer’s report of their emotional expression; thus, demonstrating evidence of construct validity. In the current study, the ERQ demonstrated good internal consistency (α = .71), with Cronbach’s alphas of .88 and .75 for Reappraisal and Suppression.

Multiple Affect Adjective Check-List-Revised (Appendix H). The *Multiple Affect Adjective Check-List-Revised* (MAACL-R) is a 132-adjective checklist and can be used as a state or trait measure, depending on the research question (Zuckerman & Lubin, 1999). The MAACL-R provides a positive affect and negative affect score. The negative affect score is obtained by calculating the sum of items on the Anxiety (e.g. 10 items), Depression (12 items), and Hostility (15 items) subscales, while the positive affect score consists of a single score made up on 21 positive adjectives. In the current study, the MAACL-R was used as a state measure of participants’ negative affect before they complete the Parent Cognition Scale. Zuckermann and Lubin (1999) reported Cronbach’s alpha scores ranging from .68 to .95 depending on the population studied, suggesting good internal consistency. Previous studies have reported low test-retest reliability coefficients ranging from -.04 to .32 for the MAACL-R. However, these low test-retest reliability coefficients are not surprising given that mood state is not stable over time (Zuckermann & Lubin, 1999). In addition, the MAACL-R demonstrates good convergent validity. Lubin and colleagues (2001) reported that the MAACL-R scales correlate with the measures such as the Sensation Seeking Scale (MAACL-R Anxiety subscale and Thrill subscale were significantly related, r = -.27, and MAACL-R Depression subscale and Thrill subscale were

significantly related, *r* = -.27), the State Trait Personality Inventory (e.g., MAACL-R Anxiety subscale and S-ANX subscale were significantly related, *r* = .52, and MAACL-R Depression subscale and S-DEP subscale were significantly related, *r* = .49), and the Affect Balance Scale (MAACL-R Anxiety subscale and BNEG subscale were significantly related, *r* = .49, and MAACL-R Positive Affect subscale and BPOS subscale were significantly related, *r* = .31). In the current study, the MAACL-R demonstrated good internal consistency with a Cronbach's alpha of .92, with a Cronbach's alpha of .79 for Negative Affect.

Exposure to Abusive and Supporting Environmental-Parenting Inventory (Appendix I). The *Exposure to Abusive and Supporting Environmental-Parenting Inventory* (EASE-PI) measures previous experiences of positive and negative experiences with participants' caregiver during childhood (Nicholas & Bieber, 1997). For the purposes of the current study, the study only used the Physical and Emotional Abusiveness subscales (e.g. "Your mother (father) kicked you"; "Your mother (father) insulted or swore at you") of the EASE-PI to assess participants' history of physical and psychological harsh parenting. These subscales consist of 32 items and uses a 5-point Likert-type scale (*0 = never* to *4 = very often*). Nicholas and Bieber (1997) reported good test-retest reliability for both Physical Abusiveness (α = .92) and Emotional Abusiveness (α = .84). In addition, the authors demonstrated evidence of concurrent validity by examining the relationship between the EASE-PI and the Family Experience Questionnaire (FEQ), the Parental Bonding Instrument (PBI), the Parent-Child Relations Questionnaire (PCR), and the Conflict Tactics Scale (CT). They reported that the Emotional and Physical Abusiveness scales of the EASE-PI were positively correlated with the FEQ, the PCR and the CT. In the current study the EASE-PI demonstrated evidence of good

overall internal consistency with a Cronbach's alpha of .98, with Cronbach's alphas of .95 and .98 for Physical Abusiveness and Emotional Abusiveness.

Procedure

The study was approved by the Institutional Review Board at Old Dominion University before beginning participant recruitment. Parents who were interested in participating in the current study were directed to a study description page that provided a brief explanation of the purpose of the study and inclusion criteria. Participants who chose to enroll in the study were directed to another description page that provided information on the objectives, risks and benefits of the study, and informed consent. Participants were required to read and accept all elements of the information page before completing the survey. Individuals who did not agree to provide consent were instructed to discontinue the study.

Once the informed consent procedures were completed, participants were prompted to complete a demographics questionnaire that included background information such as parent status, age, gender, race/ethnicity, income, and education. Participants who did not indicate their status as "current parents" or reported that their children are over the age of eleven were screened out from the survey. Participants were then asked to complete a series of questionnaires. In order to capture participants' affect right before completing the survey, participants completed the MACCL-R prior to completing other questionnaires. In addition, to ensure that responses on the Parenting Scale were not influenced by other parenting-related measures such as the PMI and EASE-PI, measures were administered in the following order: (1) Multiple Affect Adjective Check-List-Revised (Zuckerman & Lubin, 1999), (2) Confusion, Hubbub, and Order Scale (Matheny et al., 1995), (3) Parenting Scale (Arnold et al., 1993), (4) Parent Cognition Scale (Snarr et al., 2009), (5) Barratt Impulsiveness Scale – 11 (Patton et al., 1995), (6) Emotion

Regulation Questionnaire (Gross & John, 2013), (7) Parental Modernity Inventory (Schaefer & Edgerton, 1985), and (8) Exposure to Abusive and Supporting Environmental-Parenting Inventory (Nicholas & Bieber, 1997). Attention check items (e.g., "Please select number four for this item.") were utilized and dispersed throughout the survey for data quality purposes. Participants who failed these items were screened out during the data cleaning process. Upon completion of the survey, participants were thanked for their participation and directed to a screen in which they could elect to enter their email for a gift card raffle.

Analytic procedures.

Power estimates. Conditional PROCESS analyses were utilized to test the hypothesized moderated moderation (Hayes, 2018). Given the nature of these analyses, it is difficult to determine an appropriate sample size using traditional methods of power analysis. There are no studies to the researcher's knowledge that examine moderated moderation (a three-way interaction) with any of the variables of interest, making it difficult to estimate appropriate parameters that are needed to conduct a power analysis. In addition, Hayes (2018) expressed hesitancies regarding power analyses for mediation and moderation, stating that these methods are "a semi-informed game that we play, given that in order to conduct a power analysis (at least an *a priori* power analysis), you need more information than you are likely to have or be in a position to know before data collection" (p. 141). Therefore, with feasibility of data collection under consideration, the current study used an alternative approach looking at estimated effect sizes based on a fixed linear multiple regression with 7 tested predictors (i.e., internal parent attribution, impulsivity, household chaos, internal parent attributionXimpulsivity, internal parent attributionXhousehold chaos, impulsivityXhousehold chaos, internal parent attributionXimpulsivityXhousehold chaos), 7 total predictors, a power level of .80, an α error

probability of .05, and proposed sample sizes of 125, 200, and 300 via G*Power software (Faul, Erfelder, Buchner, & Lang, 2009). For a sample size of 125, which is a more conservative estimate of data collection feasibility, with the parameters set for a fixed linear multiple regression model, the current study would be able to observe a medium effect size $f^2 = .15$. For a sample size of 200 with the set parameters, the current study would be able to observe a medium effect size $f^2 = .08$. Finally, for a sample size of 300 and set parameters, the study would be able to observe a small effect size $f^2 = .05$. These estimates are presented in graphs in Figures 7-9.

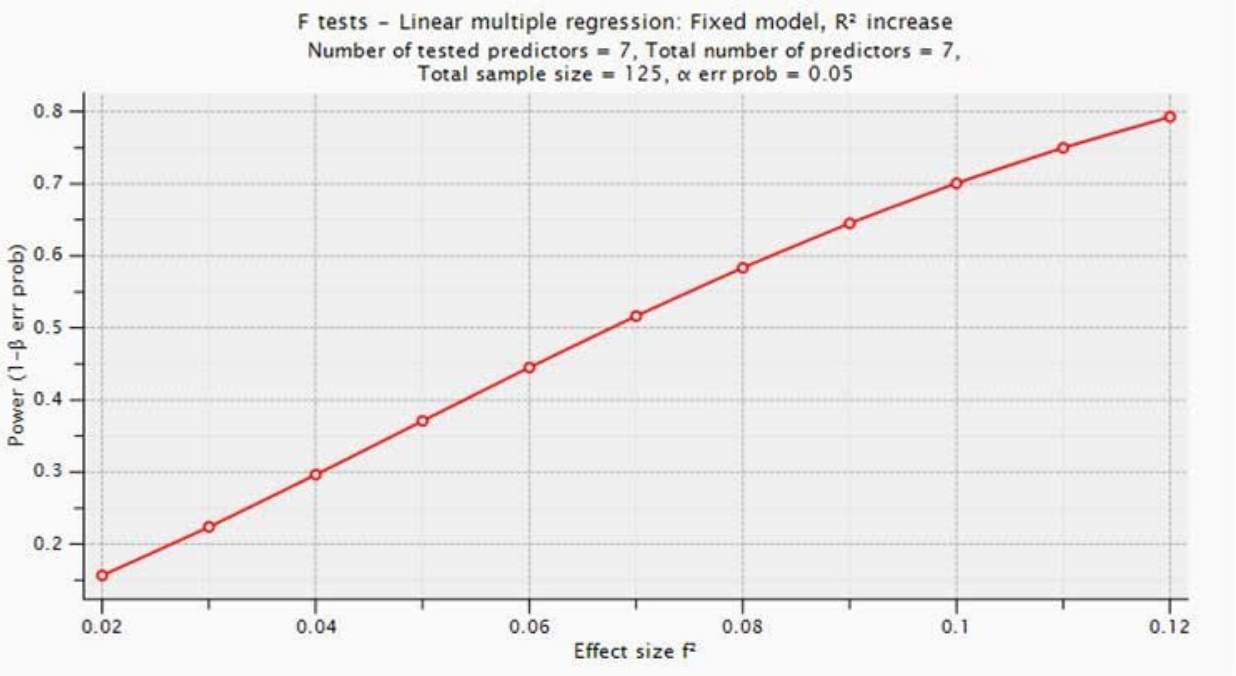

Figure 7. A graph representation of effect size estimates based on a fixed linear multiple regression with 7 tested predictors, 7 total predictors, a power level of .80, an α error probability of .05, and proposed sample size of 125.

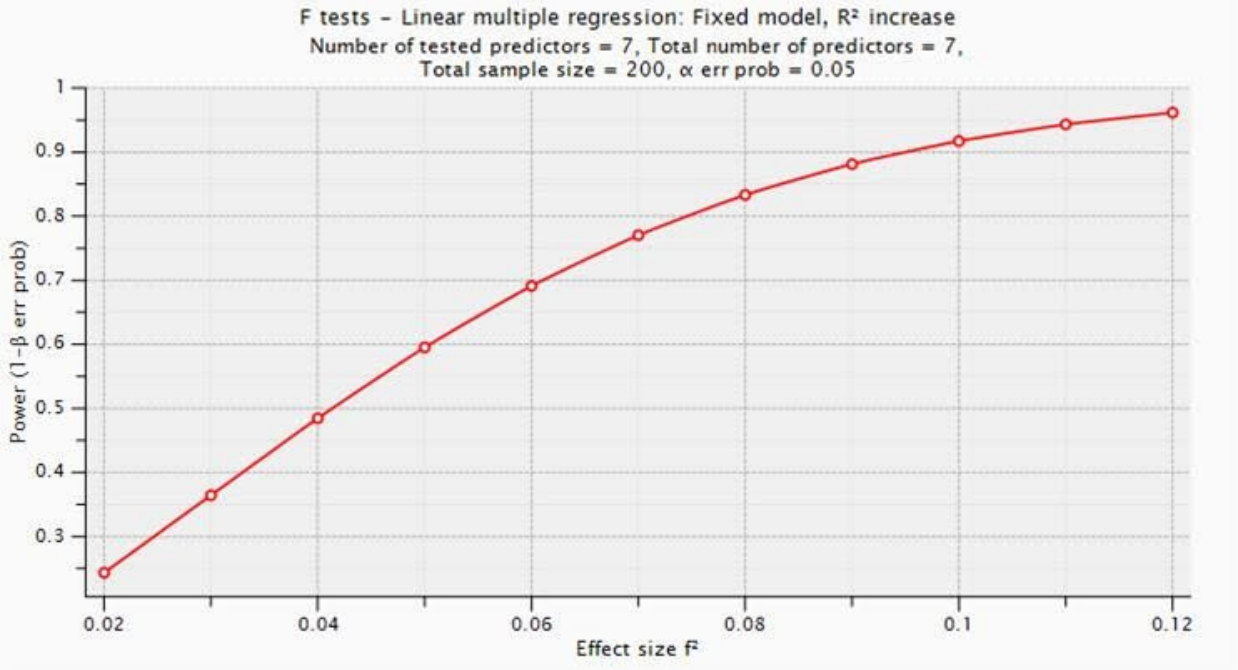

Figure 8. A graph representation of effect size estimates based on a fixed linear multiple regression with 7 tested predictors, 7 total predictors, a power level of .80, an α error probability of .05, and proposed sample size of 200.

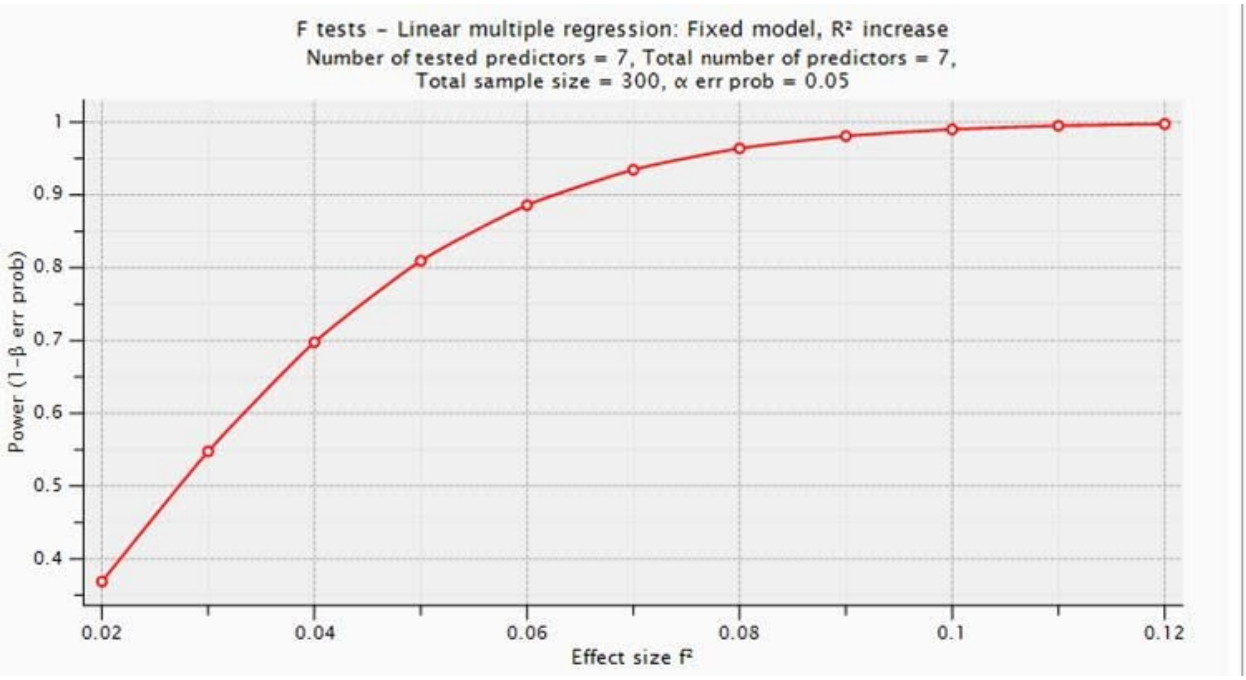

Figure 9. A graph representation of effect size estimates based on a fixed linear multiple regression with 7 tested predictors, 7 total predictors, a power level of .80, an α error probability of .05, and proposed sample size of 300.

Preliminary analysis. Upon the completion of data collection, the current study proposed to use SPSS and Conditional PROCESS software to complete all analyses. Prior to running the proposed analyses, it was proposed that data would be examined for disqualifications, which included parent status and responses on attention check items. Participants who did not identify as a parent as well as those who fail any attention checks would be excluded from any further analyses. Normality would be examined using skewness, kurtosis, histograms, boxplots, and detrended normal q-q plots (Tabachnick & Fidell, 2013). Following this assessment, the data would be checked for missing values using Missing Data Analysis in SPSS. Participants with more than 10% of missing data would be removed from the dataset (Bennett, 2001; Dong & Peng, 2013). Little's MCAR test would then be used to examine whether data are missing completely at random (Little, 1998). If the missing data were determined to be missing completely at random, multiple imputation would be used to correct for missing values, as it removes bias in missing values of both dependent and independent variables through repeated imputations based on the mean and variance of these variables and is recommended for any form of GLM analysis such as regression and ANOVA (Tabachnick & Fidell, 2013). Univariate outliers across cases would then be assessed using box plots. In addition, multivariate outliers will be assessed using Maholonbis distance test using a $p < .001$ criterion (Tabachnick & Fidell, 2013). Identified univariate and multivariate outliers would then be further examined for data entry or scoring errors. Logarithmic transformations would then be used to address any remaining outliers. Finally, measurement errors would be assessed by examining each measures' alpha coefficients.

***Hypothesis testing*.** The current study used a hierarchical multiple regression analyses, with internal parent attribution and parent impulsivity as the independent variables and harsh

parenting behavior as the dependent variable, to test hypotheses 1 to 3 (Hayes, 2018; Tabachnick & Fidell, 2013). The hierarchical multiple regression analyses would be rerun with covariates included in the model to test hypothesis 3. Per Hayes (2018) recommendation, it was proposed that a conditional analysis using PROCESS in SPSS would be performed to test the research question regarding the moderated moderation effect. Before testing any hypotheses, per Hayes (2018) suggestion, all continuous variables would be centered to the mean. Furthermore, categorical variables such as gender, income, social class, education, and race will be dummy coded. Bivariate correlations among predictor and outcome measures would also be performed to assess for potential covariates. In addition, statistical assumptions for multiple linear regression analyses would be assessed after running any proposed analyses. Per Tabachnick & Fidell (2013) and Hayes (2018), homoscedasticity would be assessed by using scatter plots and examining the LOWESS fit lines of the residuals. Normality of residuals would be assessed using q-q plots. Finally, multicollinearity would be tested using the variance inflation factor (VIF).

Hypothesis 1 and 1A. It was hypothesized that parental internal attribution would have a positive association with harsh parenting, such that parents with higher internal attributions would report more harsh parenting behaviors. In addition, it was hypothesized that impulsivity would have a positive relationship with harsh parenting, such that parents with higher impulsivity would report more harsh parenting behaviors. To test these hypotheses the current study examined results from block 1 (internal parent attribution and parent impulsivity) of the hierarchical multiple regression analysis to determine whether this relationship is significant and to examine the nature of this relationship.

Hypothesis 2. It was also hypothesized that the relationship between parental internal attribution and harsh parenting behavior would be moderated by impulsivity, such that the

positive relationship between parental internal attribution and harsh parenting behavior would be stronger in the presence of higher levels of parent impulsivity. To test this hypothesis the current study would examine the results from block 2 (internal parent attribution X parent impulsivity) of the hierarchical multiple regression analysis. Change in F and the associated *p* value for the interaction term would be examined to determine whether the moderating effect of parent impulsivity is significant. A significant *p* value would suggest that the interaction between parent attribution and parent impulsivity is significant above and beyond the main effects entered in block 1 (parent attribution and parent impulsivity); thus, suggesting a significant moderating effect. Next, the change in R^2 would be examined to interpret how much additional variance is explained by the interaction term. Finally, the nature of this moderating effect would be examined by plotting the regression lines for each predictor in block 1 (Tabachnick & Fidell, 2013).

Hypothesis 3. Finally, it was hypothesized that these effects would persist after accounting for confounding variables such as sociodemographic factors, attitudes towards parenting, history of harsh parenting, emotion regulation, and negative affect. To test this hypothesis, bivariate correlations among these additional predictors and harsh parenting behavior would be examined to assess for covariates. It was proposed that significant correlates of harsh parenting would be included in the previously mentioned analyses and reran to assess whether the hypothesized effects persist above and beyond these confounding variables.

Research question. The current study also examined the research question about the moderating effect of parent impulsivity on internal parent attribution and harsh parenting is conditional to household chaos, such that the moderating effect of impulsivity would be weaker or stronger in the presence of more chaotic households versus less chaotic households. A

conceptual representation of this hypothesis is provided in Figure 5. This moderated moderation, or three-way interaction, would be assessed using conditional PROCESS analyses developed by Hayes (2018). PROCESS is a computational tool that is used to observe "variable path analysis-based moderation and mediation analyses as well as their integration as conditional process analysis" (Hayes, 2018, p. 551). With conditional PROCESS analyses for models with multiple moderators, PROCESS can probe two- and three-way interactions and construct percentile bootstrap and Monte Carlo confidence intervals for all indirect effects (Hayes, 2018).

Per Hayes (2018) recommendations, the current study would use model = 3 specifications, which reflects the conceptual model depicted in Figure 5, with harsh parenting as the consequent variable *Y*, internal parent attribution as the antecedent variable *X*, parent impulsivity as the primary moderator *W*, and household chaos as the secondary moderator *Z*. PROCESS analyses automatically calculates all necessary products of *XWZ*, provides an estimate of the best-fitting linear regression model, and probes all interactions within the model. A statistical diagram for this moderated moderation is presented in Figure 6.

Per Hayes (2018), it was proposed that the Johnson-Neyman technique would be used to probe the three-way interaction, as this method is recommended when the secondary moderator *Z* (household chaos) is on a continuum. In moderation analyses, rather than specifying cut-off values for the continuous moderator, the Johnson-Neyman technique identifies values along the continuum of *Z* where the conditional effect of *W* on *XY* transitions between statistically significant and not significant. This method provides the *region of significance* for the indirect effect of *W*. The current study would examine the nature of this three-way interaction by plotting simple slopes for these values along with their confidence bands (Hayes, 2018; Preacher et al., 2007).

CHAPTER III

RESULTS

Data Cleaning

All analyses were conducted using SPSS 27 (IBM Corp., 2020) with conditional PROCESS analyses developed by Hayes (2018). A total of 615 individuals participated in the study. Among the sample, 93 participants were recruited through the SONA research participation system and 522 were recruited via Facebook advertisement. SPSS Missing Data Analysis indicated that 181 participants had more than 10% missingness; therefore, these cases were removed from the dataset. Forty-two participants failed the attention check items within the survey and were consequently dropped as well. Finally, five participants reported that their youngest child was older than eleven and were therefore removed from the dataset. The remaining participants met all inclusion criteria related to their age, parent status, their child's age, and reported that they currently lived with their children, leaving a sample size of 387.

Preliminary Analyses

Prior to conducting the proposed analyses, the data were examined to ensure no mislabeling or mis-scaling occurred. Appropriate measure items were reverse coded as specified by their protocol to ensure composite scores were accurately summed. Internal consistency was assessed by examining alpha coefficients for each measure. Variables were all assessed for normality and univariate outliers prior to handling any missing data to limit bias in further imputation methods (Tabachnick & Fidell, 2013). Normality was tested using skewness, kurtosis, histograms, and detrended normal q-q plots. Normality testing revealed normal distributions for all variables except for the Physical Abusiveness subscale on the EASE-PI, which indicated a positively skewed distribution. Univariate outliers across cases were assessed

using box plots, which revealed 18 univariate outliers on the Physical Abusiveness subscale of the EASE-PI and one univariate outlier on Negative Affect of the MAACL-R. Per Tabachnick and Fidell (2013) and Baaven and Milin (2010), natural logarithmic transformations were performed to correct for abnormal distribution and associated outliers on the Physical Abusiveness subscale. These transformed variables were examined for normality using skewness and kurtosis, which fell within normal limits.

SPSS Missing Data Analysis indicated that missing data ranged from 0% to 1.3%. Missing data were found on the Parenting Scale (PS; 0.3% of total responses), Parenting Cognition Scale (PCS; 1.3% of total responses), Confusion, Hubbub, and Order Scale (CHAOS; 0.3% of total responses), and the Parental Modernity Inventory (PMI; 0.3% of total responses). Little's MCAR test indicated that the data were missing completely at random (chi-square = 1193.45, $df = 1233$, $p = .786$). Multiple imputation was used to correct for missing values as this is recommended for any form of general linear model analysis (Tabachnick & Fidell, 2013).

Multivariate outliers were then assessed using a $p < .001$ criterion for the Mahalanobis distance test, which yielded a critical value of 27.88 (Tabachnick & Fidell, 2013). Five cases exceeded this critical value and were identified as multivariate outliers. Upon further examination, two cases reported higher scores on the EASE-PI (EASE-PI total = 33.21; 48.85) compared to the mean ($M = 11.69$). However, these cases did not reflect floor and ceiling effects, suggesting that these cases may reflect a population with more risk factors (i.e., history of abuse) for harsh parenting, which was a primary focus for the present study; therefore, these cases were kept within the dataset. One case was dropped based on their significantly higher negative affect score captured at the start of the survey to address potential selective bias in retrospective self-report measures (Sato & Kawahara, 2011). The remaining two cases were removed due to

apparent floor and ceiling effects in their data (Šimkovic & Träuble, 2019), leaving a final sample size of 384. Descriptive statistics for all study variables after multiple imputation analyses are presented in Table 2.

Table 2.

Descriptive Statistics of Study Measures

Continuous Variables	*M* (*SD*)	Range [Min, Max]	Skewness (*SE*)	Kurtosis (*SE*)
Harsh Parenting	20.77 (6.74)	34 [8, 42]	0.52 (0.13)	-0.21 (0.25)
Internal Attributions	29.54 (8.58)	45 [9, 54]	0.27 (0.13)	-0.16 (0.25)
Impulsivity	58.22 (9.61)	52 [35, 87]	0.32 (0.13)	-0.19 (0.25)
Household Chaos	31.80 (7.45)	39 [15, 54]	0.29 (0.13)	-0.25 (0.25)
Traditional/Authoritarian	55.30 (14.65)	72 [24, 96]	0.43 (0.13)	-0.23 (0.25)
Cognitive Reappraisal	29.57 (6.54)	36 [6, 42]	-0.26 (0.13)	0.29 (0.25)
Expressive Suppression	13.74 (5.21)	24 [4, 28]	0.20 (0.13)	-0.32 (0.25)
Negative Affect	2.48 (3.05)	16 [0, 16]	1.54 (0.13)	2.22 (0.25)
History - Phys. abuse (log)	2.86 (0.37)	1.56 [2.56, 4.13]	1.54 (0.13)	1.69 (0.25)
History - Verb. abuse	36.58 (21.47)	76 [19, 95]	1.21 (0.13)	0.34 (0.25)

Note. N = 384; Natural logarithmic transformations were performed on History - Phys. Abuse. Harsh Parenting = Parenting Scale; Internal Attribution = Parent Cognition Scale; Impulsivity = Barratt Impulsiveness Scale-11; Household Chaos = Confusion, Hubbub, and Order Scale; Traditional/Authoritarian = Parental Modernity Inventory; Cognitive Reappraisal and Expressive Suppression = Emotion Regulation Questionnaire; Negative Affect = Multiple Affect Adjective Check-List-Revised Anxiety, Depression, and Hostility subscales summed total score; History - Verb. Abuse and History - Phys. Abuse (log) = Exposure to Abusive and Supporting Environmental-Parenting Inventory.

Covariates were examined prior to proposed analyses. Demographic variables were examined as possible covariates of the associations with harsh parenting behaviors due to higher rates of harsh parenting being linked to parents' age (Bugental et al., 2010), race/ethnicity (Deater-Deckard et al., 1996), income (Hill et al., 2003; Lee et al., 2013; McGroder, 2000), employment status (Hill et al., 2003; Whitbeck et al., 1997), and education (Chen & Kaplan, 2001; Jensen et al., 2012). Prior to analyses, gender (Men = 1; Women = 0), race/ethnicity (Caucasian = 1; All Other Ethnicity Categories = 0), education (High School = 1; More than High School = 0), employment status (Not Employed = 1; Employed = 0) , and household

income (Less than $40,000 = 1; More than $40,000 = 0) were dummy coded. Additionally, traditional authoritarian beliefs (Jocson et al., 2012), emotion regulation (Crandall et al., 2015), negative affect (Dix et al., 2004), and previous exposure to harsh parenting (Conger et al., 2009; Simons et al., 1991) were also examined as possible covariates as these variables have been identified as predictors of harsh parenting. Covariates were examined using a combination of Pearson's product-moment and point-biserial correlations (see Table 3). Results showed meaningful correlations with harsh parenting and race/ethnicity ($r = .14$, $p = .006$), traditional authoritarian beliefs ($r = .23$, $p < .001$), cognitive reappraisal ($r = -.26$, $p < .001$), and negative affect ($r = .16$, $p = .001$). These variables were included as covariates for analyses related to Hypothesis 3.

Table 3.

Intercorrelations of Variables.

	1	2	3	4	5	6	7	8	9
1. Harsh Parenting	--								
2. Internal Attribution	.45***	--							
3. Impulsivity	.45***	.30	--						
4. Household Chaos	.49***	.54***	.44***	--					
5. Traditional/Authoritarian	.23***	.14**	.10	.08	--				
6. Cognitive Reappraisal	-.26***	-.19***	-.30***	-.32***	.06	--			
7. Expressive Suppression	.03	.06	.03	.001	.28***	-.11*	--		
8. Negative Affect	.16**	.12*	.17**	.22***	-.09	-.15**	-.06	--	
9. History - Verb. Abuse	.08	.11*	.20***	.14**	.02	-10	.09	.19***	--
10. History - Phys. Abuse (log)	.09	.10*	.13**	.13*	.09	-.07	.13*	.16**	.81***
11. Age	.03	-.01	-.02	-.02	-.13*	.08	-.13**	.03	-.10*
12. Gender	-.03	-.10	-.10	-.16**	.08	.01	.07	-.09	-.10*
13. Race/Ethnicity	.14**	.16**	.22***	.12*	.23***	-.18**	-.12*	.09	.04
14. Education	-.18***	.07	-.23***	-.16**	.37***	.03	-.13*	-.05	-.25***
15. Employment	-.002	-.01	.02	-.04	.003	-.02	-.03	-.04	.11*
16. Household Income	-.11*	.18**	.19***	-.22***	.24***	-.04	.14**	-.05	.25***
17. Number of Children	.19***	.05	.04	.28***	.04	.02	-.02	-.07	.09
18. Child Age	.10	-.13*	.02	-.03	.14*	.13*	-.01	-.15*	.06

Note. $N = 384$; Natural logarithmic transformations were performed on History - Phys. Abuse; Harsh Parenting = Parenting Scale (continuous); Internal Attribution = Parent Cognition Scale (continuous); Impulsivity = Barratt Impulsiveness Scale-11 (continuous); Household Chaos = Confusion, Hubbub, and Order Scale (continuous); Traditional/Authoritarian = Parental Modernity Inventory (continuous); Cognitive Reappraisal and Expressive Suppression = Emotion Regulation Questionnaire (continuous); Negative Affect = Multiple Affect Adjective Check-List-Revised Anxiety, Depression, and Hostility subscales summed total score (continuous); History - Verb. Abuse and History - Phys. Abuse (log) = Exposure to Abusive and Supporting Environmental-Parenting Inventory (continuous); Age was measured continuously with age ranging from 19 to 53; Gender was dummy coded (Men = 1; Women = 0); Race/Ethnicity was dummy coded (Caucasian = 1; All Other Ethnicity Categories = 0). Pearson product-moment correlations were conducted for associations between two continuous variables, point-biserial correlations were conducted for associations consisting of one continuous variable and one dichotomous variable, and Spearman correlations were conducted for two dichotomous variables. $*p < .05$, $**p < .01$, $***p < .001$.

Table 3 continued.

	10	11	12	13	14	15	16	17	18
1. Harsh Parenting									
2. Internal Attribution									
3. Impulsivity									
4. Household Chaos									
5. Traditional/Authoritarian									
6. Cognitive Reappraisal									
7. Expressive Suppression									
8. Negative Affect									
9. History - Verb. Abuse									
10. History - Phys. Abuse (log)	--								
11. Age	-.02	--							
12. Gender	-.10	-.07	--						
13. Race/Ethnicity	.01	.07	-.14**	--					
14. Education	.25***	.20***	.05	.08	--				
15. Employment	.05	-.02	.03	-.06	-.06	--			
16. Household Income	-.22***	-.19***	.02	.06	.50***	.20***	--		
17. Number of Children	.15**	.12*	-.09	.02	-.22***	-.07	-.12*	--	
18. Child Age	.14*	.50***	.01	-.13*	-.20**	.02	-.14*	.47***	--

Note. $N = 384$; Natural logarithmic transformations were performed on History - Phys. Abuse; Harsh Parenting = Parenting Scale (continuous); Internal Attribution = Parent Cognition Scale (continuous); Impulsivity = Barratt Impulsiveness Scale-11 (continuous); Household Chaos = Confusion, Hubbub, and Order Scale (continuous); Traditional/Authoritarian = Parental Modernity Inventory (continuous); Cognitive Reappraisal and Expressive Suppression = Emotion Regulation Questionnaire (continuous); Negative Affect = Multiple Affect Adjective Check-List-Revised Anxiety, Depression, and Hostility subscales summed total score (continuous); History - Verb. Abuse and History - Phys. Abuse (log) = Exposure to Abusive and Supporting Environmental-Parenting Inventory (continuous); Age was measured continuously with age ranging from 19 to 53; Gender was dummy coded (Men = 1; Women = 0); Race/Ethnicity was dummy coded (Caucasian = 1; All Other Ethnicity Categories = 0). Pearson product-moment correlations were conducted for associations between two continuous variables, point-biserial correlations were conducted for associations consisting of one continuous variable and one dichotomous variable, and Spearman correlations were conducted for two dichotomous variables. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Primary Statistical Analyses

Hierarchical multiple regression analyses were conducted to test hypothesis 1, 2, and 3, with harsh parenting behavior (PS) as the dependent variable and internal parent attribution (PCS) and impulsivity (BIS-11) as the independent variables. A conditional analysis using PROCESS in SPSS was performed to test the research question. All analyses were then ran again without the identified multivariate outliers to examine possible biases introduced in the model. All statistical assumptions were tested for regression-based analyses. Per Cohen and colleagues (2013), all continuous variables (i.e., PCS, BIS-11, CHAOS, PMI, ERQ, and the MAACL-R) were centered to the mean. The independence of residuals assumption was met as indicated by the Durbin-Watson statistic (1.93; Jeong & Jung, 2016). Scatter plots revealed evidence of homoscedasticity of residuals (Tabachnick & Fidell, 2013). Normality of residuals was assessed using q-q plots, which indicated normally distributed residuals. Finally, multicollinearity was tested using the variance inflation factor (VIF), which indicated a very low level of multicollinearity in the tested model with harsh parenting as the dependent variable (Internal Attributions, *VIF* = 1.15; Impulsivity, *VIF* = 1.27; Race/Ethnicity *VIF* = 1.16; Traditional Authoritarian Beliefs, *VIF* = 1.13; Cognitive Reappraisal, *VIF* = 1.14; Negative Affect, *VIF* = 1.06).

Hypothesis 1 and 1a: Direct relationships. It was hypothesized that internal parent attribution would have a positive association with harsh parenting behaviors, such that parents with higher internal attributions would report more harsh parenting behaviors. Additionally, it was hypothesized that impulsivity would have a positive association with harsh parenting, such that parents with higher impulsivity would report more harsh parenting behaviors. The first block of the hierarchical multiple regression analysis revealed that internal parent attributions

significantly predicted reported harsh parenting behaviors ($\beta = 0.35$, $t(381) = 7.83$, $p < .001$), as did impulsivity ($\beta = 0.35$, $t(381) = 7.82$, $p < .001$). These findings suggest that participants who reported higher internal parent attributions endorsed more harsh parenting behaviors compared to participants who reported lower internal parent attributions. Additionally, participants who reported higher impulsivity endorsed more harsh parenting behaviors compared to those who reported lower impulsivity. These results remained significant after excluding identified multivariate outliers. Based on these findings, Hypothesis 1 and 1A were supported. Results are presented in Table 4.

Hypothesis 2: Impulsivity as a moderator. It was hypothesized that the relationship between internal parent attribution and harsh parenting behavior would be moderated by impulsivity, such that the positive relationship between internal parent attribution and harsh parenting behavior would be stronger in the presence of higher levels of parent impulsivity. The second block of the hierarchical multiple regression analysis revealed a non-significant interaction between internal parent attributions and impulsivity, $\Delta R^2 = 0.001$, F_{change} (1, 380) = 0.31, $p = 0.579$. Consequently, no follow up analyses were performed due to this non-significant interaction. These findings remained non-significant after excluding identified multivariate outliers. These findings indicate that impulsivity did not moderate the relationship between internal parent attributions and harsh parenting behavior; thus, hypothesis 2 was not supported. Results are presented in Table 4.

Table 4.

Summary of Hierarchical Multiple Regression Analyses Predicting Harsh Parenting (N = 384)

	Model 1			Model 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Impulsivity	0.24	0.03	0.35***	0.24	0.03	0.34***
Internal Attribution	0.27	0.04	0.35***	0.27	0.04	0.35***
Impulsivity × Internal Attribution				0.002	0.003	0.02

Note. Internal Attribution = Parent Cognition Scale (continuous); Impulsivity = Barratt Impulsiveness Scale-11 (continuous); All continuous predictor variables were centered at their means; $R^2 = 0.31$; *$p < .05$, *$p < .01$, ***$p < .001$.

Hypothesis 3: Testing the full model. It was hypothesized that the predicted effects would persist after accounting for confounding variables. To test this hypothesis, the hierarchical multiple regression analysis was rerun with the following covariates: Race/Ethnicity, Number of Children, Traditional Authoritarian Beliefs, Cognitive Reappraisal, and Negative Affect. Results revealed that internal parent attributions significantly predicted reported harsh parenting behaviors ($\beta = 0.30$, $t(376) = 6.91$, $p < .001$), as did impulsivity ($\beta = 0.28$, $t(376) = 6.08$, $p < .001$) above and beyond all covariates. Additionally, results revealed a non-significant interaction between internal parent attributions and impulsivity when covariates were entered into the model, $\Delta R^2 = 0.00$, F_{change} (1, 373) = 0.04, $p = 0.841$. Furthermore, Race/Ethnicity was no longer significant after internal parent attributions and impulsivity were entered into the model. These findings remained non-significant after excluding identified multivariate outliers. Based on these findings, Hypothesis 3 was partially supported. Results are presented in Table 5.

Table 5.

Summary of Hierarchical Multiple Regression Analyses Predicting Harsh Parenting with Covariates (N = 384)

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Race/Ethnicity	2.78	0.99	0.14**	0.73	0.89	0.04	0.73	0.90	0.04
Number of Children	1.14	0.27	0.19***	0.99	0.24	0.17***	0.99	0.24	0.17***
Traditional/ Authoritarian	0.13	0.02	0.28***	0.08	0.02	0.18***	0.08	0.02	0.17***
Cognitive Reappraisal	-0.25	0.05	-0.24***	-0.12	0.05	-0.11*	-0.12	0.05	-0.11*
Negative Affect	0.35	0.10	0.16**	0.19	0.09	0.09*	0.19	0.09	0.09*
Impulsivity				0.20	0.03	0.28***	0.19	0.03	0.28***
Internal Attribution				0.24	0.03	0.30***	0.24	0.03	0.30***
Impulsivity × Internal Attribution							0.001	0.003	0.01

Note. Race/Ethnicity was dummy coded (Caucasian = 1; All Other Ethnicity Categories = 0); Traditional/Authoritarian = Parental Modernity Inventory (continuous); Cognitive Reappraisal and Expressive Suppression = Emotion Regulation Questionnaire (continuous); Negative Affect = Multiple Affect Adjective Check-List-Revised Anxiety, Depression, and Hostility subscales summed total score (continuous); Internal Attribution = Parent Cognition Scale (continuous); Impulsivity = Barratt Impulsiveness Scale-11 (continuous); All continuous predictor variables were centered at their means; $R^2 = 0.38$; *$p < .05$, *$p < .01$, ***$p < .001$.

Research Question: Moderated moderation. A research question was included to explore whether the moderating effect of impulsivity on internal parent attribution and harsh parenting would be conditional to household chaos, such that the moderating effect of impulsivity would be weaker or stronger in the presence of more chaotic households versus less chaotic households. To explore this moderated moderation, conditional process modeling was used via the PROCESS macro (Hayes, 2018). Per Hayes (2018), the study used model = 3 specifications, which reflects models of moderated moderation. Results indicated that the overall three-way interaction model was not significant, $\Delta R^2 = 0.0003$, $F(1, 376) = 0.15$, $p = 0.696$. Due to this non-significant interaction, the study did not perform the Johnson Neyman technique to

probe the three-way interaction. These results remained non-significant after excluding identified multivariate outliers. These findings suggest that the moderating effect of impulsivity on the relationship between internal parent attribution and harsh parenting behavior is not conditional on household chaos. Results are presented in Table 6.

Table 6.

Summary of Moderated Moderation Model Predicting Harsh Parenting (N = 384)

Variable	*B*	*SE B*	95% CI	
Internal Attribution	0.18***	0.04	0.10	0.26
Impulsivity	0.19***	0.03	0.12	0.25
Household Chaos	0.22***	0.05	0.12	0.31
Internal Attribution x Impulsivity	0.0004	0.004	-0.01	0.01
Internal Attribution x Household Chaos	-0.001	0.005	-0.01	0.01
Impulsivity x Household Chaos	0.003	0.004	-0.01	0.01
Internal Attribution x Impulsivity x Household Chaos	0.0001	0.0004	-0.001	0.001

Note. Internal Attribution = Parent Cognition Scale (continuous); Impulsivity = Barratt Impulsiveness Scale-11 (continuous); Household Chaos = Confusion, Hubbub, and Order Scale (continuous); All continuous predictor variables were centered at their means; $R^2 = 0.59$; *$p < .05$, *$p < .01$, ***$p < .001$.

Supplementary Analyses: Sample Characteristics

To examine possible explanations for the previously reported results, post-hoc analyses were conducted to explore sample attributes. A one-sample t-test was performed to compare the sample mean for impulsivity with data presented in a 50-year meta-analysis review of the Barratt Impulsiveness Scale-11. This meta-analysis reported a total sample of 1577 adults reflective of the general population with $M = 62.30$ and $SD = 10.30$ (Standford et al., 2009). The current study's sample reported significantly lower impulsivity ($M = 58.22$; $SD = 9.61$) compared to the general population reported in Stanford and colleagues' (2009) meta-analysis, $t(384) = -8.31$, $p < .001$. An additional one-sample t-test was performed to compare the sample's impulsivity mean with a more recent study in 2013 looking at impulsivity levels via the BIS-11 in a community sample of 691 "healthy" adults ($M = 59.18$; $SD = 9.54$; Reise, Moor, Sabb, Brown, & London,

2013). The current study's sample reported lower impulsivity by 1.95 points compared to the community sample, $t(383) = -1.95$, $p = .052$. In addition, the current study's impulsivity mean was compared to a similar study by Chen and colleagues (2012), which reported that impulsivity moderated the relationship between adults' hostile attribution biases and general aggression. Their study consisted of 2,749 participants with $M = 63.11$ and $SD = 9.75$ for the BIS-11. A one-sample t-test was performed, which indicated that this study's sample reported significantly lower impulsivity compared to Chen's and colleagues' (2012) adult sample, $t(383) = -9.96$, $p < .001$. Overall, the current study's sample reported lower levels of impulsivity compared to both the general population and a study that examined a similar interaction to the one proposed here, in Hypothesis 2.

CHAPTER IV

DISCUSSION

The goal of this study was to integrate parenting models with social information-processing models of reactive aggression to further our understanding of parents' internal attributions, impulsivity, and their environment as it relates to harsh parenting behaviors. First, it was hypothesized that both internal parent attribution and impulsivity would have a positive association with harsh parenting. Results revealed that higher internal parent attributions predicted more harsh parenting behaviors. Similarly, higher impulsivity predicted more harsh parenting behaviors. These findings supported my first hypothesis. Second, it was hypothesized that the positive relationship between internal parent attributions and harsh parenting would be moderated by parents' impulsivity. However, results revealed that impulsivity did not moderate this relationship; thus, Hypothesis 2 was not supported. Third, it was hypothesized that these predicted effects would persist after accounting for confounding variables. Both internal parent attributions and impulsivity predicted harsh parenting behaviors above and beyond all identified covariates; however, impulsivity as a moderator remained nonsignificant. Therefore, the third hypothesis was only partially supported. Finally, a research question was included to explore whether the moderating effect of impulsivity on internal parent attribution and harsh parenting would function conditionally by household chaos. Results indicated that household chaos did not moderate this the interaction between impulsivity and internal parent attributions.

Parental Cognitive Factors in Harsh Parenting

Direct effects. Parenting strategies such as overreactivity and harsh parenting have been linked to internal parent attributions (Nix et al., 1999; Smith & O'Leary, 1995; Wang et al., 2013) and higher parent impulsivity (Chen & Johnston, 2007; Harrison, 2018; Rhoades et al.,

2017; Rohrbeck & Twentyman, 1986; Sanders et al., 2019). To replicate these findings, it was hypothesized that both internal parent attributions (Hypothesis 1) and parents' impulsivity (Hypothesis 1A) would be positively related to harsh parenting. The study's analyses demonstrated that parents who endorsed more internal parent attributions reported more harsh parenting behaviors. Additionally, parents who endorsed higher impulsivity reported more harsh parenting behaviors as well. These findings were in the expected direction and replicates previous work that identifies these cognitive factors as predictors of harsh parenting behavior.

Impulsivity as a moderator. Studies have begun to look at the moderating role of impulsivity on the relationship between attributional biases and general reactive aggression (Chen et al., 2012); however, this effect has yet to be explored in the context of harsh parenting behaviors. To extend this research, it was hypothesized that the positive relationship between internal parent attribution and harsh parenting behavior would be moderated by impulsivity, such that this relationship would be stronger in the presence of higher levels of parent impulsivity (Hypothesis 2). Results revealed that parents' impulsivity did not moderate the relationship between internal parent attributions and harsh parenting; thus, Hypothesis 2 was not supported. Although contrary to what was hypothesized, one potential explanation for this result may be related to the sample's characteristics in impulsivity. Supplementary analyses exploring sample characteristics indicated that the sample's mean impulsivity score was lower compared to a 50-year meta-analysis review of the Barratt Impulsiveness Scale-11 (BIS-11), which consisted of undergraduate students and the general public (Stanford et al., 2009), as well as a more recent study looking at the BIS-11 in a "healthy" community sample (Reise et al., 2013). Moreover, the current study's mean impulsivity score was significantly lower compared to a similar study conducted by Chen and colleagues (2012) that also looked at attributional biases and general

aggression. In their study, the authors reported that impulsivity moderated the relationship between adults' hostile attribution biases and general aggression, such that higher impulsivity strengthened the positive relationship between hostile attribution bias and reactive aggression. Taken together, these findings call into question whether the study captured the range of impulsivity that would allow for the detection of the effects being studied.

Impulsivity has consistently been defined as our predisposition to act quickly without deliberation, forethought, or control of our behaviors (Burnett Heyes et al., 2012; Buss & Plomin, 1975; Chen, Coccaro, & Jacobson, 2012; Dickman, 1993; White et al., 1994). Although impulsivity is typically referred to as a *dysfunctional* trait, it has been argued that some degree of impulsive style does not always yield a negative behavioral consequence. Dickman (1990) argued that there were two separate traits of impulsivity: *functional* impulsivity, which describes rapid inaccurate performance in optimal situations; and *dysfunctional* impulsivity with describes rapid inaccurate performance in nonoptimal situations. In a series of studies examining the differences between *functional* and *dysfunctional* impulsivity, Dickman (1990) reported that *functional* impulsivity was more closely associated with other traits such as "enthusiasm (i.e., rhathymia), adventurousness, and activity" compared to *dysfunctional* impulsivity, which was associated with "disorderliness and a lack of concern about hard facts" when making decisions (p. 98). Moreover, he reported that those with higher *dysfunctional* impulsivity had higher error rates on simple and complex figures tasks where participants were asked to indicate whether two figures were the same or different. It was postulated that stress related to performance may have interfered with those with higher *dysfunctional* impulsivity and their ability to adopt slower, more careful strategies when comparing complex figures. This idea of *functional* versus *dysfunctional* impulsivity may highlight the gap in the current study's sample. As previously

stated, the current study's sample was relatively low in impulsivity compared to normative data found in other studies. Perhaps the current study's sample reflected those with more *functional* impulsivity as opposed to *dysfunctional* impulsivity, allowing parents to quickly adapt to their child(ren)'s behaviors and perform at more optimal levels. This *functional* impulsivity may explain why the results did not reveal a significant interaction between impulsivity and internal parent attributions on harsh parenting. Although the current study was unable to observe this interaction, one cannot definitively confirm that impulsivity does not influence the relationship between internal parent attributions and harsh parenting until we are able to examine these variables within a population that reflects higher *dysfunctional* impulsivity.

Testing the full model. The current study was also interested in testing whether the hypothesized effects described above would persist after accounting for other predictors of harsh parenting (Hypothesis 3). Further analyses identified race/ethnicity, traditional authoritarian beliefs, cognitive reappraisal of emotion regulation, and negative affect as covariates for harsh parenting behavior and were subsequently added to the model. Results revealed partial support for Hypothesis 3 where the direct effects of internal parent attributions and impulsivity persisted above and beyond all covariates. Moreover, race/ethnicity was no longer significant after internal parent attributions and impulsivity were entered into the model. The current study demonstrates that internal parent attributions and parent impulsivity play a pivotal role in explaining harsh parenting behavior, more so than well-established predictors such as race/ethnicity and parental affect; thus, calling attention for future researchers to examine the nature of these direct relationships. Although, these direct effects persisted beyond the identified covariates, the interaction between impulsivity and internal parent impulsivity remained nonsignificant. However, as discussed in the previous section, this nonsignificant interaction may be due to the

sample's characteristics associated with low impulsivity. Nonetheless, these findings underscore the prominent role of parents' cognitive and social-emotional processing in parents' decision-making; thus, highlighting a need to further understand how these processes specifically operate. Future research should reexamine internal parent attributions and parent impulsivity in the context of other well-known predictors of harsh parenting, particularly within a sample that may be more susceptible to the effects of *dysfunctional* impulsivity.

Contextual Factors: The Role of Household Chaos

Contextual factors such as household chaos have been connected to parenting behavior. Specifically, households that are calmer and more predictable are associated with healthier family dynamics and child development (Coldwell et al., 2006); whereas households that are more chaotic (i.e., noisy, high in distraction, crowded, and unpredictable) are associated with harsh parenting behaviors (Deater-Deckard et al., 2012). Studies that have begun to look more closely at these relationships suggest that household chaos may play a more indirect role by causing stress and distraction to parents' self-regulatory processes (Crandall et al., 2015; Deater-Deckard et al., 2012; Lupien et al., 2009; Want et al., 2013). To extend this research, the current study examined how the proposed moderating effect of impulsivity on internal parent attribution and harsh parenting may function conditionally by household chaos; thus, exploring the question on whether this moderating effect would be weaker or stronger in the presence of more chaotic households versus calmer households (Research Question). Results revealed that this three-way interaction was not significant; therefore, the proposed moderating effect of parents' impulsivity was not conditional on household chaos.

One possible explanation for this lack of moderated moderation may stem from the limitations posed by the study's sample characteristics. As described earlier, the sample's mean

impulsivity was significantly lower compared to other studies, suggesting that this group of parents had a higher capacity for cognitive flexibility and self-regulation. Additionally, one cannot overlook the possible effects of the coronavirus disease (COVID-19) pandemic when exploring the role of stress induced by household chaos, especially when we consider shifts in the family system directly linked to the pandemic response in the United States. Specifically, part way through the data collection phase of this study in February 2020, the U.S. began to see the potential impact of COVID-19 as the case trajectory accelerated in Italy. As a result, social distancing and individual state executive orders were implemented to contain the spread of COVID-19 (Pietromonaco & Overall, 2020). A recent study looking at the effects of parenting stress related to the COVID-19 and household chaos on family functioning reported that psychological flexibility acted as a buffer against these parents' stressors (Daks, Peltz, & Rogge, 2020). Moreover, the study's results suggested that this psychological flexibility was predictive of greater family cohesion, lower household chaos, and more constructive parent behaviors. The authors conceptualized psychological flexibility as the set of skills required to "respond to challenging and difficult thoughts, feelings, and experiences (e.g., developing tolerance and acceptance for challenging experiences, allowing them to gently pass, maintaining a broader perspective in the midst of them)" (p. 17). Although this description is somewhat broad, one could argue that impulsivity plays a pivotal role in these skills, which require more forethought and deliberation before action. Given the nature of the sample's low impulsivity levels, the study may not have observed a conditional effect of household chaos due to parents' higher capacity for psychological flexibility via *functional* impulsivity.

Furthermore, other sample characteristics related to sociodemographic factors may also explain why household chaos did not have conditional effect as proposed. More specifically, the

study's sample predominantly identified as Non-Hispanic Caucasian and reflected parents with higher educational achievement levels, high household income status, predominantly employed, and married, which may all be protective against the adverse effects of household chaos. Moreover, the extant literature on household chaos suggests that higher levels of household chaos are more prevalent and chronic among households that have higher socioeconomic risks (Brody & Flor, 1997; Coldwell et al., 2006; Deater-Deckard et al., 2012; Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005). Deater-Deckard and colleagues (2012) reported that socioeconomic risk (i.e., single parent households, low education, unemployment, and housing status) moderated the positive association between household chaos and maternal executive function, in that this association was strongest for mothers in the most socioeconomically distressed households. Given these findings, the current study may not have observed an indirect effect of household chaos due to the sample's limited representation of these socioeconomic risks. More specifically, parents from higher socioeconomic backgrounds may have more resources to help manage and maintain stable household environments. Additionally, when considering the unique stressors posed by the COVID-19 pandemic, these parents may also have more liberty to participate in an online study compared to parents who may be more directly impacted by the economic hardship associated with the pandemic. Future research should reexamine the conditional effect of household chaos within a parent population that is reflective of higher socioeconomic risk.

Limitations and Future Directions

The findings from this study should be considered within the context of several methodological and sample limitations. Methodological limitations include the use of a cross-sectional design, which limits our ability to make inferences of causality. Future research may

benefit from completing longitudinal or experimental research to allow more control in the temporal ordering of observations and control for possible environmental effects outside of the scope of this research. Furthermore, the use of self-report measures of parenting behaviors, household chaos, internal parent attributions, and impulsivity leaves vulnerability to social desirability bias (King & Bruner, 2000; Krumpal, 2013; Vigil-Colet, Ruiz-Pamies, Anguiano-Carrasco, & Lorenzo-Seva, 2012). Future studies should consider using observational measures of parenting and household chaos and cognitive tasks such as the Go/No-Go, Stop-Signal, and Delay-Discounting tasks, which can be used to capture in-the-moment levels of rapid-response impulsivity and reward-delay impulsivity (Jauregi, Kressler,& Hassel, 2018).

In addition to the above-mentioned possible impacts of the COVID-19 pandemic, it is difficult to pinpoint which participants in this study were recruited before and after COVID-19 containment measures were taken due to the variability in individual state's executive orders among participants. Social distancing and individual state executive orders contributed to a dramatic shift in the family system. More specifically, families were suddenly and unexpectedly faced with stressors such as financial insecurity, additional parenting burdens, childcare, and demands related to homeschooling (Daks, Peltz, & Rogge, 2020). This shift in the family system presents a unique population of parents who are navigating pandemic specific stressors in addition to the typical stressors we see in childrearing. Therefore, we are unable to generalize these results to the study's original target population as some participants completed the survey before and after the pandemic response.

As previously mentioned, the over-representation of Non-Hispanic Caucasian women and underrepresentation of men and ethnic/racial minorities limits the study's representativeness of the parent population, particularly for the study's target population of at-risk parents. These

results are comparable to a recent study looking at the feasibility of recruitment via social media platforms during the COVID-19 pandemic, which reported similar limitations in their sample (*N* = 6562) with 92.3% of the sample identifying as Non-Hispanic Caucasian (Ali, Forman, Capasso, Jones, Torzan, & DiClemente, 2020). Cross-sectional and longitudinal studies suggest that non-Caucasian parents, particularly African American parents, report higher frequencies of harsh parenting behaviors (Hill et al., 2003; Lee et al., 2012; McGroder, 2000). This link to race and ethnicity has been explained by the role of intersectionality related to financial pressures and persistent employment status (Hill et al., 2003) as well as lower educational achievement (Jensen et al., 2012), which may account for these ethnic differences in harsh parenting. The study's sample primarily consisted of parents with higher household incomes, educational achievement, and employment rates, which is not reflective of the target at-risk parent population for this study. In addition, the sample's low impulsivity scores make it difficult to understand the role of higher impulsivity in harsh parent decision-making, especially when considering implications for clinical populations with psychiatric disorders such as ADHD and other disorders related to mania, substance abuse, and personality disorders (APA, 2013). Therefore, future studies should expand this research via recruitment of a more diverse clinical sample to effectively capture groups at higher risk for harsh parenting behaviors.

Finally, research extending this study may benefit from considering how internal parent attributions, impulsivity, and household chaos may influence harsh parenting strategies among first-time parents compared to more experienced parents. The transition into parenthood can create substantial strain for many first-time parents. Specifically, childrearing demands such as the physical burden (i.e., sleep deprivation and fatigue), limited time for leisurely activities, increased chores (i.e., cleaning, laundry, cooking), economic hardship, and work-family conflict

can be particularly difficult for new parents (Bower, 2012; Peterson & Hawley, 1998). For first-time parents, these demands can result in increased distress, difficulties with mental health, and strain in marital relationships compared to married individuals who do not have children (Bower, 2012; Cowan & Cowan, 1988). Furthermore, younger first-time parents who are in adolescence or early adulthood often fit sociodemographic predictors of harsh parenting such as lower educational achievement and income-to-needs ratio (Bugental et al., 2010; Maduro, 2016); thus, increasing the risk for harsh parenting behaviors. Future research should examine whether first-time parents may or may not be more susceptible to the effects of internal parent attributions, impulsivity, and household chaos on harsh parenting behaviors; thus, allowing for the development of more refined, targeted clinical interventions within the parent population.

Theoretical and Clinical Implications

The current study presents several theoretical and practical implications for understanding harsh parenting. Although extensive literature has examined distal risk factors for harsh parenting as described by Belsky's and Abidin's parenting models, little of this research has focused on more proximal processes involved in parent decision-making, particularly as it related the broad interpretation of *cognitive coping*. To the best of our knowledge, this study is the first study to integrate these parenting models with social information-processing models of reactive aggression presented by Crick and Dodge (1994) and Fontaine and Dodge (2006) to better our theoretical understanding of hostile and aggressive parenting behavior. This exploration of reactive aggression in the context of harsh parenting allows for a more in-depth perspective on the cognitive and social-emotional processes (e.g., impulsivity, attributional biases) involved in parents decision-making. Furthermore, few studies have examined these processes in the context of contextual factors such as household chaos. Although impulsivity and

household chaos did not moderate the hypothesized relationships, the current study demonstrated that higher internal parent attributions, impulsivity, and household chaos predicted more harsh parenting behaviors and remained significant above and beyond covariates entered into the model. These results not only replicate previous research (Chen & Johnston, 2007; Harrison, 2018; Nix et al., 1999; Rhoades et al., 2017; Rohrbeck & Twentyman, 1986; Sanders et al., 2019 Smith & O'Leary, 1995; Wang et al., 2013), but also further highlights the need to understand how these personal and contextual factors may interact with harsh parenting behaviors.

In addition, the results of this study bring attention to potential clinical interventions and parent training programs to reduce harsh parenting behaviors and risk of child abuse. The significant associations between internal parent attribution and parents' impulsivity with reported harsh parenting behaviors, suggests that parent skills training and cognitive behavioral interventions may be necessary to reduce harsh parenting. These interventions should focus on increasing cognitive flexibility and self-regulation, especially when parents are faced with tasks that require problem-solving and addressing child misbehavior. Bugental and colleagues (2010) reported that mothers who completed home visitation programs that included cognitive interventions (e.g., identifying cues of distress, challenging automatic thoughts, problem-solving training) were less likely to engage in child abuse compared to mothers who received home visitation interventions without cognitive strategies. In addition, based on the positive association between household chaos and harsh parenting behaviors, it may be beneficial to also include interventions aimed at reducing household chaos in home visitation or parenting training programs to reduce the likelihood of harsh parenting behaviors (Whitesell, Teti, Crosby, & Kim, 2015).

CHAPTER V

CONCLUSION

While parenting models have offered a foundational understanding of risk factors associated with harsh parenting, there is a gap in this literature that identifies the specific cognitive mechanisms through which these exchanges occur. Although not originally proposed for aggressive parenting behaviors, social information processing models of reactive aggression address these processes in more refined detail. To address this theoretical gap, the current study integrated parenting and social information processing models to explore how impulsivity may underscore the relationship between internal parent attributions and harsh parenting behaviors. Additionally, the current study examined how these processes may be conditional on environmental factors such as household chaos. The results revealed positive associations between internal parent attributions and harsh parenting behaviors as well as parents' impulsivity and harsh parenting behaviors. These relationships remained significant above and beyond identified covariates (i.e., race/ethnicity, traditional authoritarian beliefs, cognitive reappraisal in emotion regulation, and negative affect). Furthermore, race/ethnicity was no longer significant after internal parent attribution and impulsivity were entered into the model, highlighting the importance of these variables in our understanding of harsh parenting behavior. However, results revealed that impulsivity did not moderate the positive relationship between internal parent attribution and harsh parenting behavior. In addition, the study did not observe a conditional effect of household chaos on this proposed moderating effect of impulsivity. These nonsignificant results may reflect limitations in the study's recruitment and the limited diversity of the sample; therefore, future studies should extend this research via recruitment of a more

diverse clinical sample that reflects higher *dysfunctional* impulsivity to effectively capture groups at higher risk for harsh parenting behaviors.

REFERENCES

Abidin, R. R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology*, 19(4), 298-301.

Abidin, R. R. (1992). The determinants of parenting behavior. *Journal of Clinical Child Psychology*, 21(4), 407-412.

Ackerman, B. P., Kogos, J., Youngstrom, E., Schoff, K., & Izard, C. (1999). Family instability and the problem behaviors of children from economically disadvantaged families. *Developmental Psychology*, 35(1), 258.

Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-practice recommendations for defining, identifying, and handling outliers. *Organizational Research Methods*, 16(2), 270-301.

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30(2), 217-237. doi: 10.1016/j.cpr.2009.11.004

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5®). American Psychiatric Pub.

Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment*, 5(2), 137.

Ateah, C. A., & Durrant, J. E. (2005). Maternal use of physical punishment in response to child misbehavior: Implications for child abuse prevention. *Child Abuse & Neglect*, 29(2), 169-185.

Azar, S. T., & Weinzierl, K. M. (2005). Child maltreatment and childhood injury research: A cognitive behavioral approach. *Journal of Pediatric Psychology*, 30, 598-614. doi: 10.1093/jpepsy/jsi046

Bailey, C. A., & Ostrov, J. M. (2008). Differentiating forms and functions of aggression in emerging adults: Associations with hostile attribution biases and normative beliefs. *Journal of Youth and Adolescence*, 37(6), 713-722.

Barkley, R. A. (1990). Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment. New York, NY: Guilford Press.

Barkley, R. A. (1997). ADHD and the nature of self-control. New York: Guilford Press.

Baumann, A. A., & Odum, A. L. (2012). Impulsivity, risk taking, and timing. *Behavioural Processes*, 90(3), 408-414.

Beckerman, M., van Berkel, S. R., Mesman, J., & Alink, L. R. (2017). The role of negative parental attributions in the associations between daily stressors, maltreatment history, and harsh and abusive discipline. *Child Abuse & Neglect*, *64*, 109-116.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development,* 83-96.

Belsky, J., Pasco Fearon, R. M., & Bell, B. (2007). Parenting, attention and externalizing problems: Testing mediation longitudinally, repeatedly and reciprocally. *Journal of Child Psychology and Psychiatry*, *48*(12), 1233-1242.

Bender, H. L., Allen, J. P., McElhaney, K. B., Antonishak, J., Moore, C. M., Kelly, H. O. B., & Davis, S. M. (2007). Use of harsh physical discipline and developmental outcomes in adolescence. *Development and Psychopathology*, 19(1), 227-242.

Bennett, D. A. (2001). How can I deal with missing data in my study?. *Australian and New Zealand Journal of Public Health*, 25(5), 464-469.

Berlin, L. J., Ispa, J. M., Fine, M. A., Malone, P. S., Brooks-Gunn, J., Brady-Smith, C., ... & Bai, Y. (2009). Correlates and consequences of spanking and verbal punishment for low-income White, African American, and Mexican American toddlers. *Child Development*, 80(5), 1403-1420.

Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation to self-regulation: Early parenting precursors of young children's executive functioning. *Child Development*, *81*(1), 326-339.

Brieant, A., Holmes, C. J., Deater-Deckard, K., King-Casas, B., & Kim-Spoon, J. (2017). Household chaos as a context for intergenerational transmission of executive functioning. *Journal of Adolescence,* 58, 40-48.

Brody, G. H., & Flor, D. L. (1997). Maternal psychological functioning, family processes, and child adjustment in rural, single-parent, African American families. *Developmental Psychology*, 33(6), 1000.

Bugental, D. B., Ellerson, P. C., Lin, E. K., Rainey, B., Kokotovic, A., & O'Hara, N. (2010). A cognitive approach to child abuse prevention. *Journal of Family Psychology*, 16, 243-258. doi: 10.1037/0893-3200.16.3.243

Bugental, D. B., & Johnston, C. (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology*, *51*(1), 315-344.

Buss, A. H., & Plomin, R. (1975). A temperament theory of personality development. Wiley-Interscience.

Campbell, A., & Muncer, S. (2009). Can 'risky' impulsivity explain sex differences in aggression?. *Personality and Individual Differences*, 47(5), 402-406.

Capaldi, D. M., Pears, K. C., Patterson, G. R., & Owen, L. D. (2003). Continuity of parenting practices across generations in an at-risk sample: A prospective comparison of direct and mediated associations. *Journal of Abnormal Child Psychology*, 31(2), 127-142.

Carver, C. S., Johnson, S. L., & Joormann, J. (2008). Serotonergic function, two-mode models of self-regulation, and vulnerability to depression: what depression has in common with impulsive aggression. *Psychological Bulletin*, 134(6), 912.

Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology*, *17*(4), 598.

Chen, P., Coccaro, E. F., & Jacobson, K. C. (2012). Hostile attributional bias, negative emotional responding, and aggression in adults: Moderating effects of gender and impulsivity. *Aggressive Behavior*, 38(1), 47-63.

Chen, M., & Johnston, C. (2007). Maternal inattention and impulsivity and parenting behaviors. *Journal of Clinical Child and Adolescent Psychology*, 36(3), 455-468.

Chen, Z. Y., & Kaplan, H. B. (2001). Intergenerational transmission of constructive parenting. *Journal of Marriage and Family*, 63(1), 17-31.

Coldwell, J., Pike, A., & Dunn, J. (2006). Household chaos–links with parenting and child behaviour. *Journal of Child Psychology and Psychiatry*, 47(11), 1116-1122.

Conger, R. D., Belsky, J., & Capaldi, D. M. (2009). The intergenerational transmission of parenting: Closing comments for the special section. *Developmental Psychology*, 45(5), 1276 -1283. doi: 10.1037/a0016911

Conger, R. D., Neppl, T., Kim, K. J., & Scaramella, L. (2003). Angry and aggressive behavior across three generations: A prospective, longitudinal study of parents and children. *Journal of Abnormal Child Psychology*, 31(2), 143-160.

Cooper, C. E., Osborne, C. A., Beck, A. N., & McLanahan, S. S. (2008). Partnership instability and child wellbeing during the transition to elementary school. Working Papers 1078, Princeton University, School of Public and International Affairs, Center for Research on Child Wellbeing.

Coplan, R. J., Hastings, P. D., Lagacé-Séguin, D. G., & Moulton, C. E. (2002). Authoritative and authoritarian mothers' parenting goals, attributions, and emotions across different childrearing contexts. *Parenting*, 2(1), 1-26.

Crandall, A., Deater-Deckard, K., & Riley, A. W. (2015). Maternal emotion and cognitive control capacities and parenting: A conceptual framework. *Developmental Review*, 36, 105-126. doi: 10.1016/j.dr.2015.01.004

Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development and Psychopathology*, 7(2), 313-322.

Criss, M. M., Pettit, G. S., Bates, J. E., Dodge, K. A., & Lapp, A. L. (2002). Family adversity, positive peer relationships, and children's externalizing behavior: A longitudinal perspective on risk and resilience. *Child Development*, 73, 1220-1237. doi: 10.1111/1467-8624.00468

Dalley, J. W., Everitt, B. J., & Robbins, T. W. (2011). Impulsivity, compulsivity, and top-down cognitive control. *Neuron*, 69(4), 680-694.

Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116(3), 387.

De Castro, B. O., Veerman, J. W., Koops, W., Bosch, J. D., & Monshouwer, H. J. (2002). Hostile attribution of intent and aggressive behavior: A meta-analysis. *Child Development*, 73(3), 916-934.

Deater-Deckard, K., Chen, N., Wang, Z., & Bell, M. A. (2012). Socioeconomic risk moderates the link between household chaos and maternal executive function. *Journal of Family Psychology*, 26(3), 391.

Deater-Deckard, K., Wang, Z., Chen, N., & Bell, M. A. (2012). Maternal executive function, harsh parenting, and child conduct problems. *Journal of Child Psychology and Psychiatry*, 53(10), 1084-1091.

Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1996). Physical discipline among African American and European American mothers: Links to children's externalizing behaviors. *Developmental Psychology*, 32(6), 1065-1072. doi: 10.1037//0012-1649.32.6.1065

Deater-Deckard, K., Mullineaux, P. Y., Beekman, C., Petrill, S. A., Schatschneider, C., & Thompson, L. A. (2009). Conduct problems, IQ, and household chaos: A longitudinal multi-informant study. *Journal of Child Psychology and Psychiatry*, 50(10), 1301-1308.

Dickman, S. J. (1993). Impulsivity and information processing. In W. G. McCown, J. L. Johnson, & M. B. Shure (Eds.), The impulsive client: Theory, research, and treatment (pp. 151-184). Washington, DC, US: American Psychological Association. doi: 10.1037/10500-010

Dickman, S. J. (2000). Impulsivity, arousal and attention. *Personality and Individual Differences*, 28(3), 563-581.

Dix, T. (1991). The affective organization of parenting: Adaptive and maladaptative processes. *Psychological Bulletin*, 110(1), 3. doi: 10.1037/0033-2909.110.1.3

Dix, T., Gershoff, E. T., Meunier, L. N., & Miller, P. C. (2004). The affective structure of supportive parenting: depressive symptoms, immediate emotions, and child-oriented motivation. *Developmental Psychology*, 40(6), 1212. doi: 10.1037/0012-1649.40.6.1212

Dix, T., Ruble, D. N., Grusec, J. E., & Nixon, S. (1986). Social cognition in parents: Inferential and affective reactions to children of three age levels. *Child Development*, 879-894.

Dix, T., Ruble, D. N., & Zambarano, R. J. (1989). Mothers' implicit theories of discipline: Child effects, parent effects, and the attribution process. *Child Development*, 1373-1391.

Dong, Y., & Peng, C. Y. J. (2013). Principled missing data methods for researchers. *Springer Plus,* 2(1), 222.

Dowdney, L., Skuse, D., Rutter, M., Quinton, D., & Mrazek, D. (1985). The nature and qualities of parenting provided by women raised in institutions. *Journal of Child Psychology and Psychiatry*, 26(4), 599-625.

Eisenberg, N., Fabes, R. A., Guthrie, I. K.., Murphy, B. C., Maszk, P., Holmgren, R., & Su, K. (1996). The relations of regulation and emotionality to problem behavior in elementary school children. *Development and Psychopathology*, 8, 141-162. doi:10.1017/S095457940000701X

Evans, G. W., Gonnella, C., Marcynyszyn, L. A., Gentile, L., & Salpekar, N. (2005). The role of chaos in poverty and children's socioemotional adjustment. *Psychological Science*, 16(7), 560-565.

Evans, G. W., Kliewer, W., & Martin, J. (1991). The role of the physical environment in the health and well-being of children. *New Directions in Health Psychology Assessment,* 127-157.

Evans, G. W., & Lepore, S. J. (1993). Household crowding and social support: A quasiexperimental analysis. *Journal of Personality and Social Psychology*, 65(2), 308.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160. doi: 10.3758/BRM.41.4.1149

Ferguson, C. J., Averill, P. M., Rhoades, H., Rocha, D., Gruber, N. P., & Gummattira, P. (2005). Social isolation, impulsivity and depression as predictors of aggression in a psychiatric inpatient population. *Psychiatric Quarterly*, 76(2), 123-137.

Fite, J. E., Goodnight, J. A., Bates, J. E., Dodge, K. A., & Pettit, G. S. (2008). Adolescent aggression and social cognition in the context of personality: Impulsivity as a moderator of predictions from social information processing. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 34(5), 511-520.

Fontaine, R. G. (2010). New developments in developmental research on social information processing and antisocial behavior. *Journal of Abnormal Child Psychology*, 38(5), 569-573.

Fontaine, R. G., & Dodge, K. A. (2006). Real-time decision making and aggressive behavior in youth: A heuristic model of response evaluation and decision (RED). *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 32(6), 604-624.

Fontaine, R. G., Tanha, M., Yang, C., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2010). Does response evaluation and decision (RED) mediate the relation between hostile attributional style and antisocial behavior in adolescence?. *Journal of Abnormal Child Psychology*, 38(5), 615-626.

Fréchette, S., Zoratti, M., & Romano, E. (2015). What is the link between corporal punishment and child physical abuse?. *Journal of Family Violence*, 30(2), 135-148.

Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: a meta-analytic and theoretical review. *Psychological Bulletin*, 128(4), 539.

Gershoff, E. T., & Grogan-Kaylor, A. (2016). Spanking and child outcomes: Old controversies and new meta-analyses. *Journal of Family Psychology*, 30(4), 453.

Gross, J. J. (1998). The emerging field of emotion regulation: an integrative review. *Review of General Psychology*, 2(3), 271-299. doi: 10.1037/1089-2680.2.3.271

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362. doi: 10.1037/0022-3514.85.2.348

Hart, S. A., Petrill, S. A., Deckard, K. D., & Thompson, L. A. (2007). SES and CHAOS as environmental mediators of cognitive ability: A longitudinal genetic analysis. *Intelligence,* 35(3), 233-242.

Harrison, M. J. (2017). Can we help but overreact?: The relationship between impulsivity, parenting knowledge and disciplinary style. Doctoral dissertation. Retrieved from https://researchoutput.csu.edu.au/en/publications/.

Hastings, P. D., & Rubin, K. H. (1999). Predicting mothers' beliefs about preschool-aged children's social behavior: Evidence for maternal attitudes moderating child effects. *Child Development*, 70(3), 722-741.

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). New York, NY: Guilford Publications.

Helfritz-Sinville, L. E., & Stanford, M. S. (2014). Hostile attribution bias in impulsive and premeditated aggression. *Personality and Individual Differences*, 56, 45-50.

Hill, N. E., Bush, K. R., & Roosa, M. W. (2003). Parenting and family socialization strategies and children's mental health: Low–Income Mexican–American and Euro–American mothers and children. *Child Development*, 74, 189-204. doi: 10.1111/1467-8624.t01-1-00530

Hughes, E. K., & Gullone, E. (2010). Parent emotion socialisation practices and their associations with personality and emotion regulation. *Personality and Individual Difference*s, 49(7), 694-699.

Jansen, P. W., Raat, H., Mackenbach, J. P., Hofman, A., Jaddoe, V. W., Bakermans-Kranenburg, M. J., ... & Tiemeier, H. (2012). Early determinants of maternal and paternal harsh discipline: The generation R study. *Family Relations,* 61(2), 253-270.

Jeong, Y., & Jung, M. J. (2016). Application and interpretation of hierarchical multiple regression. *Orthopaedic Nursing*, 35(5), 338-341.

Jocson, R. M., Alampay, L. P., & Lansford, J. E. (2012). Predicting Filipino mothers' and fathers' reported use of corporal punishment from education, authoritarian attitudes, and endorsement of corporal punishment. *International Journal of Behavioral Development*, 36, 137-145. doi: 10.1177/0165025411428249

Jolly, S., Griffith, K. A., DeCastro, R., Stewart, A., Ubel, P., & Jagsi, R. (2014). Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. *Annals of Internal Medicine*, *160*(5), 344-353.

Katsurada, E., & Sugawara, A. I. (2000). Moderating effects of mothers' attribution on the relationships between their affect and parenting behaviors and children's aggressive behaviors. *Journal of Child and Family Studies*, 9(1), 39-50.

Kim, I. J., Ge, X., Brody, G. H., Conger, R. D., Gibbons, F. X., & Simons, R. L. (2003). Parenting behaviors and the occurrence and co-occurrence of depressive symptoms and conduct problems among african american children. *Journal of Family Psychology*, 17, 571-583. doi: 10.1037/0893-3200.17.4.571

Kim, H. K., Pears, K. C., Fisher, P. A., Connelly, C. D., & Landsverk, J. A. (2010). Trajectories of maternal harsh parenting in the first 3 years of life. *Child Abuse & Neglect*, *34*(12), 897-906.

Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, 23(1), 4-41.

Le, Y., Fredman, S. J., & Feinberg, M. E. (2017). Parenting stress mediates the association between negative affectivity and harsh parenting: A longitudinal dyadic analysis. *Journal of Family Psychology*, 31(6), 679. doi: 10.1037/fam0000315

Lee, D., Brooks-Gunn, J., McLanahan, S. S., Notterman, D., & Garfinkel, I. (2013). The Great Recession, genetic sensitivity, and maternal harsh parenting. *Proceedings of the National Academy of Sciences*, 110, 13780-13784. doi: 10.1073/pnas.1312398110

Lorber, M. F. (2012). The role of maternal emotion regulation in overreactive and lax discipline. *Journal of Family Psychology*, 26(4), 642.

Lorber, M. F., & O'leary, S. G. (2005). Mediated paths to overreactive discipline: Mothers' experienced emotion, appraisals, and physiological responses. *Journal of Consulting and Clinical Psychology*, 73(5), 972.

Lubin, B., Van Whitlock, R., Reddy, D., & Petren, S. (2001). A comparison of the short and long forms of the Multiple Affect Adjective Check List—Revised (MAACL-R). *Journal of Clinical Psychology,* 57(3), 411-416.

Luengo, M. A., Carrillo-de-la-Peña, M. T., Otero, J. M., & Romero, E. (1994). A short-term longitudinal study of impulsivity and antisocial behavior. *Journal of Personality and Social Psychology*, 66(3), 542.

Lupien, S. J., McEwen, B. S., Gunnar, M. R., & Heim, C. (2009). Effects of stress throughout the lifespan on the brain, behaviour and cognition. *Nature Reviews Neuroscience*, 10(6), 434.

Maduro, R. S. (2016). Understanding the determinants of parental decision-making and harsh parenting behavior (Doctoral dissertation). Retrieved from http://digitalcommons.odu.edu/psychology_etds/31

Maduro, R. S., Oettinger, E., & Paulson, J.F. (2014, November). The effects of cumulative risk for maternal harsh parenting practices on child cognitive outcomes over time. Poster session presented at the Association for Behavioral and Cognitive Therapies Annual Convention, Philadelphia, Pennsylvania

Martini, T. S., Root, C. A., & Jenkins, J. M. (2004). Low and middle income mothers' regulation of negative emotion: Effects of children's temperament and situational emotional responses. *Social Development*, 13(4), 515-530.

Matheny Jr, A. P., Wachs, T. D., Ludwig, J. L., & Phillips, K. (1995). Bringing order out of chaos: Psychometric characteristics of the confusion, hubbub, and order scale. *Journal of Applied Developmental Psychology*, 16(3), 429-444.

Matthews, B. A., & Norris, F. H. (2002). When Is Believing "Seeing"? Hostile Attribution Bias as a Function of Self-Reported Aggression 1. *Journal of Applied Social Psychology*, 32(1), 1-31.

McGroder, S. M. (2000). Parenting among low-income, African American single mothers with preschool-age children: Patterns, predictors, and developmental correlates. *Child Development*, 71, 752-771. doi: 10.1111/1467-8624.00183

Merrell, K. W. (1995). An investigation of the relationship between social skills and internalizing problems in early childhood: Construct validity of the Preschool and Kindergarten Behavior Scales. *Journal of Psychoeducational Assessment*, 13(3), 230-240.

Milburn, M. A., Niwa, M., & Patterson, M. D. (2014). Authoritarianism, anger, and hostile attribution bias: A test of affect displacement. *Political Psychology*, 35(2), 225-243.

Miller, S. A. (1995). Parents' attributions for their children's behavior. *Child Development*, *66*(6), 1557-1584.

Nicholas, K. B., & Bieber, S. L. (1997). Assessment of perceived parenting behaviors: the exposure to abusive and supportive environments parenting inventory (EASE-PI). *Journal of Family Violence*, 12, 275-291. doi: 10.1023/A:1022848820975

Nigg, J. T. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-

taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry*, 58(4), 361-383.

Nix, R. L., Pinderhughes, E. E., Dodge, K. A., Bates, J. E., Pettit, G. S., & McFadyen-Ketchum, S. A. (1999). The relation between mothers' hostile attribution tendencies and children's externalizing behavior problems: The mediating role of mothers' harsh discipline practices. *Child Development*, 70(4), 896-909.

Pakalniskiene, V. (2008). Harsh or inept parenting, youth characteristics and later adjustment (Doctoral thesis, Örebro University). Retrived from http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A135491&dswid=9751

Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt impulsiveness scale. *Journal of Clinical Psychology*, 51(6), 768-774.

Pike, A., Iervolino, A. C., Eley, T. C., Price, T. S., & Plomin, R. (2006). Environmental risk and young children's cognitive and behavioral development. *International Journal of Behavioral Development*, 30(1), 55-66.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227.

Quigley, B. M., & Tedeschi, J. T. (1996). Mediating effects of blame attributions on feelings of anger. *Personality and Social Psychology Bulletin*, 22(12), 1280-1288.

Quinton, D., & Rutter, M. (1984). Parents with children in care: II. Intergenerational continuities. *Child Psychology & Psychiatry & Allied Disciplines*.

Quinton, D., Rutter, M., & Liddle, C. (1984). Institutional rearing, parenting difficulties and marital support. *Psychological Medicine*, 14(1), 107-124.

Reijntjes, A., Thomaes, S., Kamphuis, J. H., Bushman, B. J., De Castro, B. O., & Telch, M. J. (2011). Explaining the paradoxical rejection-aggression link: The mediating effects of hostile intent attributions, anger, and decreases in state self-esteem on peer rejection-induced aggression in youth. *Personality and Social Psychology Bulletin*, 37(7), 955-963.

Reise, S. P., Moore, T. M., Sabb, F. W., Brown, A. K., & London, E. D. (2013). The Barratt Impulsiveness Scale–11: Reassessment of its structure in a community sample. *Psychological Assessment*, 25(2), 631.

Rhoades, K. A., Grice, C., & Del Vecchio, T. (2017). Barriers to mothers' implementation of non-harsh discipline techniques: Anger, impulsivity, and situational demands. *Journal of Child and Family Studies,* 26(11), 3179-3191.

Rohrbeck, C. A., & Twentyman, C. T. (1986). Multimodal assessment of impulsiveness in abusing, neglecting, and nonmaltreating mothers and their preschool children. *Journal of Consulting and Clinical Psychology*, 54(2), 231.

Rubin, K. H., & Rose-Krasnor, L. (1992). Interpersonal problem solving and social competence in children. In Handbook of social development (pp. 283-323). *Springer,* Boston, MA.

Rueger, S. Y., Katz, R. L., Risser, H. J., & Lovejoy, M. C. (2011). Relations between parental affect and parenting behaviors: A meta-analytic review. *Parenting: Science and Practice*, 11(1), 1-33.

Sanders, M. R., Turner, K. M., & Metzler, C. W. (2019). Applying self-regulation principles in the delivery of parenting interventions. *Clinical Child and Family Psychology review*, 22(1), 24-42.

Sato, H., & Kawahara, J. I. (2011). Selective bias in retrospective self-reports of negative mood states. *Anxiety, Stress & Coping,* 24(4), 359-367.

Schachar, R., & Logan, G. D. (1990). Impulsivity and inhibitory control in normal development and childhood psychopathology. *Developmental Psychology*, 26, 710-720. doi: 10.1037/0012-1649.26.5.710

Schachar, R. J., Tannock, R., Marriott, M., & Logan, G. (1995). Deficient inhibitory control in attention deficit hyperactivity disorder. *Journal of Abnormal Child Psychology*, 23, 411-438. doi: 10.1007/BF01447206

Schaefer, E. S. (1991). Goals for parent and future-parent education: Research on parental beliefs and behavior. *The Elementary School Journal*, 91(3), 239-247.

Schaefer, E. S., & Edgerton, M. (1985). Parent and child correlates of parental modernity. *Parental Belief Systems: The Psychological Consequences for Children*, 287-318.

Schreiber, L. R., Grant, J. E., & Odlaug, B. L. (2012). Emotion regulation and impulsivity in young adults. *Journal of Psychiatric Research*, 46(5), 651-658.

Shaw, P., Stringaris, A., Nigg, J., & Leibenluft, E. (2014). Emotion dysregulation in attention deficit hyperactivity disorder. *American Journal of Psychiatry*, 171(3), 276-293.

Šimkovic M, Träuble B (2019) Robustness of statistical methods when measure is affected by ceiling and/or floor effect. *PLoS One* 14(8): e0220889. Doi: https://doi.org/10.1371/journal.pone.0220889

Simons, R. L., Whitbeck, L. B., Conger, R. D., & Wu, C. I. (1991). Intergenerational transmission of harsh parenting. *Developmental Psychology*, 27(1), 159 - 171. Doi: 10.1037//0012-1649.27.1.159

Skowron, E. A., Kozlowski, J. M., & Pincus, A. L. (2010). Differentiation, self–other representations, and rupture–repair processes: Predicting child maltreatment risk. *Journal of Counseling Psychology*, 57(3), 304. doi: 10.1037/a0020030

Slep, A. M. S., & O'leary, S. G. (1998). The effects of maternal attributions on parenting: An experimental analysis. *Journal of Family Psychology*, 12(2), 234.

Snarr, J. D., Slep, A. M. S., & Grande, V. P. (2009). Validation of a new self-report measure of parental attributions. *Psychological Assessment*, 21(3), 390.

Stanford, M. S., Mathias, C. W., Dougherty, D. M., Lake, S. L., Anderson, N. E., & Patton, J. H. (2009). Fifty years of the Barratt Impulsiveness Scale: An update and review. *Personality and Individual Differences*, 47(5), 385-395.

Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J. M., … Dees, J. E. M. E. G. (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and Violent Behavior*, 14(1), 13–29.

Strassberg, Z., & Treboux, D. (2000). Interpretations of child emotion expressions and coercive parenting practices among adolescent mothers. *Social Development*, 9(1), 80-95.

Straus, M. A., & Field, C. J. (2003). Psychological aggression by American parents: National data on prevalence, chronicity, and severity. *Journal of Marriage and Family*, 65, 795-808. doi: 10.1111/j.1741-3737.2003.00795.x

Straus, M. A., & Paschall, M. J. (2009). Corporal punishment by mothers and development of children's cognitive ability: A longitudinal study of two nationally representative age cohorts. *Journal of Aggression, Maltreatment & Trauma*, 18, 459-483. doi: 10.1080/10926770903035168

Sturge-Apple, M. L., Suor, J. H., & Skibo, M. A. (2014). Maternal child-centered attributions and harsh discipline: The moderating role of maternal working memory across socioeconomic contexts. *Journal of Family Psychology*, 28(5), 645.

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6th ed.). Uppersaddle River, NJ: Pearson Education, Inc.

Turner, H. A., & Finkelhor, D. (1996). Corporal punishment as a stressor among youth. *Journal of Marriage and the Family*, 155-166.

U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2019). Child Maltreatment 2017. Available from https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment.

U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2021). Child Maltreatment 2019. Available from https://www.acf.hhs.gov/cb/report/child-maltreatment-2019.

Vernon-Feagans, L., Willoughby, M., & Garrett-Peters, P. (2016). Predictors of behavioral regulation in kindergarten: Household chaos, parenting, and early executive functions. *Developmental Psychology*, 52(3), 430.

Vissing, Y. M., Straus, M. A., Gelles, R. J., & Harrop, J. W. (1991). Verbal aggression by parents and psychosocial problems of children. *Child Abuse & Neglect*, 15(3), 223-238.

Wang, Z., Deater-Deckard, K., & Bell, M. A. (2013). Household chaos moderates the link between maternal attribution bias and parenting. *Parenting*, *13*(4), 233-252.

Wang, M. T., & Kenny, S. (2014). Longitudinal links between fathers' and mothers' harsh verbal discipline and adolescents' conduct problems and depressive symptoms. *Child Development*, 85(3), 908-923.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548.

Weiner, B. (1993). On sin versus sickness: A theory of perceived responsibility and social motivation. *American Psychologist*, 48(9), 957.

Weiner, B. (1995). Judgments of responsibility: A foundation for a theory of social conduct. New York, NY: Guilford Press.

Weiss, B., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1992). Some consequences of early harsh discipline: Child aggression and a maladaptive social information processing style. *Child Development,* 63, 1321-1335. doi: 10.1111/j.1467-8624.1992.tb01697.x

Whitbeck, L. B., Simons, R. L., Conger, R. D., Wickrama, K. A. S., Ackley, K. A., & Elder Jr, G. H. (1997). The effects of parents' working conditions and family economic hardship on parenting behaviors and children's self-efficacy. *Social Psychology Quarterly*, 291-303.

White, J. L., Moffitt, T. E., Caspi, A., Bartusch, D. J., Needles, D. J., & Stouthamer-Loeber, M. (1994). Measuring impulsivity and examining its relationship to delinquency. *Journal of Abnormal Psychology*, 103(2), 192.

Xu, Y., Farver, J. A. M., & Zhang, Z. (2009). Temperament, harsh and indulgent parenting, and Chinese children's proactive and reactive aggression. *Child Development*, 80, 244-258. doi: 10.1111/j.1467-8624.2008.01257.x

Zolotor, A. J., Theodore, A. D., Runyan, D. K., Chang, J. J., & Laskey, A. L. (2011). Corporal punishment and physical abuse: population-based trends for three-to-11-year-old children in the United States. *Child Abuse Review*, 20(1), 57-66.

Zuckerman, M., & Lubin, B. (1999). Manual for the MAACL-R: Multiple Affect Adjective Checklist--Revised. San Diego, CA: Educational and Industrial Testing Service.

APPENDICES

A. Parenting Scale

B. Parent Cognition Scale

C. Barratt Impulsiveness Scale – 11

D. Confusion, Hubbub, and Order Scale

E. Demographic Questionnaire

F. Parental Modernity Inventory

G. Emotion Regulation Questionnaire

H. Multiple Affect Adjective Check-List-Revised

I. Exposure to Abusive and Supporting Environmental-Parenting Inventory

A. Parenting Scale

At one time or another, all children misbehave or do things that could be harmful, that are "wrong", or that parents don't like. Examples include: hitting someone, whining, throwing food, forgetting homework, not picking up toys, lying, having a tantrum, refusing to go to bed, wanting a cookie before dinner, running into the street, arguing back, coming home late.

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting. For each item, circle the number that best describes your style of parenting during the past 2 months with your child.

Sample Item

At meal time...

I let my child decide how much to eat.	1	(2)	3	4	5	6	7	I decide how much my child eats.

---

1. When my child misbehaves...

I do something right away.	1	2	3	4	5	6	7	I do something about it later.

2. Before I do something about a problem...

I give my child several reminders or warnings.	1	2	3	4	5	6	7	I use only one reminder or warning.

3. When I'm upset or under stress...

I am picky and on my child's back.	1	2	3	4	5	6	7	I am no more picky than usual.

4. When I tell my child not to do something...

I say very little.	1	2	3	4	5	6	7	I say a lot.

5. When my child pesters me...

I can ignore the pestering.	1	2	3	4	5	6	7	I can't ignore the pestering.

6. When my child misbehaves...

I usually get into a long argument with my child.	1	2	3	4	5	6	7	I don't get into an argument.

7. I threaten to do things that...

I am sure I can carry out.	1	2	3	4	5	6	7	I know I won't actually do.

8. I am the kind of parent that...

sets limits on what my child is allowed to do.	1	2	3	4	5	6	7	lets my child do whatever he or she wants.

9. When my child misbehaves...

I give my child a long lecture.	1	2	3	4	5	6	7	I keep my talks short and to the point.

10. When my child misbehaves...

I raise my voice or yell.	1	2	3	4	5	6	7	I speak to my child calmly.

11. If saying no doesn't work right away...

I take some other kind of action.	1	2	3	4	5	6	7	I keep talking and trying to get through to my child.

12. When I want my child to stop doing something...

I firmly tell my child to stop.	1	2	3	4	5	6	7	I coax or beg my child to stop.

13. When my child is out of my sight...

I often don't know what my child is doing.	1	2	3	4	5	6	7	I always have a good idea of what my child is doing.

14. After there's been a problem with my child...

I often hold a grudge.	1	2	3	4	5	6	7	things get back to normal quickly.

15. When we're not at home...

I handle my child the way I do at home.	1	2	3	4	5	6	7	I let my child get away with a lot more.

16. When my child does something I don't like...

I do something about it every time it happens.	1	2	3	4	5	6	7	I often let it go.

17. When there's a problem with my child...

things build up and I do things I don't mean to do.	1	2	3	4	5	6	7	things don't get out of hand.

18. When my child misbehaves, I spank, slap, grab, or hit my child...

never or rarely.	1	2	3	4	5	6	7	most of the time.

19. When my child doesn't do what I ask...

I often let it go or end up doing it myself.	1	2	3	4	5	6	7	I take some other action.

20. When I give a fair threat or warning...

I often don't carry it out.	1	2	3	4	5	6	7	I always do what I said.

21. If saying "No" doesn't work...

I take some other kind of action.	1	2	3	4	5	6	7	I offer my child something nice so he/she will behave.

22. When my child misbehaves...

I handle it without getting upset.	1	2	3	4	5	6	7	I get so frustrated or angry that my child can see I'm upset.

23. When my child misbehaves...

I make my child tell me why he/she did it.	1	2	3	4	5	6	7	I say "No" or take some other action.

24. If my child misbehaves and then acts sorry...

I handle the problem like I usually would.	1	2	3	4	5	6	7	I let it go that time.

25. When my child misbehaves...

I rarely use bad language or curse.	1	2	3	4	5	6	7	I almost always use bad language.

26. When I say my child can't do something...

I let my child do it anyway.	1	2	3	4	5	6	7	I stick to what I said.

27. When I have to handle a problem...

I tell my child I am sorry about it.	1	2	3	4	5	6	7	I don't say I'm sorry.

28. When my child does something I don't like, I insult my child, say mean things, or call my child names...

never or rarely.	1	2	3	4	5	6	7	most of the time.

29. If my child talks back or complains when I handle a problem...

I ignore the complaining and stick to what I said.	1	2	3	4	5	6	7	I give my child a talk about not complaining.

30. If my child gets upset when I say "No"...

I back down and give in to my child.	1	2	3	4	5	6	7	I stick to what I said.

B. Parent Cognition Scale

At one time or another, all children misbehave or do things that could be harmful, that are wrong, or that parents don't like. Examples include:

hitting someone	*whining*	*not cleaning room*
not doing homework	*lying*	*refusing to go to bed*
having a tantrum	*arguing back*	*taking things that aren't theirs*
running into the street	*cursing*	*coming home late*

Parents have many different ways of thinking about these types of problems, and may think differently about problems depending on their specific children.

Please rate how much you would agree, in general, that the following reasons for misbehavior are true for your child and his/her behavior for the past two months:

1=always true 2=frequently true 3=sometimes true 4=occasionally true 5=rarely true 6=never true

1.	I was not as firm as I usually am.	1	2	3	4	5	6
2.	My child won' t listen.	1	2	3	4	5	6
3.	I' m not structured enough with my child.	1	2	3	4	5	6
4.	My child cannot understand the rules.	1	2	3	4	5	6
5.	My child thinks that he/she is the boss.	1	2	3	4	5	6
6.	I don' t know how to handle my child.	1	2	3	4	5	6
7.	I don' t give my child enough attention.	1	2	3	4	5	6
8.	My child is headstrong.	1	2	3	4	5	6
9.	It' s hard for me to set limits.	1	2	3	4	5	6
10.	My child is in a stage.	1	2	3	4	5	6
11.	My child wants what he/she wants when he/she wants it.	1	2	3	4	5	6
12.	I was tired.	1	2	3	4	5	6
13.	I handle my child in a non-confident way.	1	2	3	4	5	6
14.	My child tries to get me angry.	1	2	3	4	5	6
15.	My child feels like there is no time for him/her.	1	2	3	4	5	6
16.	I' m not patient.	1	2	3	4	5	6
17.	My child tries to get my goat or push my buttons.	1	2	3	4	5	6
18.	My child wants things his/her way.	1	2	3	4	5	6
19.	It's difficult for my child to do what I want.	1	2	3	4	5	6
20.	I can' t control my child.	1	2	3	4	5	6
21.	I couldn' t respond quickly enough at the time.	1	2	3	4	5	6
22.	I'm not able to be clear.	1	2	3	4	5	6
23.	My child is very demanding.	1	2	3	4	5	6
24.	I handled things in an unusual way.	1	2	3	4	5	6
25.	My child likes to see how far he/she can push me.	1	2	3	4	5	6
26.	I was busy with something at the time.	1	2	3	4	5	6
27.	I don' t do the right thing.	1	2	3	4	5	6
28.	My child tires easily.	1	2	3	4	5	6
29.	I have a hard time really listening to my child.	1	2	3	4	5	6
30.	My child won' t do what I think he/she should do.	1	2	3	4	5	6

C. Barratt Impulsiveness Scale – 11

DIRECTIONS: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and put an X on the appropriate circle on the right side of this page. Do not spend too much time on any statement. Answer quickly and honestly.

① Rarely/Never ② Occasionally ③ Often ④ Almost Always/Always

1	I plan tasks carefully.	①	②	③	④
2	I do things without thinking.	①	②	③	④
3	I make-up my mind quickly.	①	②	③	④
4	I am happy-go-lucky.	①	②	③	④
5	I don't "pay attention."	①	②	③	④
6	I have "racing" thoughts.	①	②	③	④
7	I plan trips well ahead of time.	①	②	③	④
8	I am self controlled.	①	②	③	④
9	I concentrate easily.	①	②	③	④
10	I save regularly.	①	②	③	④
11	I "squirm" at plays or lectures.	①	②	③	④
12	I am a careful thinker.	①	②	③	④
13	I plan for job security.	①	②	③	④
14	I say things without thinking.	①	②	③	④
15	I like to think about complex problems.	①	②	③	④
16	I change jobs.	①	②	③	④
17	I act "on impulse."	①	②	③	④
18	I get easily bored when solving thought problems.	①	②	③	④
19	I act on the spur of the moment.	①	②	③	④
20	I am a steady thinker.	①	②	③	④
21	I change residences.	①	②	③	④
22	I buy things on impulse.	①	②	③	④
23	I can only think about one thing at a time.	①	②	③	④
24	I change hobbies.	①	②	③	④
25	I spend or charge more than I earn.	①	②	③	④
26	I often have extraneous thoughts when thinking.	①	②	③	④
27	I am more interested in the present than the future.	①	②	③	④
28	I am restless at the theater or lectures.	①	②	③	④
29	I like puzzles.	①	②	③	④
30	I am future oriented.	①	②	③	④

D. Confusion, Hubbub, and Order Scale

For each statement below, please assign a number between 1 and 4 to indicate how much each statement describes your home environment. Please use the following scale:

1 = Very much like your own home
2 = Somewhat like your own home
3 = A little bit like your own home
4 = Not at all like your own home

1. There is very little commotion in our home.	1	2	3	4
2. We can usually find things when we need them.	1	2	3	4
3. We almost always seem to be rushed.	1	2	3	4
4. We are usually able to stay on top of things.	1	2	3	4
5. No matter how hard we try, we always seem to be running late.	1	2	3	4
6. It's a real zoo in our home.	1	2	3	4
7. At home we can talk to each other without being interrupted.	1	2	3	4
8. There is often a fuss going on at our home.	1	2	3	4
9. No matter what our family plans, it usually doesn't seem to work out.	1	2	3	4
10. You can't hear yourself think in our home.	1	2	3	4
11. I often get drawn into other people's arguments at home.	1	2	3	4
12. Our home is a good place to relax.	1	2	3	4
13. The telephone takes up a lot of our time at home.	1	2	3	4
14. The atmosphere in our home is calm.	1	2	3	4
15. First thing in the day, we have a regular routine at home.	1	2	3	4

(Source: Matheny, A.P., Washs, T. D., Ludwig, J.L., & Philips, K. (1995). Bringing Order Out of Chaos: Psychometric Characteristics of the Confusion, Hubbub, and Order Scale. Journal of Applied Developmental Psychology, 16, pp.429-444.)

E. Demographic Questionnaire

1. What is your age?
   [Open Ended]

2. Are you a parent?
   ☐ Yes
   ☐ No

3. What is your gender?
   ☐ Male
   ☐ Female
   ☐ Transgender
   ☐ Other _____

4. What is your race?
   ☐ American Indian and Alaskan Native
   ☐ Asian
   ☐ Black or African American
   ☐ Native Hawaiian and other Pacific Islander
   ☐ White
   ☐ Other:
   _____

5. What is your ethnicity?
   ☐ Hispanic/Latino/Latina
   ☐ Not Hispanic/Latino/Latina

6. What is your relationship status?
   ☐ Married/Civil Union
   ☐ Divorced/Separated
   ☐ Living with Partner
   ☐ Widowed
   ☐ In a committed relationship
   ☐ In an open relationship
   ☐ Single
   ☐ Other: _____

7. My current dating/relationship partner is:
   ☐ Female
   ☐ Male
   ☐ Other _____

☐ Not applicable (not currently dating/in a relationship)

8. What is the highest level of education you completed?
   ☐ Some high school
   ☐ High school diploma or GED
   ☐ Trade school
   ☐ Some college
   ☐ Associate's degree
   ☐ Bachelor's degree
   ☐ Master's degree
   ☐ Doctoral degree
   ☐ Other: _____

9. Please indicate your current employment status (check all that apply):
   ☐ Not employed
   ☐ Staying at home with child(ren)
   ☐ Full-time student
   ☐ Part-time student
   ☐ Employed part-time
   ☐ Employed full-time

10. What is your individual income?
    ☐ Less than $10,000
    ☐ $10,000-$20,000
    ☐ $20,000-$30,000
    ☐ $30,000-$40,000
    ☐ $40,000-$50,000
    ☐ $50,000-$60,000
    ☐ $60,000-$70,000
    ☐ More than $70,000

11. What is your household income?
    ☐ Less than $10,000
    ☐ $10,000-$20,000
    ☐ $20,000-$30,000
    ☐ $30,000-$40,000
    ☐ $40,000-$50,000
    ☐ $50,000-$60,000
    ☐ $60,000-$70,000
    ☐ More than $70,000

12. Please indicate the number of children you have:
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4
    - ☐ 5
    - ☐ 6
    - ☐ 7
    - ☐ 8 or more

13. Please list the age of your [*first/second/third/etc*.*] child:
    [open ended]

**Note: question to be repeated for each child dependent upon response to item 13.*

14. Do you live with your child(ren)?
    - ☐ Yes
    - ☐ No

15. How many days do you spend on parenting tasks per week?

    "Parenting tasks" include meeting physical needs (such as feeding or bathing), as well as meeting psychosocial needs (such as talking or playing with your children, driving them to activities and attending their recitals or sporting events).

    [*responses will be recording using a sliding scale with days (0-7) as the unit of measurement*]

16. How many hours do you spend on parenting tasks on a typical day?

    "Parenting tasks" include meeting physical needs (such as feeding or bathing), as well as meeting psychosocial needs (such as talking or playing with your children, driving them to activities and attending their recitals or sporting events).

    [*responses will be recording using a sliding scale with hours (0-24) as the unit of measurement*]

F. Parental Modernity Inventory

Here are some statements other parents have made about rearing and educating children. For each one, please fill in the box that best indicates how you feel in general, not just about your own baby.

1- Strongly disagree
2- Mildly disagree
3- Not sure
4- Mildly agree
5- Strongly agree

1.	Since parents lack special training in education, they should not question the teacher's teaching methods.	1	2	3	4	5
2.	Children should be treated the same regardless of differences among them.	1	2	3	4	5
3.	Children should always obey the teacher.	1	2	3	4	5
4.	Preparing for the future is more important for a child than enjoying today.	1	2	3	4	5
5.	Children will not do the right thing unless they must.	1	2	3	4	5
6.	Children should be allowed to disagree with their parents if they feel their own ideas are better.	1	2	3	4	5
7.	Children should be kept busy with work and study at home and at school.	1	2	3	4	5
8.	The major goal of education is to put basic information into the minds of the children.	1	2	3	4	5
9.	In order to be fair, a teacher must treat all children alike.	1	2	3	4	5
10.	The most important thing to teach children is absolute obedience to whoever is in authority.	1	2	3	4	5
11.	Children learn best by doing things themselves rather than listening to others.	1	2	3	4	5
12.	Children must be carefully trained early in life or their natural impulses will make them unmanageable.	1	2	3	4	5

1- Strongly disagree
2- Mildly disagree
3- Not sure
4- Mildly agree
5- Strongly agree

13.	Children have a right to their own point of view and should be allowed to express it.	1	2	3	4	5
14.	Children's learning results mainly from being presented basic information again and again.	1	2	3	4	5
15.	Children like to teach other children.	1	2	3	4	5
16.	The most important thing to teach children is absolute obedience to parents.	1	2	3	4	5
17.	The school has the main responsibility for a child's education.	1	2	3	4	5
18.	Children generally do not do what they should unless someone sees to it.	1	2	3	4	5
19.	Parents should teach their children that they should be doing something useful at all times.	1	2	3	4	5
20.	It's all right for a child to disagree with his/her parents.	1	2	3	4	5
21.	Children should always obey their parents.	1	2	3	4	5
22.	Teachers need not be concerned with what goes on in a child's home.	1	2	3	4	5
23.	Parents should go along with the game when their child is pretending something.	1	2	3	4	5
24.	Parents should teach their children to have unquestioning loyalty to them.	1	2	3	4	5
25.	Teachers should discipline all the children the same.	1	2	3	4	5
26.	Children should not question the authority of their parents.	1	2	3	4	5
27.	What parents teach their child at home is very important to his/her school success.	1	2	3	4	5
28.	Children will be bad unless they are taught what is right.	1	2	3	4	5
29.	A child's ideas should be seriously considered in making family decisions.	1	2	3	4	5
30.	A teacher has no right to seek information about a child's home background.	1	2	3	4	5

G. Emotion regulation questionnaire (ERQ)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

1. ____ When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.

2. ____ I keep my emotions to myself.

3. ____ When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.

4. ____When I am feeling positive emotions, I am careful not to express them.

5. ____When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

6. ____ I control my emotions by not expressing them.

7. ____When I want to feel more positive emotion, I change the way I'm thinking about the situation.

8. ____ I control my emotions by changing the way I think about the situation I'm in.

9. ____When I am feeling negative emotions, I make sure not to express them.

10. ____When I want to feel less negative emotion, I change the way I'm thinking about the

situation.

H. Multiple Affect Adjective Check List-Revised

Listed below you will find words which describe different kinds of moods and feelings. Please put a check in each box that describes how you feel right now.

Work rapidly in describing your feelings (check all that apply).

☐ active	☐ fit	☐ peaceful
☐ adventurous	☐ forlorn	☐ pleasant
☐ affectionate	☐ frank	☐ pleased
☐ afraid	☐ free	☐ polite
☐ agitated	☐ friendly	☐ powerful
☐ agreeable	☐ frightened	☐ quiet
☐ aggressive	☐ furious	☐ reckless
☐ alive	☐ lively	☐ rejected
☐ alone	☐ gentle	☐ rough
☐ amiable	☐ glad	☐ sad
☐ amused	☐ gloomy	☐ safe
☐ angry	☐ good	☐ satisfied
☐ annoyed	☐ good-natured	☐ secure
☐ awful	☐ grim	☐ shaky
☐ bashful	☐ happy	☐ shy
☐ bitter	☐ healthy	☐ soothed
☐ blue	☐ hopeless	☐ steady
☐ bored	☐ hostile	☐ stubborn
☐ calm	☐ impatient	☐ stormy
☐ cautious	☐ incensed	☐ strong
☐ cheerful	☐ indignant	☐ suffering
☐ clean	☐ inspired	☐ sullen
☐ complaining	☐ interested	☐ sunk

☐ contented	☐ irritated	☐ sympathetic
☐ contrary	☐ jealous	☐ tame
☐ cool	☐ joyful	☐ tender
☐ cooperative	☐ kindly	☐ tense
☐ critical	☐ lonely	☐ terrible
☐ cross	☐ lost	☐ terrified
☐ cruel	☐ loving	☐ thoughtful
☐ daring	☐ low	☐ timid
☐ desperate	☐ lucky	☐ tormented
☐ destroyed	☐ mad	☐ understanding
☐ devoted	☐ mean	☐ unhappy
☐ disagreeable	☐ meek	☐ unsociable
☐ discontented	☐ merry	☐ upset
☐ discouraged	☐ mild	☐ vexed
☐ disgusted	☐ miserable	☐ warm
☐ displeased	☐ nervous	☐ whole
☐ energetic	☐ obliging	☐ wild
☐ enraged	☐ offended	☐ willful
☐ enthusiastic	☐ outraged	☐ wilted
☐ fearful	☐ panicky	☐ worrying
☐ fine	☐ patient	☐ young

I. Exposure to Abusive and Supporting Enviornments - Parenting Inventory (EASE-PI)
Physical and Emotional Abusiveness Subscales

This questionnaire covers experiences you may have had when you were a child. If you did not live with both biological parents, please answer these questions with a mother figure (e.g., stepmother, grandmother, adoptive mother) or father figure (e.g., stepfather, grandfather, adoptive father) in mind.

The maternal figure I am completing this scale about is my:

1) biological mother

2) step-mother

3) adoptive mother

4) other _____(please write in who this person was-e.g., grandmother)

5) I did not have a mother figure while growing up.

The paternal figure I am completing this scale about is my:

1) biological father

2) step-father

3) adoptive father

4) other _____(please write in who this person was-e.g., grandfather)

5) I did not have a father figure while growing up.

Please answer the questions using the following scale:

0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Very Often

Your mother or father:

1. Broke or smashed objects near you when angry with you.	0 1 2 3 4
2. Threw things at you.	0 1 2 3 4
3. Pulled your hair.	0 1 2 3 4

4. Pushed, grabbed, or shoved you.	0 1 2 3 4
5. Deliberately scratched you.	
6. Hit you.	0 1 2 3 4
7. Hit you with objects.	0 1 2 3 4
8. Beat you up.	0 1 2 3 4
9. Choked you.	0 1 2 3 4
10. Kicked you.	0 1 2 3 4
11. Threatened to kill you.	0 1 2 3 4
12. Threatened you with a weapon (such as a knife or gun).	0 1 2 3 4
13. Used a weapon (such as a knife or gun) on you.	0 1 2 3 4

Please answer the questions using the following scale:

0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Very Often

Your mother or father:

1. Made you feel vulnerable or likely to be hurt.	0 1 2 3 4
2. Insulted or swore at you.	0 1 2 3 4
3. Made you feel stupid when you didn't understand something.	0 1 2 3 4
4. Treated you like the "black sheep" of The family.	0 1 2 3 4
5. Made you want revenge.	
6. Said she (he) hated you	0 1 2 3 4
7. Threatened to hurt you.	0 1 2 3 4
8. Ridiculed your feelings.	0 1 2 3 4
9. Belittled or made fun of your physical appearance.	0 1 2 3 4

10. Ignored you for extended periods of time. 0 1 2 3 4
11. Made statements such as, 0 1 2 3 4
"I wish you were never born."
12. Made you feel worthless. 0 1 2 3 4
13. Made you feel as if you were a bad person. 0 1 2 3 4
14. Ridiculed or made fun of your beliefs. 0 1 2 3 4
15. Criticized or humiliated you in front of others.
16. Was cold or rejecting. 0 1 2 3 4
17. Let you know your brothers or sisters 0 1 2 3 4
were loved more than you were.
18. Made you feel terrible when you made a mistake. 0 1 2 3 4
19. Made you feel that her (his) love was conditional 0 1 2 3 4
(was there only if you did, or was, what she (he) wanted).

VITA

Kelsey T. Ellis

Old Dominion University
Department of Psychology
Norfolk, VA 23529

Education

Ph.D.	Clinical Psychology (*expected August 2022*) Department of Psychology Old Dominion University
M.S.	Experimental Psychology (awarded December 2018) Department of Psychology Old Dominion University
B.S.	Psychology (awarded August 2016) Department of Psychology Old Dominion University

RESEARCH INTERESTS

- Family Systems and Parenting Behavior
- Cognitive Processes Involved in Parent Decision-Making
- Trauma and Child Abuse

Selected Publication and Presentations

Paulson, J. P.*, **Ellis, K. T.**, Obermeyer, R. J., Kuhn, M. A., Frantz, F. W., McGuire, M. M., Ortiz, E., & Kelly, R. E. (In press). Development and validation of the pectus carinatum body image quality of life (PeCBI-QOL) questionnaire. *Pediatrics*.

Paulson, J. P.* & **Ellis, K. T.** (In press). Postpartum depression. In *Macmillan encyclopedia of intimate and family relationships.* Macmillan Reference, New York, NY.

Ellis, K. T., Mulville, N., Griner, J., Paulson, J. F. (2019, May). Examining the role of behavioral inhibition in harsh parenting preferences: An analog study. Poster presented at the 31st Annual Convention for Psychological Science, Washington DC.

Paulson, J. F., **Ellis, K. T.**, Jenkins, J. K., Dindial, H. (2017, May). *Perceptions of causality in perinatal depression and anxiety.* Poster presented at the 29th Annual Convention of the Association for Psychological Science, Boston, Massachusetts.