

DISSERTATION

PERSONAL AND CONTEXTUAL INFLUENCES ON SAUDI PARENTS' WILLINGNESS  
AND TOLERANCE FOR CHILDREN'S RISKY PLAY

Submitted by

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## ABSTRACT

### PERSONAL AND CONTEXTUAL INFLUENCES ON SAUDI PARENTS' WILLINGNESS AND TOLERANCE FOR CHILDREN'S RISKY PLAY

**Objective:** The purpose of this dissertation was to examine personal and environmental factors that influence Saudi parents' willingness to promote, and tolerance of, risk taking in children's play. In this dissertation, I tested a conceptual model that explains the transactions among multiple constructs: factors affecting parental risk willingness, coping efficacy, perceptions of child, and risk tolerance. I also introduced a new tool, the Factors Affecting Tolerance for Risk in Play Scale (FAC-TRiPS) to assess personal, social and cultural factors affecting parental tolerance for risk in play. Lastly, I examined variations between Saudi mothers and fathers in relation to their willingness to allow and tolerate risk in play.

**Importance:** Risky play is defined as “thrilling and exciting forms of physical play that involve uncertainty and a risk of physical injury” (Sandseter, 2010, p.22). Benefits of children's participation in “risky play” are broadly recognized (Barker et al., 2014; Brussoni, Olsen, et al., 2012; Gray et al., 2015; Sandseter, 2007; Sandseter & Kennair, 2011). However, most related research originates in Western countries; none focuses on outdoor play in Eastern countries, including Saudi Arabia. Further, while the literature identifies varying perspectives on risky play among parents, there is limited understanding of parental, social, and cultural contexts shaping and influencing Saudi parents' tolerance of risk in play.

**Participants:** The sample included 90 Saudi parents with children ages 7 to 10 years who were able to read and speak English. Parents of this age group are expected to accept risky play.

Method: This cross-sectional, quantitative dissertation encompassed three studies. In the first study, I used moderation analysis to test a conceptual model examining the relationship among factors contributing to parents' willingness to allow risky play and their risk tolerance. I also investigated the moderating effects of parental coping self-efficacy and parents' perceptions of their children's coping ability on the relationships among factors contributing to parents' willingness to allow risky play and their risk tolerance. In the second study, I utilized Rasch analysis to explore evidence for construct validity and internal reliability of data gathered with the FAC-TRiPS. In the third study, I examined gender variations in Saudi parents' willingness to promote, and tolerance for, risk taking in children's play by answering two research questions: (1) Do Saudi mothers and fathers differ systematically on FAC-TRiPS items? and (2) How does the inclusion of gender influence the relationship among factors affecting parental perceptions of tolerance for children's risky play?

Results: Findings of the first study showed that play factors contributing to parents' willingness to allow risk (e.g., fear of injury and fear of negative judgment) were negatively correlated with risk tolerance. Additionally, parents' coping self-efficacy significantly moderated the relationships among play factors contributing to parents' willingness to allow risk and their tolerance for encouraging children to engage in risk taking. That is, parents with high self-efficacy were more inclined to perceive less stress in such situations and were more apt to allow their children to engage in risky play. However, parental perceptions of their children's coping ability did not have a moderating effect on the interaction between factors contributing to parents' willingness to allow risky play, and their tolerance for, risky play. In the second study, preliminary analysis suggested that the FAC-TRiPS yielded valid and reliable data measuring factors influencing parents' risk tolerance. Because the instrument in its early stages of

development, further research with a larger sample is needed to refine items and enhance the instrument's functionality and precision. In the third study, although parent gender did not significantly predict risk tolerance, Saudi mothers and fathers exhibited systematic differences on three FAC-TRiPS items. Mothers reported more fears surrounding potential negative judgment and repercussions from an authority while fathers were more influenced of Media reports. Within the context of other factors, gender appeared to play a complex and indirect role in determining parents' risk tolerance.

Conclusion: This research serves as a useful foundation for understanding the impact of context on parents' willingness to promote children's participation in risky play. Key themes across the three studies indicate that risk tolerance is likely influenced by a multitude of factors including personal, psychological, and cultural factors. This research represents the first to study a sample from Saudi Arabia, contributing an Eastern perspective to the existing body of research on risky play. Nevertheless, its findings invite further exploration into gender, societal, and cultural influences on how parents perceive and approach their children's participation in risky play environments. Additionally, further validation of the FAC-TRiPS and the Risk Tolerance model is needed. Findings of this research lend further support to the critical role of environmental facilitators and barriers on functioning as well as raise a need for creating a culture in which the duty of care is balanced with the dignity of risk in order to enable children of *all* abilities to participate in playful and age-appropriate risk-taking opportunities.

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And lastly, I am profoundly grateful to all who have been a part of this journey, contributing to its success in various ways.

## DEDICATION

*To my beautiful sons, Kenan and Anmar, I dedicate the completion of this dissertation to you. You are the reason I did this. You are what has kept me going throughout this journey. I love you both dearly and I am so grateful to be your mother. Your young souls have taught me great lessons and I am nothing without you. You have been my best cheerleaders. Kenan, I appreciate your reminders to pause and take a break when needed. Anmar, thank you for the comforting cuddles; you had no idea how much I needed them.*

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## **Chapter I: Introduction**

The primary objective of this quantitative research was to examine personal and environmental factors that influence Saudi parents' risk tolerance for children's participation in risky play. The literature review showed that parents mostly view risk taking in play negatively and make decisions that often limit children's access to such experiences. However, the specific personal and contextual factors that impact these decisions were not well understood.

### **Cultural Context of the Study**

This section offers demographic, cultural and social background of Saudi Arabia to provide a context and support the aim and purpose of the study.

#### **Demographics of the Population of Saudi Arabia**

Saudi Arabia is located in Western Asia and considered the largest state in the Arab world. As of 2022, the total population of Saudi Arabia is estimated to be about 32 million with non-citizens constituting around 40% of the overall population. The median age is 30.6 years and 83.5% of the population reside in urban areas. Regarding literacy, approximately 90% of Saudis are proficient in reading and writing, and notably, around 60% of college graduates are females (The General Authority for Statistics [GAS], 2022). The current average family size in Saudi Arabia is 4.8. In terms of ethnicity, the population is predominantly Arab (90%) while 10% have Afro-Asian heritage (The World Factbook, 2023). Saudi Arabia is a Muslim country, with the majority of its people (80-90%) Muslims while the rest follow other religions. The official language is Arabic although English is widely spoken and taught in schools as a secondary language (GAS, 2022).

## **Play in the Saudi Culture**

The culture of Saudi Arabia is deeply rooted in the Arabic and Islamic traditions, thus shaping parenting practices and views of play (Almalki, 2020). Saudi culture is generally characterized as conservative, traditional, and family oriented (Almalki, 2020). The existing research studying parenting practices and child play outcomes remains limited. Saudis are considered collectivist and authoritarian, appreciating emotional and functional connectedness and promoting behaviors that contribute to harmony within the group (Dwairy & Achoui, 2006; Dwairy et al., 2006). Arab societies generally value a more collective family identity; however, factors like urbanization and exposure to Western values have created greater diversity in family dynamics, values and parenting practices within and across Arab cultures, including Saudi Arabia (Dwairy & Achoui, 2006).

While play is universal, the practice and meaning of play differ across cultures (Gosso & Almeida Carvalho, 2013). Within the Arab culture, which is the subject of my dissertation, play is regarded as an important daily routine and valued as a support for development (Ahmad, 2020). In such a family-oriented culture, parents prioritize the role of parenting and perceive play as a way to connect and spend quality time with their children. In this sense, parents feel responsible to offer a diverse range of play opportunities for children to have fun, explore, and learn (Ahmad, 2020).

## **Research Background**

### **Risky Play in Children**

According to the “Global Matrix 4.0” report, children around the world are engaging in considerably fewer active outdoor activities, with COVID-19 exacerbating this decline (Aubert et al., 2022; Tremblay et al., 2022). A recent survey (National Recreation and Park Association,

n.d.) revealed that American children spend 35% less time playing outside freely than their parents did. Children today spend an average of seven and a half hours on electronic media while just four to seven minutes per day on unstructured outdoor play. Similarly, in Saudi Arabia, recent studies (Ahmad Bahathig et al., 2021; Alfawaz et al., 2021; *Global recommendations on physical activity for health*, 2010) showed that most (92%) of Saudi children and adolescents, aged 5-17 years, did not meet the World Health Organization's recommendation of engaging in 60 minutes of moderate to vigorous physical activity per day. Further, physical activity levels and opportunities for outdoor play are declining among Saudi children (Aljuhani et al., 2022), mirroring global trends (Bradley et al., 2011; Hofferth, 2009; Maddison et al., 2016).

Play is a crucial component of children's physical and mental health (Article 31 of the United Nations Convention on the Rights of the Child). Therefore, play advocates positioned this lack of healthy active play as a child rights concern (Tremblay et al., 2010) and argued against the excessive focus on child safety in modern society (Brussoni, Olsen, et al., 2012; Sandseter & Kennair, 2011; Wyver, Tranter, et al., 2010). Disciplines including psychology, early childhood education, sociology, and public health have made significant contributions to the theoretical understanding and applications of risk, risk taking, and risky play. Over the last decades, a multidisciplinary group of researchers, practitioners, and play experts engaged in academic and legal dialogues and discussions around the limited risk opportunities in play provision and its negative consequences for children's healthy development (Tremblay et al., 2015).

This public debate resulted in outdoor play specialists coming to a consensus and developing a research-based position statement on active outdoor play for children aged 3 to 12 years (Tremblay et al., 2015). According to this statement (Tremblay et al., 2015), "access to active play in nature and outdoors—with its risks—is essential for healthy child development.

We recommend increasing children’s opportunities for self-directed play outdoors in all settings—at home, at school, in childcare, the community and nature” (p. 6476). Moving forward, several researchers, notably Dr. Mariana Brussoni, stressed the need to broaden the scope of disciplinary discourse within injury prevention through integrating multiple perspectives around children’s health and well-being, including children’s risk taking. This holistic understanding is essential for fostering a culture that supports safety measures while encouraging risky play (Brussoni, Brunelle, et al., 2015; Brussoni, Olsen, et al., 2012). Hence, there has been a paradigm shift toward balancing the duty of care and dignity of risk and keeping children ‘as safe as necessary’ rather than ‘as safe as possible’ (Brussoni, Olsen, et al., 2012; Sandseter & Kennair, 2011). Researchers and practitioners have embarked on inter- and multi-disciplinary initiatives to promote societal transformation and improve epistemological understandings of children’s healthy risk taking (Brussoni, Brunelle, et al., 2015).

### **Definition and Categories of Risky Play**

In occupational therapy, play is viewed as a primary occupation of childhood (CAOT, 1996; Lynch & Moore, 2016). Miller et al. (2012) wrote play “should be included in the very definition of childhood” (p.e205). Play has been defined as a subjective, intrinsically motivated, and internally controlled activity that takes place between the child and environment (Lynch & Moore, 2016). Bundy (1993) described play activities as “some of the purest expressions of who we are as persons” (p. 217). Play is often thought of as being fun, spontaneous, safe, and uncertain (Bundy, 1997). Play can be a goal in itself (Pellegrini, 2009) and/or a means through which children achieve important developmental skills (Bundy, 1993; Lynch & Moore, 2016). While play can take various forms and serves different functions, the focus herein is on risky play.

Risk taking is a natural part of play that children often seek (Brown et al., 2009; Little & Wyver, 2008; Sandseter, 2007; Stephenson, 2003; Tovey, 2007). Risky play is associated with activities such as climbing, jumping, sliding, biking, or downhill racing (Breivik et al. 2017; Stephenson, 2003). The literature cites several characteristics of risky play, including feelings of both fear and exhilaration, experiencing uncertainty and challenge, and the possibility of injury (Sandseter, 2007, 2009; Stephenson, 2003). However, a Norwegian play researcher, Dr. Ellen Sandseter pointed to the lack of consensus on the conceptualization and functions of risk in children's play. Drawing on her qualitative work with preschoolers, Sandseter (2010), operationally defined risky play as “thrilling and exciting forms of physical play that involve uncertainty and a risk of physical injury” (p.22), which has been the most frequently referenced definition in risky play literature. Nonetheless, this definition primarily focused on the physical type of risky play. After over a decade of exploring the concept, the understanding of risk and play has evolved. In their 2023 theoretical paper, Sandseter and colleague expanded the focus of risky play to encompass various domains and outcomes, including emotional, social, and physical aspects (Sandseter et al., 2023).

The vast majority of play researchers believe that any outdoor play involves an element of risk and, therefore, Sandseter (2007, 2009) studied risky play largely in the context of outdoor play. However, other researchers asserted that risky play can take different forms and entails various stimulating indoor and outdoor experiences (Little & Wyver, 2008). Through interviewing and observing children in a natural outdoor environment in Norwegian preschools, Sandseter (2010) developed a useful framework for systemically classifying risky play (Table 1). These categories have been used by many researchers to frame research questions or develop questionnaires. Although this framework served as a foundational tool, it was only limited to

play situations involving physical risk and did not include other types of risks. In subsequent research, these categories were refined and validated along with further identifying subcategories (Sandseter & Kennair, 2011). Recently, Kleppe et al. (2017) added two additional categories that emphasize emotional and environmental types of risk. Refer to Table 1 for descriptions of these categories.

**Table 1.1.** *Categories of Risky Play*

<i>Categories</i>	<i>Risk</i>	<i>Examples</i>
Play with Great Heights	Danger of injury from falling	Climbing trees Jumping from stable or unstable surfaces Swinging at great heights
Play with High Speed	Uncontrolled speed and pace that can lead to collision with something (or someone)	Sliding, swinging, running at high speed Riding a bike down hill
Play near Dangerous Tools	Can lead to injuries and wounds	Playing with tools like knife, hammer, saw, axe, or rope
Play with/near Dangerous Elements	Where children can fall into or from Something	Swimming in deep water or icy water Playing near fire Playing in darkness Playing near strangers
Rough and Tumble Play	Where the children can harm each other	Wrestling Play fighting with sticks Chasing
Disappear or Get Lost	Where the children can disappear from the supervision of adults, get lost alone	Go off exploring alone Playing alone in unfamiliar environments
Play with Impact	Injuries from crashing into something/others for fun	Jumping onto a mattress Crashing tricycle into a fence/wall
Vicarious Risk	Children experiencing thrill by watching other	Watching older children slide head down or play rough and tumble.

*Note.* The last two risky play categories are from (Kleppe et al., 2017)

### **Benefits of Risk Taking in Play**

The growing attention on risky play has yielded ample evidence demonstrating its diverse benefits for children's mental, cognitive, and physical development (Brussoni, Gibbons, et al., 2015; Gray et al., 2015; Little et al., 2011; Pellegrini, 2009). Risky play often takes place in an active, dynamic, and sensory rich environment with many benefits for children's motor development (Brussoni et al. 2015; Fjørtoft & Sageie, 2000). Brussoni et al. (2015) conducted a systematic review of 21 studies examining different types of risky play in relation to a range of health behaviors. Overall, the review revealed positive relationships between risky play and children's physical and social well-being. Play involving independent mobility, in particular, was observed to enhance habitual and acute physical activity, whereas no link was identified between play at height and injury occurrence. The analysis of a moderate quality cluster RCT (Engelen et al., 2015) showed the impact of environments supporting risk taking on fostering higher physical activity, play time, peer interaction, resilience, and creativity (Brussoni, Gibbons, et al., 2015). A recent study (Sando et al., 2021) examining the association between engagement in risky play and children's well-being and physical activity confirmed that risky play is a popular form of play among children aged 3.8 to 5.8 years. Utilizing the Observational System for Recording Physical Activity in Children–Pre-school (OSRAC-P; Brown et al. 2006), Sando et al. (2021) found that risky play is positively associated with increased level of energy expenditure in children.

In addition to being exciting and fun, risk taking in play offers rich experiences for children to understand themselves, test their limits, cope with the unexpected and learn about

their competence and boundaries (Little & Wyver, 2008; Sandseter, 2007). Research also showed that risky play helps children develop physical and cognitive competencies, body-mind connections, and self-regulation skills (Barker et al., 2014; Brussoni, Olsen, et al., 2012; Gray et al., 2015; Sandseter, 2007; Sandseter & Kennair, 2011). Scholarship investigating risky play identified that exposure to challenge provides a nurturing environment for children to appraise the situation, problem solve, and contemplate consequences (Little & Wyver, 2008). While exhilarating emotions may be the child's main motivator, theoretical and descriptive evidence suggested that the mental challenge improves risk perceptions and understanding of safety, crucial survival dispositions (Lavrysen et al., 2017; Little & Wyver, 2008; Miller & Byrnes, 1997). However, these conclusions have not been examined empirically.

Outdoor risky play allows children to experience a diverse range of emotions or, as Sandseter (2010) put it, "scary-funny feelings". The experience of alternating between serious and cautious feelings along with excitement and playful aspects embedded in this form of play contribute to better mental development and emotional adaption (Sandseter, 2010). Overcoming fear and gaining mastery yield pleasant feelings and instill confidence to engage in new activities and manage future risks (Deci & Ryan, 2008; Ryan & Deci, 2000). Framed within non-associative fear acquisition theory (Poulton & Menzies, 2002), Sandseter and Kennair (2011) theorized that engagement in risky play has an adaptive function in reducing fear and anxious reactions. That is, through repeated natural interactions with fear-provoking situations, children learn to adapt and cope with fear and uncertainty.

## **Problem Statement**

While growing evidence demonstrated that benefits of risky play are manifold (Brussoni et al., 2015), children nowadays have fewer opportunities for risky outdoor play as society has become increasingly risk averse (Brussoni et al., 2012; Bundy et al., 2009; Gill, 2018; Sandseter & Kennair, 2011; Coster & Gleave, 2008; Gray et al., 2015; Tremblay et al., 2015). Play researchers have been interested in understanding the factors that led to risk reduction, particularly parents' perceptions of children's risky play. Qualitative and quantitative research revealed that parents and caregivers oftentimes tend to view risk taking in play negatively. Concerns over stranger-danger and potential physical harm led parents to closely supervise their children's play (Jelleyman et al., 2019; Niehues et al., 2015). Parents were also anxious about their children experiencing discomfort and failure (Jelleyman et al., 2019; Little, 2015; Niehues et al., 2015). Other researchers studied various sociodemographic factors including parent and child age, child gender, parent gender, family income, parenting style, and geographical location (Creighton et al., 2017; Dodd & Lester, 2021; Jerebine et al., 2024; Little, 2010; Nesbit et al., 2021; Niehues et al., 2015, 2016; Niehues et al., 2013; Olsen et al., 2018; StGeorge et al., 2018) as well as temporal and situational concerns (Backett-Milburn & Harden, 2004; Brussoni & Olsen, 2013; Little & Eager, 2010).

Cultural context shapes people's experiences of risk and therefore their risk perceptions and tolerance. Within the context of risky play, most existing research represents a Western perspective (Wyver, Bundy, et al., 2010; Wyver, Tranter, et al., 2010). Cevher-Kalburan and Ivrendi (2016) studied how the concept of risk is socially constructed in Turkish culture. Turkish parents, like Western parents, held supportive thoughts about the benefits of risky play; yet these beliefs did not necessarily translate into practice. Although some research has emerged in

Eastern cultures (Cevher-Kalburan & Ivrendi, 2016), there is currently none focused on outdoor play in Saudi Arabia. As in the Western world, there is a decline in opportunities for outdoor (and thus risky) play among Saudi children (Aljuhani et al., 2022). Thus, it is important to study personal, societal, and cultural factors contributing to this decline from a cultural perspective.

### **The Purpose of the Study**

The overall purpose of this research was to understand the influence of personal and environmental factors on parental risk tolerance. This dissertation includes three manuscripts. The aim of the first was to test a conceptual model examining the relationship among factors influencing Saudi parents' willingness to encourage risky play and their level of risk tolerance. Additionally, I investigated the moderating effects of parental coping self-efficacy and parents' perceptions of their children's coping ability on the relationships between their willingness to allow risky play and their level of risk tolerance. In the second, I reported on preliminary psychometric properties of a newly developed instrument designed to measure factors affecting parents' willingness to promote risk in play. In the third paper, I examined how parent gender contributed to multiple factors: parents' tolerance for risky play, parents' coping-self efficacy, and their perceptions of children's coping ability.

### **The Occupation and Rehabilitation Science Framework**

This dissertation is grounded in the conceptual framework of occupation and rehabilitation science. The section that follows discusses the framework's pertinence to occupation science, rehabilitation science, as well as to the field of occupational therapy.

## **Relevance to Occupation Science**

My dissertation research focusing on the effects of personal and environmental factors on parents' willingness to allow, and their tolerance of, children's risky play reflects the field of occupational science as described by Yerxa and colleagues (1990). Consistent with the core focus of the field, this dissertation research was concerned with studying occupations (Hasselkus, 2011; Larson et al., 2003; Yerxa et al., 1999). To begin, this project builds on an extensive body of research around the occupation of play. Within occupational science and therapy, play is viewed as a primary occupation of childhood through which children achieve important developmental skills (Bundy, 1993; Lynch & Moore, 2016).

The focus of my research was on parents. In occupational science, parenting has been identified as involving various occupations such as caregiver, nurturer, protector, educator, and learner. Other occupational scientists have viewed parenting as a co-occupation as it mostly involves parent-child interactions. Whether as a co-occupation, a group of occupations, or an occupational role, parenting holds different meanings to each parent (Sethi, 2020). My research took a holistic and client-centered approach (Clark et al., 1991) by investigating parents when they consider allowing their children to engage in risky play activities. Additionally, drawing upon Wilcock's (1998) theory of occupation that involves the concept of meaning, the occupational nature of people is seen as a combination of "doing, being, becoming, and belonging" (Wilcock, 2006, p. 220). That is, humans are doers engaged in day-to-day occupations that enable them to flourish as beings through taking on personal and social roles. Occupations enable people to become who they want to be, grow, and meet their emotional, personal, and social needs for belonging (Hasselkus, 2011). Through the activities of this major role, parents engage with their children to fulfill a variety of needs of both parent and child (e.g.,

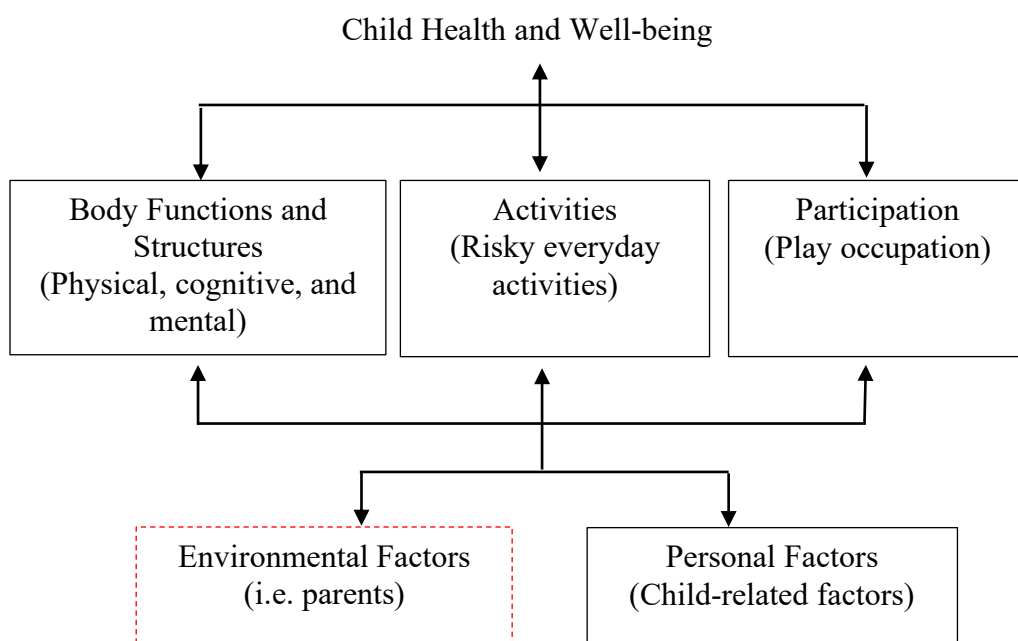
bonding and spending playful time together, promoting autonomy, teaching safety measures). Thus, my research drew on the relationship between occupation and meaning by looking at how parents perceived and ascribed meaning to risk taking, ultimately affecting their children's risky play experiences.

According to Dickie et al.'s (2006) transactional perspective, occupation is a way through which humans function in the environment as a whole (Dickie et al., 2006). Like play, parenting is a multifaceted occupation (Lawlor, 2003; Sethi, 2020). Parental tolerance of children's risk taking is a complex and multidimensional construct that can be influenced by various personal and social processes (Creighton et al., 2017; Little, 2010; Niehues et al., 2015, 2016; Niehues et al., 2013). With the understanding that parents provide an important social context for their children, I examined aspects of the transaction between parents and children that occur within the occupation of risky play (Dickie et al., 2006). I used a transactive approach to children's risky play to enable a holistic interpretation of occupation by appreciating the individual and context as parts of each other (Dickie et al., 2006). Specifically, I aimed to better understand factors within parents themselves and perceptions of their children that present barriers (or enablers) to healthy risk taking. My findings cast light on beliefs, fears, and feelings that shape parents' decisions and perceptions of risky play.

### **Relevance to Rehabilitation Science**

My research around parents' tolerance for children's risky play aligned with elements of the *International Classification of Functioning, Disability, and Health (ICF) model* (WHO, 2001). The application is indirect; however, as the ICF focuses on various contributors to the functioning of *individuals* and my research focused on parents as an important aspect of the *environment* of their children's activities and participation (Figure 1). Although the adoption of

the rehabilitation science framework is indirect, in this dissertation I considered parents as an integral component of the environment and studied various parental factors such as gender, coping self-efficacy, self-perception of child’s risk taking and other factors that might facilitate or disable children’s participation in risky play. Parents’ perceptions of, and tolerance for, children’s risk taking might have significant consequences, potentially causing a form of disability through the lack of participation in these play experiences.



**Figure 1.1.** *The ICF model for the dissertation*

*Note.* Dashed lines denote the factors from the ICF that are most directly related to the dissertation research.

In the lens of the *enabling-disabling process* (Brandt & Pope, 1997), disability is described as a function of the interaction between the person and the environment appreciating the bidirectional transition along the continuum from no disabling condition to functional limitation. Similar to the ICF (WHO, 2001), the enabling-disabling process explicitly acknowledges the environment as an influential factor of functioning. Environmental factors make up the physical, social, and psychological contexts in which a person lives (Brandt & Pope,

1997). While not in the context of disability, principles of the enabling-disabling model can be applied to my dissertation research. For instance, factors such as positive views of risk to children's health and well-being or confidence in children's abilities to cope with challenging play situations could foster parents' tolerance, and therefore enable children's participation in age-relevant risky activity. On the other hand, lack of self-confidence in coping with emotions that come with risk taking or lack of belief in children's potential can disable them from accessing this beneficial form of play, leading to participation restriction, and potentially mental health issues including anxiety and depression (Haidt, 2024).

Risky play opportunities can help children of all abilities to develop confidence, resilience, self-awareness, and other beneficial skills (Bundy et al., 2015). However, children with disabilities experience disparities and fewer opportunities to engage in risky play than their typically developing peers (Beetham et al., 2019). While my dissertation research only included parents of typically developing children, its findings may guide future research attempting to develop interventions for creating a more accessible and inclusive environment, as well as guide future research on risky play in children with or without disabilities. By challenging the negative narratives and increased knowledge of the advantages of risky play for children, there is an opportunity to empower parents of children with disabilities to advocate for manageable risk-taking opportunities and have a better life quality, both of which are significant goals in rehabilitation science services (Hammel et al., 2008; Law et al., 2014).

### **Relevance to Occupational Therapy**

This dissertation research offers a resource for pediatric occupational therapists (OTs) seeking to promote risky play in children with and without disabilities. The primary goals of OTs working with children include enhancing optimal development and facilitating meaningful

participation in various activities (Cahill & Beisbier, 2020). Supporting the engagement of children of all abilities in diverse risky play experiences provides an ideal platform for improving motor skills, balance and coordination, social skills, self-esteem, and resilience (Brussoni, Gibbons, et al., 2015; Bundy et al., 2015). A key emphasis of this research is on promoting a balanced perspective regarding safety and risk in play. OTs can actively contribute to creating play environments that foster exploration and risk-taking, whether in schools, educational settings, community programs, or outdoor activities.

Additionally, the findings of this research extend understanding of personal and environmental contexts affecting parents' decisions about playful risk taking. I administered several instruments that are useful in assessing parents' level of tolerance and establishing a baseline. To support parents in navigating these decisions, OTs may support parents through educational interventions. This involves learning about the benefits of risky play, questioning their own fears and assumptions, and reflecting on their coping responses and personal experiences with risk taking. These strategies may also assist parents in coping with uncertainty, developing trust in their children's abilities, and building a healthy relationship with age-appropriate risk taking. By adopting a collaborative and educational approach, OTs contribute significantly to the overall well-being and development of children across diverse abilities and contexts.

### **Significance of the Study**

The contributions of this dissertation will be of interest to occupational therapy students, practitioners, occupational therapy and play researchers, as well as parents of younger and older children and professionals working with those parents. The research offers insights into the role of occupational therapy in promoting autonomy and affording children with opportunities for

active and risky play. In light of the limited existing occupational therapy research on risky play, the findings from this study add an occupational therapy lens to the existing risky play research by studying the dynamic relationship between person, environment and occupational engagement. Additionally, in this dissertation, I examined the connections among emerging concepts including coping self-efficacy, perceptions of child's coping ability, parent gender, and parental risk willingness and tolerance. This is the first study that contributes knowledge of parents' views of child's risky play within an Eastern Arab context. Also, it is the first to examine personal, societal, and cultural factors that impact parents' perceptions of and willingness to allow risk taking in play.

### **Summary**

Risky play has been recognized as a crucial element for children's healthy development. Current research has shed light on its numerous benefits, yet opportunities to experience risk in play have diminished over time. Guided by the occupation and rehabilitation science framework, I developed a conceptual model examining the impact of personal and environmental contexts on parental risk tolerance, and thus children's participation in risky play activities. Through this dissertation research, I also produced a novel instrument designed to measure parental internal fears and feelings towards risky play. This study relating constructs like coping self-efficacy, perceptions of children's coping ability, and parental risk tolerance contributes unique knowledge to the body of literature around risky play and can inform the fields of occupation and rehabilitation science.

### **Organization of the Dissertation**

The subsequent chapters of this dissertation are as follows. Chapter II provides a thorough review and critical synthesis of the existing literature around risky play and factors

affecting parents' risk tolerance, followed by three interrelated manuscripts. Chapter III: The influence of personal and environmental factors on parents' tolerance for risk in play: Testing a conceptual model; Chapter IV: Validation of an instrument measuring factors affecting Saudi parents' tolerance of risky play: Rasch analysis (in press); and Chapter V: Navigating children's risky play: A comparative analysis of Saudi mothers and fathers. In Chapter VI, I summarize key findings, discuss their implications, and propose directions for future research. I conclude this dissertation with personal reflections in Chapter VII.

## **Chapter II: Literature Review**

The purpose of this dissertation research was to examine contextual factors that influence parental willingness and tolerance for children's risky play. Due to the obscure nature of the Eastern perspective of risky play, I studied Saudi Arabian parents' views of their children's playful risk taking. The purpose of this literature review is to critique and synthesize existing research related to playful risk taking in children and factors impacting parents' risk tolerance. To achieve this, the review commences with a presentation of differing perspectives on risk taking. I then analyze and synthesize relevant literature focusing on understanding and measuring factors affecting parental risk tolerance, with a special emphasis on parent gender and coping as predictors of parents' tolerance. The chapter's structure is as follows:

### **Differing Perspectives on Children's Risky Play**

- a. Rethinking Playful Risk Taking in Children: A Paradigm Shift
- b. Child Safety versus Risky Play: Challenging Assumptions

### **Factors Influencing Parents' Perceptions of, and Tolerance for, Risk Taking**

- a. Measures Related to Factors Influencing Parental Risk Tolerance
- b. Parent Gender as a Predictor of Parental Tolerance for Risky Play
- c. Coping as a Predictor of Parental Tolerance for Risky Play
  - i. Categories of Coping
  - ii. Coping Self-Efficacy
  - iii. Parents' Perceptions of Child's Coping Ability

I searched occupational therapy, occupational science, play, early childhood education, child development, child and family studies, and environmental research and public health literature using the following databases: JSTOR, ProQuest, PsyInfo, PubMed, Sage Journals, Google Scholar, EBSCO, and ScienceDirect. Key words used to search the databases included: risky play, risk-taking, adventurous play, child outdoor play, parents' perceptions, parents' risk tolerance, Arab culture, coping, self-efficacy, and parental perceptions of child coping behaviors.

### **Differing Perspectives on Children's Risky Play**

Risky play carries a negative connotation, and potentially evokes concerns about child's safety and well-being. For a long time, risky play was mostly seen as a cause of physical injury in children (Morrongiello et al., 2001; Peterson et al., 1993; Potts et al., 1995). For these reasons, some researchers attempted to use alternative terms like adventurous play. Taking a closer look, the negative connotation associated with the term stemmed from a long line of research on injury prevention that focused on risk reduction in play.

Previous research has extensively examined risk factors pertaining to injury and presented various models for risk in childhood. Research showed that there were many individual differences when it comes to risk taking in play (Morrongiello, 2004; Morrongiello & Lasenby-Lessard, 2007; Morrongiello & Matheis, 2004). Schwebel and colleagues (2005), for example, found that child behavioral variables like temperament, hyperactivity, sensory seeking, and impulsivity appeared to influence children's assessment of risk in the environment. Child gender and age were among the biggest contributors to risk perception and management, with boys more often being risk seekers and less likely to comply with safety rules than girls (Morrongiello, 2004; Morrongiello & Lasenby-Lessard, 2007; Morrongiello & Matheis, 2004). In a later work, Morrongiello and Lasenby-Lessard (2007) presented an integrated model of the

determinants of risk taking in younger children, with the goal of serving as foundation for risk prevention interventions. This model elucidated risk taking as a complex and multifaceted behavior that is influenced not only by a child's characteristics, but also by their larger context, which includes parents, family, and social/situational factors (Morrongiello, 2004; Morrongiello et al., 2006; Morrongiello & Lasenby-Lessard, 2007; Morrongiello & Matheis, 2004). Other studies (Morrongiello & Sedore, 2005; Schwebel et al., 2004) also linked external factors, such as peer influences or situational access, to an elevated risk of injury in children.

Injury prevention researchers and specialists have long drawn upon a wide range of psychological and behavioral theories and approaches to inform policy and practice as well as develop interventions to target these determinants in order to reduce risk and maximize adult supervision of child's play at home and school. For instance, Morrongiello and colleagues (Morrongiello & Hogg, 2004; Morrongiello et al., 2008; Morrongiello & Matheis, 2004; Morrongiello & Sedore, 2005; Schwebel et al., 2004) offered insights into mechanisms and strategies used by parents to protect their children. These lines of evidence suggested that supervision and teaching children about home safety and hazards were among the most common safety strategies implemented by parents (Morrongiello & Barton, 2009; Morrongiello et al., 2008; Morrongiello & Matheis, 2004; Morrongiello et al., 2001; Schwebel & Barton, 2005). According to Morrongiello and colleagues (2001), parents usually begin teaching home safety principles to their children around the age of 2 years. However, this study found that, when encountering risks, these children (ages 4 to 6 years) only recalled 46% of what their parents had told them (Morrongiello et al., 2001). The researchers suggested that parental supervision remains a more effective strategy for ensuring children safety (Morrongiello et al., 2001).

## **Rethinking Playful Risk Taking in Children: A Paradigm Shift**

Research on injury prevention has clearly shaped thinking about risky play. While risky play scholars have vehemently disagreed on this issue, they realized that findings from this plethora of research (Morrongiello, 2004; Morrongiello et al., 2001; Schwebel & Barton, 2005) cannot be disregarded and can serve as a foundation for further clarification around risk taking and distinctions between healthy and unhealthy risk. For instance, risky play proponents noted that this negative sense evolved from treating “hazard” or “danger” and “risk” as synonymous (Boholm, 2012; Brussoni, Brunelle, et al., 2015; Brussoni, Olsen, et al., 2012; Little, 2010; Lupton & Tulloch, 2002). Briefly, Greenfield (2003) explained that, while hazards can be a source of harm that are not obvious to the child and that can result in serious injury because the child cannot see them, risk in play is not necessarily negative. Conversely, in the risky play literature, the term “risk” is viewed as a situation in which a child can identify and assess a challenge before determining a course of action (Brussoni, Gibbons, et al., 2015).

Using a risk measure of ten “potentially unsafe situations” with 38 children, Potts et al. (1995) maintained that physical risk taking is a relatively consistent characteristic in children. Using observational and experimental research, researchers like Stephenson (2003) and Kaarby (2004) found that children have the ability and natural propensity toward risk taking. Indeed, research on parenting and risk taking from nearly 30 years ago showed that limiting children's exposure to risk was not favored by parents (Kendrick, 1994; Ueland & Kraft, 1996; Wortel & de Geus, 1993; Wortel, de Geus, & Kok, 1995). This trend indicates a discernible shift in modern society toward risk aversion and excessive safety measures. Risky play supporters (Brussoni, Olsen, et al., 2012; Christensen & Mikkelsen, 2008; Sandseter, 2009d) suggested that access to age-appropriate risky play situations presumably moderates the link between children's

recognition and management of risks. Nevertheless, it is important to note the limited availability of experimental and longitudinal studies that systematically investigate the link between engaging in risky play and improved risk management skills in children.

In a neuroeconomic approach to decision making and risk processing, risk is conceptualized as a broad construct that involves the possibility of both positive and negative, healthy or unhealthy consequences (Duell & Steinberg, 2019; Holton, 2004; Mohr et al., 2010; Van Duijvenvoorde & Crone, 2013). Holton (2004) described risk as “exposure to a proposition of which one is uncertain” (p.22). Duell and Steinberg (2019) concluded that risk behaviors often fall along “a spectrum of desirability.” On one end, positive and healthy risks, such as engaging in a challenging task or playing fight with a peer, are age relevant and constructive. On the other end, negative risks are those that illegal, dangerous, or unhealthy including theft, aggression, or injury. Boyer (2006) reached a similar conclusion stating that “risk-taking behaviors are not entirely foolhardy, and although by definition associated with some probability of undesirable consequences, may be the most rational course of action given one’s priorities. That is, although by definition potentially harmful, prototypical risk-taking behaviors might be engaged because they are also associated with some probability of desirable results” (p. 335). Risk in play is risky because it may involve elements of novelty, uncertainty of outcome, or thrilling challenge that the child can recognize and assess (Brussoni, Brunelle, et al., 2015; Little, 2010; Sandseter, 2014), which potentially improves risk management and risk perception (Adam, 2001; Ball, 2002; Sandseter, 2010).

In each of these schools of thought, risk taking is perceived differently leading to different conclusions. Risky play theorists (Brussoni, Olsen, et al., 2012; Sandseter & Kennair, 2011; Wyver, Tranter, et al., 2010) criticized narrowing the conceptualization of risk-taking to

negative or destructive acts, calling for refocusing attention to the healthy aspects of risk-taking. Play researchers understand that risky play might lead to injury; however, the chance of this happening is very small. Hence, Brussoni and colleagues (2012) noted that appropriate affordances for risky play do not mean abandoning safety altogether. In fact, some empirical and anecdotal evidence (Greenfield, 2003; Wyver, Tranter, et al., 2010) showed that insufficient risky play experiences may lead to inappropriate, reckless risk taking in children, resulting in negative outcomes such as emotional or physical harm. Researchers (Brussoni, Gibbons, et al., 2015; Little & Eager, 2010; Sandseter, 2014; Wyver, Bundy, et al., 2010) theorized that limiting risky play experiences and failing to provide a supportive play environment for children to take risk safely might be linked to the emergence of unhealthy risk-taking behaviors as children have a natural propensity to take on challenge.

### **Child Safety versus Risky Play: Challenging Assumptions**

Over decades of research, play theorists (Brussoni, Olsen, et al., 2012) claimed that advantages of risk taking to health and growth outweigh the threat of harm or danger. Wyver et al. (2010) argued that framing risk narrowly in the context of danger and threat has resulted in parents taking an individualistic approach to risk and removing children from ‘dangerous’ areas and activities. Rather, researchers believed that there was a need for a collective response that focuses on creating safe and age-appropriate play spaces that encourage risk and challenge. Wyver et al. (2010) noted “instead of this individualist focus, some societies see the benefits of a focus on ‘all’ children, the wider community and the whole city... to a focus that recognizes the value of a whole-of-community response to problems of children’s well-being.” (p.273). Collectively, risky play scholars ( Brussoni, Olsen, et al., 2012; Sandseter, 2010; Wyver, Tranter, et al., 2010) advocated against ‘surplus safety’ practices, or as colloquially called “ bubble

wrapping”, that confine children’s freedom to be children and negatively affect their quality of life. The term ‘surplus safety’, coined by (Buchanan 1999), refers to the excessive safety precautions to avoid injury regardless of its impact or cost. Consequently, play researchers took an active role in promoting change in societal attitudes toward risky play by challenging existing assumptions and reframing perspectives around risk.

Adopting a positive approach to risk, Brussoni and colleagues (2012) affirmed that safety and play are equally critical to child health and development. While safety is key, evidence showed that unnecessary safety measures across various play contexts encourage overprotecting practices among parents and childcare personnel (Brussoni et al., 2012). Specifically, Wyver et al. (2010) studied current assumptions that adults frequently make around children’s risky outdoor play. They detailed surplus safety behaviors and their existence on various levels in modern Western society. For example, they explained how these behaviors ranged from a personal level where parents underestimate children’s capacity for being risk takers, to feelings of guilt or being perceived as negligent for exposing children to risky experiences, to a policy and regulation level at early childhood centers and public playgrounds (Wyver, Tranter, et al., 2010). Drawing on earlier research, the authors contended that overprotective adults hamper children’s ability to make choices and disconnect them from the benefits of risk exposure in play (Wyver, Tranter, et al., 2010). Paradoxically, researchers (Wyver, Bundy, et al., 2010) pointed out that society’s emphasis on superfluous safety puts children’s development at risk, and that risk-deprived children are more likely to undergo long-term consequences such as obesity, mental health issues, and decreased learning and judgment skills (Little & Eager, 2010; Little & Wyver, 2008).

## **Factors Influencing Parents' Perceptions of, and Tolerance for, Risk Taking**

Several researchers (Brussoni & Olsen, 2013; Jolleyman et al., 2019; Little et al., 2011; Niehues et al., 2013) focused on understanding parents' views of risky play. Parents are the first agents of socialization and the source of influence in children's lives (Milteer, et al., 2012). Backett-Milburn and Harden (2004) postulated that the concepts of risk and risk anxiety are fluid and 'socially constructed.' They argued that constructions and configurations of risk are situated within larger social, cultural, and structural contexts. Parents' decisions about risk and freedom are shaped by various social and personal processes such as a child's age, personality, and siblinghood (Cevher-Kalburan & Ivrendi, 2016; Di Norcia et al., 2018; Janz et al., 2005; Kleppe, 2017; Morrongiello, 2004; Morrongiello & Barton, 2009; Morrongiello et al., 2006; Sandseter, 2007, 2009a, 2009b, 2010) as well as by temporal and situational changes (Backett-Milburn & Harden, 2004; Brussoni & Olsen, 2013; Little & Eager, 2010). Other researchers (Bauer & Giles, 2019; Brussoni, Creighton, et al., 2012; Brussoni & Olsen, 2013; Creighton et al., 2017; Hagan & Kuebli, 2007; Little, 2015; Morrongiello et al., 2010; Simons & Conger, 2007) examined parental attributes such as gender, parenting style (Cevher-Kalburan & Ivrendi, 2016; B. Morrongiello et al., 2006; Simons & Conger, 2007), and educational level (Cevher-Kalburan & Ivrendi, 2016) as predictors of whether children are provided with opportunities for risk taking. Sociodemographic and cultural factors may shape people's experiences with risk taking and hence their orientation and tolerance for risky outdoor play (Boxberger & Reimers, 2019; Dodd et al., 2021; Parent et al., 2021). Overall, children's experiences with risky play are believed to be, in part, influenced by their parents' perceptions of risk (Little, 2010; Niehues et al., 2015; Stone et al., 2020). Because parents and caregivers control children's access to plays situation, negative perceptions of risk taking can be significant determinants of this kind of play (Adam,

2001). With this in mind, researchers were drawn to understand parents' perceptions on and tolerance for risk taking in play.

Little (2010) studied factors that influence parents' behaviors towards children's risk taking. Using observations and interview data, she examined the relationship between parents' beliefs about risk, safety, and injury, and their responses to their 4- to 5-year-old children's risk-taking behaviors during outdoor physical play. Most parents viewed risk taking positively and acknowledged the potential learning benefits from engaging in novel activities and from resultant minor injuries. Specifically, parents believed that risk taking assists children to appraise and manage risk, learn about their capabilities, and understand their emotional and physical limits (Little, 2015). That being said, parents also believed that there are negative consequences to taking risks, and their tolerance for risk depended on the situation and context (Little, 2010, 2015). Although parents provided verbal or physical encouragement or support for positive risk taking, they found it difficult not to intervene when they felt the likelihood of injury was high. Little (2010) noted that parents did not actively engage but used other strategies like supervising, encouraging, instructing, and modelling to support their children's play and help them learn safe practices. From this finding, Little (2010) concluded that "parents' beliefs about risk and safety are likely to influence the extent to which children's healthy positive risk-taking is encouraged" (p. 328).

Creighton et al. (2017) examined how fathers of young children perceived risk. They identified connections between fathers' identities and their considerations of risk taking in their own and their children's lives. Fathers' responses ranged from very risk tolerant to accepting some risk taking to being overly protective. These varied views on risk and protection demonstrated that the concept of risk taking in play is multilayered and complex. Interestingly,

Creighton et al. (2017) found that personal experiences of risk and their identities predominantly informed fathers' orientations toward risk in their children's lives. Risk tolerant fathers favored a balanced approach that allows risk taking to a certain extent while also assuming responsibility for their children's safety and requiring that all risky activities be within their control and competence. Other fathers viewed risk taking negatively and valued protective practices as a vital aspect of their fathering identity and parenting role. A small number of other fathers were inconsistent in their views of risk for both themselves and their children (Creighton et al., 2017).

Niehues and colleagues (2015) interviewed 37 parents of children ages 5 to 17 years to determine other factors influencing parents' risk perceptions and the impact of those factors on children's access to everyday risky activities. Parents were divided into two groups; one group consisted of 18 participants who had faced substantial risk in their lives. This included individuals with a child with major lifelong disability, physical disability, autism spectrum disorders, or those who had personally experienced adversity, such as growing up in a war-torn country. A second group comprised 19 participants who lived reasonably 'risk-free' lives. Four themes emerged from their hermeneutic analysis: "parents' fear, resilience, risk as opportunity, and the benefits of everyday risk taking" (p.812). Consistent with Little 's (2010, 2015) findings, Niehues et al. (2015) found that parents who were comparative risk takers or had experienced risk themselves appreciated the value of risk taking in developing life skills and offered opportunities for their children to experience risk and uncertainty while providing guidance and supporting autonomy (i.e. supporting children to make choices, and promoting competence and self-determination) (Niehues et al., 2015). These parents shared views of engaging with risk to conquer fear, build resilience, and practice decision making. On the other hand, some parents who considered themselves to have been risk takers in the past, discussed how this tendency

altered after they became a parent. They talked about how it became difficult for them to support and encourage their children's participation in risky activities (Niehues et al., 2015).

Parents in the Niehues et al. (2015) study who had experienced little risk in their lives tended to protect their children from discomfort or failure, modeling anxiety for their children. This group believed that the world today is more dangerous than the one in which they grew up, raising fears about stranger-danger and increased traffic. These attitudes about risk as danger as well as the desire to exert control over their children's play, appeared to arise from concerns related to societal expectations and personal ideals of what constitutes 'good parenting', echoing findings from other researchers (Jenkins, 2006b; Valentine, 1997). Remarkably, parents of children with disability were the only ones to consider risk as opportunity. These parents embraced uncertainty as part of parenting their children and found meaning in the playful, activity-oriented interactions they had with their children (Niehues et al., 2015). While this study included parents of children with disability, it did not address the mechanisms by which these parents were more risk tolerant than parents of typically developing children.

Although the insights derived from the studies conducted by Creighton et al. (2017), Little et al. (2011), Niehues et al. (2015) were enlightening, it is important to note that these investigations relied on qualitative research methods. Qualitative methods are valuable for exploring in-depth perspectives and experiences; however, they may be limited in providing generalizability to broader populations or offering quantitative measures. In contrast, Jelleyman et al. (2019) conducted a large, cross-sectional study, in which they examined 1366 New Zealand parents' perceptions and practices pertaining to risky play and independent mobility using a set of validated surveys. Similar to parents from Australia (Little, 2010, 2015; Little et al., 2011;

Niehues et al., 2015), New Zealand parents were concerned about road safety and ill-intentioned strangers. This study confirmed that there was a disconnect between parents' beliefs about the advantages of risk exposure and their children's actual engagement in such activities, confirming qualitative findings about parents' internal conflicts when promoting risk taking balanced with safety. While parents questioned restricted safety rules, they believed that constant supervision and knowledge of what their child is doing is important. Parents, particularly those with children under the age of 12, expressed discomfort regarding unsupervised roaming in the neighborhood (Jelleyman et al., 2019). Similarly, in a survey of 795 parents residing in Toronto, Canada about their attitudes and perceptions of independent mobility, only 16% of parents of children in Grades 5 and 6 reported that they 'often or always' allowed their children to go out on their own without adult supervision (Mitra et al., 2014).

With the growing literature on the benefits and barriers to children's risky play, Bundy and colleagues (2011) developed a "Risk Reframing" workshop as a component of the Sydney Playground Project (SPP) to promote adults' tolerance of risky play. Through a series of reflective activities, these intervention workshops aimed to promote risk as a multidimensional concept that presents risky play as an avenue for adventure, opportunity, and learning (Niehues et al., 2013) rather than only a source of danger or injury. In light of the promising findings of the in-person workshops, Brussoni et al. (2021) carried out a randomized control trial with 451 mothers titled "Go Play Outside!" comparing the effectiveness of a web-based and the in-person versions of the risk reframing intervention. Compared to those in the control group, mothers who participated in the in-person workshop expressed significantly greater risk tolerance ( $\beta=.22$ , 95% CI 0.03-0.40;  $p = .02$ ) 1 week after the intervention. In contrast, mothers who participated in the web-based intervention expressed even greater risk tolerance than mothers in the control group 1

week after the intervention ( $\beta=.25$ , 95% CI 0.08-0.42;  $p = .004$ ) and 3 months post intervention ( $\beta=.24$ , 95% CI 0.06-0.42;  $p = .007$ ) (Brussoni et al., 2021).

### **Measures Related to Factors Influencing Parental Risk Tolerance**

Although existing research provided evidence regarding parents' attitudes toward risky play, there was a need for an objective measure to assess parents' risk tolerance. In 2014, Hill and Bundy developed the Tolerance for Risk in Play Scale (TRiPS). Bundy and colleagues (2014) developed two versions of the TRiPS; caregiver and teacher versions. The assessment was developed based on the Norwegian model of risky play (Sandseter, 2007). A revised caregiver version (TRiPS-R) consists of 30 items measuring adults' tolerance of risk in play. Using Rasch analysis, Grady-Dominguez et al. (2020) found excellent evidence for validity and internal reliability of the assessment. Data from 96.7% of the items conformed to Rasch model assumptions, suggesting strong construct validity; the person reliability index was 0.88. Grady-Dominguez et al. (2020) made several improvements to enhance the sensitivity of the TRiPS by adding new items to capture individuals with low tolerance for risk. They also revised items specific to Australian culture to improve the applicability and usability across cultures. While the TRiPS is frequently used by risky play researchers and has been useful to measure adults' tolerance for risky play, it is the only available measure. There remains a notable lack of objective measures to assess personal, situational, and cultural factors that influence parents' willingness and tolerance for children's risky play.

### **Parent Gender as a Predictor of Parental Tolerance for Risky Play**

Several studies (Brussoni & Olsen, 2013; Creighton et al., 2017; Little et al., 2011; Niehues et al., 2015) explored the role of parental gender as a factor influencing the extent to which children are exposed to risk during play. Little (2010) and Niehues and colleagues (2015)

examined Australian parents, mostly mothers, views and beliefs of risk and safety in children's play. While parents appreciated the potential learning benefits of engaging in age-appropriate risk, their tolerance for risk varied based on personal experiences, situation, and context (Little, 2015; Niehues et al., 2015). Creighton et al. (2017), on the other hand, focused on understanding how Canadian fathers of children aged 2 to 7 years perceived risk. Fathers' responses ranged from very risk tolerant to overly protective. Creighton et al.'s (2017) study built upon qualitative findings of Brussoni and colleagues (2012, 2013) who found that fathers tended to be more tolerant of physical risk taking than mothers and viewed risky play as providing opportunities for risk management and emotional bonding with their children. Although these studies suggested that mothers and fathers might have different orientations to children's risky play, they did not directly compare the views and support of risky play between the two.

Olsen and colleagues (2018) utilized the Risk engagement and protection survey (REPS) to explore parents' perspectives on child safety and risk management in play for their children aged 6-12 years. Researchers found that both mothers and father held similar attitudes (Olsen et al., 2018). More recently, Jerebine et al. (2024) investigated the correlation between mothers' and fathers' attitudes towards risk and injury and children's participation in adventurous play and physical activities. On the Tolerance for Risk in Play Scale (TRiPS), 78% of parents reported low tolerance for risky play. While researchers did not identify gender differences in parents' risk tolerance, mothers expressed more concerns than fathers about potential injuries (Jerebine et al., 2024). Other researchers indicated that fathers are generally more inclined than mothers to allow their children to engage in risky and physically active play (Bronstein, 1988; Lindsey & Mize, 2001; Stgeorge & Freeman, 2017). Additionally, John et al. (2013) showed that in play

mothers typically guide, structure and/or teach whereas fathers more often follow the child's lead and introduce challenge (John et al., 2013).

While most existing research pertaining to parent gender and children's risky play originates in Western cultures, research representing an Eastern perspective has begun to emerge. Cevher-Kalburan and Ivrendi (2016) studied the concept of risk as socially constructed in the Turkish culture. The researchers investigated the relationship between parents' views on the benefits of risky play and a number of other variables including parenting style, gender and educational level. Mirroring findings from some Western studies, Turkish mothers held a less favorable view of risky play than did fathers (Cevher-Kalburan & Ivrendi, 2016).

### **Coping as a Predictor of Parental Tolerance for Risky Play**

The following section will discuss the concept of coping as well as categories and theories of coping. It will then address two coping related factors; parents coping self-efficacy and their perceptions of their children's coping abilities as predictors of their tolerance for risky play.

Skinner and Wellborn (1994) conceptualized coping as "how people regulate their behavior, emotion, and orientation under conditions of psychological stress" (p. 112). Using a motivational framework, Skinner and Wellborn (1994) described the coping process in terms of three core psychological needs: relatedness, competence, and autonomy. Interruption to any of these requirements during stressful events generates coping reactions to protect, maintain, or restore those needs. In this model, coping comprises both purposeful and involuntary or instinctive responses to handle threats to relatedness, competence, and autonomy needs (Skinner & Wellborn, 1994). Further, Eisenberg et al. (1997) considered coping as a component of self-regulation. However, like Skinner and colleagues (1994), Eisenberg et al. (1997) noted that,

while coping and emotional regulation are normally effortful actions, coping is not always a conscious and intentional response (Eisenberg et al., 1997).

The definition and understanding of the concept of coping have continued to evolve over time. From a developmental perspective, Compas et al. (1999) described coping as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (p. 89). A person’s biological, social, emotional and cognitive development may facilitate or hinder these regulatory responses to stress as well as influence coping capacity and resources (Compas et al., 2001b). Following years of studying the concept, these researchers (Compas et al., 2017; Compas et al., 2001a; Compas et al., 1997), along with other scholars (Eisenberg et al., 1997; Skinner & Zimmer-Gembeck, 2007; Zimmer-Gembeck & Skinner, 2016), argued for a conceptual link between coping and emotional regulation, viewing coping as a regulatory mechanism that mediates the relationship between the person and the environment.

Lazarus and Folkman (1984); however, viewed coping as a transaction process. Coping is characterized in Lazarus and Folkman’s (1984) transactional theory of stress and coping as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). Cognitive appraisal is defined as “an evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and the environment is stressful” (Lazarus & Folkman, 1984, p. 19). Hence, a stress response is moderated by this cognitive evaluation process in which the individual attributes meaning to events/stimuli (Boyd et al., 2009; Dewe & Cooper, 2007; Folkman, 1984; Oliver & Brough, 2002). Lazarus (1991) explained that personal factors such as values and beliefs as well as environmental factors

including demands and resources impact people's actions and the appraisals they make in comparable environmental circumstances (Lazarus, 1991). Lazarus and Folkman (1984) classified cognitive appraisal into two types: primary appraisal and secondary appraisal. Primary appraisal includes identifying meaning and significance of a transaction to an individual's well-being (i.e., making meaning of whether a change in the environment is good or harmful). When a transaction is deemed stressful, a secondary appraisal takes place to determine what can be done to resolve the stressor or mitigate the resultant distress (Folkman, 1984; Lazarus & Folkman, 1984). This may involve an assessment of personal resources for coping (i.e., self-efficacy, knowledge, resilience, or spirituality), contextual/situational variables (i.e., friendships, social support) and previously employed coping techniques (Dewe & Cooper, 2007; Folkman, 1984). Once a situation is appraised as taxing (primary appraisal) and requiring efforts to manage or resolve (secondary appraisal), coping actions are carried out (Folkman & Lazarus, 1988). Coping to Lazarus (1966) is a cyclical process of appraisal and feedback. Coping is not a personality trait, but rather a dynamic, cognitive and behavioral process (Brough et al., 2005) in which strategies are executed to lessen, master, or tolerate a stressor (Folkman et al., 1986). Lazarus and Folkman's (1984) theory and conceptualization of coping remain foundational and highly influential. Despite its age, their work continues to be cited in the recent clinical psychology literature and to shape contemporary understanding and discussions surrounding coping mechanisms.

Consistent with Lazarus and Folkman's theory, Moos (2002) offered insights into the person-environment transactions and provided an integrative framework to understand context, coping, and adaptation. Moos (2002) theorized that a set of ongoing personal (i.e., intellectual abilities, self-confidence, social competence) and environmental characteristics (i.e., social

climate), as well as temporal contextual factors such as life events, influence cognitive appraisal and coping skills and ultimately people's health and well-being.

### ***Categories of Coping***

A common assumption throughout the coping literature is that coping strategies are 'orthogonal constructs' and that individuals are predisposed to adopt one type over another (Eisenbarth, 2012). One of the most widely utilized classification is Lazarus and Folkman's (1984) categorization of coping into emotion-focused and problem-focused (Billings & Moos, 1981; Endler & Parker, 1994; Lazarus & Folkman, 1984; Skinner et al., 2003). Emotion-focused coping strategies are used to alleviate emotional distress induced by the stressor (e.g., substance use) and are considered most suitable when a person has limited control over the outcome of the stressor. Problem-focused coping methods, on the other hand, are employed to directly act on the environment (e.g., seeking support from others) or oneself to confront the stressor (cognitive restructuring) (Folkman et al., 1991).

While this early categorization laid the groundwork for coping research and enhanced knowledge surrounding stress and coping, others believe that this black-or-white type of classification is too broad, and that certain coping mechanisms reflect both categories (Band & Weisz, 1988; Carver & Connor-Smith, 2010; Carver et al., 1989; Compas et al., 2001b; Skinner et al., 2003). After losing a job, for example, a person may network with friends to learn about new job prospects. In this context, networking is a form of active coping that is problem focused. Networking with friends is also likely to provide the benefits of receiving support from others and reducing anxiety, which is an emotion-focused coping (Blum et al., 2012). Although some coping strategies are adaptive in the sense that they contribute to improved functioning, other strategies are maladaptive as they could cause increased distress (Zeidner & Saklofske, 1996).

For instance, Roth and Cohen (1986) studied human orientations toward stressful encounters and identified two basic functions: approach and avoidance. Approach coping (also known as active or engagement coping) is any behavioral, cognitive, or emotional effort that is directed toward a threat (e.g., problem solving, cognitive reappraisal, or support seeking). Avoidance coping (also called disengagement coping) is a metaphor of any behavioral, cognitive, or emotional efforts to avoid the disturbing event or situation (e.g., denial, wishful thinking, or withdrawal). Generally, greater approach and less avoidance coping has been linked to better outcomes (Carver & Connor-Smith, 2010; Roth & Cohen, 1986; Skinner et al., 2003). The effectiveness of these avoidance strategies may vary. For example, cognitive avoidance (e.g., not thinking about an event or its repercussions) and distraction (e.g., engaging in other activities to avoid thinking about the situation) are both avoidance strategies. However, avoiding thinking about the traumatic experience may have a maladaptive function and aggravate the person's distress in the long run. On the other hand, distracting oneself through engaging in social activities with others to reduce the impact of stress and unpleasant feelings associated with it can be an adaptive and effective coping response (Dubow & Rubinlicht, 2011; Hofmann & Hay, 2018).

Furthermore, critics of this model contend that it is not always feasible to decide that more approach or less avoidance coping is optimal in all instances. Denial, distraction, and other disengagement strategies could be useful in preventing the anguish from becoming too intense. This may be especially significant in the early phases of responding to a highly stressful episode (Roth & Cohen, 1986). Approach techniques offer the advantage of allowing suitable actions to be performed when the level of discomfort has lessened substantially and when it is appropriate to do so.

Various models have been proposed to understand and differentiate dimensions of coping (Carver et al., 1989; Compas et al., 1997; Gol & Cook, 2004; Kato, 2015; Skinner et al., 2003; Stanislawski, 2019). Despite decades of research on coping categories, no consensus has been reached. The body of research on coping structures and functions manifested that coping is a complex concept with various distinctions (Carver & Connor-Smith, 2010; Skinner et al., 2003). Researchers concluded that it is useful to think about coping categorizations in a flexible and fluid manner, adopting approaches that meet the person current needs as they progress through the coping process (Carver & Connor-Smith, 2010; Hofmann & Hay, 2018; Lazarus, 2006; Skinner et al., 2003).

Individual differences in coping and stability of coping patterns have also been major themes of discussion within the coping literature (Eisenbarth, 2012; Nielsen & Knardahl, 2014). Some researchers believed that coping styles or dispositions are relatively stable and cannot be easily altered over time. That is, people carry their preferred and previously learned coping strategies to each encounter and across contexts (Ardelt, 2000; Brow, 2008; Carver et al., 1989; Folkman et al., 1991; McCrae & Costa, 1982, 1987; Ozcan et al., 2019; Skinner et al., 2003; Yıldız et al., 2017). Other researchers argued that coping strategies are not always stable since people may adjust their coping responses based on the demands of the situation (Lazarus, 1991; Louvet et al., 2007; Moos & Holahan, 2003). Altogether, findings from several studies supported the notion that coping dispositions are influenced by both personal and situational/environmental aspects, indicating that coping could be trait-like to a certain extent (Afshar et al., 2015; Brow, 2008; Connor-Smith & Flachsbart, 2007; Gil et al., 1997; Lee-Baggeley et al., 2005; Leszko et al., 2020; Ozcan et al., 2019; Powers et al., 2002; Yıldız et al., 2017) but also have state/situation-

like properties (Carver, 1998; Carver & Connor-Smith, 2010; Connor-Smith & Flachsbart, 2007; Lazarus et al., 1985; Louvet et al., 2009; Nielsen & Knardahl, 2014; Steed, 1998).

Clearly individuals respond to stress in a variety of ways, not necessarily with a single strategy but rather with a combination of tactics. Further, there is no one universal coping approach that will be effective in all conditions for all persons. In one setting, one strategy may be useful, but in another, it may be ineffective or even harmful (Dubow & Rubinlicht, 2011). Hence, the theoretical work of Lazarus and Folkman (1984), Carver and colleagues (1997), and Moos (2002), have been instrumental in shaping stress and coping research. These coping models advanced knowledge of coping and aided in shifting thinking of coping as a multidimensional, complex and ever-changing process rather than framing it in exclusive groups or categories (Carver & Connor-Smith, 2010; Carver et al., 1989; Dubow & Rubinlicht, 2011; Folkman et al., 1991; Lazarus, 1991, 2006; Moos, 2002; Skinner & Zimmer-Gembeck, 2007; Skinner et al., 2003).

### ***Coping self-efficacy***

Within social cognitive theory, Bandura (2001) proposed that individuals have an active role in their adjustment process to stress through the means of self-regulation, self-reactiveness, self-reflectiveness. In other words, humans are not only products of their life experiences but also contributors and agents to those experiences (Bandura, 2001). This means that, even in extremely stressful circumstances, persons with high self-efficacy can perceive a situation with less stress and transform difficulties into opportunities while meeting their social, emotional, physical needs. Individuals who are less confident in their coping abilities, on the other hand, are more prone to feel threatened and exacerbate adversity (Bandura, 2017; Rutter, 2006).

Self-efficacy is a central element of Bandura's (1986) social cognitive theory (SCT). Human actions, according to SCT, are the product of reciprocal and dynamic transactions between the person, environment, and behavior. SCT emphasizes the determining role of self-beliefs in human cognition, motivation, and actions. Coping self-efficacy is a subtype of self-efficacy described as the belief in one's capacity to exert control over one's own functioning as well as over taxing and challenging external demands (Benight & Bandura, 2004; Benight et al., 1999). Bandura (1986) offered seminal work on human agency and the role of perceived self-efficacy in reacting to change. Bandura (1995) characterized perceived self-efficacy as belief in "one's capabilities to organize and execute courses of action required to manage prospective situations." Coping efficacy is more than simply a broad conviction of the possibility of positive outcomes; it is a belief in one's ability to produce favorable outcomes (Scheier & Carver, 1987); it is an essential cognitive resource for seizing control over aversive occurrences that affect one's life (Wood & Bandura, 1989). Sandler et al. (2000) viewed coping efficacy as involving the perception that one has coped effectively with stressful encounters in the past and will likely be able to handle stresses effectively in the future (Sandler et al., 2000).

According to Bandura (1997), self-efficacy is a prerequisite for modifying coping behaviors and it drives the choice of coping approaches. Bandura (1997) also asserted that a sense of self-efficacy is central to the mechanism of human agency. That is, regardless of other existing reasons and motivators, the ultimate determinant is the person's underlying confidence in the ability to overcome adversity and achieve desired goals (Benight & Bandura, 2004). Those beliefs have an impact on diverse aspects of human functioning through four processes: cognitive, motivational, affective, and decisional. Specifically, personal perceptions of self-efficacy influence self-appraisal of threats and coping abilities. For instance, when individuals

believe that a potential threat is uncontrollable, they are more likely to view their surroundings as dangerous, exaggerate the severity of the threat, and worry about their coping sufficiency. These ineffective thoughts, in turn, hinder functioning and constrain performance (Bandura, 1997). They also affect how motivated people are to confront calamities and how vulnerable they are to stress and depression. In fact, perceived self-efficacy enables individuals to cope and adopt strategies to transform a risky situation into a bearable environment, alleviating feelings of stress and anxiety (Bandura, 1985; Bandura et al., 1969; Jerusalem & Mittag, 1995; Lazarus & Folkman, 1984). Lastly, self-efficacy beliefs may also influence resilience and the capacity to make decisions and take actions in the face of stressors (Benight & Bandura, 2004).

From this understanding (Bandura, 1997; Benight & Bandura, 2004), researchers believe that self-efficacy may function as a cognitive regulator of stress reactions while coping with threats (Bandura, 1985; Bandura et al., 1969; Bandura et al., 1982). Overall, various lines of research (Benight & Bandura, 2004; Benight & Harper, 2002; Chirico et al., 2017; Delahajj & Van Dam, 2017; Gully et al., 2002; Holden, 1990; McAteer-Early, 1992; Moritz et al., 2000; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998; Zimmer-Gembeck & Skinner, 2016) have verified that a high degree of coping efficacy leads to reasonable assessment of risk and stress, reduced emotional distress, better management of stressful events, and improved overall functioning and well-being. Perceived self-efficacy should also contribute to an increased usage of what are expected to be effective coping mechanisms. If these strategies are successful, perceptions of coping self-efficacy would then increase (Lazarus & Folkman, 1984).

### ***Parents' Perceptions of Children's Coping Ability***

Researchers have been especially interested in parental beliefs about children's emotions and coping abilities. Evidence indicates that parents' perceptions of their children's ability to

cope with stress and emotionally evoking situations influence their decisions and attitudes when interacting with their children and responding to children's feelings and needs (Bandura, 1986; Cassano et al., 2007; Fabes et al., 2001; Gottman et al., 1997; Hudson et al., 2008; Lunkenheimer et al., 2007; Morey & Gentzler, 2017). In other words, the way parents engage with their children is a reflection of their beliefs about their children (Mills & Rubin, 1990).

There is also general consensus on the influence of parental responses to children's socioemotional development (Dunsmore & Halberstadt, 1997; Eisenberg et al., 1998; Eisenberg et al., 1996; Eisenberg et al., 1999; Jones et al., 2002; McElwain et al., 2007; Mirabile, 2014; Roberts & Strayer, 1987; Root & Rubin, 2010). Children who find comfort in their parents' reactions to their negative emotions are better able to constructively manage and communicate those emotions, enabling them to cope with stress in a socially acceptable manner (Denham et al., 2015; Denham et al., 2009; Eisenberg et al., 1994; Gottman et al., 1997; Meyer et al., 2014). Researchers (Castro et al., 2015; Castro et al., 2015; Diener et al., 2008; Halberstadt et al., 2008; Kinlaw et al., 2001; Kortlander et al., 1997; Perez Rivera & Dunsmore, 2011; Prins, 1986; Zatz & Chassin, 1985) think that parental beliefs may permeate family environments to the point that they directly predict children's behaviors and skills as well as shape children's own beliefs.

Given the stress to parents inherent to allowing risky play, it seems important to study sources of that stress using models such as stress and coping theory (Lazarus & Folkman, 1984). Parents may limit their children's engagement in risky play as a way of coping with their own fears and the stress associated with such activities. However, there is a limited understanding of the impact of other parental factors, particularly those related to parents' coping self-efficacy and perceptions of their children's coping on their acceptance and tolerance for risky play.

## **Summary**

In this chapter, I provided an extensive review and synthesis of current literature as it pertains to risky play in children. I first examined varying perspectives on children's exposure to and participation in such activities, highlighting a paradigm shift towards a balanced view of risky play. Additionally, I explored research investigating factors contributing to risk reduction and measures of parental tolerance for risky play. Lastly, I offered a review of studies examining parent gender, coping self-efficacy, and perceptions of their children's coping ability as predictors of parental tolerance and willingness to allow their children to participate in risky play experiences.

## **Gaps in the Literature**

The focus in risky play research has been on understanding parents' negative attitudes towards allowing their children to participate in such activities (Brussoni et al., 2018; Creighton et al., 2017; Jolleyman et al., 2019; Little & Wyver, 2008; Wyver, Bundy, et al., 2010). While the literature identifies varying perspectives on risky play among parents using qualitative and quantitative methods, there is a noticeable lack of objective measures to assess personal, social, situational, and cultural factors shaping their risk tolerance.

Additionally, several studies explored the impact of parent gender on how parents approach risky play and consequently, children's access to risk during play. Nonetheless, existing evidence has been inconsistent with few studies having directly compared the perspectives of fathers and mothers. And, there is almost no research on gender disparities in approaches to risk taking in play in Eastern cultures, including Saudi Arabia.

Little is known about how parents handle the stress, uncertainty, and contradictory emotions associated with children's risk taking or how individual and contextual factors affect

their risk tolerance. Further, views and practices of risky play in Eastern cultures, including Saudi Arabia, are virtually unknown. To better understand parents' views toward, children's risky play, we need to take a closer look into personal, social, and cultural contexts that define and influence their tolerance of risk in play.

## **Chapter III: The Influence of Personal and Environmental Factors on Parents' Tolerance for Risk in Play: Testing a Conceptual Model**

### **Summary**

**Introduction:** Research has focused on understanding parents' negative attitudes towards children's risky play. Little is known about how parents handle the stress and uncertainty associated with children's risk taking, or how contextual factors affect their risk tolerance. Views of risky play in Eastern cultures, including Saudi Arabia, are virtually unknown. This study examined a predictive model of parents' tolerance for risky play.

**Hypotheses:** I hypothesized that internal and external factors influence parents' willingness to allow risky play. I also hypothesized that parents' coping self-efficacy and perceptions of children's coping ability impact the degree to which they promote risky play.

**Participants:** 90 Saudi parents with children 7 to 9 years. Inclusion criteria were parents from Saudi Arabia, had a child between 7 and 10 years, and were able to read and speak English fluently.

**Results:** Correlation coefficients indicated factors contributing to parents' willingness to allow risky play had a significant negative association with risk tolerance ( $p < .001$ ). Parents' coping self-efficacy significantly moderated the relationship between factors affecting parents' willingness to promote risky play and their tolerance for risk taking ( $\beta = .22, p = .05$ ). However, parental perceptions of children's coping ability did not moderate the relationship among factors affecting parents' willingness to allow risky play and their support of children's participation in risky play ( $\beta = .06, p = .61$ ).

**Discussion and conclusion:** While a majority of parents reported a moderate level of risk tolerance, findings suggest that parents' tolerance for risky play is a multifaceted construct shaped by their internal fears and feelings, coping responses, and social and cultural views of play, risk, and parenting. Findings invite further exploration of broader societal and cultural influences on how parents perceive and approach risky play in children.

**Keywords:** Risky play, conceptual model, parents' perceptions, coping, regression analysis

### **Introduction**

Risky play comprises activities that elicit feelings of both fear and exhilaration; it involves elements of novelty, uncertainty, and challenge and carries the possibility of injury (Sandseter, 2007, 2009b; Stephenson, 2003). Examples of risky play include climbing high trees, playing near water/fire, and swinging at great heights (Kleppe et al., 2017; Sandseter, 2009b). In past decades, such play garnered significant attention demonstrating its diverse benefits to mental, emotional, and physical health (Brussoni, Gibbons, et al., 2015; Bundy et al., 2011; Gray et al., 2015). Risky play offers rich opportunities for exploring capabilities, testing limits, and coping with the unexpected (Little & Wyver, 2008; Sandseter, 2007). It also helps children develop physical and cognitive competence, body-mind connections, and self-regulation skills (Barker et al., 2014; Brussoni, Olsen, et al., 2012; Gray et al., 2015; Sandseter, 2007; Sandseter & Kennair, 2011). That said, children nowadays have limited access to risky play (Brussoni et al., 2015; Bundy et al., 2008; Coster & Gleave, 2008; Gray et al., 2015; Little et al., 2011; Tremblay et al., 2015).

Not surprisingly, research examining parents' tolerance for risky play (Brussoni et al., 2018; Bundy et al., 2011; Jolleyman et al., 2019; Niehues et al., 2015) has revealed that concerns over stranger-danger and potential physical harm lead parents to supervise their children's play

closely. While parents acknowledged the potential benefits from challenging play activities, they were anxious about their children experiencing discomfort and failure (Jelleyman et al., 2019; Little, 2015; Niehues et al., 2015). Other researchers (Creighton et al., 2017; Little, 2010; Niehues et al., 2015, 2016; Niehues et al., 2013) have noted that parents' decisions about children's risk taking are multifaceted and complex and could be shaped by personal and social processes, such as the child's age and gender, personality, parents' gender, and parenting style as well as temporal and situational concerns (Backett-Milburn & Harden, 2004; Brussoni & Olsen, 2013; Little & Eager, 2010). Nonetheless, there remain gaps in our understanding of how social and cultural factors affect parents' perspectives on risk-taking during play.

While play is universal, the practice and meaning of play differs across cultures (Gosso & Almeida Carvalho, 2013). Within the Arab culture, for instance, play is regarded as an important daily routine and valued as a support for development (Ahmad, 2020). In such a family-oriented culture, parents prioritize the role of parenting and perceive play as a way to connect, and spend quality time, with their children. In this sense, parents feel responsible to offer a diverse range of play opportunities for children to have fun, explore, and learn (Ahmad, 2020). Nonetheless, views of risky play among parents in Eastern cultures are virtually unknown.

Within the context of risky play, most existing research represents a Western perspective (Wyver, Bundy, et al., 2010; Wyver, Tranter, et al., 2010). Although some research has emerged in Eastern cultures (Cevher-Kalburan & Ivrendi, 2016), there is currently none focused on parents' beliefs and attitudes towards outdoor play in Saudi Arabia. As in the Western world, there is a decline in opportunities for outdoor (and potentially risky) play among Saudi children (Aljuhani et al., 2022). Consequently, it is imperative to study factors contributing to this decline from a cultural perspective.

The focus in risky play research has been on understanding parents' negative attitudes towards allowing their children to participate (Brussoni et al., 2018; Creighton et al., 2017; Jelleyman et al., 2019; Little & Wyver, 2008; Wyver, Bundy, et al., 2010). Given the stress associated with allowing risky play, it seems important to study sources of that stress using models such as the Lazarus's and Folkman's (1984) stress and coping theory model. Coping is characterized in the Lazarus and Folkman (1984) model as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). A stress response is moderated by this cognitive evaluation in which individuals attribute meaning to events or stimuli (Boyd et al., 2009; Dewe & Cooper, 2007; Folkman, 1984; Oliver & Brough, 2002). Lazarus (1991) further indicated that personal factors (e.g., values, beliefs) along with experiences in similar environments, impact people's actions and appraisals in comparable circumstances (Lazarus, 1991). In light of this, parents who limit their children's engagement in risky play may do so as a way of coping with their own fears and the stress associated with such activities. However, there is limited understanding of the impact of parental factors, particularly those related to coping self-efficacy and perceptions of children's abilities to cope on their acceptance and tolerance of risky play.

Coping involves a suite of strategies to adapt to stressful and constantly evolving environments and situations (Lazarus & Folkman, 1984; Skinner & Wellborn, 1994). Coping self-efficacy is a subtype of self-efficacy described as the belief in one's capacity to exert control over one's own functioning as well as over taxing and challenging external demands (Benight & Bandura, 2004; Benight et al., 1999). Sandler et al. (2000) believed coping efficacy includes the

perception that one has coped effectively with stressful encounters in the past and will likely be able to handle stresses effectively in the future.

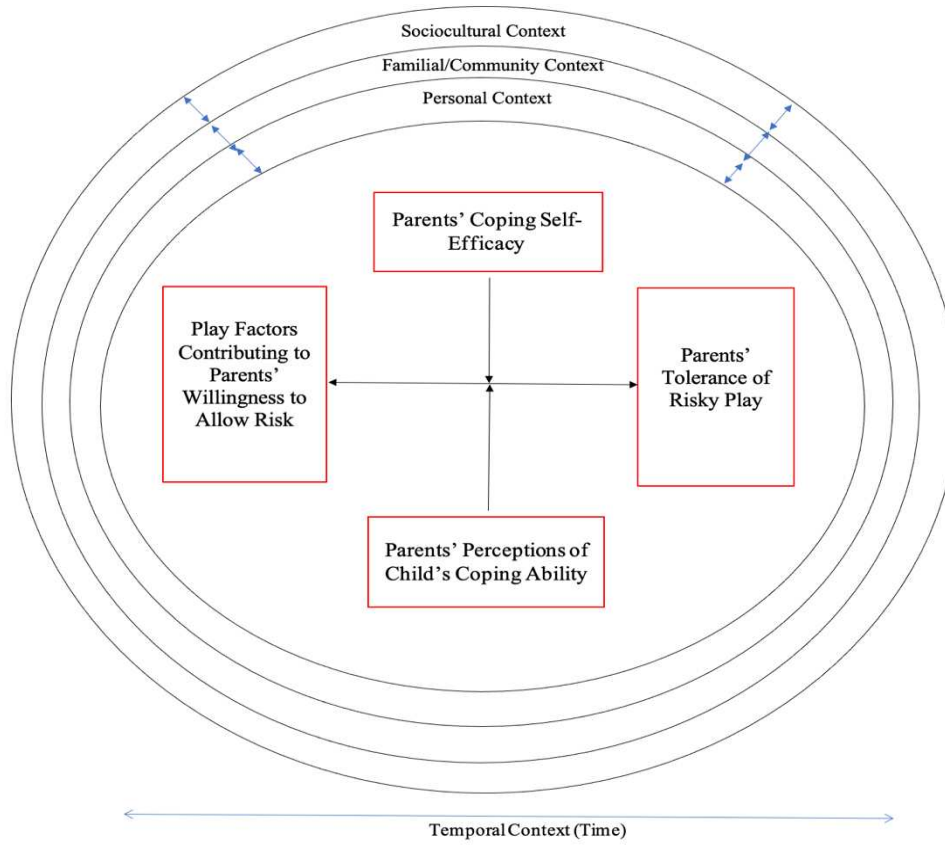
In addition to parents' beliefs about their own coping skills, their perceptions of their children's abilities to cope with everyday stress influence their decisions and attitudes (Bandura, 1986; Cassano et al., 2007; Fabes et al., 2001; Gottman et al., 1997; Hudson et al., 2008; Lunkenheimer et al., 2007; Morey & Gentzler, 2017). In other words, the way parents engage with their children is, in part, a reflection of their beliefs about their children (Mills & Rubin, 1990). Despite the importance, no researchers have explored potential relationships between parents' willingness to allow risky play and their beliefs about their own and their children's coping abilities.

Research on coping with intense emotions and anxiety (Kortlander et al., 1997; Mills & Rubin, 1990) suggests that parents who believe in the value of challenge for allowing children to test their skills are likely to support risky play. In contrast, parents who view risk in play only as dangerous, may shelter their children from the spectrum of emotions that accompanies risky play. Such overprotective behavior could be due either to their own poor coping abilities or to beliefs that their child is incapable of handling risk or both.

Little is known about how parents handle the stress, uncertainty, and contradictory emotions associated with children's risk taking, the source of associated fears or how these factors affect their risk tolerance. To understand parents' views toward children's risky play, we need to take a closer look into parental, social, and cultural contexts that define and influence their tolerance of risk in play.

In this research, I examined a predictive model of parents' tolerance for risky play. First, I hypothesized that various internal and external factors influence parents' willingness to allow

risky play. Second, I hypothesized that parents' coping self-efficacy and perceptions of their children's coping ability, impact the degree to which they accept and promote risky play. Within the proposed model (Figure 1), parental risk willingness refers to openness to encouraging children's engagement in play that entails challenge, exploration, uncertainty, and potential risk of injury. The term "Play factors contributing to parents' willingness to allow risk" pertains to diverse individual and environmental elements that influence parents' readiness to allow risky play. Risk tolerance is viewed as a complex and multidimensional construct (Duell & Steinberg, 2019; Holton, 2004; Mohr et al., 2010; Van Duijvenvoorde & Crone, 2013) that reflects the level of risk a parent is able to endorse in their child's play. The model illustrates a hypothesis about how parents navigate children's risk taking in play and emphasizes various contexts that influence this decision-making process. The proposed model recognizes that different sociocultural, familial/community, and personal contexts shape parents' decisions (see Figure 1).



**Figure 3.1.** A conceptual model representing relationships among factors contributing to parental tolerance of risky play

*Note.* The red boxes represent the tested portion of the proposed model.

### Study Hypotheses

- 1) Parental coping self-efficacy moderates the relationship among factors influencing parents' willingness to allow risky play and tolerance of their children's engagement in risky play.
- 2) Parental perceptions of children's coping abilities moderate the relationship among factors influencing parents' willingness to allow risky play and tolerance of their children's engagement in risky play.
- 3) Play factors contributing to parents' willingness to allow risk predict their tolerance of their children's engagement in risky play.

## Methods

The present cross-sectional quantitative study tested a conceptual model of parents' experiences with children's participation in risky play. I obtained an IRB approval (Protocol # 3276) from Colorado State University (Appendix A).

### Participants

The sample consisted of 90 parents: 45 fathers and 45 mothers. Inclusion criteria were: parents living in Saudi Arabia and of Saudi Arabian descent, had a child between 7 and 10 years of age, and were able to read and speak English fluently. Participants ranged in age from 27 to 51 years with a mean of 35.5 years ( $SD=5.0$ ). Their children's average age was 8.26 years ( $SD=1.11$ ). Parents were from different households (i.e., no mother and father of any one child participated). Table 1 describes the sample. To obtain power of .80 and a medium size effect, a sample of 80 or more was needed (Green, 1991). I recruited participants through snowball sampling. I began recruiting participants purposively through personal communications. Then I asked these participants to recruit additional participants by sending the survey link to acquaintances.

**Table 3.1.** *Sample Characteristics*

Variable	Total ( <i>N</i> = 90)	Parent Sex, <i>n</i> (%)	
		Male 45 (50%)	Female 45 (50%)
<b>Parent Age</b> (in years), <i>m</i> ( <i>sd</i> )	35.5 (5.0)	36.4 (5.3)	34.7(4.7)
<b>Marital Status</b> , <i>n</i> (%)			
Married	89 (98.9%)	45 (50%)	44 (48.9%)
Divorced	1 (1.1%)	0 (0.0%)	1 (1.1%)
<b>Education</b> , <i>n</i> (%)			
High School	6 (6.7%)	2 (2.2%)	4 (4.4%)
Bachelor's Degree	30 (33.3%)	11 (12.2%)	19 (21.1%)
Master's Degree	37 (41.1%)	20 (22.2%)	17 (18.9%)
Doctoral Degree or higher	17 (18.9%)	12 (13.3%)	5 (5.6%)
<b>Employment Status</b> , <i>n</i> (%)			

Employed	70 (77.8%)	40 (44.4%)	30 (33.3%)
Unemployed	6 (6.7%)	2 (2.2%)	4 (4.4%)
Housewife	7 (7.8%)	0 (0.0%)	7 (7.8%)
Student	6 (6.7%)	2 (2.2%)	4 (4.4%)
Retired	1 (1.1%)	1 (1.1%)	0 (0.0%)
<b>Socioeconomic Status*, n (%)</b>			
Lower	4 (4.5%)	2 (2.2%)	2 (2.2%)
Lower-middle	9 (10.1%)	2 (2.2%)	7 (7.9%)
Middle	46 (51.6%)	27 (30.4%)	19 (21.4%)
Upper-middle	18 (20.2%)	9 (10.1%)	9 (10.1%)
Upper	12 (13.5%)	5 (5.6%)	7 (7.9%)
<b>Number of Children, n (%)</b>			
1 child	21 (23.3%)		
2 children	39 (43.3%)		
3-4 children	19 (21.1%)		
> 4 children	11 (12.2%)		
<b>Child Sex, n (%)</b>			
Male	54 (60%)	56 (12.9%)	61 (14.0%)
Female	35 (38.9%)	41 (9.4%)	62 (14.3%)
Prefer not to say	1 (1.1%)	112 (25.7%)	76 (17.5%)
<b>Child Age (in years), m (sd)</b>	8.26 (1.11)		
<b>Most Risk Tolerant Parent, n (%)</b>			
Mother	18 (20%)	5 (5.6%)	13 (14.4%)
Father	60 (66.7%)	38 (42.2%)	22 (24.4%)
Neither	12 (13.3%)	2 (2.2%)	10 (11.1%)
<b>Caregiver who has most influence on child's RP, n (%)</b>			
Mother	25 (27.8%)	10 (11.1%)	15 (16.7%)
Father	61 (67.8%)	34 (37.8%)	27 (30.0%)
Other	4 (4.4%)	1 (1.1%)	3 (3.3%)

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*Note.* RP= risky play, *m* = mean; *sd* = standard deviation

\*Socioeconomic status was determined by income levels (Alnuaim, 2013).

\*The variables “Most Risk Tolerant Parent” and “Caregiver who has influence on child’s RP” were taken from the TRiPS (Grady-Dominguez et al., 2020).

## Procedures

I collected data online using Qualtrics XM software (Qualtrics, Provo, UT, 2020).

Participants completed a list of demographic questions (Appendix B) in addition to four questionnaires.

## Instruments

### *Factors Affecting Tolerance of Risk in play Scale (FAC-TRiPS)*

FAC-TRiPS captures a range of personal and environmental factors that influence how parents define, think about, and encourage risk-taking in play (Alarawi et al., in Press). The FAC-TRiPS includes 17 items that each address, “How likely is this to influence your decision to allow your child to engage in risky play?” (Appendix C). Each item is scored on a 5-point Likert scale with the following values: ‘never a factor’ (1), ‘rarely a factor’ (2), ‘neutral’ (3), ‘sometimes makes me say no,’ and (4) ‘definitely makes me say no’ (5). Prior research using Rasch analysis revealed that data from 16 of 17 items (94.1%) conformed to Rasch expectations, indicating adequate evidence for construct validity. Results also showed good evidence for internal reliability with a person reliability of 0.94 (Alarawi et al., in Press).

### ***Tolerance of Risk in Play Scale-Revised (TRiPS-R)***

TRiPS-R is a self-report survey that typically takes less than 15 minutes to complete (Appendix D). TRiPS-R consists of 30 play activities that reflect Sandseter’s (2007, 2009) six categories of risky play and range in levels of perceived risk from low to high (Hill & Bundy, 2014). Each item requires a ‘yes/no’ response regarding whether the parent allows their child to engage in a particular activity (e.g., would you let your child walk on a slippery surface if there was a chance they may fall?). Grady-Dominguez et al.’s (2020) Rasch analysis of data gathered with the TRiPS-R demonstrated excellent evidence of internal reliability (person reliability index = 0.88). Data from 29 of the 30 items (96.7%) conformed to Rasch model assumptions, providing strong evidence for construct validity. Analysis confirmed that the 30 items of TRiPS-R comprises a unidimensional construct that can distinguish about four levels of risk tolerance in adults (Grady-Dominguez et al., 2020).

### ***Coping Self-Efficacy***

Coping Self-Efficacy (CSE) (Chesney et al., 2006) is a self-report assessment measuring one's ability to cope effectively with life stressors (Appendix E). CSE consists of 26 items measuring three constructs: "use problem-focused coping" (12 items), "stop unpleasant emotions and thoughts" (9 items), and "get support from friends and family" (5 items). Respondents rate how confident they feel carrying out each coping strategy on a scale from 0 to 10 with the following values: 0 = "cannot do at all", 5 = "moderately certain can do," and 10 = "certain can do." A final score is created by summing individual item scores. Chesney et al (2006) indicated that the scale yielded strong evidence for internal consistency and test-retest reliability (Cronbach's alpha = .80-.91). Results suggested that the three subscales assess self-efficacy for different types of coping. Predictive validity analyses showed that change in using problem- and emotion- focused coping skills predicted reduced psychological distress and increased psychological well-being over time (Chesney et al., 2006).

### ***Coping Inventory***

Coping Inventory (CI) (Zeitlin, 1985) is a parent/caregiver report comprising 48 items measuring the effectiveness of strategies children ages 3 to 16 use to cope with aspects of the Self and the Environment (Appendix F). In previous research (Zeitlin, 1985), data collected with the CI provided moderate to strong evidence for validity and reliability. Internal consistency ranged from .84 to .98 and interrater reliability from .78-.94 (Zeitlin, 1985). Beetham et al.'s (2019) Rasch analysis of data collected with children with developmental disabilities revealed that data from 94% of items conformed to Rasch model assumptions, indicating evidence for strong construct validity. Beetham et al (2019) also found strong evidence for test-retest reliability with an average correlation coefficient of .96.

### **Data Analysis**

To investigate the extent to which play factors contributing to parents' willingness to allow risk (FAC-TRiPS) and tolerance for children's risk taking (TRiPS) were moderated by parents' coping self-efficacy (CSES) and parents' perceptions of their children's coping skills (CI), I performed a moderation analysis using SPSS Statistics version 29 (IBM, 2022). In regression, moderation is an analysis that examines interactions among constructs. A moderator is a third variable that influences the level, strength, direction, or presence of a relationship (Tabachnick et al., 2019). The analysis included a predictor variable (i.e., play factors contributing to parents' willingness to allow risk (FAC-TRiPS), an outcome variable (i.e., tolerance for children's risk taking (TRiPS), and two moderators (i.e., parental coping self-efficacy (CSES) and parents' perceptions of child's coping behaviors (CI), and two interaction terms (FAC-TRiPS\*CSES, and FAC-TRiPS\*CI).

To detect main effects and interaction effects of FAC-TRiPS and the two moderator variables on parent's risk tolerance, I performed multiple regression analyses ( $N=85$ ). Of the 90 participants, 4 parents completed only 2 surveys and I excluded data from 1 additional person whose scores were extreme; thus, data from 85 are included in the moderation analyses.

Prior to interpreting the results of the regression, I checked several factors. First, I tested for randomness of missing data using the Expectation Maximization method (Tabachnick et al., 2019), finding that missing data were completely random with no more than 10% of the observations missing. Second, I inspected a normal probability plot of standardized residuals as well as a scatterplot of standardized residuals against a standardized value; these indicated that assumptions of normality, linearity, and homoscedasticity of residuals were met. Third, I checked for outliers and deleted one univariate outlier. Lastly, prior to adding interaction terms, I checked for tolerance of independent variables, finding them to be high (above 0.2). Variance

inflation factor (VIF) values were below 5, indicating that multicollinearity was not a concern (Tabachnick et al., 2019). I also calculated zero-order correlations to assess the magnitude and direction of their associations, explore the underlying relationships, and identify any potential issues in the data.

## Results

From the correlation analysis (Table 2), I found that play factors contributing to parents' willingness to allow risk and tolerance for children's risk taking had a significant negative correlation ( $r = -.33, p < .001$ ). This indicates that parents with high risk tolerance were less influenced by personal and environmental factors than other parents. The correlation between parents' coping self-efficacy and risk tolerance was statistically significant ( $r = .22, p = .021$ ; [i.e., parents who had high coping self-efficacy tended to have higher tolerance for risk in play]). However, parents' perceptions of children's coping ability were not significantly correlated with their risky play tolerance ( $r = .16, p = .08$ ).

**Table 3.2.** *Correlations among Study Variables*

Measures	TRiPS	FAC-TRiPS	CSES	CI	FAC-TRiPS*CSES	FAC-TRiPS*CI
TRiPS	-	-.33**	.22*	.16	-.35**	-.32**
FAC-TRiPS	-.33**	-	.06	-.04	.98**	.99**
CSES	.22*	.06	-	.42**	.07	.08
CI	.16	-.04	.42**	-	-.01*	-.02

*Note.*  $N=85$ . TRiPS = Tolerance for Risk in Play Scale. FAC-TRiPS= Factors Affecting TRiPS. CSES= Coping Self Efficacy Scale. CI= the Coping Inventory.

\* $p < .01$ . \*\* $p < .001$ .

The multiple regression used to test the full conceptual model revealed that predictors (i.e., play factors contributing to parents' willingness to allow risk, parental coping self-efficacy, parental perceptions of child's coping ability, FAC-TRiPS\*CSES, and FAC-TRiPS\*CI) accounted for nearly 20% of the variability in parents' tolerance of risky play ( $N = 85, R^2 = .20$ ,

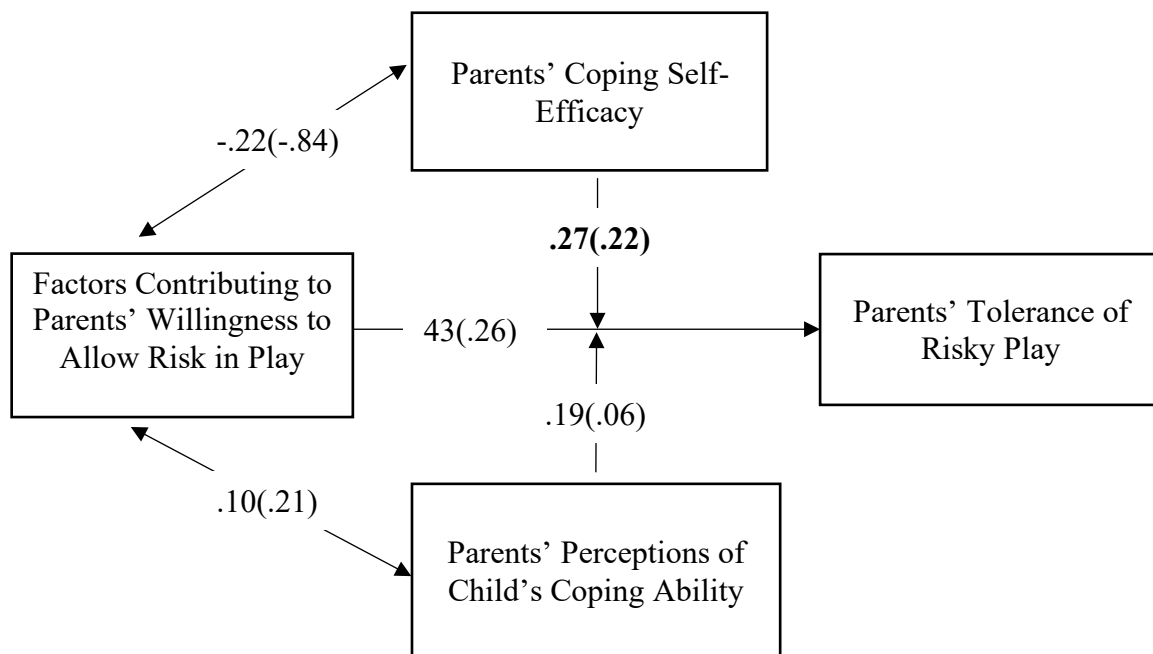
[ $f^2=.24$ ], adjusted  $R^2 = .14$  [adjusted  $f^2 = .28$ ]). The Cohen's  $f^2$  of approximately 0.24, suggests a moderate relationship between the predictors and the dependent variable. The overall model significantly predicted parents' level of tolerance for risky play ( $F(5, 79) = 3.84, p < .001$ ).

Unstandardized ( $B$ ) and standardized ( $\beta$ ) regression coefficients are reported in Table 3, Figure 2.

**Table 3.3.** Standardized ( $B$ ) and Unstandardized ( $\beta$ ) Regression Coefficients Predicting Parents' Tolerance for Risk in Play

Variable	B	SE	$\beta$	95% CI	$p$ -Value
FAC-TRiPS Score	.43	1.56	.26	[-2.66, 3.53]	.78
CSES Score	.27	.13	.22	[.002, .53]	.05*
CI Score	.19	.36	.06	[-.53, .91]	.61
FAC-TRiPS*CSES	-.22	.14	-.84	[-.49, .06]	.12
FAC-TRiPS*CI	.10	.45	.21	[-.79, .10]	.82

Note.  $N=85$ . TRiPS = Tolerance for Risk in Play Scale. FAC-TRiPS= Factors Affecting TRiPS. CSES= Coping Self Efficacy Scale. CI= the Coping Inventory. SE= Standard Error. CI= Confidence Interval for B. \* $p < .05$ .



**Figure 3.2.** Moderation Model with Unstandardized and Standardized Regression Weights  $B$  and  $(\beta)$

Note. Boldface =  $p < .05$ .

Hypothesis 2 was supported as parents' coping self-efficacy significantly moderated the relationship between factors affecting parents' willingness to promote risky play and their tolerance for encouraging children to engage in risk taking ( $\beta = .22, p = .05$ ). Put differently, parents' coping self-efficacy influenced the nature and strength of the relationship between factors affecting their willingness to allow risky play and their support of their children's participation in risky play.

Hypothesis 3 was not supported as parental perceptions of children's coping ability did not moderate factors affecting parents' willingness to allow risky play and their support of their children's participation in risky play ( $\beta = .06, p = .61$ ) (Figure 2). After adding interaction terms to the regression model, the main effect of play factors contributing to parents' willingness to allow risk on risk tolerance among parents was not statistically significant ( $\beta = .26, p = .78$ ). Thus,

Hypothesis 1 was not supported. Table 4 presents means, standard deviations, and ranges, along with relevant descriptive findings for the instruments administered in the study.

**Table 3.4.** *Descriptive Information for the Instruments Administered*

<b>Instruments</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Range</b>	<b>Relevant Descriptive Findings*</b>
Tolerance of Risk in Play Scale (TRiPS) (N=90)	.34	1.41	-2.79-3.80	<ul style="list-style-type: none"> <li>• Parents in the sample exhibited a moderate level of tolerance for risky play.</li> <li>• Items “play on equipment if you thought there was the potential s/he may break a bone.” and “light a fire independently.” were relatively difficult to endorse.</li> <li>• Items like “school/daycare excursions” and “let child manage challenges before getting involved” were easy to endorse among the sample.</li> </ul>
Factors Contributing to Parents’ Tolerance of Risk in Play (FAC-TRiPS) (N=90)	.05	.87	-2.49-2.47	<ul style="list-style-type: none"> <li>• The FAC-TRiPS items included a range of factors influencing parents’ willingness to allow risk (from internal fears and feelings to societal and cultural concerns).</li> <li>• The person average closely matched the item average, suggesting that item spread sufficiently captured level of risk tolerance among parents in the sample.</li> <li>• Items “negative judgement” and “cultural views of play” were relatively difficult to endorse.</li> <li>• Items “child could be injured” and “child could get harmed by someone” were easy to endorse.</li> </ul>
Coping Self-Efficacy Scale (CSES) (N=85)	6.35	1.21	3.31-9.19	<ul style="list-style-type: none"> <li>• Findings suggest that the sample had moderate to high coping self-efficacy.</li> <li>• Item “Get emotional support from community organizations</li> </ul>

Coping Inventory (CI) (N=85)	3.34	.48	2.0-4.1	<p>or resources” received the lowest score.</p> <ul style="list-style-type: none"> <li>• Item “Pray or meditate” received the highest score.</li> <li>• Item “Child can manage high stress situations.” had the lowest score.</li> <li>• Item “Child plays with other children (does not avoid them).” had the highest score.</li> <li>• While the majority may have moderately high scores, there was variability in perceptions of child coping ability within the sample.</li> </ul>
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*Notes.* TRiPS and FAC-TRiPS values are expressed in the table as logits while the CSES and CI are expressed as measure scores.

\*Findings related to TRiPS and FAC-TRiPS were drawn from the Wright map generated by Winsteps (version 4.4.4; Linacre 2020), whereas the findings related to the CSES and CI were drawn from descriptive analyses conducted using SPSS Statistics version 29 (IBM, 2022).

## **Discussion**

The aim of this study was to examine a predictive model of parents’ tolerance for risky play. I hypothesized that various internal and external factors would influence parents’ willingness to tolerate risk in play. I also hypothesized that parents’ coping self-efficacy and perceptions of their children’s coping would moderate this relationship.

The results of the correlation analysis indicated that play factors contributing to parents’ willingness to allow risk were negatively correlated with risk tolerance. That is, parents agreed that factors like fear of negative judgement from others, potential injury, and potential for long-term repercussions to the child contributed to their negative views and failure to allow their children to engage in risky play. In contrast, parents with fewer fears or negative beliefs were less likely to be influenced by others and were more willing to promote risk taking. This finding supports previous research (Brussoni & Olsen, 2013; Little et al., 2011; Wyver, Tranter, et al.,

2010) exploring factors such as fear of injury, liability, stranger-danger, and beliefs about parenting as barriers to promoting risky play.

While play factors contributing to parents' willingness to allow risk was initially statistically significant, the association between play factors contributing to parental willingness to allow risk taking and risk tolerance is complex. Thus, when interactions among variables were considered, the main effects were no longer statistically significant.

The findings from this study demonstrated that parents' coping self-efficacy shapes the extent to which they allow their children to engage in risky play. Specifically, parents with high self-efficacy were more inclined to perceive less stress in such situations and were more apt to allow their children to engage in risky play. Presumably they are better at turning challenges into opportunities for their children. On the other hand, parents who were less confident in their coping abilities were more likely to prevent their children from engaging in risky play. This aligns with Bandura's (1986) social cognitive theory that underscores the pivotal role of self-beliefs in shaping human thinking, motivation, and behaviors.

In contrast, parental perceptions of their children's coping ability did not have a moderating effect on the interaction between play factors contributing to parents' willingness to allow risk, and their tolerance for, risky play. When investigating zero-order correlations, the relationship between parental perceptions of children's coping ability and their risk tolerance was not statistically significant. The reason for this finding is unclear. Numerous researchers (Castro et al., 2015; Castro et al., 2015; Diener et al., 2008; Halberstadt et al., 2008; Kinlaw et al., 2001; Kortlander et al., 1997; Perez Rivera & Dunsmore, 2011; Prins, 1986; Zatz & Chassin, 1985) have found that parents' beliefs about children's emotions and coping ability influence their decisions and shape their children's behaviors. Further, prior researchers (Bandura, 1986;

Cassano et al., 2007; Fabes et al., 2001; Gottman et al., 1997; Hudson et al., 2008; Lunkenheimer et al., 2007; Morey & Gentzler, 2017) indicated that parents' perceptions of their children's ability to cope with challenge and adversity were reflected in their behaviors and daily interactions.

In contrast, and more directly related to risky play, multiple researchers (Christensen & Mikkelsen 2008; Jackson & Scott 1999; Wyver, Tranter, et al., 2010) asserted that adults' assumptions about children's perceived vulnerabilities and emerging skills often prompted increased surveillance and risk aversion practices. Drawing on all these findings, I continue to believe that it is crucial to explore the influence of parents' perceptions of their children's coping abilities on their decisions around risky play. This relationship warrants additional research, perhaps with a larger sample and/or population.

It is worth noting that the Coping Inventory asks parents to rate their children's behaviors on a 5-point Likert scale. This approach may have limitations for fully capturing the perspectives of parents from different ethnic, language, and cultural backgrounds. Further, Likert methods may not allow for detailed and nuanced responses (Summers et al., 2019). In future research, it may be beneficial to study this construct using mixed or qualitative approaches to gain a deeper understanding.

This study illustrates how Saudi parents navigate children's risk taking in play and captures various factors that influenced their decision-making. In line with previous work (Duell & Steinberg, 2019; Holton, 2004; Mohr et al., 2010; Van Duijvenvoorde & Crone, 2013), my findings suggest that risk tolerance is a multidimensional, complex process. This study, alongside previous research (Creighton et al., 2017; Little, 2010; Niehues et al., 2015, 2016; Niehues et al., 2013) highlights the complex interplay between parental beliefs and experiences,

actual practices, and social and cultural influences when it comes to allowing children to engage in age-appropriate risk in play environments.

Although Ahmad (2020) reported that Arab parents believe in the importance of play and hold strong regard for children's participation in various play pursuits, my participants varied in their acceptance of risky play. While a majority reported a moderate level of risk tolerance, several factors (e.g., coping self-efficacy, parental self-perceptions, and expectations of others in an interconnected culture) likely created tension between a desire to ensure safety and promoting risky play. This aligns with the results of Jelleyman et al. (2019), Little (2015), and Niehues et al. (2015) who found that Western parents valued risk in developing life skills, yet when confronted with particular risky play activities, were reluctant to support their children's participation in such play.

### **Limitations and Future Directions**

In this study, I developed, and tested aspects of, a predictive model of parental tolerance of risky play. However, the study sample was relatively small and limited to parents of typically developing children from Saudi Arabia. Participants were mostly middle class with relatively high levels of education. The model should be tested with parents from other ethnic groups as well as parents of children with motor challenges or sensory processing differences. While the results are in line with some existing literature regarding the influence of different personal and environmental contexts on parents' decisions, other factors like parent gender, culture, and perceptions of child's risk tolerance are worth exploring in future research. Further, future researchers should seek to validate the model with a bigger sample and by employing more sophisticated data processing tools such as structural equation modeling. Additionally, this

study relied on online questionnaires for data collection. Future researchers may consider a combination of quantitative and qualitative methods.

Lastly, in this exploratory work, I examined only a part of the proposed model. I focused on testing relationship among constructs within the model; however, I did not test the influence of the proposed contexts (i.e., personal, familial/community, sociocultural) on those interactions. While this work has contributed to a better understanding of the impact of contextual factors on risky play, I acknowledge the intricate nature of human behaviors and interactions, particularly in the context of parenting and children. There remains a need for future study in which researchers adjust or refine constructs to develop a more comprehensive model. Findings of this study extend understanding of personal and environmental contexts affecting parents' decisions about playful risk taking and may guide future interventions designed to support parents and caregiver in navigating these decisions and promote risky play.

### **Conclusion**

This work is useful for gaining insights into the impact of context on parents' willingness to promote children's participation in risky play. If these findings are correct, one can conclude that parents' tolerance for risk in play is a multifaceted construct shaped by internal fears and feelings, coping responses, as well as personal and cultural views of play, risk, and parenting. The findings invite further exploration of broader societal and cultural influences on how parents perceive and approach their children's participation in risky play environment

## **Chapter IV: Validation of an Instrument Measuring Factors Affecting Saudi Parents' Tolerance of Risky Play: Rasch Analysis (in-press)**

### **Summary**

**Importance:** Benefits of children's participation in "risky play" are broadly recognized.

However, most related research originates in Western countries; none focuses on outdoor play in Eastern countries, including Saudi Arabia. Further, while the literature identifies varying perspectives on risky play among parents, there is no objective measure to assess personal, situational, and cultural factors shaping their risk tolerance.

**Design:** Instrument development.

**Objective:** To establish construct validity and internal reliability of data gathered with the Factors Affecting Tolerance for Risk in Play Scale (FAC-TRiPS).

**Participants:** 90 Saudi parents with children ages 7 to 10 years.

**Setting:** Online survey.

**Results:** The FAC-TRiPS includes 17 items; we used Rasch modeling (Winsteps 4.4.4) to analyze the data. Construct validity: Item Fit analysis revealed data from 15 of 17 items (88%) conformed to Rasch model expectations. Item difficulty closely matched parents' risk tolerance level. The principal components analysis of residuals demonstrated observed variance (49.6%) closely matched expected variance (49.7%). The first contrast's unexplained variance had an eigenvalue slightly greater than 2.5, suggesting possible multidimensionality. Internal reliability: Person reliability index was 0.90.

**Conclusions and Relevance:** Preliminary analysis suggests that FAC-TRiPS yields valid and reliable data measuring factors influencing parents' risk tolerance. Further research is needed.

**What This Article Adds**, the FAC-TRiPS has utility for practitioners seeking to explore parents' beliefs about risky play. This study contributes to knowledge of how Eastern parents perceive risky play and facilitates an understanding of the complex nature of parenting when determining whether to allow children to participate in such activities.

**Keywords:** Risky play, risk-taking, outdoor play, parents' perceptions, Rasch analysis

### **Background and Literature Review**

Within occupational therapy, play is viewed as a primary occupation of childhood through which children achieve important developmental skills (CAOT, 1996; Lynch & Moore, 2016). Play is often thought of as being fun, spontaneous, safe, and uncertain (Bundy, 1997). Risky play is a form of play that is defined as “thrilling and exciting forms of physical play that involve uncertainty and a risk of physical injury” (Sandseter, 2010, p.22). Risky outdoor play has been linked to both physical and cognitive development (Barker et al., 2014; Brussoni, Olsen, et al., 2012; Gray et al., 2015; Sandseter, 2007; Sandseter & Kennair, 2011), being cited as helping children of all abilities develop confidence, resilience, and self-regulation, among other beneficial life skills (Bundy et al., 2015).

Despite the widely recognized benefits of risky play, children nowadays often experience limited opportunities to take reasonable risks in play (Brussoni et al., 2015; Bundy et al., 2008; Gray et al., 2015; Little et al., 2011; Tremblay et al., 2015). Beetham et al. (2019) noted that children with disabilities, in particular, experience disparities and fewer opportunities to engage in risky play than their typically developing peers.

Researchers within and outside of occupational therapy (Wyver, Bundy, et al., 2010; Wyver, Tranter, et al., 2010) have questioned the excessive focus on safety that results in ‘surplus safety’ practices in modern societies and limits children’s access to active play experiences. Within the

risky play literature, there has been a paradigm shift towards balancing the duty of care and dignity of risk (Brussoni, Brunelle, et al., 2015; Brussoni, Olsen, et al., 2012; Sandseter & Kennair, 2011). Duty of care is a legal term that requires individuals to take reasonable care and avoid causing harm to others (Merriam-Webster, n.d.). Ibrahim and Davis (2013) defined ‘dignity of risk’ as “the principle of allowing an individual the dignity afforded by risk-taking, with subsequent enhancement of personal growth and quality of life” (p.189). In the context of risky play, parents’ duty of care and responsibility towards protecting the well-being of their children should not overshadow, or lead to restricting, children’s choices to take risks out of fear of failure or negative outcomes (Brussoni, Olsen, et al., 2012; Niehues et al., 2016). Because balancing the two concepts can be a complex task that requires consideration of children’s needs and abilities while maintaining their safety and autonomy, there has been a strong interest in parents’ perceptions of their children’s engagement in risky activities.

The literature includes several internal and external factors that influence how parents react to their children’s participation in such play. For instance, Little (2010) and Niehues et al. (2015) interviewed Australian parents, mostly mothers, to understand their views of the benefits of risky play and their attitudes towards children’s risk taking. While parents acknowledged the potential benefits of children engaging in age-appropriate risk, their tolerance for risk varied depending on the situation and context (Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013). Creighton et al. (2017), on the other hand, explored how Canadian fathers of children aged 2 to 7 years perceived risk. Fathers’ responses ranged from very risk tolerant to accepting some risk taking to overly protective. These varied perspectives demonstrate that the concept of risk taking in play is multilayered and complex (Creighton et al., 2017). Creighton et al.’s (2017) study builds on the qualitative findings of Brussoni and colleagues (Brussoni, Creighton, et al., 2012;

Brussoni & Olsen, 2013) who found that fathers tended to be more tolerant of physical risk taking and viewed risky play as opportunity for risk management and emotional bonding with their children. These studies showed that mothers and fathers may have different orientations to child's risky play (Brussoni, Creighton, et al., 2012; Creighton et al., 2017; Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013).

To address the need to promote adults' tolerance of risky play, Bundy and colleagues (Bundy et al., 2011) developed a "Risk Reframing" workshop as a component of the Sydney Playground Project (SPP). Through a series of reflective activities, these intervention workshops aimed to promote risk as a multidimensional concept that presents risky play as an avenue for adventure, opportunity, and learning (Niehues et al., 2013) rather than only a source of danger or injury. In light of the promising findings of the in-person workshops, Brussoni et al. (2021) carried out a randomized control trial titled "Go Play Outside!" to determine the efficacy of a web-based and in-person versions of the risk reframing intervention with 451 mothers. Compared to those in the control group, mothers who participated in the in-person workshop expressed significantly greater risk tolerance ( $\beta=.22$ , 95% CI 0.03-0.40;  $p = .02$ ) 1 week after the intervention. In contrast, mothers who participated in the web-based intervention expressed even greater risk tolerance than mothers in the control group 1 week after the intervention ( $\beta=.25$ , 95% CI 0.08-0.42;  $p = .004$ ) and 3 months post intervention ( $\beta=.24$ , 95% CI 0.06-0.42;  $p = .007$ ) (Brussoni et al., 2021).

In a large, cross-sectional study, Jelleyman et al. (2019) examined 1,366 New Zealand parents' perceptions and practices pertaining to risky play and independent mobility using a set of validated measures. Parents in the study expressed concerns over the restricted safety regulations, but still stressed the importance of closely supervising their child's play activities.

This study revealed a discrepancy between parents' beliefs about the advantages of risky play and their children's actual engagement in such activities, confirming qualitative findings about parents' conflicting feelings when it comes to promoting risk taking and balancing safety (Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013). Like risk averse Western parents, authoritative parents in Turkey had supportive thoughts about the benefits of engaging in risky play; however, these beliefs did not translate into practice, showing again a reluctant stance toward risk taking in play (Cevher-Kalburan & Ivrendi, 2016).

In these quantitative studies, the primary outcome measure was the Tolerance for Risk in Play Scale (TRiPS). The TRiPS is a group of instruments developed by Bundy and colleagues as part of the SPP (Hill & Bundy, 2014) and includes caregiver and teacher versions. The scale was developed based on the Norwegian model of risky play (Sandseter, 2007). The caregiver version (TRiPS-R) consists of 30 items measuring adult's tolerance or change in tolerance for risk in play. TRiPS-R was later revised and validated using Rasch modeling (Grady-Dominguez et al., 2020). Rasch analysis revealed excellent evidence for validity and internal reliability of the scale, with a person reliability index of 0.88. Data from 96.7% of the items conformed to Rasch model assumptions, suggesting strong construct validity (Grady-Dominguez et al., 2020). Grady-Dominguez et al (2020) made several improvements to enhance the sensitivity of the TRiPS by adding new items to capture individuals with low tolerance for risk. They also revised items that were originally specific to Australian culture to improve the applicability and usability of the instrument across different cultures.

The body of literature on risky outdoor play includes qualitative and quantitative studies examining parents' perceptions of risky play and variables hindering children's engagement in such play (Brussoni, Olsen, et al., 2012; Creighton et al., 2017; Jelleyman et al., 2019; Little et

al., 2012; Niehues et al., 2013), mostly originating in Western cultures. Although research in Eastern cultures has begun to emerge (Cevher-Kalburan & Ivrendi, 2016), there is currently no research specifically focusing on outdoor play in Saudi Arabia. And, while the TRiPS-R has been useful to measure adults' tolerance for risky play, there is no objective measure to assess personal, situational, and cultural factors that influence their risk tolerance. Therefore, for this study, we developed the Factors Affecting Tolerance for Risk in Play Scale (FAC-TRiPS). The purpose of this study is to establish evidence for construct validity and internal reliability of data gathered with the FAC-TRiPS.

### **Research Questions**

1. What is the evidence for construct validity of data gathered with the FAC-TRiPS?
2. What is the evidence for internal reliability of data gathered with the FAC-TRiPS?

### **Methods**

The present study is a cross sectional quantitative study to develop an instrument to measure personal and environmental factors influencing parents' risk appraisal and tolerance. We obtained an IRB (Protocol # 3276) approval from Colorado State University before the commencement of data collection.

### **Participants**

Inclusion criteria were as follows: parents who are Saudi, have a typically developing child aged between 7 and 10, able to read and speak English. The sample consisted of 90 parents: 45 males and 45 females from different households. Participants ranged in age from 27 to 51 years with a mean of 35.5 years. Further detail of sample characteristics is provided in Table 1. We excluded participants who did not meet the inclusion criteria. To determine the sample size, we followed guidelines established by Wright and Stone's (1979) for Rasch studies. These guidelines

suggest that to maintain stability in person measures within a range of  $\pm\frac{1}{2}$  logits at a 95% confidence interval, it is advisable to have a sample size ranging from 64 to 144 for polytomies (rating scale models) (Linacre, 1994).

**Table 4.1. Sample Characteristics**

Variable	Total (n = 90)	Parent Sex, n (%)	
		Male 45 (50%)	Female 45 (50%)
<b>Parent Age</b> (in years), M (SD)	35.5 (5.0)	36.4 (5.3)	34.7(4.7)
<b>Education</b> , n (%)			
High School	6 (6.7%)	2 (2.2%)	4 (4.4%)
Bachelor's Degree	30 (33.3%)	11 (12.2%)	19 (21.1%)
Master's Degree	37 (41.1%)	20(22.2%)	17 (18.9%)
Doctorate Degree or higher	17 (18.9%)	12(13.3%)	5 (5.6%)
<b>Employment Status</b> , n (%)			
Employed	70 (77.8%)	40 (44.4%)	30 (33.3%)
Unemployed	6 (6.7%)	2 (2.2%)	4 (4.4%)
Housewife	7 (7.8%)	0 (0.0%)	7 (7.8%)
Student	6 (6.7%)	2 (2.2%)	4 (4.4%)
Retired	1(1.1%)	1 (1.1%)	0 (0.0%)
<b>Number of Children</b> , n (%)			
One child	21 (23.3%)		
Two children	39 (43.3%)		
3-4 children	19 (21.1%)		
More than 4 children	11 (12.2%)		
<b>Child Sex</b> , n (%)			
Male	54 (60%)	56 (12.9%)	61 (14.0%)
Female	35 (38.9%)	41 (9.4%)	62 (14.3%)
Prefer not to say	1 (1.1%)	112 (25.7%)	76 (17.5%)
<b>Child Age</b> (in years), M (SD)	8.26 (1.11)		
<b>Most Risk Tolerant Parent</b> , n (%)			
Mother	18 (20%)	5 (5.6%)	13 (14.4%)
Father	60 (66.7%)	38 (42.2%)	22 (24.4%)
Neither	12 (13.3%)	2 (2.2%)	10 (11.1%)
<b>Parent who has most influence on child's RP</b> , n (%)			
Mother	25 (27.8%)	10 (11.1%)	15 (16.7%)
Father	61 (67.8%)	34 (37.8%)	27 (30.0%)
Other	4 (4.4%)	1 (1.1%)	3 (3.3%)

*Note.* RP= risky play, M = mean; SD = standard deviation

**Instrument**

The FAC-TRiPS includes 17 items (Table 2) that each address “How likely is this to influence your decision to allow your child to engage in risky play?” The FAC-TRiPS captures a range of personal and environmental factors that influence how parents define, think about, and encourage risk-taking in play. Each item uses a 5-point Likert scale that ranges from ‘never a factor’ (1), ‘rarely a factor’ (2), ‘neutral’ (3), ‘sometimes makes me say no’ (4) to ‘definitely makes me say no’ (5). To develop these items, we conducted a focus group with parents of children 3 years and above as well as reviewing current literature on risky play and consulting two experts who have specialized knowledge in the subject of outdoor play and have focused their research on parent and caregiver perceptions of risky play. We piloted the questionnaire with 49 US parents of children aged 7 to 10 years to examine the meaningfulness of questions; ensure clarity of wording; and uncover practical challenges of using the survey.

### **Procedures**

We recruited participants through snowball sampling. The first author began recruiting participants purposively through personal communications. Then, we asked these participants to help us recruit future participants through sending the survey link to their acquaintances. Participants completed the FAC-TRiPS online using Qualtrics XM software (Qualtrics, Provo, UT, 2020).

### **Data Analysis**

We used Rasch software (Winsteps version 4.4.4; Linacre 2020) to analyze the data. Rasch analysis is a psychometric technique used to evaluate the strength and quality of assessment data. Rasch modeling employs principles associated with item response theory to assess individuals’ performance on tests and questionnaires. Rasch assumes that an item response is a result of an interaction between the level of difficulty presented by the item and the

extent to which a respondent possesses the latent trait being measured, in this case factors affecting tolerance of risky play (Bond et al., 2021). In Rasch, both item difficulty and person tolerance are on the same scale and expressed in logits (log odds probability units). We used the Rasch model and tested the degree to which participants' responses met two assumptions; (1) easy items (in this case factors influencing parents' risk tolerance) are easy for all parents to endorse, and (2) parents who have greater risk tolerance would be more likely to endorse difficult items.

### ***Construct Validity***

To measure construct validity, we examined various sources including point-measure correlations, goodness-of-fit statistics, item spread, and principal components analysis. In the next section, we outline the criteria we followed for each source based on Linacre's (2002) recommendations.

**Logic of Hierarchy.** To test if FAC-TRiPS items reflect a logical hierarchy of item difficulty measured, we examined the extent to which the difficulty of items reflected theory or logic (Linacre, 2002).

**Item Spread.** To determine the degree to which the range of FAC-TRiPS item difficulty matched the range of parent tolerance, we examined the Wright-map, a Winsteps-generated map of person-item hierarchies. Rasch sets the mean item difficulty at 0.0. Logits. A match between mean item measure and mean person measure indicates a match between person ability and item difficulty (Bond et al., 2021). Large gaps in the item hierarchy suggest a need for more items to capture the range of factors influencing risk tolerance in the sample. Items that are at the same level of difficulty (i.e., fall on the same line) may be redundant (Bond et al., 2021).

**Point-Measure Correlations.** To assess whether responses to the FAC-TRiPS items correlate positively with increased total measure, we examined point-measure correlation coefficients between individual scores and overall item measure scores to ensure that items align with the overall construct, in this case, factors influencing risk tolerance in play. Positive point-measure correlations suggest that items correspond with, and contribute positively to, the construct (Bond et al., 2021).

**Fit Statistics.** We examined two pairs of fit statistics: infit and outfit, both expressed as mean-square (MnSq) and standardized (Zstd) values. These provide evidence of how well the data conform to Rasch model assumptions. Ideally, MnSq values would be 1 and Zstd values 0 but the researchers determine the acceptable range (Bond et al., 2021). Because of the preliminary nature of this study, for both items and persons, we accepted MnSq values between .5 and 1.5 and Zstd values between -2 and +2 (Bond et al., 2021).

**Principal Components Analysis.** While Rasch modeling can be used to examine the extent to which an assessment measures a unidimensional construct, a PCA of residuals, provided by Winsteps, can be used to examine the extent to which the construct is *not* unidimensional. Thus, the PCA can contribute to understanding items that fail to conform to Rasch expectations (Bond et al., 2021). We examined multiple sources to assess unidimensionality of the FAC-TRiPS. Unexplained variance of the first contrast less than 2.5 eigenvalue units, observed variance closely matching expected variance, and disattenuated correlation coefficients greater than 0.3 all suggest unidimensionality (i.e., provide evidence that any additional dimensions of the data are not strong) (Bond et al., 2021).

**Differential Item Functioning.** DIF is used to test the extent to which items function in systematically different ways for different groups. A Rasch-Welch probability of  $p \leq .05$  and DIF

contrast  $> .43$  reveals significant differences on items (Zwic et al., 1999). In this study, we compared DIF based on sex of parents.

### ***Internal Reliability***

Secondly, we examined evidence for internal reliability. We calculated a person reliability index and strata (i.e., the number of levels of the latent trait that an assessment can distinguish). We sought a person reliability index of  $\geq 0.80$  and a strata value of  $\geq 2.0$  (RQ 2.1). We calculated strata using the formula  $\text{Strata} = (4G+1)/3$ , where  $G$  = person separation index (Bond et al., 2021).

## **Results**

Rasch modeling is an iterative process (Bond et al., 2021). Iterative analyses revealed that 2 of the 17 items failed to conform to Rasch expectations. Following careful consideration, we eliminated nine individual item responses of the 1530 individual responses ( $90 \times 17$ ) with MnSq and/or Zstd values outside the accepted range. While removing these misfitting responses significantly improved person fit, it did not change item fit. What follows is a report of the results of the final iteration in which we continued to include all 17 items.

### **Construct Validity**

#### ***Logic of Hierarchy***

Visual inspection of the Wright map (Figure 1) showed that the items formed a logical hierarchy (Bond et al., 2021). The 17 items presented from easiest (internal fears) to most difficult (external factors). That is, items such as “*fear of negative judgement from others*” and “*cultural views that play activity is not appropriate or unsafe*” were relatively difficult to endorse compared with items like “*fear that my child could be injured*” and “*fear that I could*

*not rescue my child if something happened.*” Overall, the hierarchy of the FAC-TRiPS items was logical.

### ***Item Spread***

The mean person measure was approximately 0.25 (Figure 1), close to the item mean of 0.0 (on the figure S= 1 standard deviation and T= 2 standard deviations). Eleven participants obtained raw scores above the range of item difficulty while 12 obtained scores below the range of item difficulty. There were multiple gaps along the hierarchy and several items appeared at similar levels of difficulty (Bond et al., 2021).

### ***Point-Measure Correlations***

All items demonstrated positive point-measure correlations indicating that each item of the FAC-TRiPS aligned with the latent trait.

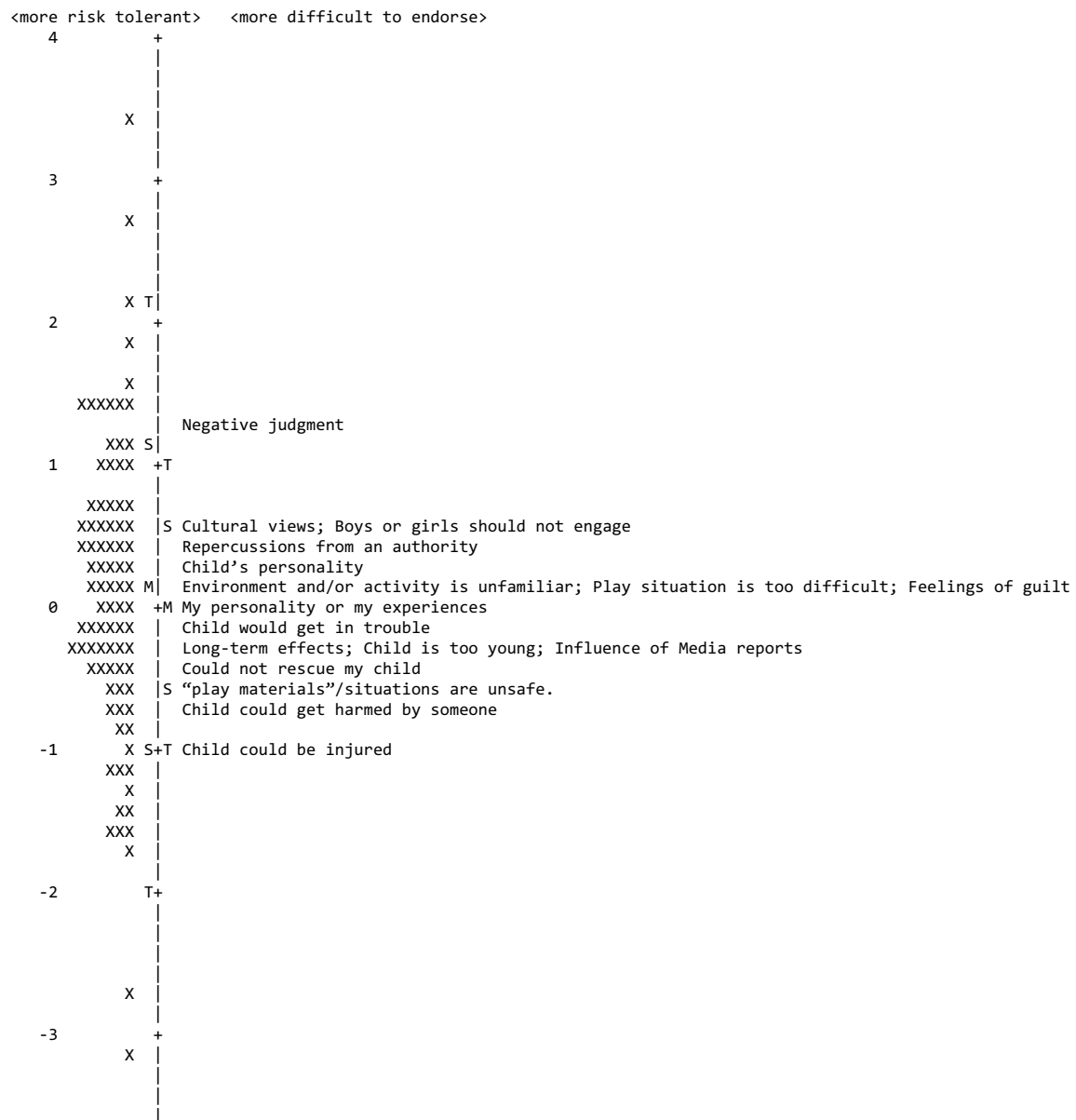
### ***Fit Statistics***

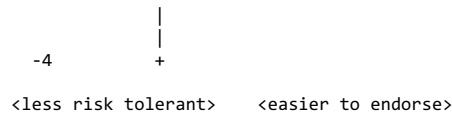
Data from 15 of the 17 items (88%) conformed to Rasch model expectations. Specifically, items “*fear of negative judgment*” and “*fear of repercussions from an authority (e.g., police)*” failed to fit as the mean and/or standard error values for either infit or outfit were outside of the acceptable ranges (Table 2).

### ***Principal Components Analysis***

The PCA of residuals demonstrated that observed variance (49.6%) closely matched expected variance (49.7%). The unexplained variance for the first contrast in the PCA had an eigenvalue of 2.7. All items had high disattenuated correlations ( $>.3$ ). The first contrast’s unexplained variance had an eigenvalue slightly greater than Linacre’s (2018) critical value of 2.5, suggesting possible multidimensionality; however, the raw variance explained by the first contrast was only 8.1%.

To further assess the unidimensionality of the FAC-TRiPS items, we performed an exploratory factor analysis (Brown, 2015). After comparing the eigenvalues of the actual data to those from the factor analysis, the first factor had a larger eigenvalue than the corresponding eigenvalue from the random data (eigenvalue= 6.73). A second factor had a slightly large eigenvalue than the corresponding eigenvalue from the parallel analysis (eigenvalue= 1.33). This indicates that EFA results support a two-factor solution. However, the first factor is clearly dominating, which suggests that further analysis of the instrument is needed.





**Figure 4.1.** *The Person – Item (Wright) Map of the FAC-TRiPS*  
*Note.* M = mean; S = 1 standard deviation; T = 2 standard deviations.

**Table 4.2.** *Item Measures and Fit Statistics for the FAC-TRiPS*

<i>Item</i>	<i>Infit MSQ</i>	<i>Infit ZsTD</i>	<i>Outfit MnSQ</i>	<i>Outfit ZsTD</i>	<i>Measure</i>
<b>1. Fear of negative judgment from others.</b>	2.23	6.29	2.66	6.91	1.24
<b>2. Fear of repercussions from an authority (e.g., Police).</b>	1.39	2.52	1.34	2.17	0.48
3. Fear that my child could be injured	1.29	1.77	1.25	1.50	-0.96
4. Fear that I could not rescue my child if something happened	1.21	1.38	1.15	.98	-0.5
5. Fear that my child could get harmed by someone (e.g., Abduction).	1.16	1.04	1.14	.92	-0.67
6. Feelings that boys or girls should not engage in this risky play activity.	1.14	.98	1.11	.74	0.55
7. Fear that the play or play situation is too difficult for my child	.91	-.58	.91	-.58	0.1
8. My personality or my experiences in similar activities	.88	-.82	.88	-.82	0.04
9. Feelings of guilt that something unexpected/bad could happen to my child or other children.	.86	-1.01	.87	-.90	0.07

10. Fear that my child would get in trouble from engaging in the activity	.71	-2.24	.84	-1.08	-0.12
11. Cultural views that play activity is not appropriate or unsafe.	.83	-1.21	.82	-1.23	0.63
12. Fear of long-term effects, repercussions on my child.	.83	-1.20	.80	-1.42	-0.34
13. Feelings that my child's personality would get in the way.	.79	-1.56	.81	-1.32	0.34
14. Feelings that "play materials"/situations are unsafe.	.80	- 1.37	.76	-1.68	-0.51
15. Influence of Media reports of children getting hurt/injured/kidnapped	.78	- 1.60	.76	-1.71	-0.22
16. Feelings that my child is too young to engage in this risky play activity.	.77	- 1.64	.77	-1.64	-0.28
17. Fear that the environment and/or the activity is too unfamiliar.	.63	- 2.96	.64	-2.79	0.15

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*Note.* Boldface text represents the items that did not fit the Rasch model.

### ***Differential Item Functioning***

Three items were different between fathers and mothers. "*Fear of negative judgment from others*" and "*fear of repercussion from an authority (e.g., police)*" had significant DIFs ( $t = -2.98, p = .004$ ;  $t = -2.65, p = .001$ ), revealing that these items were easier for mothers than fathers to endorse as factors that influenced their decisions. However, significant DIF for

*“influence of media reports of children getting hurt/injured/kidnapped,”* indicated that this item was easier for male parents than female parents to endorse ( $t=2.08, p = .04$ ).

## **Internal Reliability**

### ***Person Reliability Index***

The person reliability index was 0.90, providing excellent evidence for internal reliability.

### ***Strata***

We found an item separation value of 3.86, corresponding to a strata value of 4.35, suggesting that the FAC-TRiPS differentiated more than four levels of parent tolerance.

## **Discussion**

The purpose of this study was to examine evidence for construct validity and internal reliability of data collected with the FAC-TRiPS with Saudi Arabian parents. Evaluation of multiple sources of construct validity and internal reliability revealed that the FAC-TRiPS produced adequate evidence of validity and reliability. To our knowledge, this is the only study that included an equal representation of mothers' and fathers' perspectives of risk taking among children.

Consistent with literature on factors influencing parents' definitions of risk and decisions around risky play (Brussoni et al., 2012; Cevher-Kalburan & Ivrendi, 2016; Hill & Bundy, 2014; Sandseter, 2007; Sandseter & Kennair, 2011), items on the FAC-TRiPS form a logical hierarchy. The order of items along the logit measure and pattern of difficulty aligned with the theoretical understanding of the complexity of risk, risk taking, and risky play (Creighton et al., 2017; Little, 2010; Niehues et al., 2015, 2016; Niehues et al., 2013). Factors can vary in their impact and interact in complex ways, creating a spectrum of influences and these factors (items) together

form a construct (Tavakol & Wetzel, 2020). In the context of risk tolerance in play, various factors may interplay and contribute to an individual's overall risk tolerance (construct), making it more of a continuous and nuanced concept. Specifically, the 17 items presented from easiest (fear of injury) to most difficult to endorse (external/cultural factors). Prior studies indicated that fear of injury is one of the commonly reported factors that prevents parents from promoting risky play (Brussoni & Olsen, 2013; Little et al., 2011; Wyver, Tranter, et al., 2010), which could explain why most parents in our sample agreed with the item. On the other hand, qualitative research on risky play underlined that parents' risk decisions are multifaceted and complex, shaped by different social and cultural processes (Creighton et al., 2017; Little, 2010; Niehues et al., 2015, 2016; Niehues et al., 2013).

The person mean closely matched the item mean, indicating effective person-item targeting. The Wright map provided additional evidence of how effectively the 17 items are distributed to capture a range of persons' "ability." Additionally, there were no items to measure the most risk tolerant participants. This may not be problematic as the FAC-TRiPS appeared to adequately distinguish between factors that most and least influenced parents' risk appraisal and tolerance. Having the ability to distinguish less tolerant parents from those with high to moderate degree of risk tolerance will aid in accurately determining which parents will most benefit from interventions that target factors that impact their decisions in order to increase opportunities for risk taking in play. Additionally, several items provided redundant information about the construct (Figure 1) (Bond et al., 2021). Even though some of the items assessed similar level of risk tolerance, they reflected different set of factors. For example, item "*fear that play or play situation is too difficult for my child* [factor related to environment/context]" and "*feelings of guilt that something unexpected/bad could happen to my child or other children* [factor related to

internal fears/feelings]” captured different types of influences, and thus we decided to retain them.

While all items of the FAC-TRiPS showed positive point measure correlations, two of the 17 (items 1 & 2) did not meet the criteria for fit in the final iteration. Following examination of item content, we retained the two items as they are essential to the construct. The two items capture different levels of influence (e.g., the influence of others, including friends, other parents, or authorities) on how parents make decisions about promoting risk taking in play. Previous researchers highlighted the undesirable impact of framing risk negatively (i.e., as danger) as well as societal judgment placed on parents’ acceptance of risky play (Wyver, Bundy, et al., 2010; Wyver, Tranter, et al., 2010). Thus, we believe that some parents in our sample who did find this factor to be an issue, might not be conscious of the influence of others on their decision making or might find it hard to acknowledge that influence. We hope that by taking the FAC-TRiPS, parents will reflect on their beliefs and the consequences of those beliefs, leading to a better understanding of themselves and their children. This reflective process may encourage the exploration of different approaches to manage contradicting emotions and concerns about risk taking, ultimately supporting children participation in risky play activities.

Additionally, we examined DIF as a potential way of understanding item failure to fit. We found that the failure of two of the items to fit is likely to be explained by differences between mothers and fathers. Women found it easier than men to identify “*fear of negative judgement from others*” and “*fear of repercussions from an authority (e.g., police)*” to influence their decisions about encouraging risky play. In contrast, male parents found that “*Influence of Media reports of children getting hurt/injured/kidnapped*” has a bigger influence on their decisions and actions toward risk taking. Because the questionnaire is in its early development

and due to the small sample size, we retained these items, but we acknowledge that it is important to consider these gender differences and monitor them when using the FAC-TRiPS and interpreting findings in future studies. Finding gender differences in our sample may not be surprising given that previous researchers have documented variations between mothers and fathers in their risk behaviors and orientations towards children's engagement in risky play (Brussoni, Creighton, et al., 2012; Brussoni & Olsen, 2013; Creighton et al., 2017). However, if DIF persists in future investigations, we recommend different scoring for fathers and mothers when administering the questionnaire.

In Rasch modeling, the PCA is useful for examining the strength of additional dimensions in the data (Linacre, 2018). Our results suggest that the FAC-TRiPS *may* be multidimensional. Nonetheless, it is essential to recognize that multidimensionality is always present in data (Linacre, 1998). What is of paramount importance is the strength of a second dimension. Linacre (2018) indicated that for a second dimension to be noticeable, it must be 2-3 items strong; otherwise, it is likely to be due to accidental correlations (Linacre, 2018). Rasch analysis showed that the strength of the second dimension was 2.03 which is far lower than that explained by the Rasch dimension (eigenvalue= 16.7). Both Rasch and EFA revealed that the first dimension is robust and dominant. In summary, while these results suggest a possible secondary dimension that needs to be monitored and examined in future research, the strength of that dimension seems relatively minimal.

### **Limitations**

We acknowledge that our sample was entirely from Saudi Arabia, which may limit the generalizability to other ethnic groups. Similarly, our participants were relatively highly educated and spoke English as well as their native language(s). Their opinions might not

represent those of parents with different educational or language backgrounds. Translating the questionnaire to Arabic would provide additional reach and access to a bigger sample size. We also recommend testing the psychometric properties of the FAC-TRiPS with a more diverse sample.

### **Implications for Occupational Therapy Practice**

The FAC-TRiPS yields valid and reliable data measuring factors that influence parents' tolerance of risk in play. The FAC-TRiPS is short, easy to use, and takes 4-5 minutes to complete. With further research on the FAC-TRiPS, the findings have the following implications for occupational therapy practice:

- The FAC-TRiPS, in conjunction with other measures like the TRiPS, can be a useful instrument for practitioners who work with parents/caregivers and their children in promoting risky outdoor play.
- The FAC-TRiPS may be used in designing interventions to reframe parents' and teachers' perceptions of the benefits of risky play and create more opportunities for risk taking in the home, community, and school environments.
- The study contributes knowledge of risky play within an Eastern context and fosters an understanding of the multifaceted nature of parenting when making decisions about children's participation in risk play activities.
- The study raises a need for creating a culture in which the duty of care is balanced with the dignity of risk in order to enable children of all abilities to participate in playful and age-appropriate risk-taking opportunities.

- Future studies may aim to determine the feasibility and usability of the FAC-TRiPS among parents of typically and atypically developing children as well as in other cultures.

### **Conclusion**

Our findings offer preliminary evidence for construct validity and internal reliability of data collected with the FAC-TRiPS. Thus, the FAC-TRiPS can be used to assess and understand contextual factors that impact parents' tolerance for risk in play. Overall, this tool can be a useful foundation for understanding the impact of context on parents' behaviors and abilities to cope with risk. Our findings also may contribute to expanding the focus of risky play research to look deeply into the societal and cultural influences on parental perspectives of risk taking in play. Given that the instrument in its early stages of development, more research with a larger sample is needed to refine items and enhance the instrument's functionality and precision.

### **Acknowledgments**

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## Chapter V: Navigating Children's Risky Play: A Comparative Analysis of Saudi Mothers and Fathers

### Summary

**Importance:** Recent studies explored parental gender as a factor influencing children's exposure to risk during play. Nonetheless, existing evidence is inconsistent with few studies having directly compared the perspectives of fathers and mothers. And, there is virtually no research on gender disparities in approaches to risk taking in play in Eastern cultures, including Saudi Arabia.

**Research questions:** (1) Do Saudi mothers and fathers differ systematically on FAC-TRiPS items? (2) How does the inclusion of gender influence the relationship among factors affecting parents' willingness to allow risky play, and tolerance for children's risky play?

**Participants:** 85 parents: 41 fathers and 44 mothers with children 7 and 10 years.

**Design:** Cross-sectional study.

**Results:** Differential Item Functioning analysis revealed a statistically significant difference between mothers and fathers on three FAC-TRiPS items. While the interaction effects and predictors were not significant ( $p = .22-.97$ ), the overall multiple regression model significantly predicted parents' tolerance for children's risky play ( $p = .04$ ). Parent gender effect on parental tolerance was not significant ( $\beta = .05, p = .95$ ).

**Discussion and conclusion:** Although parent gender did not significantly predict risk tolerance, Saudi mothers and fathers exhibited systematic differences on three FAC-TRiPS items. Within the context of other factors, gender appeared to play a complex and indirect role in determining parents' risk tolerance. Findings highlight the need for future research to explore the nuanced

meanings of risk taking in play within the Saudi culture in comparison to Western parents, as well as how cultural influences shape individuals' attitudes and behaviors.

**Keywords:** Risky play, child play, parent gender, culture, regression analysis.

### **Introduction**

Risky play is an oxymoron, combining the conflicting concepts of risk and play. Due to this, there have been negative attitudes towards children participating in risky play activities both at the individual and societal levels (Brussoni, Olsen, et al., 2012; Wyver, Bundy, et al., 2010; Wyver, Tranter, et al., 2010). Over the last decades, research has focused on understanding parents' perceptions of risk taking in play within their cultures (Brussoni & Olsen, 2013; Little, 2010; Bundy et al., 2009). In today's world, child's play often takes place under adults' surveillance. Parents may hold different orientations towards their children's participation in risky play. Little (2010) noted that parents' perceptions of risk and safety are likely to impact how much they promote children's participation in healthy and playful risk-taking.

Gender and culture are intricately linked and responsible for shaping the variations in gender roles, values, beliefs, and behaviors (Best & Puzio, 2019). Sociocultural influences shape how adults approach parenting, assume their roles, and socialize with their children (Bornstein, 2012). In the realm of risk taking, Backett-Milburn and Harden (2004) postulated that the concepts of risk and risk anxiety are, in fact, fluid and 'socially constructed'. They argued that constructions and configurations of risk are situated within the larger social, cultural, and structural contexts. Sociodemographic factors including gender of the parent and cultural context may shape people's experiences with risk taking and hence their orientation and tolerance for risky outdoor play (Boxberger & Reimers, 2019; Dodd et al., 2021; Parent et al., 2021).

Recent studies have explored the role of parental gender as a factor influencing the extent to which children are exposed to risk during play. Little (2010) and Niehues and colleagues (2015) examined Australian parents', mostly mothers', views and beliefs of risk and safety in child play. While parents appreciated the potential learning benefits of engaging in age-appropriate risk for their children, their tolerance for risk varied based on personal experiences, situation, and contexts (Little, 2015; Niehues et al., 2015). Creighton et al. (2017), on the other hand, focused on understanding how Canadian fathers of children aged 2 to 7 years perceived risk. Fathers' responses ranged from very risk tolerant to overly protective. Creighton et al.'s (2017) study built upon qualitative findings of Brussoni and colleagues (2012, 2013) who found that fathers tended to be more tolerant of physical risk taking than mothers and viewed risky play as providing opportunities for risk management and emotional bonding with their children. Although these studies suggested that mothers and fathers might have different orientations to children's risky play, they did not directly compare the views on and support of risky play between the two.

Olsen and colleagues (2018) utilized the Risk engagement and protection survey (REPS) to explore parents' perspectives on child safety and risk management in play for their children aged 6-12 years. Researchers found that both mothers and father held similar attitudes (Olsen et al., 2018). More recently, Jerebine et al. (2024) investigated the correlation between mothers' and fathers' attitudes towards risk and injury and children's participation in adventurous play and physical activities. On the Tolerance for Risk in Play Scale (TRiPS), 78% of parents reported low tolerance for risky play. While researchers did not identify gender differences in parents' risk tolerance, mothers expressed more concerns than fathers about potential injuries (Jerebine et al., 2024). Other researchers indicated that fathers are generally more inclined than mothers to

allow their children to engage in risky and physically active play (Bronstein, 1988; Lindsey & Mize, 2001; Stgeorge & Freeman, 2017). Additionally, John et al. (2013) showed that in play mothers typically guide, structure and/or teach whereas fathers more often follow the child's lead and introduce challenge (John et al., 2013).

While most existing research pertaining to parent gender and children's risky play originates in Western cultures, research representing an Eastern perspective has begun to emerge. Cevher-Kalburan and Ivrendi (2016) studied the concept of risk as socially constructed in the Turkish culture. The researchers investigated the relationship between parents' views on the benefits of risky play and a number of other variables including parenting style, gender and educational level. Mirroring findings from some Western studies, Turkish mothers held a less favorable view of risky play than did fathers (Cevher-Kalburan & Ivrendi, 2016).

Although prevailing literature has explored the link between parent gender and views on children's participation in reasonable risk, few studies have specifically compared the perspectives of fathers and mothers. Further, there is inconsistency in the existing evidence concerning variations between mothers' and fathers' tolerance for risk taking in play. And, there is virtually no research on gender disparities in approaches to risk taking in play in other Eastern cultures. In this study, I was interested specifically in Saudi Arabian culture.

Arab culture is considered collectivist and authoritarian, appreciating emotional and functional connectedness and promoting behaviors that contribute to harmony within the group (Dwairy & Achoui, 2006; Dwairy et al., 2006). While Arab societies generally value a more collective family identity, factors like urbanization and exposure to Western values have created greater diversity in family dynamics, values and parenting practices within and across Arab cultures, including Saudi Arabia (Dwairy & Achoui, 2006). Given these nuanced differences, the

complexity of the culture, and the dearth of information overall comparing mothers' and fathers' beliefs, it is important to study how mothers and fathers view children's engagement in risky play within Saudi Arabian culture.

In their 2024 study, Alarawi and colleagues tested a predictive model of Saudi parents' tolerance for risky play. Researchers found that various personal and environmental factors influenced how parents accept and promote children's risk taking in play. As part of the study, Alarawi et al. developed the Factors Affecting Tolerance for Risk in Play Scale (FAC-TRiPS) to assess personal, situational, and cultural factors that influence Saudi parents' risk tolerance. (Further details on the FAC-TRiPS are described later in the paper). Although the study included both mothers and fathers, the researchers did not explore potential gender differences in parents' perspectives of risky play. The purpose of this paper, therefore, is to examine gender variations in tolerance for children's risky play among Saudi parents through two research questions (1) Do Saudi mothers and fathers differ systematically on FAC-TRiPS items? and (2) How does the inclusion of gender influence the relationship among factors affecting parents' willingness to allow risky play, and tolerance for children's risky play?

## **Methods**

In this cross-sectional, quantitative study, I aimed to examine gender variations in Saudi parents' willingness and tolerance for risk taking in child's play. I obtained an IRB approval (Protocol # 3276) from Colorado State University (Appendix A).

### **Participants**

The study included 85 parents: 41 fathers and 44 mothers who met the inclusion criteria of being Saudi and living in Saudi Arabia, having a child aged between 7 and 10 years, and being able to read and speak English. Parents ranged in age from 27 to 51 years with a mean age of

35.5 years ( $SD=5.0$ ). Parents were from different households. Their children's average age was 8.3 years ( $SD=1.1$ ). Table 1 summarizes the sample descriptive statistics. To obtain a power of .80 and a medium size effect, a sample of 80 or more was needed (Green, 1991). I recruited participants through snowball sampling. Specifically, I began recruiting participants purposively through personal communications. Then I asked these participants to help recruit additional participants by sending the survey link to acquaintances who met the inclusion criteria.

**Table 5.1.** *Sample Characteristics.*

Variable	Parent Sex, <i>n</i> (%)		
	Total ( <i>N</i> = 85)	Father 41 (48.2%)	Mother 44 (51.8%)
<b>Parent Age</b> (in years), <i>m</i> ( <i>sd</i> )		36.7 (5.5)	34.6 (4.8)
<b>Marital Status</b> , <i>n</i> (%)			
Married	84 (98.8%)	41 (48.2%)	43 (50.6%)
Divorced	1 (1.2%)	0 (0.0%)	1 (1.2%)
<b>Education</b> , <i>n</i> (%)			
High School	6 (7.1%)	2 (2.4%)	4 (4.7%)
Bachelor's Degree	27 (31.8%)	9 (10.6%)	18 (21.2%)
Master's Degree	35 (41.2%)	18 (21.2%)	17 (20.0%)
<b>Employment Status</b> , <i>n</i> (%)			
Employed	66 (77.6%)	37 (43.5%)	29 (34.1%)
Unemployed	5 (5.9%)	1 (1.2%)	4 (4.7%)
Housewife	7 (8.2%)	0 (0.0%)	7 (8.2%)
Student	6 (7.1%)	2 (2.4%)	4 (4.7%)
Retired	1(1.2%)	1 (1.2%)	0 (0.0%)
<b>Socioeconomic Status*</b> , <i>n</i> (%)			
Lower	4 (4.8%)	2 (2.4%)	2 (2.4%)
Lower-middle	8 (9.5%)	2 (2.4%)	6 (7.1%)
Middle	43 (51.2%)	24 (28.6%)	19 (22.6%)
Upper-middle	17 (20.3%)	8 (9.5%)	9 (10.7%)
Upper	12 (14.3%)	5 (6.0%)	7 (8.3%)
<b>Number of Children</b> , <i>n</i> (%)			
One	20 (17.2%)		
Two	38 (32.8%)		
3-4	17 (14.7%)		
More than 4	10 (8.6%)		
<b>Child Sex</b> , <i>n</i> (%)			

Male	50 (43.1%)		
Female	34 (29.3%)		
Prefer not to say	1 (0.9%)		
<b>Child Age</b> (in years), <i>m (sd)</i>	8.3 (1.1)		
<b>Most Risk Tolerant Parent</b> , <i>n (%)</i>			
Mother	17 (20%)	4 (4.7%)	13 (15.3%)
Father	56 (65.9%)	35 (41.2%)	21 (24.7%)
Neither	12 (14.1%)	2 (2.4%)	10 (11.8%)
<b>Caregiver who has influence on child's RP</b> , <i>n (%)</i>			
Mother	23 (27.1%)	8 (9.4%)	15 (17.6%)
Father	58 (68.2%)	32 (37.6%)	26 (30.6%)
Other	4 (4.7%)	1 (1.2%)	3 (3.5%)

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*Note.* RP= risky play, *m* = mean; *sd* = standard deviation.

\*Socioeconomic status was determined by income levels (Alnuaim, 2013).

\*The variables “Most Risk Tolerant Parent” and “Caregiver who has influence on child’s RP” were taken from the TRiPS.

## Procedures

I collected data for the study online using Qualtrics XM software (Qualtrics, Provo, UT, 2020). Participants completed a list of demographic questions (Appendix B) and four additional questionnaires.

## Instruments

### *Factors Affecting Tolerance of Risk in play Scale (FAC-TRiPS)*

The FAC-TRiPS captures a range of personal and environmental factors that influence how parents define, think about, and encourage risk-taking in play (Appendix C). The FAC-TRiPS includes 17 items that each address, “How likely this factor is to influence your decision to allow your child to engage in risky play?” Each item is scored on a 5-point Likert scale with the following values: ‘never a factor’ (1), ‘rarely a factor’ (2), ‘neutral’ (3), ‘sometimes makes me say no,’ and (4) ‘definitely makes me say no’ (5). Prior research using Rasch analysis revealed that data from 16 of 17 items (94.1%) conformed to Rasch expectations, indicating

adequate evidence for construct validity. Results also showed good evidence for internal reliability with a person reliability of 0.94 (Alarawi et al., in press).

### ***Tolerance of Risk in Play Scale- Revised (TRiPS-R)***

The TRiPS-R is a self-report survey that typically takes less than 15 minutes to complete (Appendix D). The TRiPS-R consists of 30 play activities that reflect Sandseter's (2007, 2009) six categories of risky play and range in levels of perceived risk from low to high. Each item requires a 'yes/no' response regarding whether the parent allows their child to engage in a particular activity (e.g., would you let your child walk on a slippery surface if there was a chance they may fall?). Grady-Dominguez et al.'s (2020) Rasch analysis of data gathered with the TRiPS-R demonstrated excellent evidence for internal reliability with a person reliability index of 0.88. Data from 29 of the 30 items (96.7%) conformed to Rasch model assumptions, providing strong evidence for construct validity. Analysis confirmed that the TRiPS-R with its 30 items represents a unidimensional construct that can distinguish about four levels of risk tolerance in adults (Grady-Dominguez et al., 2020).

### ***Coping Self-Efficacy***

The Coping Self-Efficacy (CSE) (Chesney et al., 2006) is a self-report assessment to measure one's ability to cope effectively with life stressors and to assess change over time (Appendix E). The CSE consists of 26 items measuring three constructs: "use problem-focused coping" (12 items), "stop unpleasant emotions and thoughts" (9 items), and "get support from friends and family" (5 items). Respondents rate how confident they feel with carrying out different coping strategies using a scale from 0 to 10 with the following values: 0 = "cannot do at all", 5 = "moderately certain can do," and 10 = "certain can do." A final score is created by summing the individual scores. Chesney et al (2006) indicated that the scale revealed strong

evidence of internal consistency and test–retest reliability (Cronbach's alpha = .80-.91). Results suggested that the three subscales assess self-efficacy for different types of coping. Predictive validity analyses showed that change in using problem- and emotion- focused coping skills was predictive of reduced psychological distress and increased psychological well-being over time (Chesney et al., 2006).

### ***Coping Inventory***

The Coping Inventory (CI) (Zeitlin, 1985) is a parent/caregiver-report comprising 48 items measuring the effectiveness of strategies children ages 3 to 16 years use to cope with aspects of the self and the environment (Appendix F). In previous research (Zeitlin, 1985), data collected with the CI provided moderate to strong evidence for validity and reliability. Internal consistency ranged from .84 to .98 and interrater reliability from .78–.94 (Zeitlin, 1985). Beetham et al.'s (2019) recent Rasch analysis of data collected with children with developmental disabilities revealed that data from 94% of items conformed to Rasch model assumptions, indicating evidence for strong construct validity. Beetham et al (2019) also found as a strong evidence for test-retest reliability with an average correlation coefficient of .96 (Beetham et al., 2019).

### **Data Analysis**

I examined gender differences in two steps. To answer research question 1, “Do Saudi mothers and fathers differ systematically on the FAC-TRiPS items?”, I conducted a Differential Item Functioning (DIF) analysis using Winsteps (version 4.4.4; Linacre, 2020). DIF analysis is helpful for understanding systematic differences in item functioning in relation to relevant aspects, in this case, parent sex (Bad et al., 2002). In the DIF analysis, I accepted a Rasch-Welch

probability of  $p < .05$  and DIF contrast  $> .43$  as evidence of significant differences on items (Bond et al., 2021).

To answer research question 2, “How does gender influence the relationship among factors contributing to parents’ willingness to allow risky play, and tolerance for children’s risky play?” I performed a multiple regression analysis using SPSS Statistics version 29 (IBM, 2022). Multiple regression is a useful tool to assess the relationship between the dependent variable and several independent variables (IV), while accounting for other IVs (i.e., covariates) (Tabachnick et al., 2019). I examined both main effects and interaction effects of the gender variable on relationships within the model. The model consisted of play factors contributing to parents’ willingness to allow risk (FAC-TRiPS) as the predictor variable and tolerance for children’s risk taking (TRiPS) as the outcome variable. It also included two moderators: parents’ coping self-efficacy (CSES) and parents’ perceptions of their children’s coping skills (CI) and one covariate, gender. The gender variable was coded as (1) male and (2) female.

Prior to interpreting the results of the regression, I checked several factors. First, I tested for randomness of missing data using the Expectation Maximization method (Tabachnick et al., 2019) finding that missing data were completely random with no more than 10% of the observations missing. Second, I inspected a normal probability plot of standardized residuals as well as a scatterplot of standardized residuals against a standardized value; these indicated that assumptions of normality, linearity, and homoscedasticity of residuals were met. Third, I checked for outliers and deleted one univariate outlier. Lastly, prior to adding interaction terms, I checked for tolerance of independent variables, finding them to be high (above 0.2). Variance inflation factor (VIF) values were below 5, indicating that multicollinearity was not a concern (Tabachnick et al., 2019). I also calculated zero-order correlations to assess the magnitude and

direction of their associations, explore the underlying relationships, and identify any potential issues in the data.

## Results

From the correlation analysis (Table 2), I found that play factors contributing to parents' willingness to allow risk and tolerance for children's risk taking had a significant negative correlation ( $r = -.33, p < .001$ ). This indicates that parents with high risk tolerance were less influenced by personal and environmental factors than other parents. The correlation between parents' coping self-efficacy and their risk tolerance was statistically significant ( $r = .22, p = .02$ ; [i.e., parents who had high coping self-efficacy tended to have moderately high tolerance for risk in play]). However, parents' perceptions of children's coping behaviors were not significantly correlated with their risky play tolerance ( $r = .16, p = .08$ ). When considering gender, there was not sufficient evidence of a statistically significant correlation between the gender of parents and their level of tolerance for risky play ( $r = -.13, p = .11$ ).

**Table 5.2.** *Correlations among Study Variables*

Measures	1	2	3	4	5	6	7	8	9	10
<b>TRiPS Score</b>	-	-	-	.22*	.16	-	-.32**	-.28**	-.02	-.07
<b>FAC-TRiPS Score</b>		.33**	.13			.35**				
<b>Parent Gender</b>	-.13	.15	-	-.13	-.03	.15	.15	.16	.85***	.91***
<b>CSES Score</b>	.22*	.06	-	-	.42***	.07	.08	.06	.39***	.06
<b>CI Score</b>	.16	-.04	-	.42***	-	-.01*	-.02	-.03	.21*	.37***
			.03							

*Note.*  $N=85$ . TRiPS = Tolerance for Risk in Play Scale. FAC-TRiPS= Factors Affecting TRiPS. CSES= Coping Self Efficacy Scale. CI= the Coping Inventory.

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

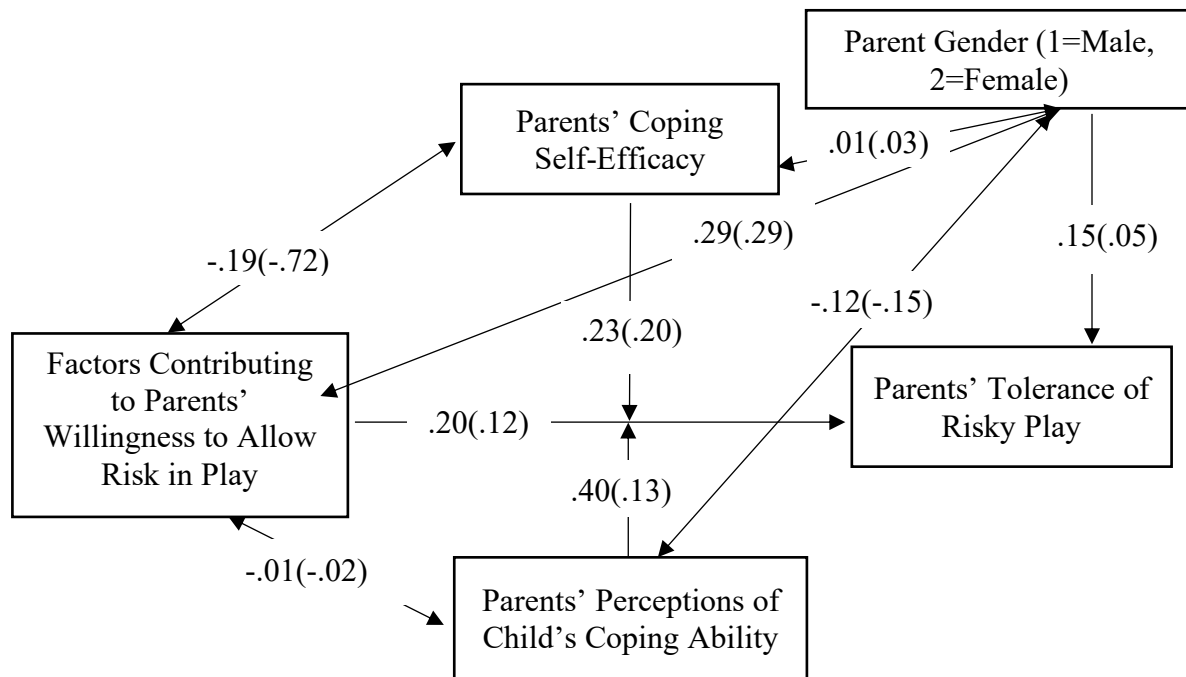
DIF analysis revealed a statistically significant difference between mothers and fathers on three FAC-TRiPS items. Mothers found two of the items, “*fear of negative judgment from others*” and “*fear of repercussion from an authority (e.g., police)*” easier to endorse than did fathers (DIF= 1.62,  $t = -2.98$ ,  $p = .004$ ; DIF= .79,  $t = -2.65$   $p = .001$ ). Fathers found the item “*influence of Media reports of children getting hurt/injured/kidnapped*” easier to endorse than did mothers (DIF= -.49,  $t=2.08$ ,  $p = .04$ ).

Multiple regression analysis revealed that predictors (i.e., play factors contributing to parents’ willingness to allow risk, parental coping self-efficacy, and parental perceptions of child’s coping ability, parent gender, FAC-TRiPS\*CSES, FAC-TRiPS\*CI, FAC-TRiPS\*Gender, CSES\*Gender, CI\*Gender) accounted for nearly 21% of the variability in parents’ tolerance of risky play ( $N = 85$ ,  $R^2 = .21$ , [ $f^2=.27$ ], adjusted  $R^2 = .11$  [adjusted  $f^2 = .12$ ]). Cohen's  $f^2$  for the regression model is approximately 0.27, suggesting a moderate relationship between the predictors and the dependent variable. While the interaction effects and predictors were not significant ( $p = .22-.97$ ), the overall regression model significantly predicted parents’ tolerance for children’s risky play ( $F(9, 75) = 2.15$ ,  $p = .04$ ). Gender main effect on parental tolerance was not significant ( $\beta = .05$ ,  $p = .95$ ). Gender accounted for about 15% of the variance in parents’ risk tolerance when other predictors were held constant. However, the interaction between FAC-TRiPS and parent gender accounted for almost 30% of the variability in parental risk tolerance, when other variables were held constant. Unstandardized estimated ( $B$ ) and standardized ( $\beta$ ) regression coefficients are reported in Table 3.

**Table 5.3.** *Estimated Standardized ( $B$ ) and Unstandardized ( $\beta$ ) Regression Coefficients Predicting Parents’ Tolerance for Risk in Play*

Variable	B	SE	$\beta$	(95%CI)	p-Value
FAC-TRiPS Score	.20	1.76	.12	[-3.30, 3.70]	.91
CSES Score	.23	.45	.20	[-.66, 1.13]	.61
CI Score	.40	1.12	.13	[-1.84, 2.63]	.72
Parent Gender	.15	2.38	.05	[-4.59, 4.88]	.95
FAC-TRiPS*CSES	-.19	.15	-.72	[-.48, .11]	.22
FAC-TRiPS*CI	-.01	.50	-.02	[-1.01, .99]	.98
Gender*FAC-TRiPS	.29	.36	.29	[-.42, 1.00]	.42
Gender* CSES	.01	.30	.03	[-.58, .61]	.97
Gender* CI	-.12	.71	-.15	[-1.53, 1.30]	.87

Note. N=85. TRiPS = Tolerance for Risk in Play Scale. FAC-TRiPS= Factors Affecting TRiPS. CSES= Coping Self Efficacy Scale. CI= the Coping Inventory. SE= Standard Error. CI= Confidence Interval.



**Figure 5.1.** Moderation Model with Estimated Unstandardized and Standardized Regression Weights (*B* and  $\beta$ )

## Discussion

I investigated how a sample of Saudi mothers and fathers differed in terms of the factors that affect their willingness to allow their children to engage in risky play (i.e., FAC-TRiPS scores). I also examined how gender contributes to the prediction of parents' risk tolerance based

on multiple factors impacting their perceptions of their own and their children's abilities to cope (i.e., CSES and CI scores).

DIF analysis revealed that mothers and fathers differed systematically on three FAC-TRiPS items. Specifically, mothers reported that they were more influenced than fathers by items *“fear of negative judgement from others”* and *“fear of repercussions from an authority (e.g., police).”* In contrast, fathers reported that *“Influence of media reports of children getting hurt/injured/kidnapped”* had a bigger influence on their decisions and acceptance of child risk taking. These gender differences parallel those of previous research that found variations between mothers and fathers in their risk behaviors and orientations towards children's engagement in risky play (Bronstein, 1988; Brussoni, Creighton, et al., 2012; Creighton et al., 2017; Lindsey & Mize, 2001; Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013).

After scrutinizing both bivariate correlations and multiple regression analysis, I did not find a significant relationship between parent gender and parental risk tolerance. This aligns with findings of Jerebine et al. (2024) and Olsen et al. (2018) who did not detect gender variations pertaining to parental views and tolerance of risky play. That being said, adding the gender variable to the full model to test its function on model fit produced a significant and medium effect size predictive model. That is, considering gender along with other variables improved the regression model fit and contributed to the variance in the dependent variable (i.e., risk tolerance). Thus, gender as a covariate did, in fact, have a meaningful but indirect impact on parents' risk tolerance.

Findings of this study may be attributed to several factors. First, while adequate to achieve the desired power, the study's sample size was relatively small, which could have hindered my ability to detect differences. Second, contextual factors may have played a role.

Although prior studies found inconsistent gender differences among Western parents, this study included a sample of Saudi Arabian parents. Saudi parents generally ranged from somewhat risk tolerant to moderately risk tolerant regardless of their gender (Alarawi et al., in press), and this study confirmed that mothers and fathers might even share similar levels of risk tolerance. The societal pressure placed on parents, the expectations of others, and personal ideals of what constitutes 'good parenting' within a collectivist culture (Jenkins, 2006a; Triandis, 1995; Valentine, 1997) might feed into the development of parents' negative attitudes, leading to feeling of guilt if any harm occurred to their children (Alarawi et al., in press). In line with established research on culture in shaping gender-related behaviors (Markus & Kitayama, 1991; Triandis, 1989), these findings may imply that cultural and societal influences may have a more profound impact on parents' decisions and contribute to their individual behaviors than gender alone.

Additionally, the interaction between gender and family factors contributing to parents' willingness to allow risk contributed 30 % to variability in parental risk tolerance. This finding may suggest that gender as a covariate does not have a simple, direct relationship with the dependent variable (i.e., parental risk tolerance). Instead, it might have a more complex relationship that becomes apparent only when considered in the context of other variables. In practical terms, this implies that the covariate's impact on the dependent variable is conditional and depends on the interplay with other variables in the model (Jaccard et al., 2003). It highlights the importance of considering multiple variables and their interactions to fully understand the covariate's role in the context of the study. This is consistent with results from Creighton et al. (2017), Little and Eager (2010), and Niehues et al. (2015) that parental decisions around risky

play are not straightforward. Parental risk tolerance is a process that can be influenced by various personal, social, and cultural factors. Gender can be one of these factors.

### **Limitations and Future Directions**

This study represents an initial attempt to examine gender-related variations among Saudi parents. However, it is important to acknowledge its limitations. The study sample only included parents of typically developing children who speak and understand English. Further, participants were mostly middle-class parents with relatively higher education. It would be informative to examine differences between mothers and fathers from other ethnic, cultural, educational backgrounds as well those of children with motor challenges or sensory processing differences. While this study focused on the effect of gender on parents' willingness and approaches to risky play, other relevant factors like parent age, child age, socioeconomic status, children's perceptions of their own level of risk tolerance warrant further investigation. Examining attitudes and tolerance for risky play in mothers and fathers based on child sex can be insightful. This study relied on online questionnaires for data collection. Future researchers may consider a combination of quantitative and qualitative methods to understand the effect of personal factors like gender of parents' attitudes toward risky play. Lastly, because the FAC-TRiPS questionnaire is in its early development and due to the relatively small sample size, we acknowledge that it is important to consider these gender differences and monitor them when using the FAC-TRiPS and interpreting findings in future studies.

### **Conclusion**

Although parent gender did not significantly predict risk tolerance, Saudi mothers and fathers exhibited systematic differences on three FAC-TRiPS items. Within the context of other factors, gender appeared to play a complex and indirect role in determining parents' risk

tolerance. Study results suggest that risk tolerance is likely influenced by a multitude of factors beyond gender, including personal experiences and cultural background. They also highlight the need for future research to explore the nuanced meanings of risk taking in play within the Saudi culture in comparison to Western parents, as well as how cultural influences shape individuals' attitudes and behaviors.

## Chapter VI: Discussion and Conclusion

The purpose of this dissertation was to investigate personal and environmental factors that impact Saudi parents' tolerance of risk in children's play. To fulfil this purpose, I carried out three studies that yielded three manuscripts, one of which has been accepted for publication in the *American Journal of Occupational Therapy (AJOT)*, and two that will be submitted to professional journals. In this chapter, I highlight key findings and commonalities across the three studies and discuss future directions and implications of this dissertation research.

### Key Findings across the Three Studies

Researchers and scholars across various disciplines (Barker et al., 2014; Brussoni, Olsen, et al., 2012; Gray et al., 2015; Sandseter, 2007; Sandseter & Kennair, 2011) have been studying the concept of risky play for decades, particularly documenting its benefits for children's growth and development. Several studies (Bronstein, 1988; Brussoni, Creighton, et al., 2012; Creighton et al., 2017; Lindsey & Mize, 2001; Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013) highlighted the impact of demographic factors on parental risk tolerance. Researchers within occupational therapy (Grady-Dominguez et al., 2020; Niehues et al., 2015; Niehues et al., 2013; Bundy et al., 2011, Bundy et al., 2015) have been recognized for studying the occupation of risky play and bringing attention to the interplay between context and person. These research efforts have given rise to instruments like the Tolerance for Risk in Play Scale (TRiPS) (Grady-Dominguez et al., 2020; Hill & Bundy, 2014) and "risk reframing" workshops (Brussoni et al., 2021; Bundy et al., 2011; Niehues et al., 2015) that underscore the influence of social contexts (i.e., parents, caregivers, and teachers) on children's access to such play. However, I identified a gap in this body of research: the lack of understanding of other personal,

social, and cultural contexts influencing parents' willingness to allow risky play. To address this gap, I developed and tested a predictive model of parents' tolerance for risky play. In Study 1 (Chapter III), I performed multiple regression analysis using SPSS Statistics version 29 (IBM, 2022). I hypothesized that various internal and external factors would influence parents' willingness to accept and tolerate risk in play. I also posited that parents' coping self-efficacy and perceptions of their child's coping would moderate this relationship. A key finding of this study revealed a negative correlation among factors affecting parents' willingness to allow risky play (FAC-TRiPS) and their risk tolerance (TRiPS). That is, parents agreed that factors like fear of negative judgement from others, potential injury, and potential for long-term repercussions to their child contributed to their negative views and failure to allow their children to engage in risk taking during playtime. Another important finding was the significance of parents' coping self-efficacy in shaping their willingness to promote risky play. Specifically, parents with high coping self-efficacy, were more inclined to perceive such situations with less stress and were more apt to allow their children to engage in risky play.

In study 2 (Chapter IV), I examined data gathered with the Factors Affecting Tolerance for Risk in Play Scale (FAC-TRiPS). The FAC-TRiPS filled the need for an objective measure to assess personal, situational, social, and cultural factors impacting parental risk tolerance. In Study 2 (Chapter IV), I reported the results of Rasch modeling (Winsteps 4.4.4) to examine construct validity and internal reliability of data gathered with the FAC-TRiPS. This analysis revealed evidence for valid and reliable data useful for understanding contexts that influence parents' willingness and tolerance for risk taking in play.

In the third manuscript (Chapter V), I examined the role of parent gender as a factor that might affect how willing they are to allow risky play for their children. I also explored

whether Saudi mothers and fathers differed systematically on FAC-TRiPS items. Despite the findings from Differential Item Functioning (DIF) analysis, which revealed systematic variations in how mothers and fathers responded to FAC-TRiPS items, I did not find overall gender differences in their tolerance for risk in play. However, within the context of other factors, gender seemed to play a complex and indirect role in determining parents' risk tolerance. There is inconsistency in the existing evidence concerning variations between mothers' and fathers' tolerance for risk in play (Jerebine et al., 2024; John et al., 2013; Lindsey & Mize, 2001; Olsen et al., 2018; Stgeorge & Freeman, 2017) and the reason for my finding is unclear. While these findings suggested that Saudi mothers and fathers may share similar levels of risk tolerance, further research with a bigger sample is needed.

### **Taken Together**

This research builds upon previous research (Duell & Steinberg, 2019; Holton, 2004; Mohr et al., 2010; Van Duijvenvoorde & Crone, 2013) that recognized risk tolerance as a multidimensional, complex process. However, earlier investigators (Bronstein, 1988; Brussoni, Creighton, et al., 2012; Creighton et al., 2017; Lindsey & Mize, 2001; Little, 2010, 2015; Niehues et al., 2015; Niehues et al., 2013) primarily focused on sociodemographic factors. In this dissertation research, I explored a broader range of personal, cultural, and environmental factors potentially influencing parental risk willingness and tolerance. My findings offer insights into the intricacy of parental decision-making about children's play, highlighting that the choices parents make are the outcome of a dynamic interplay of various personal, social, and cultural factors.

Another unique aspect of this research is the examination of how Saudi parents navigate children's risk taking in play. This is the first study to focus on parental risk tolerance within an Eastern Arab culture. While a majority reported a moderate level of risk tolerance, several

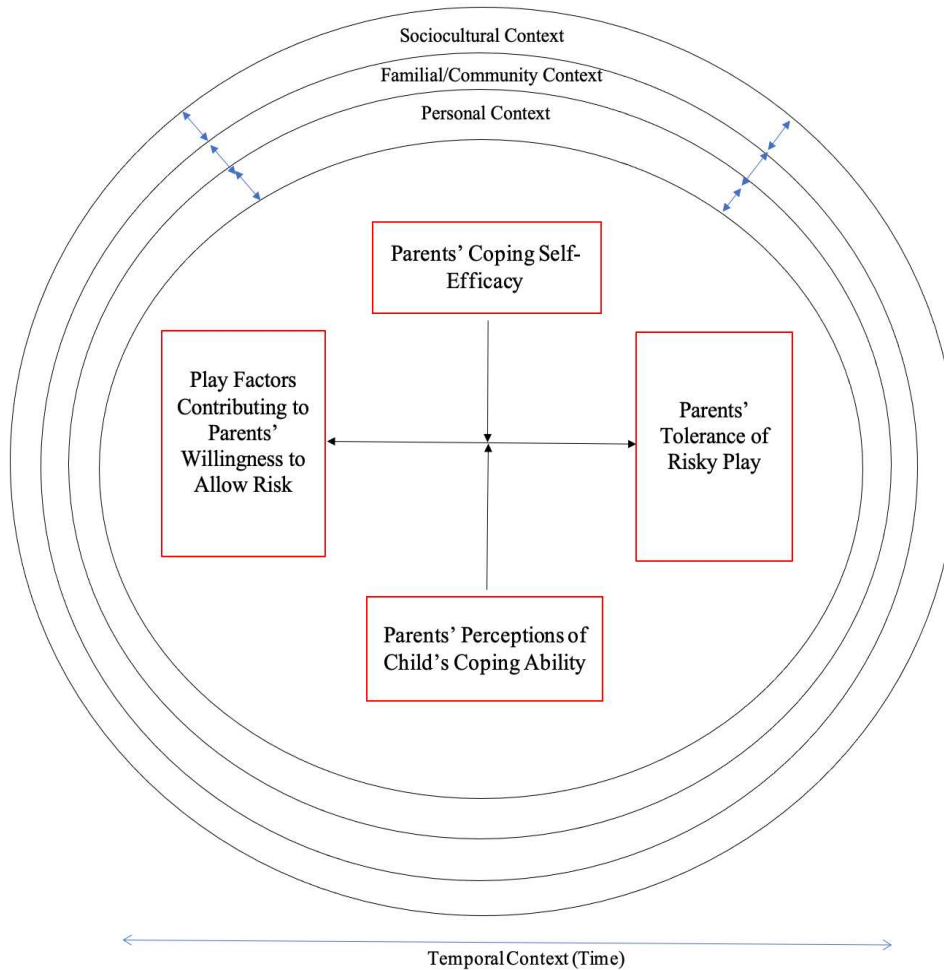
factors (e.g., coping self-efficacy, internal fears and feelings, and expectations of others in an interconnected culture) likely created tension between a desire to ensure safety and promoting risky play. Interestingly, my findings suggest that parents' perceptions of their children's abilities to cope had little impact on their level of tolerance for risky play. This aligns with the results of Jelleyman et al. (2019), Little (2015), and Niehues et al. (2015) who found that Western parents value risk in developing life skills, yet when confronted with particular risky play activities, were reluctant to support their children's participation in such play.

### **Future Directions**

My findings suggest several avenues for future research and development. The three studies within this dissertation provide insights into the impact of personal and environmental contexts on parental risk tolerance, and thus children's participation in risky play experiences. In the first study (Chapter III), I only tested a part of the proposed model (Figure 1). While the work has contributed to a better understanding of the impact of contextual factors on risky play, I acknowledge the intricate nature of human behaviors and interactions, particularly in the context of parenting and children. There remains a need for future study in which researchers adjust or refine constructs to develop a more comprehensive model. Future researchers should seek to validate the model with a bigger sample and more sophisticated data analysis tools such as SEM.

Additionally, given the potential limitations of online questionnaires in fully capturing diverse perspectives, future researchers might consider a combination of quantitative and qualitative methods. While this research was the first to focus on a sample from Saudi Arabia and bring in an Eastern lens to the body of research on risky play, the study sample was relatively small and limited to parents of typically developing children. The model should be tested with parents from other ethnic groups as well as parents of children with motor challenges

or sensory processing differences. Lastly, the proposed model can offer a useful tool for interested researchers to further examine determinants of children participation in risk taking including familial, social, or cultural contexts.



**Figure 6.1.** *A Conceptual Model Representing Relationships among Factors Contributing to Parental Tolerance of Risky Play*

*Note.* The red boxes represent the tested portion of the proposed model.

In the second study of this dissertation (Chapter IV), I introduced a novel tool, the FAC-TRiPS. The FAC-TRiPS, in conjunction with other measures like the TRiPS, can be useful for researchers and practitioners who work with parents/caregivers and their children in promoting risky outdoor play. However, it is important to acknowledge that the questionnaire is in its early

development. Additional testing and validation of the instrument with a bigger and more diverse sample size are recommended. In addition, future studies could investigate the feasibility and usability of the FAC-TRiPS among parents of typically and atypically developing children.

Parents encountered difficulty in discerning external influences, especially negative judgment and cultural perspectives on risk-taking, in contrast to the impact of their own fears and emotions on their willingness to permit risky play for their children. Therefore, more research is needed to further understand the extent and nature of the influence of these factors on parents' experiences with children's risk taking. Implementing a qualitative approach may be useful for delving deeper into some of societal and cultural influences that shape how parents perceive and approach their children's participation in risky play environments.

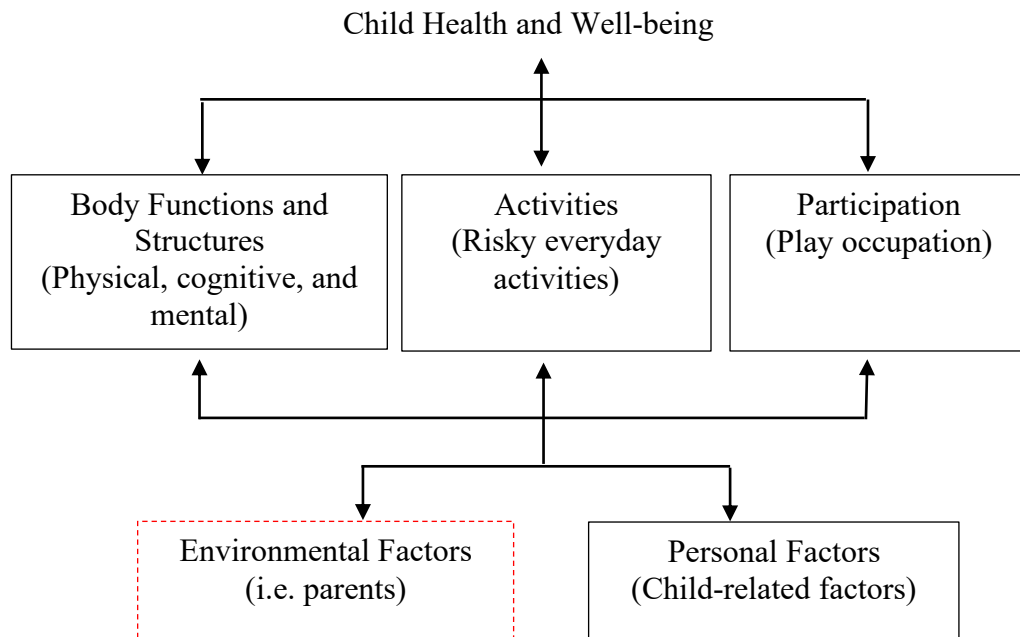
Lastly, in Study 3 (Chapter V), I examined gender-related variations among Saudi parents; nonetheless, further research is needed. Collectively, while the results of these studies were enlightening with regard to the influence of various contexts on parents' decisions, other factors like parent age, child age and sex, culture, urban versus rural environments, socioeconomic status and children's perceptions of their own level of risk tolerance are worth exploring in future research.

### **Study Implications**

This dissertation contributes to the field of occupational science and to the body of research on risky play by addressing gaps related to the impact of context on parental risk willingness and tolerance, and hence on children's accessibility to everyday risky activities. In this dissertation, I proposed a conceptual model that explains the transactions (Dickie's et al., 2006) among constructs of factors affecting parental risk willingness, coping efficacy, perceptions of child, and risk tolerance, offering nuanced insights and a unique occupational science perspective to the

existing interdisciplinary literature on risky play. This work suggested a potential avenue for future work in which researchers adjust or refine constructs to develop a more comprehensive model. These contributions are needed because they extend understanding of how context shapes occupation (Dickie et al., 2006).

My dissertation research makes a contribution to the field of rehabilitation science by studying the environment as an equal contributor to children's participation in risky play (Figure 2). This dissertation serves as a valuable resource for pediatric occupational therapists seeking to promote risky play in children with and without disabilities. The provision of opportunities for risky play is beneficial for fostering confidence, resilience, self-awareness, and other crucial skills in children of all abilities (Bundy et al., 2015). Unfortunately, children with disabilities often confront significant environmental challenges related to family options, inaccessible playgrounds, social attitudes, or overprotective parenting, that often disconnect them from the benefits of risk exposure in play compared to their typically developing peers (Anaby et al., 2014; Beetham et al., 2019; Kang et al., 2017; Law et al., 1999). Although my research focused on parents of typically developing children, its findings may guide future investigations aiming to design interventions for creating more accessible risky play opportunities. All in all, findings of this research lend further support to the critical role of environmental facilitators and barriers on functioning as well as raise a need for creating a culture in which the duty of care is balanced with the dignity of risk in order to enable children of *all* abilities to participate in playful and age-appropriate risk-taking opportunities.



**Figure 6.2.** *The ICF model for the dissertation*

*Note.* Dashed lines denote the factors from the ICF that are most directly related to the dissertation research.

Additionally, I introduced the FAC-TRiPS, a short and easy-to-use tool that potentially has utility for researchers and practitioners who work with parents/caregivers and their children in promoting risky outdoor play. I believe that with further research, this questionnaire may be useful in assessing parents' level of tolerance and establishing a foundational understanding.

The outcomes of this dissertation potentially provide practitioners with knowledge to plan individual or group interventions that equip parents and/or teachers with new and meaningful ways to think about risk taking in play, challenge their own beliefs and assumptions, and reflect on their personal experiences with risk taking. Implementing such strategies may assist therapists, parents, caregivers, and teachers in supporting children's participation in diverse and playful risk opportunities that suit their play routines. Further, for OT students or educators, the dissertation may serve as an educational resource, offering a comprehensive overview of the role

of OT in promoting risky play and may stimulate new ideas, approaches to support children's engagement in risky play experiences. Lastly, considering the relatively small number of occupational therapy researchers participating in this area of study, my research on parenting and risky play supports opportunities for interdisciplinary research among occupational therapists, parents, early childhood educators, and psychologists. This is needed because it facilitates integration of a broad range of expertise and diverse perspectives on the issue of risk reduction in childhood.

## Chapter VII: Personal Reflection

My PhD journey has been very emotional filled with challenge, growth, and self-discovery. Five years ago, I came to this program with a mix of enthusiasm, excitement, nervousness, and hope. Hope to learn, grow, and improve. While my interest in play was clear, I was uncertain about the specific focus and where to begin. But I was motivated to seize every opportunity to be better at *doing* research.

Amidst the challenges of COVID-19, virtual classes, being a mother, and uncertainty about my dissertation topic, I found myself navigating through of moments of frustration, anxiety, and self-doubt. I learned how to build my own resilience. Reflecting back on the past five years; however, reveals a journey that has been undeniably transformative. I have learnt valuable lessons in research, science, teaching, and many other skills in between. This journey with its twists and turns, has not only shaped me as a scholar but has profoundly influenced who I am as a person. I have gained a new perspective on research as it not something you must disconnect yourself from, but rather my life experiences and personal knowledge contribute unique richness to my research and inform my research interests and knowledge pursuits.

During all the ups and downs, one thing was constant; my mentor, *Dr. Anita Bundy*, and her support and guidance. Besides everything she has taught me, in each meeting, Anita's first questions were "How are you?" "How are the kids?" Working with a mentor who genuinely cares about me as a person first has been immensely impactful. Additionally, collaboration with peers and mentors (a.k.a. RIOT) became a cornerstone of my Ph.D. experience. Engaging in stimulating discussions, sharing insights, and receiving constructive feedback became invaluable aspects of my growth. My time at CSU-OT has taught me the essence of conducting research

with integrity and respect, appreciating diversity and inclusivity, and has provided me with a profound understanding of mentorship.

Each phase of this dissertation presented lessons for me as a student and as an individual. I have learned to approach research with integrity, passion, as well as respect for those who generously contributed their time and knowledge to the profession. I am forever grateful for the opportunity to learn directly from *Dr. Anita Bundy* and for the chance to study my own people—parents from my country. It is an honor to represent their voices, and I am excited about continuing my research to further the advancement of the occupational therapy profession in Saudi Arabia.

As my Ph.D. journey draws to an end, and as an international student, I recognize that this journey does not merely shape my professional identity but also contributes to a broader, personal transformation. Beyond the acquisition of specialized knowledge and research skills, this experience instilled in me a deep sense of resilience, a fresh understanding of the world, and a greater appreciation of different cultures. Having spent ten years living in the United States and earning two degrees, I wholeheartedly concur with *Jawaharlal Nehru's* saying that "culture is the widening of the mind and spirit."

Today, I carry with me not just knowledge and experiences but also newfound values and an open mindset. I am eager to share all that I have learned and gained during my PhD journey. Five years of research have been filled with growth, development, knowledge, and, of course, emotions. *Passion, perseverance, and resilience* perfectly define this chapter of my life. I feel very well-equipped, and I look forward for the next chapter and for whatever challenges and opportunities lie ahead.

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## **Appendices**

## Appendix A: Consent Form

You are invited to participate in a research study about **Personal and Environmental Factors Influencing Parental Risk Appraisal and Tolerance for Risk in Play** (IRB #3267). This study is being conducted by Dr. Anita Bundy ScD, OT/L, FAOTA, FOTARA, and Rana Alarawi, MSOT at Colorado State University. Your participation in this research is strictly *voluntary*. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty.

We will be collecting some demographic information such as your age, gender, country of origin, level of education, number of children as well as your child's age and gender. When we report and share the data to others, we will combine the data from all participants. We will keep your data *confidential*; your name and data will be kept separately in a computer file with a password in the principal investigator's office accessible only to the research team. For more information see the document below, [Risky play and coping study consent form](#)

**By completing this survey, I agree to participate in this study, and I grant permission for the data generated from the survey to be used in the researchers' publications on this topic.**

- Yes, I agree to participate
- No, I do not agree to participate (close your browser to leave this page).

## **Consent to Participate in a Research Study**

### **Colorado State University**

**Title of Study:** Personal and Environmental Factors Influencing Parental Risk Willingness and Tolerance for Risk in Play.

#### **Principal Investigator:**

Anita Bundy, Sc.D., OT/L, Dept. of Occupational Therapy, (970) 491-3105;  
anita.bundy@colostate.edu

#### **Why am I being invited to take part in this research?**

You are invited in this research project because you are the parent of one or more children between the ages of 7 and 10 years. You saw our advertisement and expressed interested in being a volunteer in our study.

#### **Who is doing the study?**

One professor from Colorado State University (Dr. Anita Bundy) is conducting this study. Graduate student, Rana Alarawi, who work with Dr. Bundy will also be involved.

#### **What is the purpose of this study?**

The purpose of this research is to develop a model that describes parents' decision-making regarding risk taking in play. We also aim to study the influence of factors such as parents' coping self-efficacy and their perceptions of child's coping behaviors on the relationship between parents' risk appraisal and tolerance for risk in children's play. Through this study, we hope to gain a better understanding of what parents feel and experience when promoting age-appropriate risky play opportunities for their children.

#### **Where is the study going to take place and how long will it last?**

We will ask you to complete a set of four questionnaires online. It may take you about 40-50 minutes to complete the whole set at your convenience. You may choose to complete all questionnaires at once in one session or over several sessions.

#### **What will I be asked to do?**

We will ask you to complete a set of four questionnaires online. Each questionnaire has a different purpose and different numbers of questions. We will send you a link for each questionnaire with specific instructions on how to complete the questions. These four questionnaires are as follow:

1. Tolerance for Risk in Play Scale (TRiPS-R): asks you to check "yes, I let my child play this" or "no, I don't let my child play this" about activities that many children enjoy playing.
2. The Coping Self-Efficacy Scale (CES): asks you to rate how confident they are with carrying out different coping strategies using a scale from 0 to 10.

3. Risk Appraisal Survey: asks you questions about different factors that may influence your decisions about allowing your child to engage in risky play activities. For example, fear of negative judgment from others.
4. The Coping Inventory (CI): asks you to rate coping strategies your child uses to meet their needs and adapt to changes in their environments.

**Are there reasons why I should not take part in this study?**

You should not take part of this study if:

- You do not have a child between the ages of 7-10 years old or
- You are not from Saudi Arabia or
- Do not read or understand English

**What are the possible risks and discomforts?**

There are no known risks of participating in this study. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential (but unknown) risks.

**Are there any benefits from taking part in this study?**

There may be no direct benefits from participating, but you may come to think in a different way about healthy risk taking and its benefits for children's health and development.

**Will I receive any compensation for taking part in this study?**

No, you will not.

**What information will be collected?**

We will be collecting some demographic information such as your age, gender, country of birth, level of education, number of children as well as your child's age and sex.

**How will my information be shared?**

Information collected from you for this research may be shared with other researchers in the future. When we report the data to others, we will combine data from all participants. Neither you nor your child will be identifiable.

**Who will see the information that I give?**

All information gathered in this study will be kept confidential. Your privacy is very important to us and the researchers will take every measure to protect it. Your information may be given out if required by law; however, the researchers will do their best to make sure that any information that is released will not identify you. No reference will be made in written or oral materials that could link you to this study. For this study, we will assign a code to your data so that the only place your name will appear in our records is on the consent and in our data spreadsheet which links you to your code. Only the research team will have access to the link between you, your code, and your data. We will keep a list with your name and your code in a computer file with a password in the principal investigator's office at CSU for three years after completion of the study. After the storage time, the information gathered will be deleted. We may be asked to share the research files with the CSU Institutional Review Board ethics committee (IRB) for auditing purposes if needed.

The research team works to ensure confidentiality to the degree permitted by technology. It is possible, although unlikely, that unauthorized individuals could gain access to your responses because you are responding online. However, your participation in these online surveys involves risks similar to a person's everyday use of the internet.

You should know that there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court OR *to tell authorities if we believe you have abused a child, or you pose a danger to yourself or someone else.*

**Do I have to take part in the study?**

Participation in this study is strictly voluntary. If you decide not to participate, there will not be any negative consequences. If you decide to participate but then change your mind, you can stop participating at any time.

**What if I have questions?**

You are encouraged to ask questions about this study at the beginning or any time during the research study. If you think of a question later, you can contact Rana Alarawi (rana.alarawi@colostate.edu) or Anita Bundy, occupational therapy department head at anita.bundy@colostate.edu or +1 970-491-3105. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted, contact Colorado State University Institutional Review Board at CSU\_IRB@colostate.edu; +1 970-491-1553. We will give you a copy of this consent form to take with you.

**Can the researchers contact you again in the future to follow-up on this study or to participate in new research projects?**

Please put your initials beside yes or no. If you agree, provide phone or e-mail so we can reach you.

- Yes \_\_\_\_\_ (initials); Phone or email: \_\_\_\_\_
- No \_\_\_\_\_ (initials)

Signing this form means that you have read the information and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 3 pages.

\_\_\_\_\_  
Participant name (printed)

\_\_\_\_\_  
Participant signature

\_\_\_\_\_  
Date

Name of Person Providing Information (printed)

\_\_\_\_\_  
Signature of Person Providing Information

\_\_\_\_\_  
Date

## Appendix B: Demographic Questions

What is your age?

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What is your gender?

- Male
- Female
- Other (please specify) \_\_\_\_\_
- Prefer not to say

In what country were you born?

---

What is your marital status?

- Single
- Married
- Widowed
- Divorced
- Separated
- Prefer not to say

What is the highest degree or level of education you have completed?

- No Schooling completed
- Some Schooling completed
- High School
- Bachelor's Degree
- Master's Degree
- Doctorate Degree or higher

What is your current employment status?

- Employed
- Unemployed
- Volunteer (unpaid work)
- Housewife
- Student
- Retired

What is your monthly household income?

- Under SR 5,000
- Between SR 5,000 and SR 10,000
- Between SR 10,000 and SR 15,000

- Between SR 15,000 and SR 20,000
- Between SR 20,000 and SR 25,000
- Between SR 25,000 and SR 30,000
- Over SR 30,000

Using the scale below, how risk tolerant you think you are?

- 1
- 2
- 3
- 4
- 5

Which parent you think is more risk tolerant?

- Mother
- Father
- Neither

Which parent has the most influence on your child's engagement in risky play?

- Mother
- Father
- Other (please specify) \_\_\_\_\_

**Appendix C: Factors Affecting Tolerance of Risk in play Scale (FAC-TRiPS) (Alarawi et al., in Press)**

*How likely is each of the following to influence your decision about allowing your child to engage in risky play activities?*

Fear of negative judgment from others.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Fear that my child could be injured.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Fear that my child could get harmed by someone (e.g., Abduction).

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Feelings of guilt that something unexpected/bad could happen to my child or other children.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Fear of repercussions from an authority (e.g., Police).

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Feelings that “play materials”/situations are unsafe.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'

- Definitely makes me say 'no'
- Fear that the play or play situation is too difficult for my child.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Cultural views that play activity is not appropriate or unsafe.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Feelings that boys or girls should not engage in this risky play activity.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Feelings that my child is too young to engage in this risky play activity.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Fear that I could not rescue my child if something happened.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Fear that my child would get in trouble from engaging in the activity.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Influence of Media reports of children getting hurt/injured/kidnapped.
- Never a factor
  - Rarely a factor
  - Neutral
  - Sometimes makes me say 'no'
  - Definitely makes me say 'no'
- Fear that the environment and/or the activity is too unfamiliar.
- Never a factor
  - Rarely a factor

- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

My personality or my experiences in similar activities.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Feelings that my child's personality would get in the way.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Fear of long-term effects, repercussions on my child.

- Never a factor
- Rarely a factor
- Neutral
- Sometimes makes me say 'no'
- Definitely makes me say 'no'

Is there anything else you would like to add?

---

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**Appendix D: The Tolerance of Risk in Play Scale, Revised (TRiPS-R), Adult version**

(Grady-Dominguez et al., 2020; Hill & Bundy, 2014)

***Choose one child familiar to you. Think about this one child when responding to each question.***

What is this child's first name?

---

What is your relationship to this child?

- Mother
- Father
- Grandmother
- Grandfather
- Aunt
- Uncle
- Other (please specify) \_\_\_\_\_

What is this child's gender?

- Male
- Female
- Other (please specify) \_\_\_\_\_
- Prefer not to say

What is this child's date of birth?

---

How many children do you have including this child?

- One child
- Two children
- 3-4 children
- More than 4 children

Has your child ever been diagnosed with a developmental delay/disorder?

- Yes
- No

If you answered yes, what is your child's diagnosis?

---

How often do you encourage this child to take everyday risks?

- Never

- Seldom
- Sometimes
- Often

How much of a risk taker is this child?

- Not at all
- Somewhat
- Pretty much
- Very much

***Think about this one child when responding to the following questions. If the answer is ever “yes”, select “yes”. If your child doesn't have access to this play situation, then choose not applicable (N/A).***

Do you trust this child to play by him/herself without constant supervision?

- Yes
- No

Comment (optional)

---

---

Do you allow this child to play chase with other children?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child go head first down a slippery dip/slide?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to continue playing after s/he gets a scrape?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child continue to play very challenging activities even when you know s/he may not succeed?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child climb a tree within your reach?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child roast marshmallows on an open fire?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child walk on a slippery surface knowing there was a chance s/he may fall?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child use 'adult tools' (e.g. hammer and nail, knife, scissors) unsupervised?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to engage in rough and tumble play?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child jump down from a height of 3-4 metres (10-13 feet)?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child play with other people's pets?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you allow this child to go on school/daycare excursions?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child swim close to the shore while you were watching from the beach?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child resolve disagreements (without stepping in) if the children are pushing or poking one another?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you allow this child to play on equipment if you thought there was the potential s/he may break a bone?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child play in your yard unsupervised?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to play-fight, testing who is strongest?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to play at other people's houses?

- Yes
- No
- N/A

Comment (optional)

---

---

---

Do you wait to see how well this child manages challenges before getting involved?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child light a fire independently?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you let this child resolve disagreements (without stepping in) if children are shouting, but not hitting?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child climb as high as s/he wanted in a tree?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you allow this child to ride a bicycle or scooter down a steep hill?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to have sleep-overs at friends' houses?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child go off on their own in a new environment if you were able to watch them from afar?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you allow this child to choose what activities s/he will do on the weekend?

- Yes
- No
- N/A

Comment (optional)

---

---

Would you let this child balance on a fallen tree or other narrow surface 2 metres (6-7 feet) above the ground?

- Yes
- No
- N/A

Comment (optional)

---

---

Do you encourage this child to take some risks if it means having fun during play?

- Yes
- No
- N/A

Comment (optional)

---

---

---

---

---

Would you allow this child to climb a tree beyond your reach?

- Yes
- No
- N/A

Comment (optional)

---

---

Share an example of a time when you allowed this child to do something that made you feel uncomfortable? Please describe.

---

---

What were the benefits associated with allowing this child to do that?

---

---

Can you think of something you used to do regularly as a child that may be considered 'risky'? Please describe.

---

---

What benefits did you get from doing that?

---

---

Would you allow this child to do that?

- Yes
- No

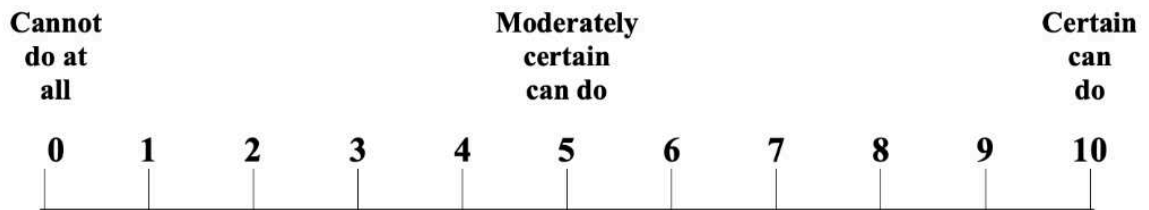
Describe what you fear most for this child and why?

---

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## Appendix E: The Coping Self-Efficacy Scale (Chesney et al., 2006)



The Coping Self-Efficacy scale has been developed to measure evaluation of one's own ability to cope effectively with life stressors (Chesney et al., 2006).



For each of the following items, move the slider to the number that reflects how confident or certain you are, using the scale above.

**When things aren't going well for you, how certain are you that you can...**

1. Keep from getting down in the dumps.	
2. Talk positively to yourself.	
3. Sort out what can be changed, and what can not be changed.	
4. Get emotional support from friends and family.	
5. Find solutions to your most difficult problems.	
6. Break an upsetting problem down into smaller parts.	
7. Leave options open when things get stressful.	
8. Make a plan of action and follow it when confronted with a problem.	
9. Develop new hobbies or recreations.	
10. Take your mind off unpleasant thoughts. Stop unpleasant thoughts	
11. Look for something good in a negative situation.	

12. Keep from feeling sad.	
13. See things from the other person's point of view during a heated argument.	
14. Try other solutions to your problems if your first solutions don't work.	
15. Stop yourself from being upset by unpleasant thoughts.	
16. Make new friends.	
17. Get friends to help you with the things you need.	
18. Do something positive for yourself when you are feeling discouraged.	
19. Make unpleasant thoughts go away.	
20. Think about one part of the problem at a time.	
21. Visualize a pleasant activity or place.	
22. Keep yourself from feeling lonely.	
23. Pray or meditate.	
24. Get emotional support from community organizations or resources.	
25. Stand your ground and fight for what you want.	
26. Resist the impulse to act hastily when under pressure.	

## Appendix F: The Coping Inventory (Zeitlin, 1985)

The **Coping Inventory** by Shirley Zeitlin, Ed.D. assesses the adaptive and maladaptive coping habits, skills, and behaviors that a child uses to manage the world.

The Coping Inventory has two categories: Coping with Self and Coping with Environment. Coping with Self includes the behaviors a child uses to meet personal needs. Coping with Environment includes the behaviors a child uses to adapt to the demands and pressures of the world.

***Select the number for each item that most clearly describes how the child behaves.***

You give a rating of:

1= When the behavior is not effective. The child is either not able to do something or what he or she does does not work.

2=When the behavior is minimally effective. What the child does is not consistent, not appropriate, or is rigidly repetitious. The child sometimes does and sometimes does not behave effectively or appropriately in similar types of situations, or the child repeats the same type of behavior regardless of the situation.

3= When the behavior is effective in some types of situations but not in others. It varies with the situation.

4= When the behavior more often than not is effective or appropriate.

5= When the behavior is effective most of the time.

- Please note that these guidelines are used to rate each item. When different information is needed to rate a specific item, it is included with that item.
- If you feel that the child's behavior **falls between two points of the scale**, make a choice by selecting the number closest to it.
- The '**X**' score is used when the behavior has not been observed.

*When you are ready, answer the following questions!*

1. When presented with a new or difficult situation, child finds a way of handling it.

- X
- 1
- 2
- 3
- 4
- 5

2. Child responds to external control (for example, rules set by adults or peers). (1 = no response consistently maladaptive)

- X
- 1
- 2
- 3
- 4
- 5

3. Child uses self-protecting behaviors to control the impact of the environment. (for example, limits or fends off too much stimulation, withdraws before the situation gets out of hand, stops and rests before getting overtired).

- X
- 1
- 2
- 3
- 4
- 5

4. Child compensates for things he or she is unable to do because of physical, mental, or emotional problem(s). (Child uses strengths from other areas to help manage a situation or learning.)

- X
- 1
- 2
- 3
- 4
- 5

5. Child applies what he or she has learned to new situations (both mental and emotional).

- X
- 1
- 2
- 3
- 4
- 5

6. Child uses language to communicate needs (if prelanguage, uses sounds or behaviors).

- X
- 1
- 2
- 3
- 4
- 5

7. Child generally demonstrates a happy feeling. (1 =unhappy; 3 = mood swings, varies with situation; 5 =happy)

- X
- 1
- 2
- 3
- 4
- 5

8. Child does not frustrate easily. (1 = frustrates easily; 5= high threshold for frustration)

- X
- 1
- 2
- 3
- 4

- 5
9. Child has a healthy pleasure in being him- or herself (sense of self-worth and well-being reflected in pride and satisfaction with self).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
10. Child is able to handle anxiety. (For example, when situation produces anxiety child does not act out or become unusually tense or withdrawn.)
- X
  - 1
  - 2
  - 3
  - 4
  - 5
11. Child demonstrates confidence in his or her ability to learn and do things.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
12. Child uses mental abilities effectively. (For example, if child is a slow learner he or she functions effectively at own level; if child is of superior intelligence, he or she effectively uses that ability.)
- X
  - 1
  - 2
  - 3
  - 4
  - 5
13. Child tells or shows others when he or she is angry or in disagreement.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
14. Child asks for help when needed (either from adults or peers).
- X
  - 1
  - 2
  - 3
  - 4

- 5
15. Child initiates action to get needs met (makes needs known and/or does something to get them met).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
16. Child stays with a task until it is completed.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
17. Child reacts to sensory stimulation (responds to changes in the level or type of stimulation: auditory, touch, temperature, visual). (1 = does not react; 2 = inconsistent, may overreact or underreact, 3= varies with sense and/or situation; 5 = reacts effectively)
- X
  - 1
  - 2
  - 3
  - 4
  - 5
18. Child controls his or her impulses so they do not interfere with learning or social interaction. (1 = highly impulsive; 5= effective impulse control).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
19. Child can be creative and original (sees relationships in varied ways, expresses ideas in novel or fresh terms, seeks out and develops new ideas or ways of handling things).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
20. Child balances independence with sufficient dependence to be able to get and use help. (1 = excessively dependent or independent; 5 = good balance).
- X
  - 1

- 2
  - 3
  - 4
  - 5
21. Child can shift plans or change behavior to achieve a goal.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
22. Child accepts substitutes when necessary (materials, ideas, activities, etc.).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
23. Child can manage high stress situations (finds ways to reduce feelings of stress or finds solution to the stress-causing situation).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
24. Child demonstrates independence and self-reliance (acts on his or her own without seeking directions or reassurance).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
25. Child plays with other children (does not avoid them).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
26. Child uses behavior appropriate to the situation.
- X
  - 1
  - 2
  - 3

- 4
  - 5
27. Child knows what is expected and behaves accordingly.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
28. Child understands and responds to directions without external help or support.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
29. Child reacts (verbally or with an action) to details and/or events in the environment (objects, sounds, people, changes).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
30. Child is curious (eager to find out about people, objects, situations).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
31. Child is liked and accepted by other children.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
32. Child doesn't discourage easily (for example, does not refuse to try something because of fear of failure, doesn't become moody or act out when unsuccessful, stays with a task long enough to work it through or appropriately give up).
- X
  - 1
  - 2
  - 3
  - 4

- 5
33. Child is aware of feelings of others, including angry feelings (for example, asks about other children, comments and/or reacts appropriately to demonstrations of feelings). (1 = not aware; 3 = aware of positive or negative feelings but not both, or varies with situation; 5 = aware of range of feelings).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
34. Child demonstrates a capacity for fun, zest, delight, and pleasure.
- X
  - 1
  - 2
  - 3
  - 4
  - 5
35. Child functions with minimal amount of external structure (is self directed, can create own routine or structure).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
36. Child is aware of and reacts to cues and moods of other people (for example, facial expressions, voice tones).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
37. Child uses gross and fine motor skills competently (for example, is well coordinated, does things easily with hands). (1 = not competent; 3 = some skills used competently, not others, e.g., good gross motor, poor fine motor, or varies with situation; 5 = competent).
- X
  - 1
  - 2
  - 3
  - 4
  - 5
38. Child is stimulating to others (gets others started, enthused, involved).
- X
  - 1

- 2
- 3
- 4
- 5

39. Child actively involves self in situations.

- X
- 1
- 2
- 3
- 4
- 5

40. Child has an activity level that is appropriate to the situation and is helpful in getting the task accomplished. (1 =hypoactive - too little activity, or hyperactive - too much activity; 5 = effective activity level).

- X
- 1
- 2
- 3
- 4
- 5

41. Child has a positive orientation to life (expects that needs will be met, is optimistic, and sees the good side of things).

- X
- 1
- 2
- 3
- 4
- 5

42. Child has an energy level that is forceful and vigorous. (1 =low energy, easily fatigued; 5 = effective energy level, good supply of energy).

- X
- 1
- 2
- 3
- 4
- 5

43. Child accepts warmth and support (for example, responds to affection and encouragement from others, likes to be held, kissed, praised).

- X
- 1
- 2
- 3
- 4
- 5

44. Child gives warmth and support to others (for example, takes other child's side, demonstrates verbally or by gesture affection or encouragement).

- X
- 1
- 2
- 3
- 4
- 5

45. Child tries new things or activities on own - shows excitement, interest, and/or pleasure when he or she discovers new objects, insights, or experiences.

- X
- 1
- 2
- 3
- 4
- 5

46. Child bounces back after disappointment or defeat (tries again or becomes interested in something else rather than pouting, being moody, or acting out).

- X
- 1
- 2
- 3
- 4
- 5

47. Child, when necessary, uses a range of strategies to achieve a goal or solve a problem.

- X
- 1
- 2
- 3
- 4
- 5

48. Child, when necessary, accepts new ideas or reformulates ideas already held (is not rigid in thinking).

- X
- 1
- 2
- 3
- 4
- 5