

# THESIS

## THE SCALE OF PARENTAL PLAYFULNESS ATTITUDE (PAPA): EVALUATING THE PSYCHOMETRIC PROPERTIES WITH LATINO CAREGIVERS IN THE U.S.

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## ABSTRACT

### THE SCALE OF PARENTAL PLAYFULNESS ATTITUDE (PAPA): EVALUATING THE PSYCHOMETRIC PROPERTIES WITH LATINO CAREGIVERS IN THE U.S.

Play is a meaningful occupation for individuals across the lifespan. Often, play occurs in the context of caregiver-child joint play in which the playfulness of the caregiver can be a support or a barrier to the child's play participation. Occupational therapists (OTs) who seek to optimize performance and participation in joint play must consider the caregiver's level of playfulness when designing interventions. Any measure of caregiver playfulness must be valid and reliable for a given client population. OTs often work with clients from the growing and diverse Latino population in the U.S. Review of literature reveals few measurement tools assess caregiver playfulness, and none have been validated for the Latino American population. To this end, I administered the Scale for Parental Playfulness Attitude (PaPA; Román-Oyola et al., 2019) to 50 Latino American caregivers of children between 29 and 85 months old. Data collected with the PaPA demonstrated preliminary evidence for construct validity (positive point-measure correlations, 93% of items fit Rasch expectations, 4.46 eigenvalues in principal components analysis contrast, consistent rating scale, limited item spread, logical item hierarchy), excellent evidence for internal reliability (person-reliability index = 0.85, strata = 3.55), and good evidence cross-cultural validity (25/28 or 89% of items formed similar hierarchy for participants in the U.S. and Puerto Rico). The findings of this study suggest the PaPA may be useful to establish a baseline measure of caregiver playfulness, show change in playfulness over time, and guide interventions to promote quality performance and participation in the co-occupation of joint play.

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## CHAPTER 1 – INTRODUCTION

Play is the primary occupation of childhood, although it is a meaningful occupation for humans across the lifespan (American Occupational Therapy Association, 2020). Occupational therapists (OTs) seek to promote engagement in such meaningful occupations for all people, but especially for those whose occupations have been disrupted by illness, injury, major life transition, relocation, or loss. Nizzero et al. (2017) reported that an occupational disruption results in “significant disruption of identity associated with changes in the quantity and/or quality of one’s occupations” (p. 125-126). It is likely that caregivers of children who experience a disruption will experience some decrease in the quantity and/or quality in the very important occupation of play (Nizzero et al., 2017). Caregivers who are dealing with the repercussions of a natural disaster, a diagnosis, or a job loss may not prioritize play with their child as they focus on re-establishing essential habits and routines in their life. It is here that occupational therapists can help mitigate negative outcomes of occupational disruption by helping adult clients negotiate the various activities involved in their role as caregiver. Occupational therapists can help promote quality play with children to optimize the time that caregivers are able to spend in joint play.

Play is an important occupation in and of itself. The UN recognized this when they included play as a universally accepted right of every child (U.N.C.R.C., 1989). Play is only play when it occurs for its own sake. If there are explicit outcomes in mind and effort expended to those ends, then, “play passes into work” (Dewey, 1916, p. 7). Nevertheless, researchers have identified many secondary benefits for children to participation in play in the realms of language and cognitive, social, and emotional development (Barnett, 1990, Ginsburg, et al., 2007).

Play allows children to practice language and social skills, increase perception of control over stressful events, and supports their ability to approach tasks with greater flexibility, interest, and curiosity (Barnett, 1990). A recent systematic review found not only does play support biological growth and development, play also positively influences mental and social development which aids the child as they grow into adults who are psychologically strong, self-confident, and emotionally balanced (Rolim Gomes et al., 2018). As children mature into adulthood, play remains a beneficial occupation. Playful adults are often less stressed and more frequently use adaptive, stressor-focused coping strategies (Magnusen & Barnett, 2013). In addition, playful adults are more flexible, inclined to accept challenges and failure, tolerate ambiguity, and adapt to change (Guitard et al., 2005). Play researchers disagree about why exactly humans play, but there is ample consensus that play is important and meaningful across the lifespan.

### **Co-occupation of Play**

Children's play often occurs alongside a parent or family caregiver.<sup>1</sup> This caregiver-child joint play is described as a *co-occupation*, in which two or more people engage in the same occupation, and the actions, skills, and characteristics of one player influence the play experience of the other in a synchronous, reciprocal manner (Morozini, 2015; Pierce, 2009; Román-Oyola et al., 2017). The caregiver-child dyad reaps joint benefits in “enhanced communication, understanding, and emotional relatedness” (Gil, 1994, p. 42). So not only do adults and children benefit from play in general, both parties benefit from playing with each other.

Research has found that there are some caregiver behaviors that support the positive outcomes of child play more than others. For example, Landry et al. (1997) found that parents

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<sup>1</sup> For the duration of this paper, I will use the term “caregiver” to refer to any adult responsible for raising a child.



who allowed children to determine their own focus of interest and did not control or restrict the child saw the child develop cognitive-language and social skills more quickly. Caregivers who encourage children to follow their own interests, ideas, and desires in play by not controlling play activities may promote higher quality play.

A caregiver's own level of playfulness and playful actions influence the child's level of playfulness by creating a supportive, playful environment (Waldman-Levi et al., 2019). A mother's demonstration of a *supportive presence* (e.g., consistent boundaries, providing a sense of safety, help with decision-making) were positively correlated with the child's playfulness. On the other hand, demonstrations of *over-supportive behavior* (e.g., frequent praise, negotiation, and support overcoming obstacles) were negatively correlated with child playfulness (Waldman-Levi et al., 2019). This evidence supports the theoretical knowledge of the reciprocal nature of co-occupations, and thus implies that by assessing and supporting a caregiver's playful behaviors, occupational therapists can optimize quality participation in play.

Other research has found evidence that a caregiver's actions in joint play can affect a child's developmental outcomes. For example, Tamis-LeMonda (2004) found mothers' and fathers' sensitivity, positive regard, and cognitive stimulation were associated with a child's higher cognitive status at 24 and 36 months and a greater vocabulary at 36 months. Furthermore, Wieder (2017) concluded that interactive relationships with parents help children "climb the symbolic-emotional ladder" (p. 259). Certain caregiver actions seem to promote greater development of skills during play, so enhancing caregiver play behaviors may optimize the benefits of play for the child.

As the quantity of free play has decreased over the last half century and been replaced by structured activities (Gray, 2011; Hofferth & Sandberg, 2001), occupational therapists must be

equipped to encourage and promote quality joint play interventions. In order for practitioners and caregivers to know how to improve their support of play and playfulness, OT practitioners need to be able to measure the caregiver's playfulness and play behaviors to identify areas of improvement. In this way, OT practitioners can support caregivers in optimizing their performance and participation in the co-occupation of play.

## **Playfulness**

Play has proven difficult to define and measure because it can take on many forms. A child can play with toys in a nursery and a teenager can play while cleaning cars for a fundraiser. Dewey (1933) suggested play is a manifestation of an *attitude*, and it is this attitude which practitioners and teachers should foster. This “attitude of mind” is known as playfulness. Playfulness is an *approach* to any activity, a particular *way of doing something* which suggests playfulness has the potential to “influence the sense and meaning given to daily occupations” (Guitard et al., 2005, p. 21). To study this playful approach, Skard and Bundy (2008) developed a model of playfulness with four subconstructs that exist on a continuum from less playful to more playful. Highly playful individuals are more intrinsically motivated during play, have some sense of internal control over the outcomes of play, are free from constraints of reality to pretend or be creative, and are sensitive to cues from others that help frame play (Bundy, 1997; Skard & Bundy, 2008).

Other researchers investigated and defined adult playfulness using slightly different constructs and created measurement tools that relate playfulness to personality characteristics (Glynn & Webster, 1992; Guitard et al., 2005; Proyer, 2017; Schaefer & Greenberg, 1997) frequencies of behavior (Proyer, 2012), predispositions towards framing situations in a playful way (Barnett, 2007), or cognitive qualities of playfulness (Shen et al.,

2014). However, very few tools exist to investigate the playfulness of caregivers in the context of joint play with their child. Given the frequency of joint play during early childhood and the benefits of both individual and joint play, this is a pressing gap in the literature for practitioners who wish to positively influence family joint play experiences.

### **Measures of Playfulness**

Two tools that do measure the playfulness of caregivers in the context of joint play with their child are the Parent/Caregiver's Support of Young Children's Playfulness (PC-SCP) and the Scale of Parental Playfulness Attitude (PaPA) - both of which are based on Skard and Bundy's (2008) Model of Playfulness.

The PC-SCP is a measurement of caregiver support during play that looks at a caregiver's behavioral involvement in play activity with one's child, scored through clinical observation of a 15-minute play session. Research with this measurement tool has been useful in advancing knowledge about how caregivers can best support their child's play (Waldman-Levi et al., 2019). Limitations of this tool are that it relies on clinical observation of a single recorded play session, which may or may not represent average play, and it does not allow the parent to self-report their own subjective experience of play with their child.

The second tool, the PaPA, is a self-report survey instrument developed and piloted by Román-Oyola et al. (2019) to evaluate caregiver playfulness during interactions with their children. The items on the PaPA were created using responses from 24 individuals including parents of young neurotypical children (2.5 – 6 years, 11 months), parents of young children on the autism spectrum, and neurotypical preschoolers. These responses were analyzed according to Skard and Bundy's (2008) Model of Playfulness, using the four subconstructs as pre-determined codes. The instrument was then critiqued and modified according to relevant

literature and the feedback from 10 external experts in the areas of occupational therapy, test development, play, early education, and psychology. Developers of the PaPA found good evidence for construct validity and internal reliability with responses of parents living in Puerto Rico (Román-Oyola et al., 2020). This preliminary evidence is encouraging, however, given the highly variable nature of play and playfulness and the strong influences of contextual factors, it is important to find evidence of validity and reliability of this tool in multiple contexts.

### **Cultural, SES, Gender, and Geographic Influences of Play**

Culture influences many aspects of play, including beliefs about the purpose of play, characteristics demonstrated during play, where play occurs, and with whom (Roopnarine & Davidson, 2015). Across diverse cultural contexts, there is variability to what extent the child or caregiver directs/initiates play; to what extent children play with parents, siblings, or grandparents; to what extent caregivers exhibit flexibility, implicit/explicit guidance, positive or negative affect; and to what extent children play supervised or unsupervised, indoors or outdoors. Socioeconomic status (SES) may impact the amount of time and energy caregivers are able to devote to play with their children given the need to prioritize work and household responsibilities (Shah et al., 2019); because “When food and shelter are at risk, ensuring time for the children to have free and creative playtime may not be a priority” (Milteer & Ginsburg, 2012, p. e208). If it is difficult to find time for children to play on their own, then it is likely even more difficult to find time to play *with* the child. Lower income is often related to lower education levels, and both factors have been correlated with lower language and cognitive child development (Tamis-LeMonda et al., 2004). The gender of both the caregiver and the child may also influence the structure, type, and style of play (e.g., physical or intellectual challenges,

frequency of play, amount of guidance). Lastly, geography influences where and when play can occur given the weather, terrain, materials, and safety.

It quickly becomes apparent that culture, SES, gender, and geography are deeply connected in multiple ways in how they influence joint play. For example, Harwood et al. (1996) explained how “class differences are best understood within the larger constructs of a given culture” (p. 2455), meaning the impacts of SES may vary from country to country. Culture and SES factors may also influence gender role expectations for how a caregiver is expected or able to engage in joint play. Geographic factors combine with cultural factors to determine appropriate places and times for play, while geographic and SES factors may determine safe or accessible places to play. Professions that work alongside children and families often engage with clients of varying backgrounds in which these demographic factors may interact in unique ways. Providing these families with effective services depends on a valid and reliable assessment that adequately reflects the culture of the family seeking services. Erikson et al. (2012) came to the same conclusion, arguing that “interventions targeting parent interaction strategies such as maternal flexibility must account for ethnic–cultural differences in order to promote toddler developmental outcomes through play paradigms” (p. 860).

One rapidly growing and extremely diverse segment of the U.S. population that occupational therapists may serve is those who identify as coming from a country in Latin America or as being Hispanic or Latino/a<sup>2</sup>. According to the 2019 U.S Census Bureau, there are 60.6 million Latino adults living in the United States, compared to just 35.3 million in 2000

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<sup>2</sup> In a national survey of Latinos in 2019, 47% of respondents preferred to use the country of origin to describe their identity (e.g., Mexican, Cuban), while 39% preferred the terms “Hispanic” or “Latino” (Gonzalez-Barrera, 2020). To both respect these preferences and to remain succinct, I will use the term “Latino” for the remainder of this paper to refer to those who live in Latin America and those who live in the U.S. and would identify their family’s country of origin as within Latin America.

(Gonzalez-Barrera, 2020; Guzmán, 2001). This large population of individuals comes from different cultural backgrounds, socioeconomic classes, and geographic locations. Given the large percentage of Latinos living in the U.S and the diversity that exists within this population, it is important for clinicians to understand how culture, SES, gender, and geographic factors may influence play and playfulness. Aragonés et al. (2014) suggested “By detailing study results by more granular population characteristics, results can be more appropriately applied, thus providing the full benefit of the research findings<sup>3</sup>” (p. 435, 2014). Exploring whether the performance and use of a playfulness assessment for Latino caregivers differs across detailed demographic characteristics such as cultural background and SES would provide practitioners with a more contextually appropriate assessment than what is currently available. Use of such an assessment would enable practitioners to provide more effective and efficient play interventions.

### **Summary and Research Questions**

In summary, a gap in play literature exists in multiple places: (1) a lack of psychometric evidence of data collected using either self-report or observational assessments of caregiver playfulness in the context of joint play with a young child, and (2) a lack of literature exploring how playfulness tools may perform similarly or differently across diverse Latino contexts. Practitioners need an assessment that will target and promote caregiver-child play for the rapidly growing Latino segment of the U.S. population. Due to the development of the PaPA in a Latino context and the practical constraints of this exploratory study, this study will focus on use of the PaPA. Therefore, the purpose of this study is two-fold: to investigate evidence of construct validity and internal reliability of the PaPA from a sample of Spanish-speaking Latino caregivers

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<sup>3</sup> A systematic review of cancer research involving Latino participants found that these studies, on average, included just 1.7 characteristics about these participants, proving that health-related research often neglects to include important demographic information such as language spoken, country of origin, years in the U.S., and race (Aragones et al., 2014).

living in mainland U.S., and secondly, to explore the evidence of cross-cultural validity of the PaPA with two different Latino populations: one living in mainland U.S. and the other living in Puerto Rico. In short, this study aims to answer the following general research questions:

1. What is the evidence for construct validity of data collected using the PaPA?
2. What is the evidence for internal reliability of data collected using the PaPA?
3. What is the evidence for cross-cultural validity of the PaPA?

By answering these questions, this study will begin the process of establishing an instrument to assess and promote joint play for Latino American caregivers and their children.

### **Positioning Statement**

In this thesis I will answer the three research questions posed above. However, my broader intentions for this thesis are to (1) advocate for caregiver-child play as an important and meaningful occupation, (2) to encourage practitioners to utilize culturally competent and context-specific care, and (3) to listen to the unique needs and perspectives of Latino caregivers. The first motive stems from my education as an occupational therapy student, in which I have learned about the importance of supporting play for individuals across the lifespan. The second motive stems from my experience growing up in two different countries and seeing how both culture and SES can influence manifestations of play. The third motive comes from my awareness of the great diversity of Latino experiences through friendships with Latinos living in Colorado, Illinois, and Ecuador. These relationships have given me a personal conviction to feature understudied perspectives in research.

In short, I believe a quality measure of caregiver playfulness in Spanish will allow practitioners to identify both strengths and weaknesses of a given Latino caregiver's play

behavior, and thereby address any weaknesses or barriers in order to engage more fully in quality play with their children.

### **Overview of Thesis**

In this chapter, I presented background information to important concepts that have guided this research, explained the need for and possible use of this study, described why I am interested in this topic, and identified my research aims and questions. In Chapter 2, I present a review of the existing literature that speaks to how caregivers play with their children, given the influences of culture, SES, gender, and geography. I also describe available instruments to assess adult playfulness, child playfulness, and caregiver playfulness in joint play.

Chapter 3 includes a manuscript for the journal article, formatted for publication. I include a brief introduction, detailed methods, the results of my analysis, and a discussion of what I found. Finally, in Chapter 4, I discuss the findings of this study and their implications for occupational therapy practice and future research. I conclude with personal reflections of the thesis experience.



## CHAPTER 2 – EXTENDED LITERATURE REVIEW

This section comprises two parts: a critical synthesis of literature that explores how caregivers play with their children, and a critical review of extant tools for measuring caregiver playfulness in the context of caregiver-child play. To collect current evidence, I searched CINAHL, PsycInfo, American Journal of Play, International Journal of Play, OTJR, and Play and Culture. Search terms included “playful\*,” “play,” “measur\* OR assessment,” “culture,” “grandparent OR intergeneration\*,” “joint play OR co-occupation\*,” “parent-child\* OR caregiver-child\*,” “motivation,” “belief\* OR purpos\*,” “SES OR class,” and “father OR mother.” I also hand searched using the references of articles that I found in my search of the databases. I reviewed the titles and abstracts of all articles for relevance to caregiver-child play or playfulness. I also looked for studies that explored contextual influences of caregiver-child play. I selected articles for full review if they contributed to the central questions of: How do caregivers play with their children? What factors influence caregiver-child play? How do researchers define and measure playfulness for adults, children, and participants in joint play? I excluded articles that did not address young children or dealt solely with young children’s play outside of the context of play with a caregiver.

### **How Adults Play with Children**

*"Play is culturally situated, and mothers and fathers support play interactions in multiple ways across cultures and time" (Roopnarine & Davidson, 2015, p. 231)*

As this quote suggests, there is no single way to play. Play can vary across the lifespan, across gender, class, and cultures. In this section, I will discuss the many ways caregivers play with their children, and how this play is influenced by factors such as culture, SES, gender, and

geography. These factors influence caregiver beliefs about the purpose of play and the structure of play (play partners, characteristics demonstrated during play, and where play occurs).

Throughout this section, I will pay special attention to Latino play studies to gain insight into how this cultural background may influence both the purpose and structure of play.

### ***Culture, values, and beliefs***

In play literature, researchers and parents have argued that play serves different purposes. The particular purpose of play that a scholar or a parent might stand behind is likely influenced by cultural beliefs and values of child development. Sutton-Smith (1997) used the idea of *rhetoric* to describe this phenomenon. A rhetoric is “a persuasive discourse, or an implicit narrative” and there are “cultural rhetorics that underlie the various play theories and play terms” (Sutton-Smith, 1997, p. 7-8). This idea of rhetoric is similar to the concept of parental ethnotheories, which Harkness and Super (2005) described as “often implicit, taken-for-granted ideas about the “natural” or “right” way to think or act, and they have strong motivational properties for parents” (p. 3). We all have implicit ideas about what is valuable for children. These implicit ideas help shape play-related beliefs and motivations to play with children.

Sutton-Smith described seven rhetorics of play that characterize much of play literature (Table 2-1). These rhetorics are important because each one carries presuppositions and value systems that enable scientific inquiry by setting the stage and framing the research, while at the same time limiting the inquiry to remain within the bounds erected by the chosen rhetoric (Sutton-Smith, 1997).

Table 2-1. *Sutton-Smith (1997) Rhetorics of Play*

Rhetorics	Definition	Example
1. Play as progress	Animals and children adapt and develop as they play: moral, social, cognitive growth.	Role play
2. Play as fate	Play demonstrates how humans do not control life – there are other forces/beings in control. Play is also a way to fantasize about fate.	Gambling
3. Play as power	Play functions to mediate conflict, benefit rulers, express resistance, reveal power relationships, and express power.	Sports
4. Play as identity	Play functions to confirm, advance, or maintain the power and identity of the community of players. Play may parody or validate a community's membership and traditions.	Festival
5. Play as the imaginary	Play is a way to promote creativity and innovation. Play allows for a new way of interpreting culture, events, or ideas.	Art
6. Rhetoric of the self	Play explores desirable experiences of an individual- what brings this person fun, relaxation, escape, etc. The meaning of play comes from the subjective experience or quality of play.	Solitary hobby
7. Play as frivolous	Play is utterly useless. This notion provides contrast for the other 6 rhetorics. Play can be a kind of protest against the orders of the ordained world.	Carnival clown

These rhetorics are helpful because they show the many different motivations a person might have for playing. Any given article may assume one or two of these purposes without making this assumption explicit, so these rhetorics give a description for underlying assumptions researchers may make about the purpose or function of play in their study. In addition to researchers, participants in studies may also adhere to one or more of these rhetorics given their beliefs about the purpose of play for their child. *However, any article that suggests a group of people adhere to one rhetoric or another can only claim this to be true for their participants, not for an entire diverse population, people group, or country.*

Some researchers argue that culture has little to no influence on play. Cote and Bornstein (2009) studied the prevalence of symbolic vs exploratory play, boy vs girl play, solitary vs joint play, and child-initiated vs mother-initiated play among mothers and their

infants. Participants resided in the USA and were either European-American, Japanese immigrants, or Latin-American immigrants. Researchers concluded that culture did not distinguish between play, but other factors such as gender and who initiates play are what determine the kind of play a mother-infant dyad will engage in (Cote & Bornstein, 2009). However, the author's conclusions about the universal principles of mother-infant play should not be generalized to a mother's play with toddlers or older children because play changes significantly with child development. Additionally, this study neglected the fact that culture may be what influences a mother's tendency to demonstrate or elicit play. Culture is also a significant influencer of gender roles, and such cultural beliefs are communicated to young children in what kind of play is encouraged and discouraged (Børve & Børve, 2017). Lastly, this study was solely focused on how culture influences the development of child-mother play from exploratory to symbolic play. In other words, researchers focused on the rhetoric of play as progress. It is not surprising, then, that they did not find other cultural rhetorics in their results. They presupposed the rhetoric of play as progress and viewed the data through this specific lens.

**Play as Progress.** Focusing on the first of Sutton-Smith's rhetorics of play, Parham and Fazio (2008) argued that many parents in the United States hold most strongly to the rhetoric of play as progress (play is for development and growth). Vygotsky's work supported this view of play when he argued that play is an opportunity for children to master the tools of the mind (Vygotsky & Rieber, 1997). However, it is unlikely that an entire country would believe in one single rhetoric or purpose of play. A country like the United States is made up of many cultures, backgrounds, and beliefs, so it is more likely that researchers will find several rhetorics and beliefs about play represented in the beliefs of caregivers. In fact, Roopnarine and Davidson (2015) argued that in addition to skill development, play serves many functions in developed

societies such as forming attachment bonds, maintaining physical health, and the development of agency.

Although researchers like Roopnarine and Davidson (2015) argued there are many different play beliefs in developed societies, several articles have focused explicitly on the rhetoric of play as progress in either the study design or found this rhetoric to be prevalent for Western, English-speaking caregiver participants (DiBianca-Fasoli, 2014; Fisher et al., 2008; Sempek, 2009). Certain articles in play literature adhere to the belief in play as progress by setting out to investigate caregiver beliefs about play's relationship with learning. The researchers assume play in developed societies follows the rhetoric of play as progress (for social, cognitive, physical, emotional growth). One such study compared descriptions of play by English-speaking mothers to Spanish-speaking mothers and concluded the English-speaking mothers "used more developmentally positive descriptions of play" than did the Spanish-speaking mothers (Sempek, 2009, p. 20). The author described results in terms of how play and child development were related, focusing on just one of the many functions of play. He concluded the English-speaking mothers supported a close relationship between play and progress because they used words such as "learn", "creative", "understanding", "exploring", and "challenge" while Spanish-speaking mothers used words such as "physical activity" and "distraction" to describe play (Sempek, 2009, p. 17). Another study compared the beliefs of U.S. mothers and child professionals about play and learning, and found mothers believed more learning occurred in structured play while child professionals believed more learning occurred in unstructured play (Fisher et al., 2008). These two studies assumed the participants would believe that play is for learning or child development and set out to investigate this relationship.

Other researchers set out to see what caregivers thought about how learning occurs in play: does technology help or hinder the learning that occurs in play, and who (parents, teachers, or other children) can facilitate the learning that occurs in play? To answer the first question, Shah et al. (2019) conducted focus groups with caregivers of young children who live in low-income, urban neighborhoods in the U.S. The caregivers in these groups believed that media and technology were very important tools to use for learning to occur through play, because “many parents did not view their actions as impactful as electronic toys for promoting speech language, and early learning skills” (p. 610-611). The toys that say numbers, letters, and colors were discussed by focus group members as good ways to teach very young children (under 2 years of age) while playing. This finding should be qualified by the fact that some caregivers in this study did not speak English as their first language and wanted their children to speak English without an accent, so they believed the electronic toy was a better teacher than they were for learning English words (Shah et al., 2019). These parents may have believed themselves to be appropriate teachers of other concepts or abilities, but the results from this study focused on cognitive learning as it relates to numbers, letters, and colors.

DiBianca-Fasoli (2014) also found differences in caregiver beliefs as to who can facilitate learning while playing in a museum. European-American parents believed they had a key role in their child’s play, particularly as a teacher, claiming, “adult involvement was key to unlocking the learning potential of children’s play” (DiBianca-Fasoli, 2014, p. 613). Latino parents were more divided in their involvement in their child’s play at the museum. One group of participants exhibited frequent interactions with their child and agreed that parents are appropriate teachers for their child during play. A second group exhibited frequent interactions with their child during play but believed that play was for amusement and not for learning and so a parent is not a

teacher during play. The third group of participants mostly watched and observed their child's play in the museum and believed that other children were appropriate playmates and contributors to their child's learning (DiBianca-Fasoli, 2014). These findings point to a diversity of beliefs about play motives and playmates that exists within one sampling of Spanish-speaking caregivers; in short, some believed learning only occurs when a child plays with a *parent* while others believed learning occurs when a child plays with other *children*, and still others believed learning does not occur at all during play. This study used museum learning as the mode of play which assumes learning and playing are one in the same (play as progress). The author acknowledged this bias when describing how "the view of play as a developmental activity is itself one cultural use of play, which arises within particular historical conditions" (DiBianca-Fasoli, 2014, p. 616). Nevertheless, the results of this study shed light on the prevalence of both beliefs that play functions for progress/development/learning and beliefs that play performs other functions as well. It is to these other functions or purposes of play that I will now turn.

**Play as self and identity.** Even though the rhetoric of play as progress seems to be a predominant perspective in the United States, the rhetoric of the self is also very prevalent. One such study found that Irish American mothers "prioritized the development of self-esteem" during play by meeting needs, supporting interests, and allowing children to initiate and direct play (Haight et al., 1999, p. 1483). Parents viewed play as a method of promoting independence and self-expression. This view of play correlates with Sutton-Smith's (1997) description of the rhetoric of the self as play that gives "attention to the desirable experiences of the players-their fun, their relaxation, their escape..." (p. 11). In contrast, this same study found that Chinese mothers viewed play as promoting social harmony and a respect for rules. Play among the Chinese participants included more parent-child play than child-child play with parents more

often the ones who “initiated caregiver–child pretend play to practice proper conduct” and for an opportunity for “teaching culturally sanctioned forms of social interactions” (Haight et al., 1999, pp. 1483-1484). This value seems to align with the rhetoric of play as identity and as progress.

Sutton-Smith (1997) explained that proponents of this rhetoric of play as identity as a “means of confirming, maintaining, or advancing the power and identity of the community of players” (p. 10). The findings of another study by Tamis-LeMonda et al. (1992) supported this conclusion. Researchers compared the perspective of Japanese and American mothers and found that Japanese mothers tended to demonstrate and solicit other-directed and symbolic play. This likely mediated the findings that Japanese toddlers engaged in more self-directed and other-directed play. American mothers were more likely to engage in object-directed and non-symbolic play, which may explain why American toddlers both produced and comprehended more language. However, researchers acknowledge that the cultural value of advanced vocabularies may make the American mothers more attuned to, and aware of their child’s language abilities (Tamis-LeMonda et al., 1992). Caregivers who value having an advanced vocabulary may be more likely to notice their children’s language and may intentionally promote language acquisition in play. This exemplifies how cultural values influence both the structure of play and the beliefs about the function of play.

**Play as frivolous.** Farver and Howes (1993) found that European-American mothers believed play was important and educational for their child. This belief affected their play behavior in the high frequency with which they played with their child and their tendency to fill the role of teacher and fellow playmate with suggestions for symbolic play, comments, and implicit instructions for their child’s play. This description of the mothers’ beliefs and actions align most closely with play as progress rhetoric. In contrast, Mexican mothers believed play was



unimportant and served to amuse the child. These mothers made few suggestions for symbolic play and more comments about the properties of the play objects for their child to examine. Their play resembled explicit teaching. Mexican mothers explained they did not discourage play but that they did not attach any value to play and did not believe it was important for them as a parent to play with their child (Farver & Howes, 1993). This belief about play aligns most closely with the rhetoric of play as frivolous – play functions for amusement and enjoyment. Another study echoed these results, finding that Mayan mothers explained that when a child is playing, it is then that a mother can do her work (Rogoff et al., 1993). So even though play may be frivolous for the child, caregivers recognize it is important in that play allows a mother to work. Both studies came to similar conclusions, however these findings may only apply to the caregiver-child play and may not generalize to the caregiver's beliefs about the importance and function of play with other children.

**Other functions of play.** Play literature has found caregiver beliefs about play that do not necessarily align with Sutton-Smith's seven rhetorics of play. One such belief is that play functions to develop the relational bonds between caregiver and child. Play is indeed a social occupation, but Sutton-Smith viewed play from the perspective of a single player, so this social aspect of play is missing in his model. Roopnarine and Davidson (2005) suggested that in developed societies, play functions at least in part to develop the parent-child bond. Shah et al. (2019) supported this finding with U.S. dwelling, low-income caregivers valued play because of the learning potential and because of the bonding potential. Agate et al. (2018) found grandparents' perceptions of the functions of play with their grandchildren to be: having fun, bonding, expressing love and interest, making memories, getting to know each other, and teaching lessons. Many of these functions are related to strengthening the relationship between

grandparent and child, so bonding appears to be an important purpose of play for adults engaging in play with young children.

In their exploration of the relationship between play and work, Farver and Howes (1993) alluded to another belief that does not fit neatly within Sutton-Smith's rhetorics of play. Researchers compared the beliefs and play of Mexican mothers to American mothers and found Mexican mothers engaged in play “in the context of shared work activity rather than the more structured, child-centered pretend play situations that are characteristic of American culture” (p. 355). For example, researchers observed American mothers playing and dressing up baby dolls with their child (the dyad played by pretending to work) while Mexican mothers played and cared for real babies alongside their children (the dyad worked in a playful manner; Farver & Howes, 1993). The mothers in this study seemed to find a way to integrate play with the work tasks for the day.

Other researchers also describe caregivers and children integrating play and work. Bazyk et al. (2003) found that Guatemalan “children found ways to integrate play activities and playfulness into work and self-care” (p. 282). Instead of separating work and play, it was common for the children to combine the two occupations. Interestingly, Shah et al., (2019) found that some caregivers in low-income neighborhoods did not integrate play with work but wanted tips for how to do so. These studies show that integration of work and play sometimes occurs, but they do not suggest explanations for why integration occurs. Parents and children could simply complete work tasks, but for some reason, many choose to add in play. More than likely, there are both intrinsic and extrinsic motivators for adding play to work, because both person factors and contextual factors influence occurrences and manifestations of play.

## ***Class***

Several researchers found evidence to support the conclusion that the socioeconomic status (SES) of a family influences how caregivers approach play with their children (Harwood et al., 1996; Milteer & Ginsburg, 2012; Shah et al., 2019; Tamis-LeMonda et al., 2004). Shah et al. (2019) explored the barriers to play from the perspective of caregivers from low-income urban communities in the U.S. The reported barriers to play included: lack of time to play due to housework or other responsibilities, lack of knowledge about the importance of play, and too much time spent on media/TV. Caregivers in these focus groups reflected on how little energy and time they have left after returning home from work to focus on free play with their young child. Put another way, “When food and shelter are at risk, ensuring time for the children to have free and creative playtime may not be a priority” (Milteer & Ginsburg, 2012, p. e208). The participants also reflected how both they and their child are accustomed to playing with media/technology, and they lack ideas for how else to engage in play (Shah et al., 2019).

Tamis-LeMonda et al. (2004) examined the interaction between caregiver demographics, supportive parenting, and a child’s language and cognitive development. Results show that while interacting with their 24-month-old child, fathers with higher levels of education and higher income displayed more sensitivity and less intrusiveness. The years of education and income for both mothers and fathers contributed unique variance to child language and cognitive development, although a father’s income was the weakest and least consistent predictor of child outcomes (Tamis-LeMonda et al., 2004). This study’s findings suggest that level of education has a greater influence on supportive parenting behaviors during joint play interactions than the income of a given caregiver. However, SES and education are often closely related, with lower-income caregivers more likely to have a lower educational level (Milteer & Ginsburg, 2012).

In another study, Harwood et al. (1996) explored the long-term socialization goals and child behavior goals for mothers in five different sociocultural groups: middle- and lower-class Anglo-Americans, middle- and lower-class island Puerto Ricans, and lower-class migrant Puerto Ricans. Overall, this study found that “culture was overall more strongly associated with group differences than was SES” (Harwood et al., p. 2455). However, the study found differences between the long-term socialization goals of lower vs middle-class Anglo mothers. Lower-class Anglo mothers emphasized decency and proper demeanor more than the middle-class mothers, possibly because they felt a tension between the positive American dream and the difficult reality of their current life. This class distinction was not present, however, for the Puerto Rican mothers. From this, researchers suggest that “class differences are best understood within the larger constructs of a given culture” (Harwood et al., 1996, p. 2455). These findings exemplify the close interaction of SES and culture, and how together, these factors influence caregiver beliefs and goals for their children.

### ***Gender***

Several researchers have studied the differences between how mothers and fathers play with their children, and most concluded there are significant differences in play manifestation (Cabrera et al., 2017; John et al., 2013; Lin et al., 2019). John et al. (2013) observed preschool-aged children playing with their parents. Mothers and fathers demonstrated some similarities in their play (both challenged the child, and both scored similarly on the emotional availability scale). However, the mothers challenged their children’s intellect (colors, numbers, etc.), encouraged reflective/empathic conversations, and provided more structure and guidance. The fathers challenged their children’s physical abilities, behaved like a peer, followed the child’s lead, and demonstrated more proximal/physical play. On the emotional availability

scale, the only significant difference was that the fathers scored significantly lower on parental structuring than mothers (John et al., 2013). Some of the differences between how mothers and fathers play with children are likely due, at least in part, to cultural values. This study was conducted in the U.S., and American culture may encourage mothers to challenge their children on more of an intellectual level and with greater structure and guidance while encouraging fathers to play more physically and with less guidance.

Lin et al. (2019) compared mother and father play interactions with their toddlers in China. Overall, the Chinese mothers engaged in more play than the fathers. The mothers in this study encouraged more educational play and object exploration than any other type of play. However, in contrast to Western studies, this research found both mothers and fathers engaged physically with their child during play and with similar frequency. However, this physical play occurred significantly more with sons than with daughters (Lin et al., 2019). Together, these two studies provide evidence of cultural variation within patterns of maternal and paternal play. This last study also reveals that not only does the gender of the caregiver influence the type and style of play, the gender of the child also impacts what the play looks like.

An adult's idea of what types of play are appropriate for girls and which types are appropriate for boys strongly influences child play behavior. Børve and Børve (2017) found that Norwegian kindergarten teachers set up gendered play spaces that encouraged either feminine or masculine play. For the most part, the children's "Play practices produced and reproduced the adults' ideas of gender" (Børve & Børve, 2017, p. 1078). These researchers highlighted the strong influence of an adult's beliefs about gendered child play and explained that part of this influence is enacted in how adults arrange and set up the play environment.

The studies that explore differences between mother/father play and son/daughter play are mostly descriptive studies that show relationships between gender and type of play. There are no published studies that describe the relationships between gender and the playfulness of the caregiver. Such a study would enhance our understanding of how playfulness (including motivations, control, suspension of reality, and framing) differs regarding gender of the caregiver and child.

### ***Geography***

The location of where play takes place is impacted by cultural beliefs, values, and geopolitical contexts. The physical characteristics of a place (e.g., ground material, objects, lighting, violence, weather) combine with cultural beliefs and values (e.g., safety, supervision, cleanliness) to determine whether play can or should occur in this location.

Espinoza et al. (2012) investigated physical characteristics that prevented participants from engaging in physical activity at the nearest park or open space. The participants cited a lack of sidewalks or bike lanes, space, playground equipment, adult supervision, safety from crime, and adequate lighting. They also mentioned that the park being so far away from the home and the presence of crime were also barriers to engaging in physical activity at the park/open space (Espinoza et al., 2012).

Kalish et al. (2010) used a survey to explore the tendencies of Spanish and English-speaking parents to allow their children to play outside and to play unsupervised. Nineteen percent of all participants reported never allowing their children to play outside and cited traffic, violence, drugs, and unsafe neighborhoods as the reasons for never allowing outdoor play. Researchers found that the Spanish-speaking participants were less likely to permit their children to play outside but at the same time were more likely to allow unsupervised play compared to the

English-speaking participants (Kalish et al., 2010). This study supports the idea that most often, culture and context interact to determine where a child can play.

Children can play almost anywhere, and with almost anything. There are, however, basic requirements to support play. Hyder (2005) explained that children need supportive caregivers, space, and materials. Parents who are refugees, asylum seekers, or living in violent neighborhoods may be too preoccupied to focus on supporting their child's need for play. When concerned about the safety of the outside world, parents are less likely to promote opportunities for running and jumping in outside spaces (Hyder, 2005). Certainly, the cultural, political, economic, geographic, and social contexts of a child and caregiver impact the manifestation of play, regardless of personal beliefs or preferences for play.

### ***Summary***

In conclusion, there is great variation of caregiver-child play. Where play occurs, with whom, the type of play, and the structure or lack thereof can vary from country to country, family to family, and even day-to-day. Such variation is accounted for by several influences including culture, class, gender, and geography. The cultural values and beliefs of a caregiver influence the perception of the purpose of play. Play is sometimes thought to function as a way to promote cognitive, physical, and social development (Cote & Bornstein, 2009; DiBianca-Fasoli, 2014; Fisher et al., 2008; Parham & Fazio, 2008; Roopnarine & Davidson, 2015; Sempek, 2009; Shah et al., 2019). Others may believe play functions to promote self-expression (Haight et al., 1999), the communal identity of a society (Haight et al., 1999; Tamis-LeMonda et al., 1992), or play is thought of as a frivolous distraction (Farver & Howes, 1993; Rogoff et al., 1993). However, play can also function in conjunction with work (Bazyk et al., 2003; Farver & Howes, 1993; Farver & Wimbarti, 1995; Rogoff et al., 1993), or as a method of strengthening

relational bonds between caregiver and child (Agate et al., 2018; Roopnarine & Davidson, 2015; Shah et al., 2019). These cultural beliefs and values interact with class, education level, gender expectations and practices, as well as geographical factors such as safety, weather, and materials to determine the structure and function of caregiver-child play.

### **Measurements of Playfulness**

Play has proven difficult to define and measure because it can take on many forms. A child can play with toys in a nursery and a teenager can play while cleaning cars for a fundraiser. Dewey (1933) suggested play is really a manifestation of an *attitude*, or an “attitude of mind.” So, what teachers and practitioners are interested in promoting is not necessarily play, but playfulness. Playfulness is an *approach* to an activity, a particular *way of doing something*. Playfulness has the potential to “influence the sense and meaning given to daily occupations” (Guitard et al., 2005, p. 21). Play may manifest itself in a variety of ways, but it is the presence of playfulness that distinguishes between play and non-play; therefore, it is playfulness that warrants in-depth analysis and measurement.

### ***Measures of Caregiver Playfulness in Joint Play***

Very few instruments measure playfulness between a caregiver and child (see Table 2-2). In fact, only one published instrument that measures playfulness within a dyad was found in the review of literature. The Parent/Caregiver’s Support of Young Children’s Playfulness (PC-SCP; Waldman-Levi & Bundy, 2016) is based on Skard and Bundy’s (2008) Model of Playfulness, identifying playfulness as unidimensional with the subconstructs of motivation, sense of control, freedom from constraints of reality, and framing play by responding to cues. This instrument considers the effect of the environment on child play with adults ideally serving as receptive and secure role models. It was used in one study to assess joint play with comparisons between the



PC-SCP, Test of Playfulness (ToP; Skard & Bundy, 2008), and Environmental Supportiveness Assessment (TOES; Bundy, 1999). The study found significant relationships between a mother's supportive (not overbearing) play behavior as measured by the PC-SCP and the child's level of playfulness as measured by the ToP. However, a limitation of this study was that the same researchers scored both the PC-SCP and the ToP, which may have biased results. Nevertheless, the researchers argue that the PC-SCP is a promising measure of adult playfulness in the context of joint play that practitioners can use to optimize parent supportive behavior to increase performance and participation in joint play (Waldman-Levi et al., 2019). Limitations of this tool are that it relies on clinical observation of a single recorded play session, which may or may not represent average play, and it does not allow the parent to self-report their own subjective experience of play with their child.

Román-Oyola et al. have piloted the Scale of Parental Playfulness Attitude (PaPA or “Escala AJugar” for its Spanish acronym; 2019). This self-report survey instrument evaluates parents' playfulness during interactions with their children. The items on the survey were created using responses from 24 individuals including parents of young neurotypical children (2.5 – 6 years, 11 months), parents of young children on the autism spectrum, and neurotypical preschoolers. These responses were analyzed according to Skard and Bundy's (2008) Model of Playfulness, using the four subconstructs as pre-determined codes (these subconstructs are explained below). The instrument was then critiqued and modified according to relevant literature and the feedback from ten external experts. The eighth and current version of the PaPA has six sections: personal information, motivation to play, control while playing, suspension of reality, cues during play, and types of play and barriers to play (Román-Oyola et al., 2019). The PaPA has found evidence for content validity and internal reliability with the

responses of parents living in Puerto Rico (Román-Oyola et al., 2020). The PaPA's use of self-report and reliance on Skard and Bundy's (2008) Model of Playfulness suggests it is a promising instrument that could help give insight to caregiver playfulness and thereby support child playfulness during joint play.

Although there are no other instruments for measuring joint play, there are a few instruments that measure caregiver-child interactions. The Parent-Infant Relationship Global Assessment Scale (PIR-GAS; ZERO TO THREE, 2005) is not a measure of playfulness, but it uses a scored observation of free play as the means of measuring the level of adaptation within an infant-parent relationship (Aoki et al., 2002). This assessment includes behavioral qualities of the interaction, affective tone, and psychological involvement to describe the functionality of a caregiver-child relationship, from well adapted to grossly impaired. Aoki et al. (2002) found that the PIR-GAS was significantly related to mothers' help and support and that this score predicted future mother-infant interactions.

Another tool is the Caregiver-Child Social/Emotional and Relationship Rating Scale (CCSERRS; McCall et al., 2010). This tool was developed in the context of caregivers in orphanages to quantify the social/emotional interactions and relationships between caregiver and child during any shared occupation. The assessment contains items for both the caregiver and the child. CCSERRS does not have a standardized observation procedure, which means it can be applied to any caregiver-child occupation such as feeding, dressing, bathing, or playing. However, the lack of standardization limits possibilities for direct comparisons of scores (McCall et al., 2010). While these last two assessments do not focus on play, they do highlight the importance of developing a detailed understanding of caregiver support for children and analyzing the quality of caregiver-child interactions.

Table 2-2. *Measures of caregiver-child interactions during co-occupations*

	Parent/Caregiver Support of Young Children's Playfulness <b>PC-SCP</b> (Waldman-Levi & Bundy, 2016)	Scale of Parental Playfulness Attitude <b>PaPA/Escala AJugar</b> (Román-Oyola et al., 2019)	Parent-Infant Relationship Global Assessment Scale <b>PIR-GAS</b> (ZERO TO THREE, 2005)	Caregiver-Child Social/ Emotional and Relationship Rating Scale <b>CCSERRS</b> (McCall et al., 2010)
Purpose	Measure a parent/caregiver supportive presence for their young child's playfulness	Measure parent playfulness during interactions with their children	Describe strengths or severity of disorder within a caregiver-child relationship	Analyze the quality of caregiver-child social/emotional interactions/relationship
Description	Based on Skard & Bundy (2008) Model of Playfulness  Items scored based on 15-minute recorded play session of the dyad in a familiar setting.  24 items scored from 0 to 3 on two scales: quality and frequency ~15 min to complete	Based on Skard & Bundy (2008) Model of Playfulness  Self-report survey  6 sections: personal information, motivation to play, control while playing, suspension of reality, cues during play, and types of play and barriers to play ~15 min to complete	Scored using parent interview and observation of free play with a focus on observed behavior patterns – the relationship will fall into one of nine categories, from well adapted to grossly impaired  Considers: behavioral quality of interaction, affective tone, and psychological involvement.  May take 3-5 45-minute sessions	18 items total  4 caregiver categories: pos/neg engagement, caregiver/child-directed behaviors, pos/neg behavioral control, affect  3 child categories: engagement, affect, relationship with caregiver ~10 min to complete
Population	Caregivers of children between 6mo - 6yrs old  Trialed with a sample of mothers and young children in a metropolitan city in north-eastern U.S.	Caregivers of children between 2 – 6yrs, 11mo old  Trialed with caregivers in Puerto Rico	Caregivers of children between 0 – 3yrs old  Trialed with a sample of high-risk mothers and their 20mo old infants from north-eastern U.S.	Caregivers of children between a few months-6yrs old  Trialed with caregivers in orphanages in Russia and Nicaragua
Language	English	Spanish	English	English, Spanish
Reliability	<b>Internal consistency:</b> $\alpha = .85$ ; $\alpha = .68$  <b>Interrater reliability:</b>	<b>Internal reliability:</b> Cronbach's $\alpha = .90$	Not assessed	<b>Interrater reliability:</b> good percent agreement - identical or within 1 point on 96% of the cases.

	81%-100%			
Validity	<b>Criterion validity:</b> association between the parent's playfulness tendency and support provided to the child's playfulness behavior, $r = .87$ , $p < 0.05$  (Waldman-Levi et al., 2019)	<b>Content validity:</b> factor analysis = 7 iterations, 6 factors, and theoretical model explained 59% of variance  (Román-Oyola et al., 2020)	<b>Predictive validity:</b> PIR-GAS score predictive of subsequent mother–infant interactions and mother's report of internalizing symptomatology 4 months after the assessment  (Aoki et al., 2002; Paris, 2012)	<b>Validity:</b> good sensitivity to change via quasi-experimental produced differences between caregivers at 2 orphanages: a mean item score of 2.39 vs. 1.06. $t(df=42)$ was 13.29, $p < .001$  (McCall et al., 2010)

### ***Measures of Child Playfulness***

Researchers and professionals have developed many ways of measuring and studying children's play (see Table 2-3). Some instruments are designed to gain knowledge about a child's interests in play (Pediatric Interest Profiles: Kid Play Profile, Preteen Play Profile, Adolescent Leisure Interest Profile; Henry, 2008). Very few instruments measure child playfulness, but one such instrument is the Test of Playfulness (ToP; Skard & Bundy, 2008). The ToP utilizes observation of a child at play and defines playfulness as unidimensional with four subconstructs: motivation, sense of control, freedom from the constraints of reality, and framing. These four subconstructs exist on a continuum from less playful to more playful. Highly playful individuals (a) are more intrinsically motivated during play, (b) have some sense of internal control over their actions and the outcomes of play, (c) are freer from the constraints of reality to pretend or be creative, and (d) can express, receive, and respond to cues that help frame play (Bundy, 1997; Skard & Bundy, 2008). This tool has evidence of reliability and validity for children with and without disabilities between ages of 15 months and 10 years (Bundy et al., 2001) and between the ages of 6 to 38 months (Hamm, 2006).

Another assessment of child playfulness is the Children Playfulness Scale (CPS; Barnett, 1990). This assessment measures a "child's predisposition to approach the environment in a

playful way” (Barnett, 1990, p. 333). The total score is based on manifest joy; sense of humor; and physical, social, and cognitive spontaneity. Both the ToP and the CPS have found evidence of reliability and validity as measures of child playfulness that can be used to enhance researcher and practitioner understanding of playfulness in real world contexts. However, both assessments focus only on the child’s playfulness which limit understanding and intervention ideas to child-factors alone, whereas in some instances, it may be beneficial to understand and be able to intervene with adult caregiver-factors as well.

Table 2-3. *Measures of child playfulness*

	Test of Playfulness <b>ToP</b> (Skard & Bundy, 2008)	Children Playfulness Scale <b>CPS</b> (Barnett, 1990)
Purpose	Measure child playfulness	Measure child playfulness
Description	Score is based on the “combined presence of intrinsic motivation, internal control, freedom to suspend reality, and framing” (p.74) of a child’s free play in a familiar environment.  29 items total  For each item, child is rated on extent, intensity, and skillfulness  ~15 min to complete	Playfulness is thought of as an internal personality construct.  Score is based on 5 dimensions of play: manifest joy; sense of humor; and physical, social, and cognitive spontaneity  23 items total  For each item, child is rated on a 5-point Likert scale from “Sounds exactly like the child” to “Doesn’t sound at all like the child”
Population	Children between 6mo – 18yrs old  Trialed with children with and without disabilities from 6mo –10yrs old	Children between 3 – 6yrs old  Trialed with children in daycare, preschool program, Christian daycare center, home daycare
Language	English	English
Reliability	<b>Interrater Reliability:</b> 95% of raters fit the model	<b>Interrater Reliability:</b> correlation coefficient .946 between ratings of teachers for the same child  <b>Internal Consistency:</b> $\alpha = .77 - .88$

Validity	<p><b>Construct Validity:</b> established by Rasch analysis, 96% of test items, 93% of participants</p> <p><b>Convergent Validity:</b> ToP and CPS correlated with Pearson Product Moment coefficient, <math>r = .46</math>, <math>p=0.0001</math> (Bundy et al., 2001; Hamm, 2006)</p>	<p><b>Construct Validity:</b> factor analysis = 6 factors which accounted for 71% of variance (Barnett, 1990)</p>
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### ***Measures of Adult Playfulness***

After summarizing playfulness literature, Guitard et al. (2005) concluded that playfulness “is normally associated with children and remains poorly documented in adulthood” (p. 9). Nevertheless, a handful of studies investigated adult playfulness and defined playfulness using slightly different constructs (see Table 2-4). Many researchers view adult playfulness as an aspect of *personality* or at least an enduring personal quality.

Glynn and Webster’s (1992) Adult Playfulness Scale (APS) is made up of five subscales: spontaneity, expressiveness, fun, creativity, and silliness. Schaefer and Greenberg (1997) argued that the only character trait from Glynn and Webster’s list that is both unique and essential to play is *fun*. From this theory, Schaefer and Greenberg (1997) developed the Playfulness Scale for Adults (PSA) made up of the following five factors: fun-loving, sense of humor, enjoys silliness, informal, and whimsical. Researchers found significant correlation with the Multidimensional Sense of Humor Scale (Thorson & Powell, 1993) which proves the PSA is about *fun*, however, this study lacked a comparison to prove that the PSA is about *playfulness*. Guitard et al. (2005) defined playfulness as the presence and interaction of creativity, curiosity, sense of humor, pleasure, and spontaneity. Proyer (2017) developed a scale for playfulness that determines the extent to which a person is Other-directed, Lighthearted, Intellectual, and Whimsical (OLIW). Each of these questionnaires treat playfulness as a sum of various *personality* characteristics.

These researchers seem to agree that playfulness exists on a continuum along with other personality traits, even though the exact personality traits involved are presently disputed.

Proyer's Short Measure for Adult Playfulness (SMAP; 2012) on the other hand, views playfulness more as a *behavior* that is demonstrated with high or low frequency and can be readily recognized by the person and others. A playful adult can easily change from a non-playful to a playful frame of mind and they know situations in which they are fully absorbed in playful activities (Proyer, 2012).

In 2007, Barnett put forth a definition of playfulness, arguing that it is a "*predisposition* to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment" (p. 955). This definition came from the data and descriptions from focus groups and individuals discussing characteristics of playfulness and rating themselves and others on these characteristics to determine the most agreed upon and distinguishing features of playfulness. This resulted in four component qualities of playfulness: gregarious, uninhibited, comedic, and dynamic. These results were the same for both men and women, unlike playfulness studies with children that found marked gender differences (Barnett, 1991; Barnett & Kleiber, 1982, 1984). Researchers compared their results with child playfulness studies and found the only shared component between child and adult playfulness was impulsiveness, which this study housed under the component quality of uninhibited (Barnett, 2007).

Uninhibited as a quality of playfulness surfaced again in a study by Shen et al. (2014) in which they developed the Adult Playfulness Trait Scale (APTS). This scale avoids measuring playfulness using behavioral manifestations or personality correlates, but instead focuses on the *cognitive* qualities related to playfulness. Factor analysis yielded the subdimensions of fun-

seeking motivation, uninhibitedness, and spontaneity. The *fun-seeking motivation* was a specific form of *intrinsic motivation*, and *uninhibitedness* was a specific type of *freedom*. Both *freedom* and *intrinsic motivation* are also subconstructs of the Model of Playfulness (Bundy, 1997; Skard & Bundy, 2008).

Table 2-4. *Measures of adult playfulness*

	Adult Playfulness Scale <b>APS</b> (Glynn & Webster, 1992)	Playfulness Scale for Adult <b>PSA</b> (Schaefer & Greenberg, 1997)	Other-directed, Lighthearted, Intellectual, and Whimsical <b>OLIW</b> (Proyer, 2017)	Short Measure for Adult Playfulness <b>SMAP</b> (Proyer, 2012)	Adult Playfulness Trait Scale <b>APTS</b> (Shen et al., 2014)
Purpose	Measure adult playfulness - personality	Measure adult playfulness - personality	Measure adult playfulness - personality	Measure adult playfulness - behavior	Measure adult playfulness - cognitive
Description	5 subscales: spontaneity, expressiveness, fun, creativity, silliness  32 items (25 are scored) on a 7-point semantic differential scale	5 factors: fun-loving, sense of humor, enjoys silliness, informal, whimsical  28 items, 7-point Likert scale	Extent to which an adult is other-directed, lighthearted, intellectual, and whimsical  28 items	Easy onset and high intensity of playful experiences  5 items, 4-point Likert scale	3 subdimensions: fun-seeking motivation, uninhibitedness, spontaneity  19 items  ~20 minutes
Population	Adults  Trialed with USA high school students, college students, employees	Adults  Trialed with high school students, college students	Adults  Trialed with German, Swiss, and Austrian adults	Adults  Trialed with students and adults in Switzerland	Adults  Trialed with adults in USA and in Turkey
Language	English	English	English	English	English
Reliability	<b>Internal Consistency:</b> Cronbach alpha = .88	<b>Internal Consistency:</b> Cronbach alpha = .84; .90	<b>Test-retest Reliability:</b> between 0.67 and 0.87 for one-week, two-week,	<b>Internal Consistency:</b> $\geq .80$ ; $\alpha = .88$	<b>Internal Consistency:</b> Cronbach alpha = .85



	<b>Split-half Reliability:</b> Spearman-Brown = .79 Guttman = .79 <b>Test-retest reliability:</b> .84	<b>Split-half Reliability:</b> Spearman-Brown = .87 Guttman = .86 <b>Test-retest reliability:</b> .89	one-month, and three-month intervals	<b>Test-retest reliability:</b> $r = .74, p < .001$ .	
Validity	<b>Concurrent Validity:</b> cognitive spontaneity ( $r > 2.45, p < .01$ ) creativity ( $r > .29, p < .01$ ) <b>Predictive Validity:</b> Positively related to task evaluations, perceptions, involvement, & performance ( $r > .18, p < .05$ ) <b>Face validity:</b> lacking (Fix & Schaefer, 2005; Glynn & Webster, 1992; Shen, 2010)	<b>Concurrent Validity:</b> Multidimensional Sense of Humor Scale (correlation coefficient = .62) <b>Face validity:</b> lacking (Fix & Schaefer, 2005; Shen, 2010)	<b>Content Validity:</b> Confirmatory factor analysis with goodness of fit statistics were acceptable <b>Concurrent Validity:</b> good convergence with SMAP, PYSA, & APS (Proyer, 2017)	<b>Construct Validity:</b> principal component analysis- eigen value of 3.00 that explained 59.90% of the variance <b>Content Validity:</b> Confirmatory factor analysis with goodness of fit statistics were good <b>Convergent Validity:</b> $r = .36$ with the Need for Play Scale (Proyer, 2012)	<b>Discriminant Validity:</b> correlations between the five first-order factors $< .80$ <b>Face Validity:</b> expert review of items <b>Content Validity:</b> Confirmatory factor analysis with goodness of fit statistics were strong (Shen et al., 2014; Yurt et al., 2016)

In conclusion, researchers have decided that a focus on playfulness will yield helpful results for practitioners. Occupational therapists commonly measure child playfulness using Skard and Bundy's (2008) model of playfulness with the subconstructs of motivation, sense of control, freedom from constraints of reality, and framing. Many researchers view adult playfulness as made up of personality characteristics (Glynn & Webster, 1992; Guitard et al., 2005; Proyer, 2017; Schaefer & Greenberg, 1997), frequencies of behavior (Proyer, 2012),

predispositions towards framing situations in a playful way (Barnett, 2007), and/or cognitive qualities of playfulness (Shen et al., 2014). The only published measure of caregiver playfulness within the context of joint play is the PC-SCP, which is based on the same theoretical foundation as the ToP and relies on clinical observation of a play session (Waldman-Levi & Bundy, 2016). The only measure of joint playfulness that includes self-report and draws from a caregiver's reflection of general joint play interactions is the PaPA (Román-Oyola et al., 2020, Román-Oyola et al., 2019).

### **Summary of Literature Review**

My review of the literature identified several themes and a few knowledge gaps. Measurements of playfulness often focus on the child or the adult individually. Very few measurements attempt to measure the playfulness of an individual in the context of play with another person (PC-SCP, PaPA). Some measurements focused on the relationship between caregivers and children (PIR-GAS, CCSERRS). Three tools were based on Skard and Bundy's (2008) Model of Playfulness (ToP, PC-SCP, and PaPA), and a fourth tool, the APTS, had two factors (freedom and intrinsic motivation) which also related to the Model of Playfulness. This evidence suggests that although operational definitions of playfulness are highly variable and there are several proposed measures of playfulness, the literature has found some consensus on the value of the Model of Playfulness.

Play researchers have also explored the high degree of variation in caregiver-child play, and several researchers suggested this variation is in part due to different cultural beliefs and values about the purpose of play (Roopnarine & Davidson, 2015, Sutton-Smith, 1997). These different beliefs motivate caregivers to play in different ways with their children. Joint play is also influenced by a caregiver's SES, the gender of the caregiver and child, and geographical

factors. This suggests that caregivers may perceive and interact with items on an assessment tool differently depending on their context. Assessment of playfulness should therefore demonstrate validity in multiple contexts, and most importantly, in contexts related to the client population of a practitioner who uses the assessment. A playfulness assessment should also incorporate the caregiver's own perspective on play and ideally allow for self-report to disclose to the practitioner any beliefs, preferences, and barriers to joint play.

In short, I found two major gaps in the literature. The first is that there are simply very few tools that investigate playfulness of caregivers in joint play. Of the two instruments that do exist, only one uses a self-report method, but this tool is lacking in psychometric support in different contexts. The second gap is a lack of research about how playfulness tools may vary across diverse Latino contexts. The factors of culture, class, gender, and geography can all impact the validity of a tool, and there are no valid tools that measure caregiver playfulness for the growing U.S. Latino population. A psychometrically sound and contextually relevant instrument to measure caregiver playfulness will help increase opportunities for joint play and help caregivers feel confident in their role as parent and playmate.

## CHAPTER 3 – JOURNAL ARTICLE

### Overview

**Background:** Joint play is a beneficial and meaningful co-occupation in which the caregiver's playfulness can be a support or barrier to the child's play participation. Occupational therapists who wish to optimize joint play participation for Latino American dyads need a valid and reliable measurement of caregiver playfulness. This study sought to evaluate construct validity, internal reliability, and cross-cultural validity of data collected with the Scale for Parental Playfulness Attitude (PaPA; Román-Oyola et al., 2019). **Methods:** Fifty Latino American caregivers of 29- to 85-months-old children completed the PaPA online. Data was analyzed using Rasch analysis, principal components analysis (PCA), and differential item functioning. **Results:** In the final iteration, data collected with the PaPA demonstrated preliminary evidence for construct validity (positive point-measure correlations, 93% of items fit Rasch expectations, 4.46 eigenvalues in PCA contrast, consistent rating scale, limited item spread, logical item hierarchy), excellent evidence for internal reliability (person-reliability index = 0.85, strata = 3.55), and good evidence cross-cultural validity (25/28 items (89%) formed a similar hierarchy for participants in the U.S. and Puerto Rico). **Conclusion:** The PaPA can be used to assess caregiver playfulness with culturally diverse Latino American dyads, though future research is needed to verify these preliminary findings.

### Introduction

Play is important in and of itself as a meaningful occupation for individuals across the lifespan. Occupational therapists (OTs) who seek to optimize performance and participation in play must consider the various environmental factors that impact play, including the child's

playmate(s). Children's play often occurs alongside a parent or family caregiver.<sup>4</sup> This caregiver-child joint play is an example of a *co-occupation*, in which the actions, skills, and characteristics of one player influence the play experience of the other. The caregiver-child dyad reaps joint benefits in communication and emotional understanding/relatedness (Gil, 1994). If an OT hopes to influence children's play participation with their caregivers, then the therapist must understand the reciprocal nature of this co-occupation, in which "the actions of one shap[e] the actions of the other in a close match" (Pierce, 2009, p. 199).

In support of the reciprocal nature of the co-occupation of play, researchers have found that certain caregiver behaviors support positive outcomes of child play more than others. For example, Landry et al. (1997) found parents who attended to their child's interests and did not control or restrict the child's behavior had children with greater cognitive-language and social development. Waldman-Levi et al. (2019) found mothers' demonstrations of a *supportive presence* (e.g., consistent boundaries, providing safety, help with decision-making) correlated positively with child playfulness, while demonstrations of *over-supportive behavior* (e.g., frequent praise, negotiation, support overcoming obstacles) correlated negatively with child playfulness (Waldman-Levi et al., 2019).

These research findings and the theoretical beliefs about co-occupations suggest the skills, abilities, and behaviors of caregivers influence the skills, abilities, and behaviors of children, and vice versa. Thus, assessing caregiver play skills, abilities, and behaviors is of interest to occupational therapists to target and optimize play participation for both players.

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<sup>4</sup> For the duration of this paper, I will use the term "caregiver" to refer to any adult responsible for raising a child.

### ***Measuring Caregiver Playfulness***

Play has proven difficult to define and measure because it can take many forms. Dewey (1933) suggested play is a manifestation of an *attitude*, and this attitude is known as playfulness. Playfulness is an *approach* to any activity, a particular *way of doing something* which suggests playfulness has the potential to “influence the sense and meaning given to daily occupations” (Guitard et al., 2005, p. 21). To study this attitude, Bundy and colleagues developed and published the Model of Playfulness (Skard & Bundy, 2008) that illustrates highly playful individuals as more intrinsically than extrinsically motivated during play, having the right amount of internal control over the play and being free from unnecessary constraints of reality to pretend or be creative and sensitive to cues from others that help frame play (Bundy, 1997; Skard & Bundy, 2008).

When applied to caregivers in the context of joint play, these four elements give rise to important considerations. Ensuring intrinsic motivation requires finding an activity that both players enjoy. This is more challenging when the dyad has different interests and preferences. Thankfully, there are several sources of intrinsic motivation for the dyad to choose from. Some sources of intrinsic motivation include desire for mastery (Neumann, 1971), challenge, curiosity, context (Lepper & Henderlong, 2000), outcome uncertainty/suspense (Abuhamdeh et al., 2015), sensation, and social interaction (Skard & Bundy, 2008).

In joint play, both the caregiver and the child must feel a degree of internal control. Neumann (1971) described the sharing of control between the child and another object or subject as a *cooperative locus of control*. Even though control is shared, each participant has some degree of internal control (Neumann, 1971). However, negotiating who has what degree of control may be a challenge, especially within a caregiver-child relationship.

Both players must be adept communicators of their intention to play, and this involves both giving and receiving cues. Developmentally, humans first learn receptive communication (e.g., listening, watching) before learning expressive communication (e.g., telling, showing, asking; Healthwise Staff, 2020). Caregivers may be experienced at receiving their child's cues, especially if they are attuned to the child's cues for other needs (e.g., food, sleep). However, caregivers may not *give* cues regarding play that are clear enough for a child who is still developing receptive communication skills and who may respond best to obvious or exaggerated cues. Further, caregivers may feel silly or be embarrassed to give exaggerated play cues. However quality joint play requires both players to be able to show and understand the other player's intentions.

With two people playing together, players have the option to either suspend reality in their own way or to join in with the other player's conception of reality. This may look like the caregiver initiating imaginative play, pretending a block is a car for example, and the child copying this idea in their own use of the block or vice versa. The child may take suspension of reality further by deciding that the caregiver's arm is the road. Joint play provides a unique environment where suspension of reality is negotiated and added onto by the other player.

Using this Model of Playfulness, Skard and Bundy (2008) published a Test of Playfulness (ToP) for children; data gathered with this assessment yielded evidence for validity and reliability (e.g., Bundy et al., 2001; Hamm, 2006). Analyses of this instrument suggested that, as it is defined by the ToP items, playfulness is a unidimensional construct. Román-Oyola et al. (2019) applied this model to the Scale for Parental Playfulness Attitude (PaPA<sup>5</sup>), a self-report instrument for use with parent-child dyads. Data gathered with the PaPA had good evidence for

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<sup>5</sup> In Spanish, PaPA is called Escala AJugar

content validity (alignment with expert, parent, and child interviews) and internal reliability (Cronbach's  $\alpha = .90$ ) for Spanish-speaking caregivers living in Puerto Rico (Román-Oyola et al., 2019; Román-Oyola et al., 2020).

Nonetheless, when Román-Oyola et al. (2020) examined construct validity, they found evidence of multidimensionality. Factor analysis revealed five factors, differentiated by the four elements of playfulness with control items split into two factors that seemed to reflect shared control and personal control. The apparent multidimensionality of playfulness defined by PaPA items contrasts with the unidimensionality of playfulness defined by ToP items. This may be explained in part, by the inclusion of items reflecting extrinsic motivation in the PaPA. Therefore, further analysis is warranted to further investigate construct validity, including the dimensionality of playfulness in the PaPA.

A logical way to explore instrument dimensionality is through Rasch analysis. Rasch examines the dimensionality of an instrument, by examining several factors including goodness of fit of items to the construct. As another reflection of construct validity, Rasch tests the assumption that easy items are easy for *all* participants and that more playful caregivers are more likely to endorse harder items than are less playful caregivers. If this assumption is met, then then no matter how different two participants may be from each other, they will find the easy items to be easy, and the hard items to be hard. The only reason two participants get different scores should be because they have different amounts of the construct (i.e., one is more playful than the other). Unidimensionality is an essential feature of measurement (Wright & Masters, 1982; Bond et al., 2021). Thus, making sure playfulness is the only factor that differentiates participants is an important matter, especially when playfulness is a complex construct closely tied to the occupation of play, which is influenced by several factors.



Some major factors that influence play include gender, socioeconomic status (SES), and culture. Caregiver and child gender may impact the structure, type, and style of play (e.g., physical or intellectual challenges, frequency of play, amount of guidance; Cabrera et al., 2017; John et al., 2013; Lin et al., 2013). SES may impact whether caregivers have time and energy to engage in play with their children given the need to prioritize work and household responsibilities (Milteer & Ginsburg, 2012; Shah et al., 2019).

Culture influences many aspects of play, including beliefs about the purpose of play, characteristics demonstrated during play, where play occurs, and with whom (Roopnarine & Davidson, 2015). Even if two caregivers come from a similar cultural background, their beliefs and practices involving play may be influenced by differing social norms, political climates, and whether they belong to an ethnic minority or majority in their place of residence. Those who identify as an ethnic minority often experience higher levels of real and/or perceived surveillance (Gellman & Alder-Bell, 2017; Núñez, 2020) which could affect where, why, and how caregivers play with their children. Gender, SES, and culture may influence manifestations of play; however, measurement of playfulness as the *attitude* or *approach* to an activity should not be influenced by such factors. A tool that measures playfulness should function in the same way for any caregiver, despite differences in the manifestations of play. Thus, we hypothesize that the Rasch-generated item hierarchy of the PaPA should not differ significantly for caregivers living in one country as for caregivers living in another country.

In keeping with the principals of evidence-informed practice, OTs must feel confident that the results of an assessment of caregiver playfulness are valid with their client population. One rapidly growing and extremely diverse segment of the U.S. population that OTs serve is those who identify as coming from a country in Latin America or as being Hispanic or

Latino/a.<sup>6</sup> According to the 2019 U.S Census Bureau, there are 60.6 million Latino adults living in the United States (Gonzalez-Barrera, 2020). This large population of individuals comes from different cultural backgrounds, socioeconomic classes, geographic locations, and educational backgrounds (Noe-Bustamante, 2019). Given the large population of Latinos in the U.S and the diversity that exists within this population, it is important for OT practitioners to know whether a given assessment is valid and reliable for a specific group of clients.

### ***Purpose and Research Questions***

The preliminary evidence for the validity and reliability of the PaPA is promising but not unequivocal. The question of dimensionality requires further investigation, as the theoretical basis of the instrument and other instruments based on the same model suggest a unidimensional construct. Further, this evidence has only been analyzed for caregivers living in Puerto Rico. Investigating the validity and reliability of the PaPA with participants outside Puerto Rico would enable practitioners to use the PaPA with a more diverse Spanish-speaking client population. Given such an assessment, OTs could more effectively promote caregiver-child play for Latino client dyads. Therefore, the purpose of this study is two-fold: to establish evidence for construct validity and internal reliability of data collected using the PaPA from a sample of Spanish-speaking Latino caregivers living in the U.S., and secondly, to explore the evidence of cross-cultural validity of the PaPA with two distinct Latino populations: one living in the U.S. and the other living in Puerto Rico. In short, this study aims to answer the following research questions:

1. What is the evidence for *construct validity* of data collected using the PaPA?

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<sup>6</sup> In a national survey of Latinos in 2019, 47% of respondents preferred to use the country of origin to describe their identity (e.g., Mexican, Cuban), while 39% preferred the terms “Hispanic” or “Latino” (Gonzalez-Barrera, 2020). To respect these preferences and to be succinct, I will use the term “Latino” for the remainder of this paper to refer to those who identify their family’s country of origin as within Latin America, regardless of country of residence.

- 1.a. Do responses to items on the PaPA correlate positively with increased total scores of playfulness, as measured by point-measure correlations?
- 1.b. Do data from 95% of items on the PaPA conform to the expectations of the Rasch model, as measured by acceptable goodness-of-fit statistics?
- 1.c. Does principal components analysis of linearized residuals suggest the presence of multiple meaningful underlying constructs (i.e., multidimensionality) in the PaPA?
- 1.d. Does the rating scale progress in the expected order, with sufficient difference between each point on the rating scale, as measured by Rasch-generated step thresholds?
- 1.e. Is the spread of item difficulties on the PaPA sufficient to capture levels of playfulness among the sample measured?
- 1.f. Do the items form a logical hierarchy from “easy” playful items to “difficult” playful items, as suggested by theory and research?
2. What is the evidence for *internal reliability* of data collected using the PaPA?
  - 2.a. Does data collected with the PaPA demonstrate sufficient internal reliability, as measured by person reliability index?
  - 2.b. How many levels of playfulness can the PaPA reliably discriminate, as measured by the number of strata associated with the measure?
3. What is the evidence for *cross-cultural validity* of data collected using the PaPA?

Specifically, does differential item functioning suggest measurement invariance among respondents living in the United States and Puerto Rico?

## **Methodology**

This study employed a quantitative exploratory design to investigate validity and reliability of data gathered with the PaPA. This study received approval from [REDACTED]'s Institutional Review Board under the protocol ID: 20-10200H.

### ***Participants***

Fifty Spanish-speaking Latino caregivers participated. We recruited participants by engaging with organizations who employ and/or serve Latino families. These organizations sent the link to the PaPA consent form and survey to their contacts. Participants were included if they met the inclusion criteria: (1) 18 years or older, (2) literate in Spanish, (3) lived in mainland U.S., and (4) primary caregiver to a child without a severe cognitive or physical disability between the ages of 2 years, 5 months to 6 years, 11 months. Participants may have spoken both English and Spanish, but since the survey was written in Spanish, English-proficiency was not required for inclusion. After completing the PaPA, all participants had the option to enter their email address to receive a \$10 Amazon gift card in appreciation of their time.

Most participants (82%) were first generation Americans, having been born in another country. Just over half of participants (54%) were born in Mexico, while others were born in the United States (16%), Argentina (8%), Venezuela (6%), El Salvador (4%), Puerto Rico (2%), Cuba (2%), Uruguay (2%), Honduras (2%), Japan (2%), and Peru (2%). Most participants were mothers (88%), between the ages of 24 and 47 ( $\mu=34.8$  years), and said the child lived with both mother and father (88%). This sample included caregivers of diverse educational backgrounds with 54% of participants having a bachelor's, master's, or doctoral degree and 40% having a high school diploma or less. To gauge participant SES, we asked, "How well does the amount of money you have meet your needs?" and provided a scale from 1 (it is not sufficient) to 10 (it is

sufficient). Thirty percent of participants answered between 1 and 5, and 70% answered between 6 and 10. A majority of children of were fairly young ( $\mu = 47.3$  months); however, they did span the range of 29 to 85 months (see Table 3-1).

The most common types of play for dyads were physical activities (72%), structured activities (64%), and passive imaginative (58%). Many participants (56%) indicated not having barriers to play, but the most common barriers to play were time (52%) and energy (28%). Most participants (65%) reported an increase in play with their child during the COVID-19 pandemic.

Table 3-1. *Caregiver Demographics,<sup>7</sup> Child Demographics, and Play Data*

<b>Caregiver Demographics</b>	<b>N = 50 (%)</b>	<b>Child Demographics</b>	<b>N = 50 (%)</b>
Caregiver Age (yr)		Child Age (mo)	
24-35 yr	28 (56)	29-47 mo	31 (62)
36-47 yr	22 (44)	48-66 mo	11 (22)
		67-85 mo	8 (16)
Relationship to Child		Child Gender	
Mother	44 (88)	Female	25 (50)
Father	6 (12)	Male	25 (50)
Annual Income		Birth Order	
\$14,999 or less	13 (26)	Only child	15 (30)
\$15,000 – \$34,999	11 (22)	Oldest	11 (22)
\$35,000 – \$74,999	13 (26)	Middle	2 (4)
\$75,000 – \$149,999	6 (12)	Youngest	22 (44)
\$150,000 or more	7 (14)		
Generation		Child Condition	
1 <sup>st</sup>	41 (82)	No Condition	44 (88)
2 <sup>nd</sup>	6 (12)	Condition or difficulty	6 (12)
3 <sup>rd</sup>	3 (6)	Autism	2
		ADHD	1
		Down Syndrome	1
		Other	2
Years living in the U.S.A.			
1-5 years	6 (14)		
6-10 years	15 (35)		
11+ years	22 (51)		
Psychological Distress			
None	38 (76)		
Mild	8 (16)		
Moderate	2 (4)		
Severe	2 (4)		

<sup>7</sup> See Appendix C for additional demographic information

Employment	
Full-time at home	9 (18)
Full-time not at home	5 (10)
Part-time at home	7 (14)
Part-time not at home	3 (6)
Not employed	26 (52)

<b>Play Data</b>	<b>N = 50 (%)</b>
Type of play*	
Structured activities	32 (64)
Passive imaginative	29 (58)
Active imaginative	19 (38)
Physical activities	36 (72)
Rough and tumble	18 (36)
Other	2 (4)
Barriers to play*	
Energy	14 (28)
Time	26 (52)
Physical agility	6 (12)
Imagination	5 (10)
My temperament	1 (2)
Child safety	6 (12)
Child academic responsibilities	2 (4)
Child temperament	4 (8)
Prefer to be child's parent rather than playmate	0
Other	1 (2)
No problems enjoying play	28 (56)
Play during COVID-19 pandemic	
More	32 (64)
Same amount	10 (20)
Less	8 (16)

*\*The raw number of responses is greater than 50 because participants could choose up to 3 responses.*

To answer the third research question about cross-cultural validity, I selected 50 participants from Román-Oyola et al.'s (2019) data set who reflected similar demographics to the 50 participants from the mainland U.S. sample based on child age, child gender, presence or lack of a condition, and caregiver gender. This minimized group differences based on these demographic factors. The two groups provided a comparison of a homogeneous Latino population (Puerto Rico) with a heterogeneous Latino population (mainland U.S.) to explore cultural influences on PaPA item functioning.

## ***Instrument***

The PaPA has six sections: personal information, types of play and barriers, motivation to play (both intrinsic and extrinsic), control while playing, suspension of reality, and cues to frame play<sup>8</sup> (Román-Oyola et al., 2019). Only the last four sections (motivation, control, suspension of reality, framing) contribute to the overall playfulness score. These sections ask participants to indicate their level of agreement with statements about play with their child on a 5-point Likert scale: (1) Totalmente en desacuerdo; En desacuerdo; Neutral; De acuerdo; (5) Totalmente de acuerdo.<sup>9</sup> Written directions instructed participants to think about their play with just one child as they responded to items. If the caregiver had more than one child between the ages of 29 and 85 months, then participants were asked to think only about play with their youngest child. I uploaded the PaPA to an end-to-end encrypted application service (SSL) and collected and stored data via an encrypted cloud platform (hosted by Microsoft Azure).

## ***Procedure***

I emailed a primary contact in each organization who sent the PaPA link to their employees, clients, or contacts. Eligible participants completed the survey on an electronic device at their chosen location and time. Participants had the contact information of the PI if they had questions about the study (Appendix B). I encouraged them to forward the link to others who met the inclusion criteria.

## ***Data Analysis***

I analyzed the data using Rasch analysis, a latent-trait psychometric model that converts ordinal-level data into interval-level data. For this study, the latent trait is ‘caregiver playfulness.’ Rasch analysis has two major assumptions; as they apply to the current study, these assumptions

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<sup>8</sup> see Appendix A for the full PaPA survey

<sup>9</sup> (1) Totally disagree; Disagree; Neutral; Agree; (5) Totally agree

are (i) people who are *more* playful are more likely to respond ‘strongly agree’ or ‘agree’ to items that are more *difficult* to endorse (those that require the most playfulness); and (ii), *all* respondents are more likely to score higher (i.e., respond ‘strongly agree’) to items that are *easier* to endorse (those that require the least playfulness (Bond et al., 2021). I examined the evidence for construct validity, internal reliability, and cross-cultural validity using the indicators and criteria for acceptable values defined in Table 3-2 using the rating scale model of Winsteps Version No. 4.7.0 (Linacre, 2020), a Rasch-specific software program.

Table 3-2. *Rasch Indicators and Criteria for Questions of Construct Validity, Internal Reliability, and Cross-Cultural Validity (Fisher, 2007; Linacre, 2021)*

	Question	Indicator & Criteria
Construct Validity	1.a. Do responses to items on the PaPA correlate positively with total scores of playfulness, as measured by point-measure correlations?	100% of items will demonstrate Point-Measure Correlations > 0
	1.b. Do data from 95% of items on the PaPA conform to the expectations of the Rasch model, as measured by acceptable goodness-of-fit statistics?	95% of infit mean-square item fit statistics will be between 0.5 – 1.5
		95% of infit standardized item fit statistics will be between -2.0 – +2.0
	1.c. Does principal components analysis of linearized residuals suggest the presence of multiple meaningful underlying constructs (i.e., multidimensionality) in the PaPA?	Principal components analysis of model residuals will reveal no contrasts > 3 eigenvalues (i.e., with the strength of fewer than 3 items)
	1.d. Does the rating scale progress in the expected order, with sufficient difference between each point on the rating scale, as measured by Rasch-generated step thresholds?	The average score associated with each point on the rating scale will progress in concert with the average of the overall total scores
	1.e. Is the spread of item difficulties on the PaPA sufficient to capture levels of playfulness among the sample measured?	Visual inspection of Wright Map <ul style="list-style-type: none"> <li>- No gaps greater than ½ a logit between items</li> <li>- Similar range of item difficulty &amp; person ability</li> <li>- Similar means for item and person measures</li> </ul>
	1.f. Do the items form a logical hierarchy from “easy” playful items to “difficult” playful items?	As suggested by theory and research, easy items are easy to endorse, and hard items are hard to endorse



Internal Reliability	2.a. Does data collected with the PaPA demonstrate sufficient internal reliability, as measured by person reliability index?	Rasch person-reliability index will be $\geq 0.8$
	2.b. How many levels of playfulness can the PaPA reliably discriminate, as measured by the number of strata associated with the measure?	Strata will be $\geq 2.0$ Strata = $4G + (1/3)$ where G= separation index
Cross-Cultural Validity	3. Does differential item functioning suggest measurement variance among respondents living in the United States and Puerto Rico?	Rasch-Welch Probability: $p < .05$
		DIF contrast will be $> \pm 0.5$

I engaged in *iterative analyses*; I examined several criteria at each iteration and adjusted either items or scoring based on the results. Based on the initial data, I collapsed the rating scale for all items by combining ratings 1 and 2 to produce a scale that progressed in concert with the average of the overall scores of participants. I also removed Item 26 (Control 4) which had a negative point-measure correlation, as well as Items 5-17 (Motivation 5-17) because these items asked about *extrinsic* motivations to play (such as play is an opportunity to teach skills, values, behavior, etc.), which did not align with the theoretical basis of the PaPA (Skard & Bundy, 2008). Caregivers may be motivated to play with their children for extrinsic reasons, however this type of motivation does not connote playfulness. These items were retained in an appendix to the PaPA so practitioners can understand clients' extrinsic motivators when designing interventions (see Appendix D).

## Results

In the final iteration, reported here, the PaPA contained a 4-point Likert scale to gauge level of agreement or disagreement with 28 items. These items measured caregiver playfulness via intrinsic motivation (Mot), control (Cont), suspension of reality (Sus), and framing (Clav). I used this final version of the PaPA to answer each of the nine specific research questions.

## Construct Validity

Overall, the data collected with the PaPA demonstrated adequate construct validity. Table 3-3 gives the point-measure correlation (PMC) and item fit statistics (infit mean-square and infit Z-standardized) for each of the 28 items included in the final analysis. (1.a.<sup>10</sup>) PMC revealed that 100% of items on the PaPA correlated positively with increased total measure of playfulness. (1.b.) Two items did not conform adequately to Rasch expectations according to fit statistics – Item 18 (Mot 18) and Item 39 (Clav 3). Thus only 93% of items conformed to the expectations of the Rasch model, slightly less than the desired 95%.

Table 3-3. *PaPA item Rasch measure, infit mean-square & Z-standardized fit statistics, and point-measure correlations*

Item #	Item Label (español)	(English)	Measure	Infit* MnSq	Infit* Zstd	PMC
25	Cont3 establecemos juntos las reglas	Make rules together	1.14	0.64	-2.07	0.67
23	Cont1 acuerdo a qué queremos jugar	Agree what to play	1.10	0.80	-1.01	0.59
24	Cont2 de acuerdo fácilmente	We agree easily	0.94	0.92	-0.33	0.56
27	Cont5 me convierto en otro niño/a	I become childlike	0.78	1.06	0.37	0.57
39	Clav3 niño sabe cuándo quiero jugar	Child knows when I play	0.78	1.80	3.28	0.33
18	Mot18 tiempo pasa, no me doy cuenta	Time passes, no realize	0.52	1.86	3.40	0.51
20	Mot20 olvido de las cosas estresantes	I forget stress	0.52	1.42	1.88	0.51
34	Sus4 unir, situaciones imaginarias	I join imagination	0.47	0.75	-1.26	0.64
35	Sus5 objetos imaginarios	Imaginary objects	0.38	0.72	-1.42	0.64
38	Clav2 invitar a través de mis acciones	Invite with actions	0.24	1.37	1.62	0.35
29	Cont7 comportamiento manera infantil, reír	Childlike, laugh	0.19	0.95	-0.15	0.58
30	Cont8 mi niño/a dirija la actividad	Child directs activity	0.19	1.00	0.08	0.49
36	Sus6 crear historias o cuentos	I create stories	0.19	0.73	-1.31	0.65
22	Mot22 espero el momento de jugar	I can't wait to play	0.13	1.04	0.23	0.60
31	Sus1 Uso imaginación mientras juego	I use imagination	0.08	0.71	-1.36	0.62
37	Clav1 niño invitarme, acciones	Child invites, actions	0.08	0.98	-0.02	0.53
33	Sus3 situaciones imaginarias	Imaginary situations	-0.03	0.77	-1.03	0.58
28	Cont6 comportarme, manera infantil	No problem childlike	-0.08	0.96	-0.09	0.57
32	Sus2 actuar como algunos personajes	I act out characters	-0.14	0.61	-1.87	0.60
1	Mot1 satisfacer mi deseo de jugar	My desire to play	-0.32	1.21	0.88	0.48

<sup>10</sup> See Table 3-2 for the indicator and criteria for each research question

Item #	Item Label (español)	(English)	Measure	Infit* MnSq	Infit* Zstd	PMC
40	Clav4 sé cuándo niño quiere jugar	I know when child play	-0.39	1.28	1.13	0.34
42	Clav6 jugar en cualquier lugar	Play any place	-0.39	1.42	1.58	0.38
41	Clav5 hacer que mi niño juegue	Get child to play	-0.46	0.99	0.04	0.54
19	Mot19 disfruto intentar actividades	I enjoy activities	-0.60	0.85	-0.51	0.56
21	Mot21 demuestro que disfruto jugar	Show I enjoy play	-1.11	0.85	-0.43	0.48
2	Mot2 me divierto cuando juego	I have fun playing	-1.32	0.76	-0.74	0.39
3	Mot3 niño divierte cuando jugamos	Child has fun	-1.44	0.98	0.04	0.37
4	Mot4 me gusta jugar con mi niño/a	I like playing with child	-1.44	0.89	-0.25	0.40

*\*Only reporting infit statistics, which are weighted and less sensitive to outlying data that could distort the results of this small data set.*

(1.c.) Principal components analysis of linearized residuals revealed a contrast of 4.46 eigenvalues (each eigenvalue reflects approximately 1 test item); therefore, this contrast involved 15.9% of all PaPA items, which suggests the possibility of an additional underlying construct. In this contrast, five motivation items with loadings >0.5 pulled away from two framing items with loadings >0.5 (see Figure 3-1). The disattenuated correlation for this contrast was 0.38. A simulated data set using data generated via probability based on anchored item, person, and rating scale parameters (Linacre, 2021) yielded a disattenuated correlation of 0.77 for the same contrast.



(1.d.) The 4-pt rating scale progressed in the expected order for most items, with sufficient difference between each point on the rating scale. However, there was minimal difference between the lowest two answer options. (1.e.) The spread of item difficulties on the PaPA was not sufficient to capture all levels of playfulness among the sample measured (see Figure 3-2). There were no gaps greater than  $\frac{1}{2}$  a logit between items, however, the mean playfulness score of participants (1.95) was quite different from the mean item difficulty (0). In addition, person range (-.38 – 6.08) was greater than item range (-1.44 – 1.14). (1.f.) Items formed a logical hierarchy (as discussed below) from “easy” to “difficult” to endorse (see Figure 3-2). The hardest items were control items while the easiest items were motivation items. Suspension of reality and framing items were near the middle; however, categories were somewhat intermixed.

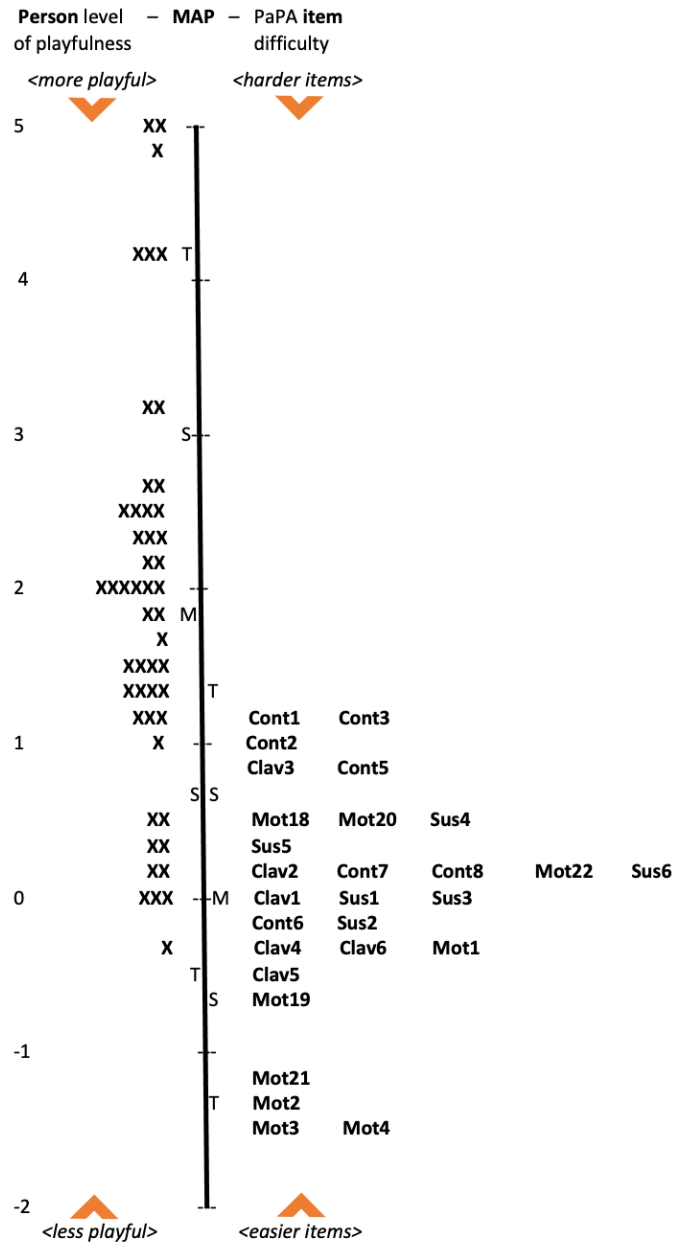


Figure 3-2. PaPA Wright Map/Item Hierarchy (Winsteps Table 1.0)

### Internal Reliability

(2.a.) The data collected with the PaPA demonstrated excellent evidence for internal reliability. The person-reliability index was  $\geq 0.8$  (0.85). This suggests that if the same participants took a survey with similar items, then it is highly likely they would fall in the same

order from most to least playful. (2.b.) In addition, the PaPA can reliably discriminate between at least three different levels of playfulness (strata = 3.55).

### ***Cross-Cultural Validity***

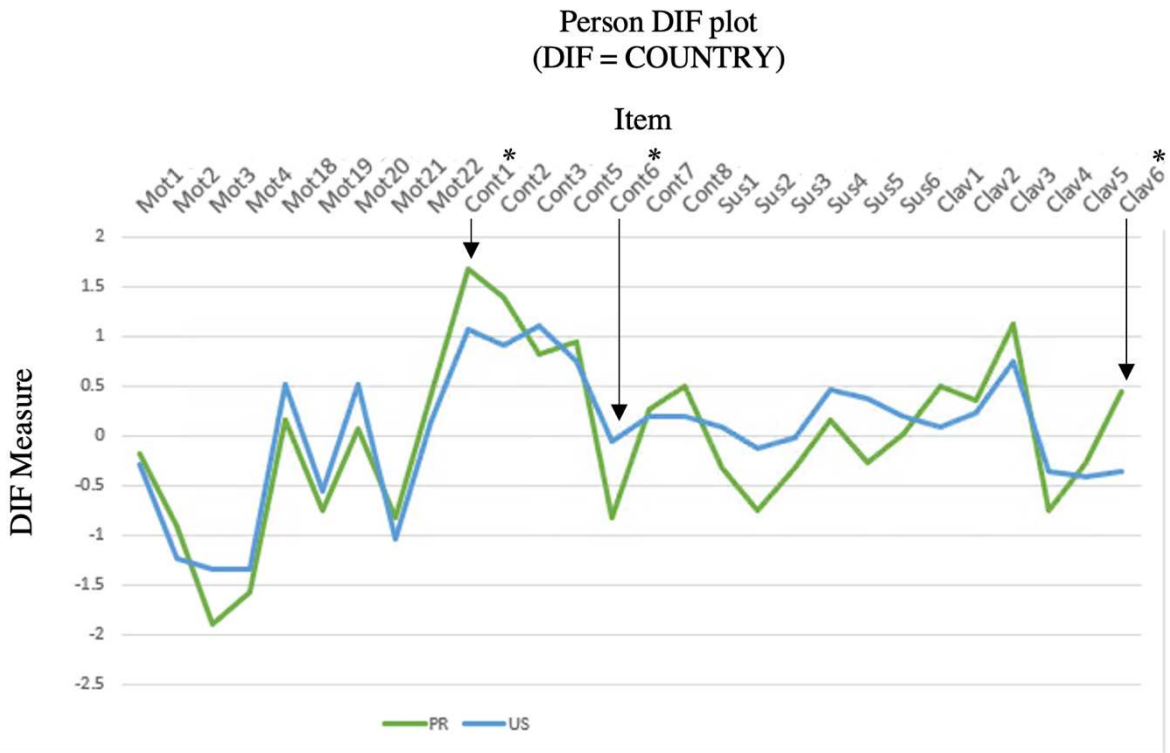
(3) Only three items had significantly different measure scores according to Rasch-Welch probability (see Figure 3-3). The item with the most significant Rasch-Welch probability was Item 42 (Framing 6: Rasch-Welch = .0162, DIF contrast = .80): “Mi niño/a y yo podemos jugar en cualquier lugar (ej. casa, parque, patio, supermercado, etc.).”<sup>11</sup> This item was rated as easier for participants in the U.S. (DIF item measure = -.36) and harder for participants in Puerto Rico (DIF item measure = .44). Item 23 (Control 1) also had a significant Rasch-Welch probability (.0255) and DIF contrast (.61): “Mi niño/a y yo nos ponemos de acuerdo fácilmente en cuanto a qué queremos jugar.”<sup>12</sup> This item was rated as easier for participants in the U.S. (DIF item measure = 1.06) than for those in Puerto Rico (DIF item measure = 1.67). Finally, Item 28 (Control 6) had a significant Rasch-Welch probability (.0425) and DIF contrast (-.76): “No tengo problema con comportarme de manera infantil cuando estoy jugando con mi niño/a.”<sup>13</sup> This item was rated as easier for participants in Puerto Rico (DIF item measure = -.83) than for those in the U.S. (DIF item measure = -.07).

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<sup>11</sup> “My child and I can play anywhere (house, park, patio, supermarket, etc.)”

<sup>12</sup> “My child and I agree easily on what we want to play”

<sup>13</sup> “I don’t mind acting silly when playing with my child”



\*Rasch-Welch Probability <.05; DIF Contrast >  $\pm 0.5$

Figure 3-3. PaPA item DIF plot based on participant country of residence (Winsteps Table 30.2)

## Discussion

Occupational therapists need a valid and reliable measurement of caregiver playfulness for the growing and diverse Latino population in the U.S. Thus, the purpose of this study was to investigate the evidence for the internal reliability, construct validity, and cross-cultural validity of data collected using the PaPA. A valid instrument for such a diverse group needs to function the same way for all clients, no matter their cultural background. To examine evidence for cross-cultural validity, I first checked that the instrument measured only the intended, unidimensional construct of playfulness. The criteria for point-measure correlations and logic of the hierarchy supported the construct validity of data gathered with the PaPA (see Table 3-2). The desired criterion for goodness of fit of items to the Rasch model was that 95% of all infit mean square and standardized values fell within the acceptable range. To meet this criterion, fit statistics for



no more than one item could fall outside the desired range. Since fit statistics for two items fell outside the desired range, only 93% of items met the criteria. Item spread revealed a mismatch between person playfulness ability and item difficulty (the sample demonstrated greater playfulness than tested by item difficulty). Nonetheless, given the exploratory nature of this investigation, I acknowledge this as preliminary evidence for construct validity of data gathered with the PaPA. We will continue to monitor goodness of fit and spread of items in future research.

To further inspect the dimensionality of playfulness defined by items in the PaPA, I examined findings from a principal components analysis (PCA) of residuals provided by Winsteps. While Rasch reports the strength of evidence for unidimensionality of an instrument, PCA contributes to evidence for multidimensionality by showing how much difference exists between opposing factors (Linacre, 2021). That is, the PCA reveals systematic differences in item difficulty between groups. Preliminary results from this analysis suggested some evidence for an additional dimension. The first contrast revealed a group of participants who gave unexpectedly high scores on motivation items but unexpectedly low scores on framing items given their overall PaPA scores. These participants were largely first-generation Americans who were born in Mexico and who were less employed. A second group of participants gave unexpectedly low scores on the motivation items and high scores on the framing items given their overall PaPA scores; these participants were first, second, and third-generation Americans born in various countries who mostly were either not employed or employed full-time from home. The reason for these group differences is unclear. However, one possible explanation for why the second group gave unexpectedly high ratings to framing items could be because, when employed full-time from home, caregivers must be very skilled and consistent at framing and

therefore distinguishing between play and not-play so that they can both care for their child *and* get in a full workday from home. The reason for differences in country of birth and generation are unclear.

While there is some logic to explain the presence of a multiple dimensions in the PaPa, the evidence is not unequivocal. I examined the disattenuated correlation showing the relationship among clusters revealed by the PCA and consulted Linacre's (2021) guidance on how to make sense of this value. The PaPa's disattenuated correlation value (0.38) did not meet the suggested guideline for multiple dimensions ( $<0.3$ ) (Linacre, 2021). Furthermore, calculating the correlation with simulated data revealed an even stronger relationship among the clusters, making it less likely the PaPa items measure two distinct dimensions.

This study found slightly more evidence for unidimensionality than multidimensionality using Rasch and a Winsteps generated PCA. This differs from Román-Oyola et al.'s (2019) findings that yielded fairly strong evidence for multidimensionality via factor analysis. The differences may be partially explained by the fact that, unlike Román-Oyola et al., I did not include the *extrinsic* motivation items in the analysis. Extrinsic motivators are often prevalent for caregivers who believe the purpose of play is to promote cognitive, physical, and social development (Cote & Bornstein, 2009; DiBianca-Fasoli, 2014; Fisher et al., 2008; Parham & Fazio, 2008; Roopnarine & Davidson, 2015; Sempek, 2009; Shah et al., 2019), to distract (Farver & Howes, 1993; Rogoff et al., 1993), to strengthen relational bonds (Agate et al., 2018; Roopnarine & Davidson, 2015; Shah et al., 2019), or to promote communal identity (Haight et al., 1999; Tamis-LeMonda et al., 1992). However, these reasons are all external to the play itself, and when activities are done primarily in pursuit of a 'remote result,' these activities stop being play and become work (Dewey, 1916). If caregivers rely on extrinsic motivators as the primary

reason to play with their child, it is unlikely the caregivers are playing and more likely they are teaching or distracting; and when the caregiver is not playing, it is harder for the child to play because the actions of one affect the other. Therefore, I removed extrinsic motivation items from the PaPA. I maintained them in an appendix to the instrument so practitioners can document which extrinsic motivators are important to the caregiver when initiating joint play.

The logic of the hierarchy of PaPA items revealed in the Wright Map (Figure 3-2) provides support for the construct validity of this instrument. The hierarchy of intrinsic motivation items distinguished between the difficulty of *simple enjoyment* and *full engagement* in play. Items that described simple enjoyment while playing (Mot 2-4) were easier than items that described full engagement in play to the extent the caregiver loses track of time (Mot 18) or forgets about stressful things (Mot 20). Full engagement is more difficult to achieve and is therefore indicative of more playfulness. Regarding control, PaPA items distinguished between the caregiver's ability to relinquish *personal control*, by acting silly or allowing the child to lead (Cont 6, 8), and the caregiver's ability to attain *cooperative locus of control* by establishing rules together and agreeing on what/how to play (Cont 1-3). Giving up personal control is difficult for a caregiver, but actively negotiating control requires regarding the child as an equal negotiator and is therefore logically more difficult.

Considering suspension of reality, PaPA items distinguished between *independent* and *joint suspension* of reality. Items that described the caregiver acting out characters (Sus 2), using their own imagination (Sus 3, Sus 1), or creating stories (Sus 6) were easier than items that described joining in on the child's make-believe situations (Sus 4) or playing together with imaginary objects/places (Sus 5). Joint suspension of reality is logically more difficult and therefore indicative of greater playfulness.

Finally, concerning framing, PaPA items were able to distinguish between caregivers' abilities to *give* and *receive* cues to play. The item hierarchy suggests it is easier for a caregiver to receive play cues from their child (Clav 4) and more challenging to give a play cue so the child knows when the caregiver would like to play (Clav 3). Caregivers must attend to children's cues for other needs besides play, so it follows logically that attending to play cues would be fairly easy. However, caregivers must give clear and obvious cues to children who are still learning to make sense of cues. Even though it was difficult for the child to know when the caregiver would like to play, it was easy for participants to get their child to play with them (Clav 5). The reason for this contradiction is unclear, but one possible explanation is that caregivers may be hesitant to say they know what their child knows, but they are more confident in their ability to initiate play with their child.

As evidence for cross-cultural validity of data gathered with the PaPA, I examined whether the item hierarchy remained the same for participants living in different countries. The item hierarchy obtained from participants in mainland U.S. did not differ significantly from the hierarchy obtained from participants in Puerto Rico. Out of 28, only three items differed significantly. The reasons for these three differences are unknown, however the literature suggests possible cultural explanations.

Item 28/Cont 6 ("No tengo problema con comportarme de manera infantil cuando estoy jugando con mi niño/a"<sup>14</sup>) was significantly easier for participants in Puerto Rico than for those in the U.S. One possible explanation comes from a study by Scheffner Hammer et al. (2007) who found that less acculturated Puerto Rican mothers living in mainland U.S. more highly valued child self-direction and did not emphasize conformity as much as more acculturated Puerto

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<sup>14</sup> "I don't mind acting silly when playing with my child"

Rican mothers.<sup>15</sup> These findings may be surprising, as American culture is often associated with valuing self-direction and nonconformity. However, this finding gives one possible reason why, given the tendency to encourage children to direct themselves and not conform, Román-Oyola et al.'s (2019) Puerto Rican participants would more easily agree that they have the freedom to act as silly or as childlike as they please.

Participants living in the U.S. may also value self-direction, however, one possible reason acting silly was harder for U.S. participants could be because Latinos in the U.S. often experience excessive surveillance from others due to the political climate and presence of racism in the U.S. Officially sanctioned surveillance practices are imposed “unequally on poorer, browner, and blacker communities” (Gellman & Alder-Bell, 2017, p. 2-3) and even if individuals are desensitized to this disparity, increased surveillance practices alter everyday routines, energy expenditure, levels of fear, and opportunities for self-advocacy (Núñez, 2020). An additional negative consequence to increased surveillance may be that caregivers are less inclined to act silly when playing with children for fear others will perceive them as irresponsible or less capable. Puerto Rican caregivers may play more freely and with less inhibition because they are surrounded by neighbors of the same ethnicity, while the U.S. caregivers are likely ethnic minorities and may feel the need to monitor and inhibit their behavior.

If caregivers in Puerto Rico are more likely to act silly and childlike when playing but also highly value *respeto*, or respectful behavior (Colón et al., 2018), then it stands to reason there may be more distinct/defined places where such silly behavior is endorsed. This is one possible explanation that Item 42/Clav 6 was more difficult for participants in Puerto Rico (“Mi niño/a y yo podemos jugar en cualquier lugar (ej. casa, parque, patio, supermercado, etc.)”<sup>16</sup>).

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<sup>15</sup> Amount of acculturation was indicated by time living in mainland U.S. and child language exposure by age 3

<sup>16</sup> “My child and I can play anywhere (house, park, patio, supermarket, etc.)”

Puerto Ricans may have private spaces designated for being silly while playing with their children while other places are designated as places for respectful, non-playful behavior.

The Puerto Rican value for *respeto* is also associated with deference to parental authority (Colón et al., 2018). This may help explain why participants rated Item 23/Cont 1 (“Mi niño/a y yo nos ponemos de acuerdo fácilmente en cuanto a qué queremos jugar”<sup>17</sup>) as easier for participants in the U.S. than those in Puerto Rico. If caregivers are given greater authority and respect, then it may be more difficult for Puerto Rican parents to share this authority or control and to agree with the child on what to play.

In summary, these three significant differences found in the DIF analysis have some possible cultural explanations. However, the fact remains that due to these items, the PaPA item hierarchy formed from the data of U.S. Latino participants was not the same as the hierarchy formed from the data of Puerto Rican participants. Therefore, I suggest monitoring these items in future research to determine whether they should be eliminated from the PaPA. These items may be redundant, given that both Cont 6 & Cont 7 are about the caregiver acting silly during play, and both Cont 1 and Cont 2 are about the caregiver and child coming to agreements. Cont 6 does not seem to be redundant, so it may provide unique playfulness information. Even if these three items are retained, the overall cross-cultural validity of the PaPA remains fairly strong, as 25/28 items did not differ significantly in relative difficulty for participants in the U.S. and Puerto Rico.

### ***Implications for Practice***

The results of this study offer several implications for occupational therapy practice. The first is that the PaPA provides valid and reliable measurement of caregiver playfulness for Spanish-speaking clients in the U.S. The strata value indicates the PaPA can distinguish between

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<sup>17</sup> “My child and I agree easily on what we want to play”

at least three levels of playfulness, such as more playful, moderately playful, and less playful. Having these three categories may make the PaPA sensitive to change if used as pre- and post-intervention outcome measure. However, at this stage, it is not possible for practitioners to derive true interval level scores. Nonetheless, practitioners may administer the PaPA and compare item responses to the item hierarchy (Figure 3-2) to guide client intervention. The OT can provide the just-right-challenge by focusing on skills described in the items that are near the participant level and progress to more difficult skills.

### ***Limitations***

The results of this study should be viewed in light of its limitations. This study's small yet diverse sample size meant I was unable to draw conclusions about PaPA item functioning for unique Latino subgroups. My use of convenience sampling and the unique temporal context of the COVID-19 pandemic may limit the generalizability of results. In addition, this study sought to compare PaPA item functioning across two distinct contexts, however participants in mainland U.S. and Puerto Rico may have been somewhat similar depending on levels of acculturation. The PaPA is a self-report measure, and as such there was inevitably associated bias. Lastly, I was unable to determine whether the PaPA was able to capture a full range of playfulness ability because I did not collect external indicators of relative playfulness of participants, such as the client's perception of their overall level of playfulness.

### ***Future Research***

Rasch analysis revealed that the relative difficulty of the items was below the ability levels of most participants. To determine whether this is because the PaPA items are too "easy" to endorse or if the participants were all highly playful, future researchers should administer the PaPA to participants with a wide range of play quality. This would likely involve investigating

the barriers and supports to quality play participation to identify populations that are at risk for poor joint play and populations that likely have excellent joint play. Gathering evidence from a population with a greater range of playfulness ability would help practitioners know what PaPA score constitutes “playful enough,” low, moderate, and advanced playfulness. In addition, future research could administer the PaPA alongside a external measures of playfulness such as participant perception of own playfulness or observational tool to explore evidence for predictive validity of the PaPA.

### ***Conclusion***

As defined by items in the PaPA, caregiver playfulness is likely a unidimensional construct that is not significantly influenced by contextual differences. While contextual factors such as culture may greatly influence the structure and function of play as an occupation, playfulness as an approach to occupation varies somewhat but overall crosses cultures without significant variation.

The PaPA may be used to establish a baseline for caregiver playfulness for Spanish-speaking clients with children between the ages of 2.5 and 7 years help practitioners identify elements and skills in need of intervention and to show evidence of change that results from interventions. Such an instrument may be useful for occupational therapists seeking to promote quality performance and participation in the co-occupation of caregiver-child joint play.



## CHAPTER 4 – REFLECTIONS AND CONCLUSIONS

This study found preliminary evidence for construct validity, excellent evidence for internal reliability, and good evidence for cross-cultural validity for data collected with the PaPA. Evidence in this study did not provide a definitive answer about the dimensionality of playfulness as defined by items in the PaPA, however I believe it is more likely the PaPA measures a unidimensional construct of playfulness due to basis on the single-construct Model of Playfulness and the Rasch evidence for unidimensionality found in this study. Cross-cultural analysis demonstrated minor variation in item relative difficulty based on cultural differences related to freedom to act childlike, place-based behavioral expectations, and deference to parental authority. The PaPA could reliably discriminate between at least three levels of playfulness which may make it sensitive to change resulting from intervention. Therefore, the PaPA shows great promise for use as an assessment of caregiver playfulness for Spanish-speaking clients with children between the ages of 2.5 and 7 years and could be used by OTs to assess and promote joint play participation.

The items were arranged in a logical hierarchy from easier to more difficult to agree with. This hierarchy gives direction for OTs seeking to provide the just-right challenge in joint play interventions. The hierarchy of intrinsic motivation items in this study distinguished between simple enjoyment and full engagement in play. Practitioners may want to find activities that fully engage both child and caregiver to the point where the dyad loses track of time and forgets about external stressors (Mot 18, 20). Given the hierarchy of control items, practitioners may want to first focus on the caregiver's ability to relinquish personal control, by acting silly/childlike, or allowing the child to lead for example (Cont 6, 8), and then challenging the caregiver to

negotiate and share control with the child to attain a more advanced *cooperative locus of control* by establishing rules together and agreeing on what/how to play (Cont 3, 2, 1). Learning to share and negotiate this control may be the most difficult element of playfulness for a dyad to master.

Regarding framing, occupational therapists can expect most caregivers to be able to notice, identify, and *receive* play cues from their child, as they have experience attending to the child's cues for other needs such as for food and sleep. The more difficult task for caregivers may be to effectively *give* play cues to their children. Practitioners might need to explain that children are still developing receptive communication skills and so caregivers should use more obvious and exaggerated cues to make sure the child understands their intention to play.

Finally, results from the PaPA item hierarchy suggest it is easier for caregivers to suspend reality on their own than it is for them to join in on their child's conception of reality. Practitioners could grade an intervention down by encouraging the caregiver to suspend reality on their own or grade the intervention up by inviting the client to join the child's conception of reality. The caregiver themselves can then be taught how to make play easier or more challenging for their child by allowing the child to suspend reality or inviting the child to join in the caregiver's suspension.

The ability to measure caregiver playfulness has important implications for the caregiver-child relationship and for child development. Caregivers who are motivated to play, properly share control, suspend reality to some degree, and frame their play by giving and receiving cues will likely enable higher quality play for their child. Having a highly playful caregiver as a playmate does not guarantee quality child play, but it does increase the likelihood for quality play. Enhancing the quality of caregiver-child joint play becomes especially important when either or both members of the dyad have experienced some form of occupational disruption (i.e.,

illness, injury, major life transition, relocation, or loss). A major disruption may negatively impact the quality and/or quantity of joint play, so it is of interest to occupational therapists to provide the most supportive environment for quality joint play. Caregivers strongly influence the environment in which their children play, and in some cultures, caregivers are the primary playmate of young children. Therefore, occupational therapists need a valid and reliable measure of caregiver playfulness to know how best create the optimal joint play environment.

The growing population of Spanish-speaking American caregivers in the U.S. is extremely diverse. Having a Spanish version of an assessment does not signify that the instrument is valid and reliable for a given Latino American client. An assessment that aims to be valid for such a diverse population must demonstrate evidence for validity across Latino cultural sub-groups, in addition to construct validity and internal reliability.

This research is a valuable step towards improving the quality of joint play as a meaningful co-occupation for caregiver and child. It also provides a valuable example for investigating the validity and reliability of an assessment as it applies to a specific client population. If we recognize the influences of culture and other demographic factors on participation in occupations, then we must take time to determine the validity and reliability of a given instrument to a given client population. This study hopes to promote cultural humility and context-specificity in the assessment and intervention of caregiver playfulness.

### **Future Research**

This was a preliminary study of this instrument, and so there are several opportunities to find evidence to enhance the strength of the PaPA. Any future research should continue to monitor the dimensionality and cross-cultural validity of the instrument, as evidenced by multiple analyses. This study found that employment seemed to affect participant responses to

some extent, so future research should explore underlying reasons such as finances, education levels, class differences, or time spent at home. Another important task is for researchers to administer the PaPA to a sample of caregivers who likely represent a wide range of playfulness. This will help determine whether the existing PaPA items can sufficiently capture low and high playfulness. Next, researchers can determine the true interval scores for each level of playfulness (what score range falls under low, moderate, or advanced playfulness). Finally, future research should begin to measure the clinical utility of the PaPA, focusing on its sensitivity to change and ability to help practitioners determine the just-right-challenge for joint play interventions.

Aside from increasing the evidence for use of the PaPA, future studies could develop measures of playfulness for other playmates such as siblings and grandparents. Such measures may be very useful for dyads from cultures and contexts where primary caregivers are not the primary playmate.

### **Personal Reflections**

Working on this thesis provided me with a great depth of understanding about play and playfulness, which will help me be able to both assess barriers to play as well as promote play in my practice as an occupational therapist. I am better equipped to promote playfulness in both children and caregivers, as I know that in the co-occupation of joint play, the behaviors of one player influence the playfulness of the other. Co-occupations contain unique benefits and complexities. I was grateful for the opportunity to delve into co-occupations, as the field of OT is gradually giving more attention to how populations and groups complete occupations simultaneously.

Working on this thesis required me to think deeply about how contextual factors such as culture, socioeconomic status, gender, and geography may influence play between a dyad. I

knew that these would be important factors from the beginning, but I quickly learned that I would need to think about these factors with even greater intensity and humility as my work progressed. Some of this learning came from the amazing opportunity to work alongside occupational therapy practitioners, researchers, organizational contacts, and participants who live in different contexts than me. I really enjoyed learning about the cultural and socio-political difference that shape participation in play.

I knew I would be promoting the use of valid and reliable instruments, but I did not know how difficult and important it is for an instrument to only measure the single, intended construct. If the instrument cannot prove unidimensionality, then the usefulness of the score is in question. Occupational therapists often use assessments to analyze a person's underlying capabilities, however we must first question the dimensionality of instruments to ensure other capabilities are not being tested simultaneously.

I sometimes struggled with the desire to have a universal measure of playfulness that functions the same way for people of any cultural background, and the desire to show how the pervasiveness of cultural influence makes it impossible to have a universal measure of a construct as complex as playfulness. In the end, I think it is good to strive for a universal measure of playfulness to ensure the instrument measures just one construct and so it can benefit the greatest number of clients, even if the measure will never be 100% consistent across *all* cultural contexts.

I hope to use the PaPA in my future practice to assess caregiver playfulness. I want to advocate for play as a meaningful occupation for both caregivers and children by promoting reliable and culturally valid assessment and measurement. In the future, I hope to work alongside Spanish-speaking clients, who are often subject to occupational disruptions due to changing

sociopolitical factors and climates, migration, and injury/illness. I am so glad there is a tool I can use to support the joint play of future Spanish-speaking client dyads. Finally, I want to continue learning from Latino American voices as I strive to prioritize cultural humility in both my personal life and professional practice.

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## APPENDIX A

### Escala de actitud juguetona de los padres durante la co-ocupación del juego (Escala AJugar)

#### Parte I: Información personal

Las siguientes preguntas se pedirán sobre uno de sus hijos/as. Su hijo/a debe tener entre 2 y 6 años, 11 meses. Si tiene más de un hijo/a en este rango de edad, por favor responda a estas preguntas sobre su hijo/a menor.

#### Preguntas acerca del niño y su entorno familiar

1. Edad del niño/a: \_\_\_\_\_ años y \_\_\_\_\_ meses

2. Sexo del niño/a: ☐ Femenino ☐ Masculino

3. ¿Tiene su niño/a alguna condición diagnosticada?

☐ Sí; por favor especifique el diagnóstico: \_\_\_\_\_

☐ No

☐ No ha sido diagnosticado, pero presenta dificultades relacionadas con: \_\_\_\_\_

4. ¿En qué país nació el niño/a?

☐ Los EE. UU.

☐ Puerto Rico

☐ Cuba

☐ El Salvador

☐ Otro: \_\_\_\_\_

5. ¿Quién está a cargo del niño/a?

☐ Madre

☐ Padre

☐ Madre y padre

☐ Otro; por favor especifique: \_\_\_\_\_

6. Indique las personas que viven con el/la niño/a (marque todas las que apliquen):

☐ Madre

☐ Padre

☐ Abuela

☐ Abuelo

☐ Hermanos/as

Cantidad de hermanos: \_\_\_\_\_

¿Cuál es la orden de nacimiento de esta niño/niña?

☐ El/La hijo/a mayor

☐ Un hijo/a del medio

☐ El/La hijo/a menor (o más joven)

☐ Otros; por favor especifique: \_\_\_\_\_

### ***Preguntas acerca de usted***

**1. ¿Qué edad tiene usted?** \_\_\_\_\_

**2. ¿En qué país nació usted?**

- ☐ Los EE. UU.
- ☐ Puerto Rico
- ☐ Cuba
- ☐ El Salvador
- ☐ Otro: \_\_\_\_\_

**3. ¿En qué país nació su madre?**

- ☐ Los EE. UU.
- ☐ Puerto Rico
- ☐ Cuba
- ☐ El Salvador
- ☐ Otro: \_\_\_\_\_

**4. ¿En qué país nació su padre?**

- ☐ Los EE. UU.
- ☐ Puerto Rico
- ☐ Cuba
- ☐ El Salvador
- ☐ Otro: \_\_\_\_\_

**5. ¿Cuántos años ha vivido en los EE. UU.?**

- ☐ Menos de un año
- ☐ 1-5 años
- ☐ 6-10 años
- ☐ Más de 11 años

**6. Relación con el niño/a:**

- ☐ Madre
- ☐ Padre
- ☐ Otro: \_\_\_\_\_

**7. ¿Cómo ha afectado la pandemia de coronavirus el tiempo de juego con su hijo/hija?**

- ☐ Jugamos juntos menos durante la pandemia
- ☐ Jugamos juntos la misma cantidad durante la pandemia que antes la pandemia
- ☐ Jugamos juntos más durante la pandemia

## Parte II: Tipos de juego y barreras para jugar

### 1. De la siguiente lista, marque hasta tres tipos de juego que más realiza usted con su niño/a:

- ☐ Actividades estructuradas (por ejemplo, juegos de mesa, manualidades, rompecabezas)
- ☐ Juego imaginario pasivo (basado en situaciones imaginarias: ej. cocinero/a, doctor/a, maestro/a)
- ☐ Juego imaginario activo (basado en situaciones imaginarias: ej. el adulto es el “caballito”; héroes y villanos, “policías y ladrones”)
- ☐ Actividades físicas (por ejemplo, deportes, ir al parque, correr, bicicleta)
- ☐ Juego rudo y brusco (por ejemplo, jugar “lucha libre”, cosquillas, “perseguir y atrapar”)
- ☐ Otros; por favor especifique: \_\_\_\_\_

### 2. De la siguiente lista, marque las tres que más le impiden disfrutar el juego con su niño/a.

- ☐ Falta de energía
- ☐ Falta de tiempo
- ☐ Falta de agilidad física
- ☐ Falta de imaginación para jugar
- ☐ Mi temperamento
- ☐ Mi estado emocional
- ☐ Seguridad de su niño/a (“No quiero que se dé un golpe”)
- ☐ Responsabilidades académicas del niño/a (ej., tareas)
- ☐ Temperamento del niño/a
- ☐ Prefiero ser padre/madre en lugar de un compañero de juego
- ☐ Otra; por favor especifique: \_\_\_\_\_
- ☐ No tengo problema para disfrutar el juego con mi niño/a

## Parte III: Motivación para jugar

Marque la alternativa que mejor represente su nivel de acuerdo con cada premisa. Utilice la siguiente escala:

**TDA**=Totalmente de acuerdo    **DA**=De acuerdo    **N**=Neutral    **ED**=En desacuerdo    **TED**=Totalmente en desacuerdo

Juego con mi niño/a porque...	TDA	DA	N	ED	TED
1. Quiero satisfacer mi deseo de jugar con él/ella.					
2. Me divierto cuando juego con mi niño/a.					
3. Mi niño/a se divierte cuando jugamos.					
4. Me gusta jugar con mi niño/a.					
5. Para mi niño/a es importante que yo juegue con él/ella.					
6. Jugar con mi niño/a le ayuda a desarrollar destrezas nuevas (ej. destrezas escolares, coordinación).					
7. Jugar con mi niño/a es una buena oportunidad para enseñarle destrezas sociales (ej. esperar turnos, compartir).					
8. Jugar con mi niño/a es una buena oportunidad para enseñarle valores (ej., respeto, compasión).					
9. Jugar con mi niño/a le ayuda a comportarse mejor.					
10. Jugar con mi niño/a es una forma de ganarme su respeto.					
11. Jugar motiva a mi niño/a a realizar actividades que no son de su interés (ej., ir a bañarse).					
12. Jugar es una forma de pasar tiempo juntos.					

13. Jugar ayuda a aumentar nuestra comunicación.					
14. Logro conocer mejor a mi niño/a cuando jugamos.					
15. Jugar con mi niño/a fomenta su confianza en mí.					
16. Jugar es una forma de crear lazos emocionales con mi niño/a.					
17. Jugar es una forma de demostrarle a mi niño/a que lo/a amo.					
18. Cuando juego con mi niño/a, el tiempo pasa y no me doy cuenta.					
19. Disfruto intentar realizar las actividades que le gustan a mi niño/a.					
20. Me olvido de las cosas estresantes cuando juego con mi niño/a.					
21. Le demuestro a mi niño/a que disfruto jugar con él/ella.					
22. Frecuentemente, espero el momento de poder jugar con mi niño/a.					

#### Parte IV: Control al jugar

Marque la alternativa que mejor represente su nivel de acuerdo con cada premisa. Utilice la siguiente escala:

**TDA**=Totalmente de acuerdo    **DA**=De acuerdo    **N**=Neutral    **ED**=En desacuerdo    **TED**=Totalmente en desacuerdo

	<b>TDA</b>	<b>DA</b>	<b>N</b>	<b>ED</b>	<b>TED</b>
1. Mi niño/a y yo nos ponemos de acuerdo fácilmente en cuanto a qué queremos jugar.					
2. Durante el juego, mi niño/a y yo nos ponemos de acuerdo fácilmente.					
3. Cuando jugamos, mi niño/a y yo establecemos juntos las reglas del juego o de la actividad.					
4. Cuando juego con mi niño/a, es importante para mí seguir las reglas del juego.					
5. Cuando juego con mi niño/a, me convierto en otro niño/a.					
6. No tengo problema con comportarme de manera infantil cuando estoy jugando con mi niño/a.					
7. Cuando jugamos, me comporto de manera infantil para hacer a mi niño/a reír.					
8. Permito que mi niño/a dirija la actividad cuando jugamos.					

#### Parte V: Suspensión de la realidad

Marque la alternativa que mejor represente su nivel de acuerdo con cada premisa. Utilice la siguiente escala:

**TDA**=Totalmente de acuerdo    **DA**=De acuerdo    **N**=Neutral    **ED**=En desacuerdo    **TED**=Totalmente en desacuerdo

	<b>TDA</b>	<b>DA</b>	<b>N</b>	<b>ED</b>	<b>TED</b>
1. Uso mi imaginación mientras juego con mi niño/a.					
2. Puedo actuar como algunos personajes cuando juego con mi niño/a.					
3. Uso situaciones imaginarias para involucrar a mi niño/a en el juego.					
4. Es fácil para mí unirme a las situaciones o historias imaginarias de mi niño/a.					
5. Mi niño/a y yo jugamos con objetos o lugares imaginarios (ej., jugar que hacemos carreras de carros, jugar a ser cocinero/a o mesero/a).					
6. Me gusta crear historias o cuentos que mi niño/a disfruta.					

### Parte VI: Claves durante el juego

Marque la alternativa que mejor represente su nivel de acuerdo con cada premisa. Utilice la siguiente escala:

**TDA**=Totalmente de acuerdo    **DA**=De acuerdo    **N**=Neutral    **ED**=En desacuerdo    **TED**=Totalmente en desacuerdo

	<b>TDA</b>	<b>DA</b>	<b>N</b>	<b>ED</b>	<b>TED</b>
1. Mi niño/a puede invitarme a jugar a través de sus acciones, no solo con sus palabras.					
2. Puedo invitar a mi niño/a a jugar a través de mis acciones, no solo con mis palabras.					
3. Mi niño/a sabe cuándo quiero jugar.					
4. Sé cuándo mi niño quiere jugar conmigo.					
5. Es fácil hacer que mi niño/a juegue conmigo.					
6. Mi niño/a y yo podemos jugar en cualquier lugar (ej. casa, parque, patio, supermercado, etc.).					

### Parte VII: Información personal

#### 1. ¿Qué tan a salvo del crimen está su vecindario?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 No es seguro en absoluto Es muy seguro

#### 2. ¿De qué manera satisface sus necesidades la cantidad de dinero que tiene?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 No es suficiente Es suficiente

#### 3. ¿Tiene recursos financieros suficientes para cubrir emergencias?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 No es suficiente Es suficiente

#### 4. ¿Tiene alojamiento suficiente para satisfacer sus necesidades?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 No es suficiente Es suficiente

#### 5. ¿Tiene calefacción suficiente en su residencia?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10  
 No es suficiente Es suficiente

#### 6. ¿Durante las últimas 2 semanas, con qué frecuencia le han molestado los siguientes problemas?

	De ningún modo	Varios días	Más de la mitad de los días	Casi cada día
1. Sentirse nervioso, ansioso o con el alma en vilo	0	1	2	3
2. Incapaz de dejar o controlar la preocupación	0	1	2	3
3. Poco interés o placer en hacer cosas	0	1	2	3
4. Sentirse triste, deprimido, sin esperanza	0	1	2	3

**7. ¿Está usted empleado actualmente?**

- ☐ Sí, a tiempo completo (30 horas a la semana o más)
  - ☐ La mayor parte del tiempo desde el hogar
  - ☐ La mayor parte del tiempo fuera del hogar
- ☐ Sí, a tiempo parcial (menos de 30 horas a la semana)
  - ☐ La mayor parte del tiempo desde el hogar
  - ☐ La mayor parte del tiempo fuera del hogar
- ☐ No, actualmente no estoy empleado.

**8. Indique su nivel educativo más alto:**

- ☐ 8.º grado o menos
- ☐ Grado comercial, técnico o vocacional
- ☐ Escuela secundaria sin diploma
- ☐ Grado asociado
- ☐ Graduado de escuela secundaria o equivalente
- ☐ Bachillerato (ej., BA, BS)
- ☐ Algunos cursos universitarios, sin completar grado
- ☐ Estudios graduados (maestría o doctorado)

**9. Indique el ingreso anual del hogar:**

- ☐ menos de \$10,000
- ☐ \$10,000 - \$14,999
- ☐ \$15,000 - \$24,999
- ☐ \$25,000 - \$34,999
- ☐ \$35,000 - \$49,999
- ☐ \$50,000 - \$74,999
- ☐ \$75,000 - \$99,999
- ☐ \$100,000 - \$149,999
- ☐ \$150,000 - \$199,999
- ☐ \$200,000 o más

**10.** Si usted está interesado, puede escribir su correo electrónico para recibir una tarjeta de regalo a Amazon de \$10. Esta información se mantendrá completamente separada del resto de la encuesta.

**Correo electrónico:** \_\_\_\_\_



## Scale of Parental Playful Attitude during the Co-occupation of Play (PaPA)

### Part I: Personal information

The following questions will ask about one of your children. Your child must be between 2 and 6 years, 11 months old. If you have more than one child in this age range, please answer these questions about your youngest child only.

#### *Questions related to the child and family context*

1. Child's age: \_\_\_\_\_ years and \_\_\_\_\_ months

2. Child's sex:

- Female
- Male

3. Has your child been diagnosed with any health condition, illness, or disability?

- Yes; please specify the diagnosis \_\_\_\_\_
  - No
  - No, have not been diagnosed, but is having difficulties related to: \_\_\_\_\_
- 

4. In which country was your child born?

- Los EE. UU.
- México
- Puerto Rico
- Cuba
- El Salvador
- Otro \_\_\_\_\_

5. Who is the child's main caregiver?

- Mother
- Father
- Mother and father
- Other; please specify: \_\_\_\_\_

6. Indicate the people who live with the child (Check all that apply):

- Mother
- Father
- Grandmother
- Grandfather
- Siblings, indicate how many: \_\_\_\_\_
  - What is the child's birth order?
    - Oldest child
    - Middle child
    - Youngest child
- Others; please specify: \_\_\_\_\_

***Questions related to you***

**1. What is your age?** \_\_\_\_\_

**2. In which country were you born?**

- Los EE. UU.
- México
- Puerto Rico
- Cuba
- El Salvador
- Otro \_\_\_\_\_

**3. In which country was your mother born?**

- Los EE. UU.
- México
- Puerto Rico
- Cuba
- El Salvador
- Otro \_\_\_\_\_

**4. In which country was your father born?**

- Los EE. UU.
- México
- Puerto Rico
- Cuba
- El Salvador
- Otro \_\_\_\_\_

**5. How many years have you lived in the US?**

- Less than a year
- 1-5 years
- 6-10 years
- More than 11 years

**6. Relationship with the child:**

- Mother
- Father
- Other; please specify: \_\_\_\_\_

**7. How has the coronavirus pandemic affected playtime with your son/daughter?**

- We play together less during the pandemic
- We play together the same amount during the pandemic as before the pandemic
- We play together more during the pandemic

## Part II: Types of play and barriers to play

**1. From the following list, mark up to three types of play you do most with your child:**

- Structured activities (e.g., board games, handcrafts, puzzles)
- Passive imaginary play (based on make-believe situations: e.g., cook, doctor, teacher)
- Active imaginary play (based on make-believe situations: e.g., the adult is a “horse,” heroes and villains, “cops and robbers”)
- Physical activities (e.g., sports, going to the park, riding a bicycle)
- Rough and tumble play (e.g., play wrestling, tickling, chase and catch)
- Other, please specify: \_\_\_\_\_

**2. From the following list, mark the three that most prevent you from enjoy playing with your child.**

- Lack of energy
- Lack of time
- Lack of physical agility
- Limited imagination for play
- Your temper
- Your emotional state
- Child’s safety (“I don’t want him/her to get hurt”)
- Child's academic responsibilities (e.g., homework)
- Child’s temper
- I prefer being a parent rather than a playmate
- Other; please specify: \_\_\_\_\_
- I don’t have a problem enjoying play with my child

## Part III: Motivation to play

Mark the alternative that best represents your level of agreement with each item. Use the following scale:

**SA** = Strongly agree    **A** = Agree    **N** = Neutral    **D** = Disagree    **SD** = Strongly disagree

<b>I play with my child because...</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. I want to do so.					
2. I have fun when I play with my child.					
3. My child has fun when we play.					
4. I like to play with him/her.					
5. It is important to my child that I play with him/her.					
6. Playing with my child helps him/her to develop new skills (e.g., school work, coordination).					
7. Play is a good opportunity to teach my child social skills (e.g., waiting turns, sharing).					
8. Play is a good opportunity to teach my child values (e.g., respect, compassion).					
9. Playing with my child helps him/her to behave better.					
10. Playing with my child is a way to gain his/her respect.					
11. Play motivates my child to do activities that are not of his/her interest (e.g., taking a bath).					
12. Play is a way to spend time together.					

13. Play helps to increase our communication.					
14. I get to know my child better when we play.					
15. Play promotes my child's trust in me.					
16. Play is a way of bonding with my child.					
17. Play is a way of showing my child that I love him/her.					
18. I lose track of time when I play with my child.					
19. I enjoy trying activities that my child likes.					
20. I forget about stressful things when playing with my child.					
21. I show my child I enjoy playing with him/her.					
22. I often look forward to playing with my child.					

#### Part IV: Control while playing

Mark the alternative that best represents your level of agreement with each item. Use the following scale:

**SA** = Strongly agree    **A** = Agree    **N** = Neutral    **D** = Disagree    **SD** = Strongly disagree

	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. My child and I agree easily on what we want to play.					
2. While playing, my child and I can easily agree.					
3. When playing, my child and I establish the rules of the game or activity together.					
4. Following the rules of the game is important to me when playing with my child.					
5. When I play with my child, I become like a child too.					
6. I don't mind acting silly when playing with my child.					
7. When we play, I act silly to make my child laugh.					
8. I let my child lead the activity when we play.					

#### Part V: Suspension of reality

Mark the alternative that best represents your level of agreement with each item. Use the following scale:

**SA** = Strongly agree    **A** = Agree    **N** = Neutral    **D** = Disagree    **SD** = Strongly disagree

	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. I use my imagination while playing with my child.					
2. I can act out some characters when we play.					
3. I use make-believe situations to engage my child in play.					
4. It is easy for me to join my child's make-believe situations or stories.					
5. My child and I play with make-believe things or places (e.g., playing race cars, playing chef or waiter).					
6. I like creating stories or tales that my child enjoys.					



- Yes, part-time (less than 30 hours a week)
  - Most of that time from home
  - Most of that time out of home
- No, I am not currently employed.

**8. Indicate your highest educational degree obtained:**

- 8th grade or less
- Some high school, no diploma
- High school graduate or equivalent
- Some college credits, no degree
- Trade/technical/vocational degree
- Associate degree
- Bachelor's degree (e.g., BA, BS)
- Graduate school degree (Master or Doctoral)

**9. Indicate your annual household income:**

- Less than \$10,000
- \$10,000 - \$14,999
- \$15,000 - \$24,999
- \$25,000 - \$34,999
- \$35,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 or higher

**10.** If you are interested, you may enter your email address to receive a \$10.00 Amazon gift card. This information will be kept completely separate from the rest of the survey.

**Email Address:** \_\_\_\_\_

## APPENDIX B

Informed consent and information about the study for participants:

### **Escala AJugar**

Evidencias de validez de la Escala de Actitud Juguetona de los Padres durante la Co-ocupación de Juego

#### **Participación**

Usted ha sido invitado a participar en un estudio de investigación que consiste en la cuarta etapa del desarrollo del cuestionario titulado “Escala de Actitud Juguetona de los Padres durante la Co-ocupación de Juego (“Escala AJugar”)). En este estudio se espera la participación de al menos 50 padres y madres de niños(as) con desarrollo neurotípico, que posean las siguientes características:

- ser mayor de 18 años
- tener un(a) niño(a) entre las edades de 2 años y 6 meses a 6 años y 11 meses, con desarrollo neurotípico
- tener la capacidad de leer y comprender español
- vivir en los EE. UU.

No podrán participar padres o madres de niños(as) con condiciones que afectan marcadamente la movilidad de sus niños(as) (ej. algunas formas de parálisis cerebral, distrofia muscular). La razón para esto es que se entiende que las experiencias de juego entre estos niños y sus padres pudieran no corresponder con lo que reflejan algunas secciones del cuestionario. Si usted está de acuerdo con participar en este estudio, tome unos minutos para leer la siguiente información acerca de sus derechos como participante del estudio.

#### **La Escala**

El propósito de este estudio es evaluar la evidencia de validez de la Escala AJugar. Se espera que eventualmente, esta escala pueda ser utilizada por profesionales interesados en evaluar la percepción de los padres sobre su actitud juguetona durante las experiencias de juego con sus niños. También, queremos comparar estos resultados a los resultados de un estudio realizado en Puerto Rico para entender como la cultura y el país de residencia impactan el juego entre padres e hijos(as).

Contestar la “Escala AJugar” le tomará aproximadamente 15 minutos. El cuestionario tiene 6 secciones. La primera consiste en preguntas acerca de sus características sociodemográficas. El resto de las secciones contiene preguntas acerca de la manera en que actúa durante los momentos de juego con su niño(a). Todas las preguntas se contestan mediante selección múltiple o marcando su nivel de acuerdo con la premisa.

## **Sus derechos como participante del estudio**

Su participación en este estudio es completamente voluntaria. Usted puede retirarse del estudio en cualquier momento.

Se considera que participar en el estudio conlleva un riesgo mínimo. Por ejemplo, usted podría sentirse incómodo al tener que contestar preguntas acerca de temas como su ingreso, la conducta de sus niños(as), o sus propias conductas. Usted no está obligado a proveer información acerca de cualquier tema que pudiera incomodarle mientras contesta la “Escala AJugar.”

Si usted quiere, puede proporcionar su correo electrónico para recibir una tarjeta de regalo de Amazon de \$10, para agradecerle por su tiempo. Aparte de esto, es probable que usted no reciba ningún beneficio personal por participar en este estudio. Sin embargo, la información recopilada a través de este estudio podría contribuir a identificar aspectos claves acerca de los procesos de juego de los padres con sus niños(as). Éstos pueden ser útiles en el diseño de intervenciones dirigidas a ayudar a las familias.

Para proteger la confidencialidad de sus datos, toda comunicación a través de este espacio virtual está encriptada y protegida por un certificado de seguridad (“Secure Sockets Layers” -SSL). Únicamente sus respuestas a las preguntas serán guardadas. Ninguna información que pueda identificarle (ej., correo electrónico) se guardará. Sólo usaremos su correo para enviarle la tarjeta de regalo de Amazon.

## **Para preguntas sobre sus derechos como participante de esta investigación,**

Oficina para la Protección de Participantes Humanos en Investigación (IRB) en [REDACTED]  
[REDACTED]

## **¿Preguntas? Comuníquese:**

Kayley Goertzen

Coordinador del Estudio

[REDACTED], estudiante de postgrado

@ [REDACTED]

Dra. Anita Bundy

Investigadora Principal

[REDACTED]  
[REDACTED]  
[REDACTED] @ [REDACTED]

## **¿Desea participar?**

- ☐ He leído y comprendido la información provista acerca de mis derechos como participante del estudio.



## APPENDIX C

### *Full Demographics of Study Sample (n=50)*

	Total N (%)	Mean
Child Gender		
Female	25 (50%)	
Male	25 (50%)	
Child Age (mo)		47.34
29-47 mo	31 (62%)	
48-66 mo	11 (22%)	
67-85 mo	8 (16%)	
Child Condition		
No Condition	44 (88%)	
Condition or Difficulty	6 (12%)	
Child Birth Order		
Only Child	15 (30%)	
Oldest Child	11 (22%)	
Middle Child	2 (4%)	
Youngest Child	22 (44%)	
Participant Age (yr)		34.76
24-35 yr	28 (56%)	
36-47 yr	22 (44%)	
Child's Primary Caregiver		
Mother	6 (12%)	
Mother & Father	44 (88%)	
Participant Relationship to Child		
Mother	44 (88%)	
Father	6 (12%)	
Participant Education		
Some high school, no diploma	7 (14%)	
High school diploma or equivalent	13 (26%)	
University credit	3 (6%)	
Bachelor's	12 (24%)	
Master's or Doctorate	15 (30%)	
Participant Annual Income		
\$14,999 or less	13 (26%)	
\$15,000 – \$34,999	11 (22%)	
\$35,000 – \$74,999	13 (26%)	
\$75,000 – \$149,999	6 (12%)	
\$150,000 or more	7 (14%)	
“How well does the amount of money you have meet your needs?” (it is not sufficient) 1-2-3-4-5-6-7-8-9-10 (it is sufficient)		6.68
1-5	15 (30%)	
6-10	35 (70%)	

Generation	
1 <sup>st</sup>	41 (82%)
2 <sup>nd</sup>	6 (12%)
3 <sup>rd</sup>	3 (6%)
Years participant has lived in the U.S.A.	
1-5 years	6 (14%)
6-10 years	15 (35%)
11+ years	22 (51%)
Participant Country of Birth	
Mexico	27 (54%)
U.S.	8 (16%)
Argentina	4 (8%)
Venezuela	3 (6%)
El Salvador	2 (4%)
Puerto Rico, Cuba, Uruguay, Honduras, Japan, Peru	6 (12%)
Participant Psychological Distress	
None	38 (76%)
Mild	8 (16%)
Moderate	2 (4%)
Severe	2 (4%)
Play During COVID-19 Pandemic	
More	32 (64%)
Same amount	10 (20%)
Less	8 (16%)
Employment	
Full-time at home	9 (18%)
Full-time away from home	5 (10%)
Part-time at home	7 (14%)
Part-time away from home	3 (6%)
Not employed	26 (52%)

## APPENDIX D

### Formato del PaPA sugerido: Español

**Sección 1:** Información demográfica apropiada

**Sección 2:** Tipos de juego y barreras para jugar

**Sección 3:** Medidas de la actitud juguetona del cuidador -

#### A. Motivación intrínseca

Juego con mi niño/a porque...	TDA	DA	ED	TED
1. Quiero satisfacer mi deseo de jugar con él/ella.				
2. Me divierto cuando juego con mi niño/a.				
3. Mi niño/a se divierte cuando jugamos.				
4. Me gusta jugar con mi niño/a.				
18. Cuando juego con mi niño/a, el tiempo pasa y no me doy cuenta.				
19. Disfruto intentar realizar las actividades que le gustan a mi niño/a.				
20. Me olvido de las cosas estresantes cuando juego con mi niño/a.				
21. Le demuestro a mi niño/a que disfruto jugar con él/ella.				
22. Frecuentemente, espero el momento de poder jugar con mi niño/a.				

#### B. Control interno

	TDA	DA	ED	TED
1. Mi niño/a y yo nos ponemos de acuerdo fácilmente en cuanto a qué queremos jugar. *				
2. Durante el juego, mi niño/a y yo nos ponemos de acuerdo fácilmente.				
3. Cuando jugamos, mi niño/a y yo establecemos juntos las reglas del juego o de la actividad.				
5. Cuando juego con mi niño/a, me convierto en otro niño/a.				
6. No tengo problema con comportarme de manera infantil cuando estoy jugando con mi niño/a. *				
7. Cuando jugamos, me comporto de manera infantil para hacer a mi niño/a reír.				
8. Permito que mi niño/a dirija la actividad cuando jugamos.				

#### C. Suspensión de la realidad

	TDA	DA	ED	TED
1. Uso mi imaginación mientras juego con mi niño/a.				
2. Puedo actuar como algunos personajes cuando juego con mi niño/a.				
3. Uso situaciones imaginarias para involucrar a mi niño/a en el juego.				
4. Es fácil para mí unirme a las situaciones o historias imaginarias de mi niño/a.				

5. Mi niño/a y yo jugamos con objetos o lugares imaginarios (ej., jugar que hacemos carreras de carros, jugar a ser cocinero/a o mesero/a).				
6. Me gusta crear historias o cuentos que mi niño/a disfruta.				

#### D. Claves durante el juego

	TDA	DA	ED	TED
1. Mi niño/a puede invitarme a jugar a través de sus acciones, no solo con sus palabras.				
2. Puedo invitar a mi niño/a a jugar a través de mis acciones, no solo con mis palabras.				
3. Mi niño/a sabe cuándo quiero jugar.				
4. Sé cuándo mi niño quiere jugar conmigo.				
5. Es fácil hacer que mi niño/a juegue conmigo.				
6. Mi niño/a y yo podemos jugar en cualquier lugar (ej. casa, parque, patio, supermercado, etc.). *				

\* Items should be monitored for elimination, due to DIF analysis

#### Sección 4: Motivación extrínseca para jugar

Juego con mi niño/a porque...	TDA	DA	ED	TED
5. Para mi niño/a es importante que yo juegue con él/ella.				
6. Jugar con mi niño/a le ayuda a desarrollar destrezas nuevas (ej. destrezas escolares, coordinación).				
7. Jugar con mi niño/a es una buena oportunidad para enseñarle destrezas sociales (ej. esperar turnos, compartir).				
8. Jugar con mi niño/a es una buena oportunidad para enseñarle valores (ej., respeto, compasión).				
9. Jugar con mi niño/a le ayuda a comportarse mejor.				
10. Jugar con mi niño/a es una forma de ganarme su respeto.				
11. Jugar motiva a mi niño/a a realizar actividades que no son de su interés (ej., ir a bañarse).				
12. Jugar es una forma de pasar tiempo juntos.				
13. Jugar ayuda a aumentar nuestra comunicación.				
14. Logro conocer mejor a mi niño/a cuando jugamos.				
15. Jugar con mi niño/a fomenta su confianza en mí.				
16. Jugar es una forma de crear lazos emocionales con mi niño/a.				
17. Jugar es una forma de demostrarle a mi niño/a que lo/a amo.				
(Cont 4) Cuando juego con mi niño/a, es importante para mí seguir las reglas del juego.				

#### Sección 5: Cualquier información demográfica restante

## Suggested PaPA format: English

**Section 1:** Appropriate demographic information

**Section 2:** Types of play and barriers to play

**Section 3:** Measures of caregiver playfulness-

### A. Intrinsic motivation

I play with my child because...	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I want to do so.				
2. I have fun when I play with my child.				
3. My child has fun when we play.				
4. I like to play with him/her.				
18. I lose track of time when I play with my child.				
19. I enjoy trying activities that my child likes.				
20. I forget about stressful things when playing with my child.				
21. I show my child I enjoy playing with him/her.				
22. I often look forward to playing with my child.				

### B. Internal control

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. My child and I agree easily on what we want to play. *				
2. While playing, my child and I can easily agree.				
3. When playing, my child and I establish the rules of the game or activity together.				
5. When I play with my child, I become like a child too.				
6. I don't mind acting silly when playing with my child. *				
7. When we play, I act silly to make my child laugh.				
8. I let my child lead the activity when we play.				

### C. Suspension of reality

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I use my imagination while playing with my child.				
2. I can act out some characters when we play.				
3. I use make-believe situations to engage my child in play.				
4. It is easy for me to join my child's make-believe situations or stories.				
5. My child and I play with make-believe things or places (e.g., playing race cars, playing chef or waiter).				
6. I like creating stories or tales that my child enjoys.				

#### D. Framing

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. My child can invite me to play by his/her actions, not only with his/her words.				
2. I can invite my child to play by my actions, not only with my words.				
3. My child knows when I want to play.				
4. I know when my child wants to play with me.				
5. It is easy to get my child to play with me.				
6. My child and I can play anywhere (house, park, patio, supermarket, etc.). *				

\* Items should be monitored for elimination, due to DIF analysis

#### Section 4: Extrinsic motivators to play

I play with my child because...	Strongly Agree	Agree	Disagree	Strongly Disagree
5. It is important to my child that I play with him/her.				
6. Playing with my child helps him/her to develop new skills (e.g., schoolwork, coordination).				
7. Play is a good opportunity to teach my child social skills (e.g., waiting turns, sharing).				
8. Play is a good opportunity to teach my child values (e.g., respect, compassion).				
9. Playing with my child helps him/her to behave better.				
10. Playing with my child is a way to gain his/her respect.				
11. Play motivates my child to do activities that are not of his/her interest (e.g., taking a bath).				
12. Play is a way to spend time together.				
13. Play helps to increase our communication.				
14. I get to know my child better when we play.				
15. Play promotes my child's trust in me.				
16. Play is a way of bonding with my child.				
17. Play is a way of showing my child that I love him/her.				
(Cont4) Following the rules of the game is important to me when playing with my child.				

#### Section 5: Any remaining demographic information