



# Cultural Adaptation of the Spanish Version of the Perceptions of Play Scale

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## Abstract

**Objective** Play is crucial for healthy child development; yet, the time dedicated to free play during the pre-school years has decreased in both school and home environments. Parental beliefs influence the activities in which children engage in daily life; therefore, exploring these beliefs is a first step to understand possible reasons for the decreased frequency of free play. Instruments developed for this purpose are scarce and, to date, none of them is available in Spanish. We adapted and assessed the psychometric properties of the Perceptions of Play Scale (PPS) and developed the Spanish version of the instrument (i.e., PPS-S).

**Method** We followed Beaton and colleagues' Guidelines for the cross-cultural adaptation of self-report measures, which describes two stages, namely translation and adaptation of the instrument, and assessment of its psychometric properties. During the first stage, a panel of 5 experts developed the preliminary version of the PPS-S. This version of the scale was piloted in a sample of 28 early childhood educators and parents of preschool children, whose feedback informed the development of the final version of the instrument. During the second stage, 452 parents of pre-school children completed the PPS-S to assess its psychometric properties.

**Results** An Exploratory Factor analysis showed high to excellent reliabilities for the three PPS-S subscales and the complete questionnaire. The PPS-S is a valuable, culturally sensitive tool for exploring parental beliefs about three aspects of play (i.e., frequency, playful character, and academic contribution) and could contribute to studies to promote this activity in Chilean children.

**Keywords** Play · Preschool education · Childhood · Parental beliefs · Cultural adaptation

Play has been increasingly recognized as integral to child development (Lester and Russel 2010), and several studies associate it with the achievement of developmental milestones during childhood (Galyer and Evans 2001; Hoff 2006; Landry et al. 2015; Morgan et al. 2015; Weisberg et al. 2013). Play is conceptualized as the natural mechanism through which children learn. Unstructured (i.e., free) play activities that promote curiosity and self-guided exploration are particularly beneficial for the acquisition of a wide range of skills associated with cognitive and emotional development (Hirsh-Pasek et al. 2009; Miller and Almon 2009; Singer et al. 2009; Vygotsky 1978). In

contrast, structured, adult-driven play activities seem to be less effective to boost children's learning.

Despite the relevance of free play for child development, current research shows that the time dedicated to free play has decreased in both school and home environments to favor structured and academic activities (Pellegrini 2005; Whitebread et al. 2012). Singer et al. (2009) interviewed 2400 mothers of children between 1 and 12 years of age from 16 countries and concluded that mothers agreed on the scarcity of time for free play and experiential learning in their children's daily routines. In another study from the United States (U.S), parents reported favoring academic related activities over play during children's free time (Kaiser Family Foundation 2005). Some parents, with the purpose of promoting their children's cognitive development, confuse memorizing with learning and fail to see play as an educational tool (Golinkoff and Hirsh-Pasek 2006). Also, schools are demanded to focus on academic performance and goals, which results in an increase in the number

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of hours dedicated to structured activities related to reading and math to the expense of time dedicated to free play (Lynch 2015; Whitebread et al. 2012). This practice favors a dichotomic view of learning and play, in which learning is something that happens when teachers and children engage in direct instruction or structured activities in a classroom context and free play is something that happens outside the classroom when children are free from adult's control and participation (Pramling Samuelsson and Johansson 2006).

Based on the premise that attitudes and beliefs influence parenting and teachers' behavior (Avornyo and Baker 2018; Bornstein 2016) one line of research proposes that it is fundamental to explore what parents and teachers think about play and child development to understand why children are reported to spend less time devoted to play. An early study by Haight et al. (1997) examined parents' values and beliefs about play in a sample of middle-class families in the U.S. The authors reported that even though parents valued play as important for child development, they believed that other academic-related activities, such as reading, would be a better promoter of children's cognitive skills. This study also supports the claim that values and beliefs are related to parents' behavior. Mothers who considered pretend play as an important aspect of child positive development, spent more time in this activity during a free play session with their children compared to mothers who assigned a lower value to pretend play.

In the case of early childhood educators (ECE) and teachers, several studies show that play is widely acknowledged as valuable for child development and learning (Woods and Bond 2018). However, this belief does not always influence teachers' practice in the classroom. As teachers and ECE face growing expectations for more teacher-directed academic instruction, time for children to play is increasingly threatened (Dockett and Flear 1999; Trawick-Smith 1998). In addition, without the context (e.g., principal, staff, parents) recognition of the importance of play or support for its inclusion in the program, early childhood teachers may find it increasingly difficult to justify its place in the classroom (Avornyo and Baker 2018; Klugman 1995; Stipek and Byler 1997) and implement play as a regular activity (Olsen and Sumsion 2000). These studies show that having teachers and ECE that value play is not always enough. Examining the beliefs held by parents about play is also important due to their direct influence on their children's daily activities and their support to school-based activities promoting play led by teachers.

Instruments to examine parental beliefs about the nature of play are scarce. Fisher et al. (2008) developed the Perceptions of Play Scale (PPS) for this purpose. The PPS assesses the frequency, playful character, and academic

value of a list of 26 activities generated by a group of experts in child development and play. These activities satisfy a range of theoretical definitions of play and incorporate popular childhood activities. Using an exploratory principal component analysis (PCA) with data from 1130 highly educated mothers of children aged 0–5 years who answered this scale online, the authors identified two factors addressing unstructured (i.e., free) and structured play and reported good psychometric properties of the questionnaire.

The PPS is a valuable instrument, however it needs to be adapted to be used in contexts that differ from the one in which it was originally developed. This is essential to conduct studies about play-related beliefs in non-American and non-European populations, where most of the research in this area is conducted. From an ecological and cultural point of view, each context entails specific needs and challenges, which influence people's beliefs and expectations. Therefore, parents and teachers from different countries, cultures, or socioeconomic status (SES) may develop different beliefs around play and child development (Avornyo and Baker 2018; Fung and Cheng 2012; Tudge et al. 2006; Wu and Rao 2011). In line with this notion, our aim is to cross-culturally adapt the PPS into Spanish and to assess its psychometric properties in a group of Chilean mothers.

Chile is considered a high-income country since 2013 (World Bank 2018), but—together with U.S. and Mexico—it's one of the Organisation for Economic Co-operation and Development (OECD) countries with the highest rates of inequality (OECD 2016). About 16% of the general population and 21% of the child population live below the poverty line (OECD 2016). The Chilean national policy framework for infancy and childhood (i.e., Chile Crece Contigo (ChCC), meaning “Chile grows with you”) includes initiatives that promote play, such as the delivery of a “play kit” (i.e., a small tent with didactic elements in it) to all children attending public Pre-K. In addition, the national early childhood curriculum positions play as one of the eight guiding principles of early childhood education.

Despite these public policy efforts, a nationwide study revealed that caregivers reported playing only occasionally with their children, being the frequency positively related to the caregivers' SES (JUNJI, 2010). More recently, Grau et al. (2018) found that early childhood educators from public and private schools in Chile consider play as an important element of child development, however, when the researchers coded the classroom activities, only 19% of the activities were considered play activities (vs non-play activities) with no significant difference between public and private ECCE centers. This suggests that, consistent with international evidence, Chilean children may have restricted opportunities to engage in free play. More

research is needed to understand how the context in which Chilean children develop is (or not) promoting play, adapting the PPS to be used in the Chilean context will contribute significantly to this purpose. The current study builds on previous efforts to create a Spanish version of the PPS (Arévalo et al. 2017).

## Method

This study followed the Guidelines for the cross-cultural adaptation of self-report measures (Beaton et al. 2000), which describe two stages, namely translation and adaptation of the instrument, and assessment of the psychometric properties of the scale. The method for the two stages is presented separately.

### First Stage: Translation and Adaptation of the PPS-S

#### Participants

For piloting the preliminary version of the PPS-S (i.e., First stage), a convenience sample of 28 participants (i.e., 22 early childhood educators and 6 parents of preschool children) completed the PPS-S and rated the clarity of the scale's instructions, items, and response format. The participants suggested minor modifications, which the groups of experts discussed and integrated into the scale to achieve a final version of the instrument. Informed consent was obtained from all individual participants included in the study.

#### Procedure

**Translation and back-translation** A professional translator who did not have any background in play studies translated the PPS from English to Spanish. This translation was revised and compared to the original English version of the PPS. The preliminary Spanish version of the scale was back-translated into English by a native Spanish speaker with English as her second language, who was also an expert in play research.

**Revision by an experts committee** Four academics with expertise in play-related research and the back-translator of the scale formed a group of experts, which reviewed the preliminary Spanish version of the PPS and the back-translation of this document to identify possible inconsistencies or conceptual mistakes. The experts group made minor modifications to the Spanish document to obtain semantic and conceptual equivalence between the English and Spanish versions of the PPS. As a result, a preliminary version of the Spanish PPS (i.e., PPS-S) was developed.

### Second Stage: Assessment of the Psychometric Properties of the PPS-S

#### Participants

Participants were mothers and fathers of pre-school children (aged 24 months to 5 years and 11 months), who were recruited from daycare centers and schools in Santiago, Chile. 452 parents completed the PPS-S, most of them were mothers ( $n = 380$ ). The small number of fathers' responses ( $n = 72$ ) was insufficient for conducting a multi-group Factor Analysis (Hoyle 2000). Furthermore, the literature has consistently reported that mothers and fathers prefer and engage in different types of play with their children (Newland et al. 2013). A recent study indicated that they also perceive play differently (Warash et al. 2017) Having a homogeneous sample is critical for conducting an Exploratory Factor Analysis therefore we excluded fathers' data from the analysis. The mothers were 34 ( $SD = 5.84$ ) years old and had diverse educational and social backgrounds (see Table 1). According to maternal reports, their pre-school children were 4 years and 1 month old ( $SD = 14.6$  months) and they attended public (38,6%) and private (47,9%) daycare centers and schools. Children spent 6.95 ( $SD = 5.28$ ) hours with their mothers and 5.27 ( $SD = 3.45$ ) hours at daycare daily.

#### Procedure

Members of the research contacted the headmasters of these centers and schools, and they gave their consent to invite parents to participate via their children teacher or educator. Parents who were interested in the study completed the Participant Information and Consent Form and the Spanish version of the PPS. Completion of the forms could be done using a printed copy distributed at the schools or an online version of the documents hosted in the survey monkey website. Parents who preferred the printed copy of the questionnaire returned it to the teacher or educator in a closed envelope provided. Additional participants were recruited from the community using advertising and convenience sampling. Overall, 60,2% of the participants completed the questionnaires online. We did not find significant differences between the two response formats.

#### Measures

**The perceptions of play scale (PPS)** The PPS (Fisher et al. 2008) is a self-report questionnaire that consists of 26 items that describe structured and unstructured play activities. This list is used to assess parents' and teachers' perceptions of play regarding (a) the frequency of activity engagement (i.e., "How often does your child do each of the following

**Table 1** Demographic characteristics of the participants

	<i>N</i>	%
<b>Level of Education</b>		
Incomplete Primary School	5	1.3
Complete Primary School	23	6.1
Incomplete High School	19	5
Complete High School	28	7.4
Technical studies	17	4.5
Incomplete University	59	15.5
University degree	94	24.7
Postgraduate degree	119	31.3
<b>Work status</b>		
Full Time	147	38.7
Part Time	81	21.3
No paid occupation	128	33.7
Other	11	2.9
<b>Relationship status</b>		
Married	235	61.8
Cohabiting	71	18.7
Separated/divorced	17	4.5
Single	46	12.1
Widow	1	0.3
<b>Number of children</b>		
1	106	27.9
2	175	46.1
3	67	17.6
4	17	4.5
5	4	1.4
6	1	0.3
<b>SES</b>		
Low	86	22
Middle	114	30
High	60	15.8
Did not report	120	31.8

things, from 1 = less often/never to 6 = every day/almost every day), (b) Perceptions of play (i.e., “To which extent you consider each activity a form of play”, from 1 = “This is definitely NOT a form of play,” to 7 = “This is definitely a form of play”), and (c) Perceptions of academic learning (“How would you rate each activity in terms of its ability to set a foundation for academic learning?”, from 1 = “this activity definitely does NOT set a foundation for academic learning”, to 7 = “this activity definitely sets a foundation for academic learning”). These three assessed areas are regarded as the PPS subscales.

The scores for the three subscales are given by the sum of the corresponding items and are calculated separately for structured and unstructured play activities. Higher scores indicate higher frequency and higher perception of a playful

character and academic value of the specific activities. The scores of the three subscales are used individually and cannot be combined into a global score. High internal consistency has been reported for the second and third subscales (i.e., Perceptions of play and perceptions of academic learning, Cronbach's  $\alpha = 0.91$  and  $0.93$ , respectively) and for the two groups of play activities (i.e., Structured and Unstructured play, Cronbach's  $\alpha = 0.93$  and  $0.88$ , respectively).

### Data analysis

We analyzed the factor structure of the PPS with an Exploratory Factor Analysis using a Principal Axis Factoring with oblique rotation (Promax), as recommended for correlated variables (Lloret-Segura et al. 2014). The analysis was conducted using the data regarding question 2 (i.e., “To what extent you consider each activity as a form of play”), following the original analyzes of the authors of the scale. We considered this analysis was the most appropriate due to the exploratory nature of this study. Internal consistency was assessed with Cronbach's alpha. Statistical analyses were conducted with the Statistical Package for Social Sciences (SPSS 25).

## Results

### First Stage: Translation and Cultural Adaptation of the PPS

The introduction section and response categories were translated with no major difficulties. Some expressions in particular items did not have an equivalent expression in Spanish and the experts group reached consensus about the most appropriate translation. For instance, item 4 (i.e., “Using play sets (like Little People and Polly Pocket) or figures (like rescue heroes)”) and item 13 (i.e., “Participating in organized activities, like Gymboree, Mommy & Me classes, or play groups”) describe characters and activities for children that are not popular in Chile, these expressions were replaced for a local equivalent.

The parents and early childhood educators involved in the piloting of the preliminary version of the PPS-S suggested minor modifications. For instance, in the introduction they suggested to avoid using the term “academic achievement” and replace it for “learning”, and in the response categories they suggested to modify option 5 (i.e., “every day”) for “almost every day”. They also recommended minor rewording of items 16 (i.e., Looking at books or reading on their own) to include magazines and newspapers. In item 18 (i.e., Using electronic devices that say words, letters, or numbers when child/baby touches a

**Table 2** Factor structure of the PPS-S

Item	Factor		
	1	2	3
<b>Factor 1: Unstructured play</b>			
1. Throwing or rolling a ball or using other kinds of age-appropriate sports equipment	0.55		
2. Coloring, drawing, painting, or doing other arts and crafts, or playing with clay	0.39		
3. Exploring and discovering things inside or outside your house	0.42		
4. Using play sets or figures	0.68		
5. Going outside to run around or use playground/backyard equipment	0.62		
6. Crawling, walking, & running around for no particular reason	0.38		
7. Using building blocks or building sets	0.74		
8. Using child-size play sets (like kitchen sets, work benches, doctor's kits, tools)	0.82		
9. Using toy vehicles	0.68		
10. Pretending with baby dolls or stuffed animals	0.68		
11. Dressing-up or pretending to be a superhero, a doctor, a mom, or anyone else	0.71		
12. Using everyday objects found around the house as toys (like pots/pans, rubber containers, etc.)	0.49		
<b>Factor 2: Structured play or activities conducted with an adult</b>			
1. Listening to music		0.51	
2. Coming along on a shopping trip		0.57	
3. Doing chores around the house alongside of you or another adult		0.69	
4. Looking at books or reading on their own		0.63	
5. Using flash cards with words and pictures or with simple math concepts		0.56	
6. Having a book read to them		0.82	
7. Participating in organized activities, like Mommy & Me classes or play groups		0.57	
8. Going on trips like to the library, museum, or zoo		0.86	
<b>Factor 3: Electronic play</b>			
1. Watching TV programs or videos on their own and singing, dancing, or interacting with the show			0.83
2. Watching TV programs or videos with you and singing, dancing, or interacting with the show			0.74
3. Sitting quietly watching TV programs or videos			0.42
4. Using electronic products that say words, letters, or numbers when child/baby touches a button, word, or picture			0.47
5. Using a computer, tablet or mobile phone alone or with help			0.58
Cronbach's alpha (total = 0.87)	0.86	0.85	0.79

button, word, or picture) the participants suggested to replace “*electronic products*” by “*electronic toys*”. In item 23 (i.e., Using flash cards with words and pictures or with simple math concepts) the participants suggested to use an alternative, local expression for the original translation of the term “*flash cards*”. Despite these modifications, parents and educators considered the scale as very easy to complete.

### Second Stage: Assessment of the Psychometric Properties of the PPS-S

Sampling adequacy was good (KMO = 0.863) and inter-item correlations were sufficiently large for a factor analysis (Bartlett's test of sphericity =  $\chi^2(325) = 4570.24$ ,  $p < 0.01$ ). Three factors were retained based on the Scree test

(Cattell 1966) and MAP test (Velicer et al. 2000), which in combination explained 45.35 % of the variance. The Parallel Analysis test suggested a four-structure solution; however, the three-factor solution showed by the Scree test was more consistent with the original structure of the PPS and its theoretical background, thus, this solution was retained. An examination of the factor loadings after rotation (see Table 2) suggested that all the items, excepting one, had loadings above the 4.0 threshold. The only item with a smaller factor loading (i.e., “*Crawling, walking, & running around for no particular reason*”) was retained due to its theoretical relevance. Factor 1 (i.e., Unstructured play) had 12 items that addressed activities such as playing with dolls and toys and doing art and craft activities. Factor 2 (i.e., Structured play or activities conducted with an adult)

included 8 items related to activities like going to a museum and reading books. Finally, Factor 3 (i.e., Electronic games) had 5 items including activities such as watching TV and using electronic devices (i.e., computer, tablet, etc.). Item 8 (i.e., “*Exploring and discovering things inside or outside your house*”) had loadings in Factors 1 and 2 and was eliminated due to theoretical reasons.

The three subscales had high reliabilities (Cronbach’s  $\alpha$  ranged from 0.76 to 0.88; see Table 2). Factor 2 (i.e., Structured play or activities conducted with an adult) was moderately correlated with Factors 1 (i.e., Unstructured play,  $r = 0.47$ ,  $p < 0.01$ ) and 3 (i.e., Electronic games,  $r = 0.31$ ,  $p < 0.01$ ). Factor 3 (i.e. Electronic games) was weakly correlated with Factor 1 ( $r = 0.16$ ,  $p < 0.01$ ), which is consistent with the theoretical background of this study.

## Discussion

The results suggest that the PPS-S is a valid and psychometrically sound measure for assessing beliefs about play, with reliability coefficients ranging from good to excellent (George and Mallery 2003) for the total scale and for each of the three subscales.

The PPS-S has a three-factors structure consisting of (1) Unstructured play, (2) Structured play or activities conducted with an adult, and (3) Electronic play. In the first factor (i.e., Unstructured play), the items are related to free and spontaneous play where the child is leading his own experience of play (Fisher et al. 2008). The second factor (i.e., Structured play or activities conducted with an adult) relates to activities where the adult has a significant role as a co-constructor of the experience of play (Jung and Recchia 2013). Lastly, the third factor (electronic play) consists of activities like watching TV, using tablets and computers. This factor structure differs from the original, English version of the PPS, which has a two-factor structure including (1) Free and unstructured play and (2) Structured play. The first factor (i.e., Free and unstructured play) consists of activities that involve imaginative processes without delineated rules or goals (Fisher et al. 2008). This factor includes the same items as the first factor of the PPS-S, excepting for two; namely “*Exploring and discovering things inside or outside your house*”, which was excluded from the PPS-S, and “*Participating in organized activities, like Mommy & Me classes or play groups*”, which loaded on factor 2 of the PPS-S. The second factor of the original version of the PPS (i.e., Structured play) includes items that are related to activities with an inherent goal-oriented structure, these activities are further divided in two subgroups, namely life skills and electronic activities (Fisher et al. 2008). The items in these two subgroups are identical to the items in factors 2 and 3 of the PPS-S, excepting for

the item “*Participating in organized activities, like Mommy & Me classes or play groups*”, which is included in Factor 2 of the PPS-S, as described. Although the number of factors differs between the PPS and the PPS-S, the PPS-S taps into the three types of activities described by the original PPS.

The different factor structure between the two versions of the scale may be related to the participants involved in the two validation studies. Fisher et al. (2008) recruited parents whose children were 0 to 5 years of age, whereas in the present study the age of the children whose parents participated ranged from 2 to 4 years and 11 months of age. Children vary in the range of activities they get involved in according to their age, and there are significant developmental differences between infants, toddlers, and small children that may be observed in their play and that may influence parental perceptions. Therefore, it may be possible that a different factor structure had been found if the age range of the children whose parents participated in the study had been wider.

Another plausible explanation to the difference between the PPS and the PPS-S may relate to possible cultural differences between the samples. The conception of play is determined by sociocultural factors (Peterson et al. 2017), such as SES, educational level, personal play experiences, and the cultural value that each culture gives to play (Chowdhury and Rivalland 2012). The two validation studies included mothers from diverse social backgrounds; however, those involved in the original study by Fisher et al. (2008) had a higher education level than the participants in the present study. Although parental beliefs about play are expected to vary across cultures, the variations within the cultures should not be overlooked (DiBianca Fasoli 2014), for example the educational level of the sample or child gender could influence parental beliefs (Fogle and Mendez 2006; Gleason 2005). Future studies could explore whether this and other cultural aspects have an impact on parental perceptions of play.

Some limitations warrant consideration. Firstly, the sample used for the analyses included only mothers. Despite extensive recruitment efforts, a limited number of fathers participated in the study. Given that homogeneous samples are mandatory for conducting a factor analysis, we excluded data from fathers. Future studies could be conducted targeting fathers to explore if the factor structure of the PPS-S varies in a different group including mothers and fathers. The perception of teachers and ECE could also be explored to identify potential differences between parents and educators. This study used an exploratory factor analysis to assess the factor structure of the PPS-S, this analysis does not guarantee a good adjustment of the PPS-S to the Chilean population. Future studies using a confirmatory factor analysis could further explore the robustness of this instrument.

## Limitations

In this study we did not assess the construct validity of the PPS-S. The number of scales addressing play is scarce; therefore, it was not possible to assess this aspect. However, future studies could examine other characteristics of the instrument, such as its predictive validity. We know that parents' beliefs about what contributes to child development has an impact on the environment they create for their children and the daily activities in which the children engage. It is possible that parental reports about the playful character and the academic contribution of specific activities are associated with the frequency with which children engage in these activities. Studies addressing this issue could also explore possible associations between the three subscales of the PPS-S and other relevant variables.

Despite these limitations, the PPS-S appears as a valid and reliable instrument to assess perceptions of play in the Chilean context. This is an important task because local research in this area is scarce. An instrument like the PPS-S may help to understand the role of adult play-related beliefs in Chilean children's play opportunities, as well as assess possible differences between parents' and teachers' beliefs. This is particularly relevant because once possible discrepancies between parents and educators are identified; strategies could be implemented to build a similar perspective on play that will promote this activity for children. For example, teachers may invite parents into the classroom and encourage children to play with their parents, talk about how play fosters child development, share ideas on what and how to play with children, and/or invite parents, colleagues, and school principal to attend workshops that focus on promoting and explaining the importance of play in child development (Olsen and Sumsion 2000). Future research using the PPS-S could contribute to the development of play-related studies in diverse, non-American and non-European populations.

**Authors Contributions** S.C.: Collaborated with the design of the study, data analysis, and writing and final editing of the article. D.A.: Designed and executed the study and contributed to write the article. A.M.: Contributed to data analysis and writing of the results section. M.L.: Collaborated with the design of the study.

## Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of

the Ethics Committee at Universidad del Desarrollo (No 20160205) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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