© P. M. Latinoamericana ISSN 1688-4094 ISSN online 1688-4221 Ciencias Psicológicas January-June 2020; 14(1): e-2063
doi: https://doi.org/10.22235/cp.v14i1.2063

MBPQS in Ecuador: Exploring its content validity for its application with caregivers of children with ASD

El MBPQS en Ecuador: Exploración de la validez de contenido para su aplicación en figuras cuidadoras de niños con TEA

O MBPQS no Equador: Exploração da validade do conteúdo para sua aplicação em cuidadores de crianças com ASD

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Abstract: The aim of the current study was to explore the content validity of the *Maternal Behavior for Preschoolers Q-set* (MBPQS) for its application in caregivers of preschool children with autism spectrum disorder (ASD), residing in Ecuador. With this purpose, a linguistic adaptation of the instrument was made to the Ecuadorian context, which was evaluated by three professionals in the areas of Psychology, Preschool Education and Linguistics. With the adapted MBPQS, 10 Ecuadorian caregivers built a prototypical profile of ideally sensitive caregivers of typical development preschoolers, and 10 expert professionals in autism developed a prototypical profile of ideally sensitive caregivers of children with ASD. The profiles constructed by the two groups were compared with each other and with the normative criterion of the instrument. The results show the validity of the MBPQS to assess the sensitivity of caregivers of children with ASD.

Keywords: maternal sensitivity, caregivers, preschool children, attachment security, autism spectrum disorder

Resumen: El objetivo fue explorar la validez de contenido del *Maternal Behavior for Preschoolers Q-set* (MBPQS) para su aplicación en figuras cuidadoras de preescolares con trastorno del espectro autista (TEA), residentes en Ecuador. Con este propósito, se realizó una adaptación lingüística del instrumento al contexto ecuatoriano, la cual fue evaluada por tres profesionales en las áreas de Psicología, Educación Inicial y Lingüística. Con el MBPQS adaptado, 10 figuras cuidadoras ecuatorianas construyeron un perfil prototípico de cuidadores idealmente sensibles de preescolares de desarrollo típico, y 10 profesionales expertos en autismo elaboraron un perfil prototípico de figuras cuidadoras idealmente sensibles de niños con TEA. Los perfiles construidos por los dos grupos fueron comparados entre sí y con el criterio normativo del instrumento. Los resultados evidencian la validez del MBPQS para evaluar la sensibilidad de figuras cuidadoras de niños con TEA.

Palabras clave: sensibilidad materna, figuras cuidadoras, niños en edad preescolar, seguridad del apego, trastorno del espectro autista

Resumo: O objetivo do presente estudo foi explorar a validade do conteúdo do Conjunto de Comportamento Materno para Pré-escolares (MBPQS) para sua aplicação em cuidadores de pré-escolares com desordem do espectro do autismo (ASD), residentes no Equador. Para isso, foi feita uma adaptação linguística do instrumento ao contexto equatoriano, que foi avaliada por três profissionais das áreas de Psicologia, Educação Precoce e Linguística. Com o MBPQS adaptado, 10 cuidadores equatorianos construíram um perfil prototípico de cuidadores idealmente sensíveis de pré-escolares em desenvolvimento, e 10 profissionais com experiência em autismo construíram um perfil prototípico de cuidadores idealmente sensíveis de crianças com ASD. Os perfis construídos pelos dois grupos foram comparados um com o outro e com os critérios normativos do instrumento. Os resultados mostram a validade do MBPQS para avaliara sensibilidade dos cuidadores de crianças com DEA.

Palavras-chave: sensibilidade materna, cuidadores, pré-escolares, segurança do apego, desordem do espectro do autismo

Received: 08/06/2018 Accepted: 09/09/2019

How to cite this article:
Díaz Mosquera, E., & Nóblega, M. (2020). MBPQS in Ecuador: Exploring its content validity for its application with caregivers of children with ASD. *Ciencias Psicológicas, 14*(1), e-2063. doi: https://doi.org/10.22235/cp.v14i1.2063

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Introduction

Bowlby (1969/1998) stated that one of the fundamental conditions for the development of secure bonds in children is the presence of a sensitive figure who responds to their signals and fosters a harmonious interaction. In this sense, sensitivity is defined as the caregiver's ability to perceive and identify the communication implicit in the child's behavior, interpret it properly, and respond to it with ownership and promptness (Ainsworth, 1969). Ainsworth's (1967, 1969) findings made it possible to verify that sensitivity precedes the formation of attachment bonds and is directly connected to the level of security that the child develops (Ainsworth et al., 1978/2015).

In the origins of attachment theory, the mother was considered the leading caregiver figure within the family nucleus; therefore, sensitive behavior towards children was expected from her. However, evidence has shown that other people may also show sensitivity in the care of children, such as the father (e.g., Brown, Mangelsdorf, & Neff, 2012; Hallers-Haalboom et al., 2014; Romero, 2007), grandparents (e.g., Crowling, Seeman, & Göpfert, 2015; Howes & Spieker, 2016), other relatives (e.g., Cassidy, 2016), and even those in charge of daily care (e.g., Carbonell, 2013; Salinas-Quiroz et al., 2014; Salinas-Quiroz, 2015).The essential idea is that these people focus their attention on the child's physical and emotional needs, see things from his/her point of view, synchronize their activities with those of the child, and adjust to his/her emotional states, developmental period, and particularities (Howes & Spieker, 2016; Salinas-Quiroz, Morales, Cruz-Martínez, Posada, & Carbonell, 2014).

Since children's needs evolve as they grow, a sensitive caregiver will care for children according to their level of development. Thus, although the typical preschooler does not require

the permanent physical presence of the caregiver (Bowlby, 1969/1998), it is essential that this person is accessible and available, responds to communication, stimulates him/her to explore the environment while monitoring his/her activities (Kobak, Zajac, & Madsen, 2016; Waters & Cummings, 2000), makes agreements with him/her (Salinas-Quiroz et al., 2014), anticipates situations involving conflict, and sets limits on behavior (Posada, Kaloustian, Richmond, & Moreno, 2007).

Based on these considerations that refer to early childhood, in 1998, Posada, Moreno, and Richmond created the Maternal Behavior for Preschoolers Q-set (MBPQS) to assess the sensitivity of caregivers of preschool children (Posada et al., 2007). The MBPQS comprises 90 items that describe normative behaviors of sensitive care and whose construction included behaviors observed or reported by mothers of preschoolers, as well as some references from the Maternal Behavior Q-set (MBQS) by Pederson and Moran (1995), which evaluates the care of infants from 1 to 2 years old, and the Parental Secure Base Support and Supervision Q-set by Waters, Gao, and Elliot (1998/2003), which determines secure base support in stages after infancy. For each of the 90 items, there is a score called the "sensitivity criterion" that was prepared with the participation of professionals in developmental psychology (Posada et al., 2007).

Fifty-five MBPQS items constitute four scales that represent specific dimensions of sensitive behavior. These scales are (Posada et al., 2007): (1) *Contribution to harmonious interactions* (CHI), consisting of 20 items (e.g., item 3: "Participate in games with the child, for example, play in the sand, run with him/her"); (2) *Secure base-support* (SBS), with 22 items (e.g., item 44: "When the child shows the caregiver something s/he is playing with, the caregiver asks about it, makes positive comments, and encourages the child to do something with it"); (3) *Supervision and monitoring* (SUP), with 8 items (e.g., item 61: "The caregiver seems to be aware of the child even if s/he is not in the same room"); (4) *Setting limits* (SL), with 5 items (e.g., item 67: "When the caregiver establishes rules and prohibitions for the child in an activity, s/he explains the reasons). Contemporary studies have reported Cronbach's alpha values for the MBPQS scales ranging between .90 (CHI) and .52 (SL) in Colombia; between .96 (CHI) and .62 (SL) in Peru; between .95 (CHI) and .62 (SUP) in Mexican immigrants (Posada et al., 2016); and between .96 (CHI) and .71 (SUP) in Ecuador (Díaz, Andrade, Espinosa, Nóblega, & Núñez del Prado, 2018).

Regarding its use, the MBPQS has been applied in a self-reporting manner to describe an ideal, optimally sensitive maternal figure (Posada et al., 2007); it has also been used observationally to evaluate the sensitivity of the caregiver figure towards the child during their habitual interactions in their natural environment (Nóblega, 2012; Posada et al., 2007; Posada et al., 2016). To respond to the items, the Q-sort methodology is used, which consists of the ranking of the 90 item statements written on individual cards. First, three groups are created. The first group corresponds to the caregiver figure's characteristic behaviors, the second group to neither characteristic nor uncharacteristic behaviors, and the third group to uncharacteristic behaviors. Each group is then divided into three more, which results in a total of nine groups; in each, the 10 statement cards must be sorted so that group 9 corresponds to the very characteristic behaviors and group 1 corresponds to the very uncharacteristic behaviors. Each item receives a score ranging from 9 to 1 according to the group into which it was sorted (Posada et al., 2007).

The results of the MBPQS can be interpreted on a global level, by scales, or by items (Posada et al., 2007). In the first case, the scores assigned to the caregiver figure are correlated with the scores of the instrument's sensitivity criterion, from which the sensitivity index is obtained. At the scale level, the obtained scores are contrasted using differences in means with the criterion score of each dimension. Finally, at the item level, the scores are compared using the sensitivity criterion for each item.

Although the MBPQS has been adapted to the Latin American context (Posada et al., 2007), it has also been linguistically adapted to the idiomatic expressions of Peru (Nóblega, 2012), where a group of professionals and mothers developed ideal sensitivity profiles of caregivers of

typical preschool children. After comparing these profiles' scores with the MBPQS sensitivity criterion scores, an average correlation of .83 was found for the professionals' profiles and .81 for the mothers' profiles (Nóblega, 2012). Additionally, the MBPQS has been used in university studies conducted in Peru with father figures (e.g., Grández, 2016; Luna Victoria, 2015) and with daycare workers (e.g., Espinoza, 2016).

Although the findings indicate that the MBPQS criteria are adequate to assess the quality of caregivers' sensitive behavior towards preschool children, when a minor is diagnosed with some type of special condition, the situation changes (Karst & Van Hecke, 2012). Usually, parents need time to adjust to the new situation and to reassess their expectations, at which time they often experience feelings of insecurity about their ability to properly handle the situation, as well as uncertainty regarding the future (Gupta, 2007). Research on the subject reports high levels of stress in parents of children with developmental disorders (e.g., Greeff & Nolting, 2013; Gupta, 2007), especially when it comes to the autism spectrum (ASD) (e.g., Karst & Van Hecke, 2012; Keenan, Newman, Gray, & Rinehart, 2016; Martínez & Bilbao, 2008; Ruble, Murray, McGrew, Brevoort, Wong, 2018).

ASD is a neurodevelopmental disorder characterized by persistent deficits in communication and social interaction, as well as repetitive and stereotyped patterns of behavior, interests, and activities. These deficits are manifested on a scale of 1 (light) to 3 (severe) according to the levels of severity and help required (American Psychiatric Association [APA], 2014, 2016). Although ASD symptoms are present from birth, they are not always evident in early stages of development, so the diagnosis is usually made after two years of age. Worldwide, approximately 1% of the population is considered to have some form of autism, and that for every girl, there are four boys with the disorder (APA, 2014).

Despite ASD's characteristics, there is evidence that sensitive behavior by caregivers encourages the development of secure attachment ties in children with autism, which favors their social development (e.g., Capps, Sigman, & Mundy, 1994; Kahane & El-Tahir, 2015; Koren-Karie, Oppenheim, Dolev, & Yirmiya, 2009; Teague, Gray, Tonge, & Newman, 2017). Therefore, the evaluation of the sensitivity of caregivers of children with ASD is essential insofar as it contributes valuable information for individualized intervention programs (Keenan et al., 2016; Kiani & Nami, 2017).

In digital databases, four studies carried out until 2018 reported on the evaluation of the sensitivity of caregivers of children with ASD (see Capps et al., 1994; Koren-Karie et al., 2009; Pechous, 2001; van IJzendoorn et al., 2007). In the case of Capps and his collaborators (1994), the filming of a game session between mothers and children was used as an evaluation tool. In Pechous' study (2001), Pederson and Moran's (1995) MBQS was used. In van IJzendoorn et al.'s (2007) and de Koren-Karie et al.'s (2009) studies, the Emotional Availability Scale (Biringen, 1998/2008) was used. The use of the MBPQS for mothers of children with autism (N = 12) was conducted using self-reports only in a psychology thesis in Peru, in which an average sensitivity index of .64 was found (Chiaravalli, 2011).

Therefore, given the lack of information on the subject, the objective of the present study was to explore the content validity of the MBPQS for its application with caregivers of preschool children with ASD residing in Ecuador. To this end, the participation of expert judges was sought to evaluate the linguistic adaptation of the instrument, of caregiver figures to develop ideal profiles of caregivers of children with typical development, and of professionals with autism expertise to construct ideally sensitive profiles of caregivers of children with ASD. For the profile constructions, Nóblega's (2012) study using the MBPQS in Peru and Mesman and collaborators' (2016) study with Pederson and Moran's MBQS used in several countries were taken as models.

Materials and Methods

Participants

Participants consisted of three groups of people residing in Ecuador, intentionally selected, who were familiar with the Q-sort methodology after previously taking part in the content validity exploration of the *Attachment Q-set* (AQS) (Water, 1995) for use in children with ASD in Ecuador (Díaz, 2018).

The first group consisted of three professionals (two women and one man), university professors, who had completed postgraduate studies in linguistics, psychology, and/or early education and who had between 13 and 30 years of professional practice (M = 19.33, SD = 9.29). This group evaluated the MBPQS linguistic adaptation done by the researcher.

The second group consisted of 10 caregiver figures (nine women and one man) of at least one typical preschool child, whose ages ranged from 19 to 44 years (M = 33.8, SD = 8.32). Four were married, four divorced, and two were single with children. Regarding education level, four had a postgraduate education, two had a university education, and four had a high school education. This group created the ideally sensitive profile of caregivers of typical preschool children.

The third group involved 10 professionals (eight women and two men) who had completed postgraduate studies and had autism expertise, with an age range between 36 and 60 years (M = 49.2, SD = 8.27). As for their professional training, six were psychologists, two were psycho-rehabilitators, one was a speech therapist, and one was speech-language pathologist; they had between 5 and 30 years (M = 13.6, SD = 7.20) of experience in autism care or research. This group developed an optimally sensitive profile of caregiver figures of preschool children with ASD.

The work was individual. Each participant was informed of the study and signed an informed consent form in which they agreed to participate and authorized the use of the data for research purposes. In the case of the caregiver figures, the *Encuesta de estratificación de nivel socio-económico* (Socioeconomic Level Stratification Survey) (Instituto Nacional de Estadísticas y Censos [INEC], 2011) was also applied, which is the official measure in Ecuador for the analysis of population dispersal. This survey uses a system of 0 to 1000 points to categorize people into five socioeconomic strata: high, medium-high, medium-typical, medium-low, and low (INEC, 2011). The 10 caregiver figures participating in this study scored between 632 (medium-typical) and 941 points (high), with an average corresponding to the medium-high level (M = 823.7, SD = 104.24).

Evaluation

The aforementioned versions of the Maternal Behavior for Preschoolers Q-set (MBPQS) adapted to the Latin American context (Posada et al., 2007) and to the Peruvian idiomatic expressions (Nóblega, 2012) were used for the evaluation.

Procedure

In the version of the MBPQS adapted to Peru (Nóblega, 2012), the necessary modifications were made for expressions used in Ecuador. For the evaluation, the three participating judges had to rate each item as “Good” (1 point) or “Adjustment” (2 points). With these ratings, the agreement among the judges was calculated using the PABAK statistic. According to what the judges rated, the most appropriate expressions were chosen to modify the items that had received observations,

with which the final version of the MBPQS, linguistically adapted to the Ecuadorian context, was created.

Upon completion of this procedure, ideally sensitive profiles were developed; the caregiver figures constructed these profiles in reference to caregivers of typical children and the professionals in reference to caregivers of children with ASD. In both cases, the Q-sort methodology was used with the 90 cards of the adapted MBPQS. The averages of the scores assigned by both groups were calculated, which were compared with the MBPQS sensitivity criterion and with each other to determine the existing correlation.

Next, in the profiles constructed by each group, the items were classified by scales, the average scores were calculated, and these were contrasted both between the groups and with the criterion score of each scale, with which the differences and similarities in the sensitivity dimensions were assessed. Finally, an item-level analysis was performed; for this, approximately 10 items were selected from both the profile constructed by the caregiver figures and that by the professionals that showed the least and greatest discrepancy with the MBPQS sensitivity criterion.

Results

Linguistic adaptation of the MBPQS to the Ecuadorian context

Given the language similarities between Peru and Ecuador, adjustments were made for only five items of the Peruvian adaptation of the MBPQS. Of these five modifications, three corresponded to changes in terms (item 42 and 82: "*rodadero*" for "*resbaladera*," which is the name used for a children's slide; item 48: "*lo excluye*" for " *lo retira*," in reference to an action by the attachment figure toward the child). The other two modifications corresponded to adjustments in the use of pronouns, which were made in items 75 and 84. In addition, the words "*madre*" (mother) and "*mamá*" (mom) were replaced by "*figura de apego*" (attachment figure) so that the instrument serves to evaluate the sensitive behavior of the caregiver who fulfills that role. Further, at the end of the document, a note explained that the word "*niño*" (boy) would be replaced by "*niña*" (girl) when appropriate.

Regarding the adjustment recommendations made by the participating judges, Judge 1 made nine recommendations, four of which were related to syntactic aspects, and five referred to changes in terms (item 6: "*excitantes*" for "*emocionantes*" [both can be used for "exciting"]; item 27: "*llamados*" by "*llamadas*" [both can be used for "call"]; item 28 and 74: "*intrusiva*" for "*entrometida*" [both can be used for "intrusive"]; item 40 "*necesita*" for "*debe*" ["needs to" vs. "should"]). There was also an adjustment recommendation made by Judge 2 (item 48: "*el niño se está ensuciando*" [the child is getting dirty] for "*el niño está sucio*" [the child is dirty]), and four by Judge 3 (item 6: "*excitantes*" for "*emocionantes*"; item 29: "*severa o áspera*" for *"fría o seca*" [related to being cold or terse] and item 87: "*afecto plano*" for *"inexpresiva*" [related to being inexpressive] to refer to the caregiver figure's attitude; item 59: "*cariño*" [honey] for "*mi amor*" [my love] as the way in which the attachment figure addresses the child). During the process of establishing agreement between the judges regarding the MBPQS version linguistically adapted to the Ecuadorian context, it was decided to leave the word "*intrusiva*" in items 28 and 74 because it adequately captures the sense of the behavior described.

The average PABAK index was .81, showing a high level of agreement among the judges who evaluated the linguistic adaptation.

Ideal sensitive behavior of caregivers of typical children

Among the average scores for the ratings assigned by the 10 participating caregiver figures to each of the MBPQS items and the scores for the instrument's sensitivity criterion, a correlation

index of .867 was found (95% *CI* = [.808, .912], $p < .001$), which indicates high similarity between both rating groups.

Concerning the sensitivity dimensions, between the scores of the criterion by scales and the means of the ideal profiles constructed by the caregiver figures, statistically significant differences were present for CHI and SUP. In the case of CHI, $t(9) = 3.58$, $p = .006$, the mean of the scores assigned by the participants ($M = 7.38$) was higher than that of the criterion ($M = 7.10$); conversely, for SUP, $t(9) = -3.58$, $p = .006$, the mean of the criterion ($M = 7.59$) was higher than that of the participants' scores ($M = 6.81$). For SBS and SL, there were no significant differences. The results indicate that, in contrast to the norm for the sensitivity criterion, the participants of this study consider that an ideal caregiver figure acts as a secure base and establishes behavior limits for the typical child as expected; however, the caregiver contributes more to harmonious interactions with the child and supervises and monitors him/her less.

Regarding behaviors with scores close to the criterion (Table 1), 10 items were identified that showed differences between 0.05 and 0.15 points with respect to the criterion score. Four of these 10 items correspond to the CHI, SBS, and SL scales, while there were no similarities for SUP. The remaining six items are not part of the sensitivity dimensions.

Table 1
Similar sensitive care behaviors between the ideal profile of caregivers of typical children and the sensitivity criterion

Item	Behavior evaluated	Discrepancy	Scales
1	Notice when the child smiles and vocalizes.	0.05	
17	Does not interact much with the child.	0.05	CHI
26	Is critical in descriptions of the child.	0.05	
45	When helping the child, s/he guides him/her through solutions.	0.05	SBS
70	Responds sternly to risky or dangerous behavior.	0.05	SL
60	Is critical, seems annoyed with the child.	0.05	CHI
8	When s/he does not want the child to do something, s/he skillfully directs him or her to a different activity.	0.1	
41	Visits to the park are usually short because the child is thirsty, hungry, bored, or dirty.	0.15	
81	S/he tells the child that s/he is having a good time.	0.15	
82	Models different feelings and emotions that the child can experience in the game.	0.15	

Regarding behaviors with high discrepancies (Table 2), the 10 items that had the highest differences to the MBPQS sensitivity criterion were selected. These differences were between 3.7 and 1.8 points. Five of the 10 selected items are not part of the sensitivity dimensions, while the other five correspond to the SBS, CHI, and SUP scales. The largest number of high discrepancies (items 23, 27, and 54) were found for CHI, while for the SL scale, there were no high discrepancies,

which suggests that the participating caregivers expect, in general, that the establishment of children's limits is similar to the instrument's norms.

Table 2

Sensitive care behaviors with the most discrepancy between the ideal profile of caregivers of typical children and the sensitivity criterion

Item	Behavior evaluated	Discrepancy	Scale
36	Performs activities based on what gets the child's attention.	3.7	SBS
64	Responds promptly to the child's positive signals.	3.65	
58	Frequently agrees to the child's wishes.	2.95	
88	It is always accessible to the child.	2.5	
54	Interactions with the child are object oriented.	2.4	CHI
23	S/he often uses verbal prohibitions, for example: "no, don't do it."	2.35	CHI
16	Enjoys physical contact with the child.	2	
27	Responds to attention signals and calls when the child is not upset.	2	CHI
62	If the child is upset or crying, holds him/her until s/he calms down and is ready to get down.	1.85	
40	It is two steps ahead of the child; anticipates potential conflict situations and does things to prevent them.	1.8	SUP

Ideal sensitive behavior of caregivers of children with ASD

The average scores of the ratings assigned by the 10 professionals to the MBPQS items were calculated and correlated with the instrument's sensitivity criterion; an index of .859 (95% *CI* = [.789, .907], $p < .001$) was found, showing high similarity between the two groups of scores. When contrasting the scores of the ideally sensitive profile of caregivers of children with ASD with the ideal profile of caregivers of typical children created by the caregiver figures, an index of .955 was found (95% *CI* = [.938, .968], $p < .001$), which indicates a significant and very high correlation between the two groups.

Based on the sensitivity dimensions, a statistically significant difference was found between the MBPQS criterion score and the mean of the ideal profile made by the professionals only for SUP, $t(9) = -5.28$, $p = .001$. This result suggests that the professionals participating in this study consider that an ideally sensitive caregiver figure fosters harmonious interactions with the child with ASD, provides secure base support, and establishes limits on his/her behavior according to established norms but also supervises and monitors the child differently than expected. For the ideal profile of caregivers of typical children, a similar result was found in the supervision and monitoring scale.

However, when comparing scales for the ideally sensitive profile of caregivers of children with ASD and those of children with typical development, no statistically significant differences were found ($p > .05$). This result suggests that, in general, the participants consider that both types of figures contribute to harmonious interactions, provide secure base support, and supervise,

monitor, and set limits for the children in a similar way, regardless of whether or not they have autism.

Figure 1 shows an overview of the average scores of the scales for the MBPQS and for the ideally sensitive profiles of caregivers of children with typical development and those with ASD.

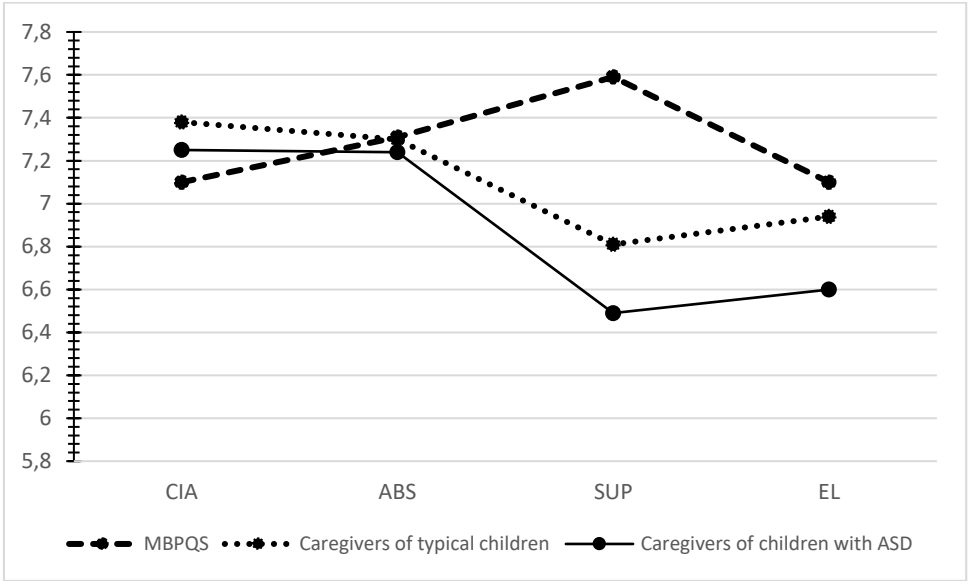

Figure 1. Means of the MBPQS sensitivity dimensions and the profiles of the caregivers of typical children and those with ASD

Regarding the behaviors with scores similar to the criterion (Table 3), 12 items were identified with differences between 0 and 0.1 points. Of these 12 items, seven are not part of the sensitivity dimensions, while the remaining five correspond to the CHI, SL, and SBS scales. The CHI scale had the most items with similar scores to the criterion (items 17, 78, and 85). There were no similarities in the SUP scale, which was also found for the development of ideal profiles of caregivers of typical children. This result demonstrates that, in general, in the Ecuadorian context, the supervision and monitoring of children has similar characteristics for both groups of children, regardless of if they are characterized by typical development or ASD. In addition, three items showed similarity with the criterion in the ideal profile of caregivers of typical children; these items are 17 (CHI scale), and 8 and 41, which are not part of the sensitivity dimensions.

Table 3
Similar sensitive care behaviors between the ideal profile of caregivers of children with ASD and the sensitivity criterion

Item	Behavior evaluated	Discrepancies	Scales
8*	When s/he does not want the child to do something, s/he skillfully directs him to a different activity.	0	
14	Scolds the child.	0.05	
17*	Does not interact much with the child.	0.05	CHI
41*	Visits to the park are usually short because the child is thirsty, hungry, bored, or dirty.	0.05	
65	It is critical and rigid when the rules are broken.	0.05	SL
66	S/e tells the child what s/he should not do and then allows him/her to do it.	0.05	
69	S/he seems overwhelmed by the demands of care.	0.05	
83	Leaves the room without any sign or explanation to the child.	0.05	
76	The response to the child's proposals is sometimes incomplete.	0.1	SBS
78	Minimizes the importance of the child's signals.	0.1	CHI
79	Accepts the child's expressions of negative emotions.	0.1	
85	The interpretation of the child's signals seems biased and not objective.	0.1	CHI

Note: The asterisks (*) in the item numbers indicate that the item also showed similarity between the criterion and the ideal profile of caregivers of typical children.

Regarding the largest discrepancies between the ideally sensitive profile of caregivers of children with ASD and the MBPQS normative criterion, 10 items were identified with differences in absolute values between 4.5 and 1.85 points (Table 4). Three of these items are not part of the sensitivity dimensions, while the other seven belong to the SBS, SUP, and CHI scales. No such high discrepancies were found for the SL scale, nor were they found in the ideal profile of caregivers of typical children. This result indicates that in setting limits, participants expect caregiver figures to demonstrate behaviors similar to those of the criterion, regardless of whether or not the child has ASD. Additionally, four of the 10 selected items also presented high discrepancies in the construction of ideal profiles of caregivers of typical children.

Table 4
Sensitive care behaviors with the greatest discrepancy between the ideal profile of caregivers of children with ASD and the sensitivity criterion

Item	Behavior evaluated	Discrepancies	Scale
36*	Performs activities based on what gets the child's attention.	4.5	SBS
58*	Frequently agrees to the child's wishes.	3.05	
64*	Responds promptly to the child's positive signals.	2.95	
55	When an accident occurs, goes immediately to where the child is to check what happened.	2.55	SBS
72	Is able to not lose sight of the child despite having other competing demands.	2.3	SUP
30	The interactions with the child are harmonious.	2.2	CHI
51	Facilitates the child's explorations, allowing him/her to move away from him/her and then return.	2.05	SBS
71	Follows the child or moves to supervise or monitor him/her.	1.95	SUP
37	Verbally prepares the child for outings and involves him/her in the preparations.	1.9	
23*	Often uses verbal prohibitions, for example: "no, don't do it."	1.85	CHI

Note: The asterisk (*) in the item number indicates that the item also showed a high discrepancy between the criterion and the ideal profile of caregivers of typical children.

Discussion

In response to the current structure and functioning of families both in Ecuador and in the Latin American region, the term "attachment figure" was introduced in the linguistic adaptation of the MBPQS to substitute for "mom" and "mother" that appear in the original instrument so it can be used to assess the sensitivity of the child caregiver figure, whether the mother or not. In Peru, for example, some studies have used the MBPQS to examine the sensitive behavior of father figures (e.g., Grández, 2016; Luna Victoria, 2015) and of workers in children centers (e.g., Espinoza, 2016). Nóblega and Posada (2016) carried out an analysis of the results obtained in these studies and found that, regardless of the caregiver's sex, in the Peruvian population studied, there was a relationship between caregivers' sensitivity and the quality of children's attachment. In fact, the *Observatorio de los Derechos de la Niñez y Adolescencia* (Observatory for the Rights of Children and Adolescents –ODNA-, 2010) highlights the interchangeable roles that are present among members of current families due to several factors such as time spent in workplaces, diversity in family types, and migration, among others, which has resulted in childcare being shared between the parents or even delegated to other people (Carbonell, 2013; ODNA, 2010).

Regarding the creation of ideally sensitive profiles of caregivers of typical children by the participants, a high and statistically significant correlation was found between the MBPQS criterion scores, very similar to that found in Peru by Nóblega (2012). This finding confirms the

universality of the sensitivity construct proposed by Ainsworth (1967, 1969), which has been investigated by several contemporary authors regarding the caregiver-preschool child relationship (e.g., Kobak et al., 2016; Posada et al., 2007; Salinas-Quiroz et al., 2014). With respect to the analysis of the MBPQS scales, the results indicate that, for the participants in this study, an ideal caregiver for the Ecuadorian context functions as a secure base for the typical child and establishes limits for his/her behavior in the same way as stipulated in the instrument; however, in comparison with the MBPQS norms, the caregiver's contribution to harmonious interactions with the child is greater, while the level of supervision and monitoring is lower.

On the other hand, when comparing the ideal profile of caregivers of typical children with the sensitivity criterion scores by item, high similarities were found for contribution to harmonious interactions, secure base support, and establishment of limits but not for supervision and monitoring; in the latter scale, statistically significant differences were found with the criterion, especially in items that describe sensitivity behaviors or characteristics or non-characteristics. With regard to the high discrepancies, it was found that, compared to the norm, the participating caregiver figures consider that although an ideal caregiver carries out more activities based on what the child pays attention to and responds more quickly to the child's positive signals, that does not mean that s/he is necessarily willing to agree to the child's wishes. These findings are consistent with the cultural practices observed in the Ecuadorian context in which the study was conducted, in relation to the level of care that adults usually give to preschool-age children, and which are manifested through the use of diminutives in language, displays of emotion, and playful behaviors, among other forms of interaction and expression.

In reference to the exploration of evidence of the MBPQS's validity in its application with caregiver figures of preschool children with ASD residing in Ecuador (this study's objective), positive, significant, and high correlations were found between the ideally sensitive profile developed by expert professionals in autism and the instrument's normative criteria, as well as with the ideal sensitivity profile constructed by the caregiver figures regarding caregivers of typical children. These results are indicators that the MBPQS is valid in terms of its content for the evaluation of the sensitivity of caregivers of children on the autism spectrum.

Regarding the scales, SUP was the only dimension in which a statistically significant difference was found with the sensitivity criterion. This difference was also present in the ideal profile of caregivers of the typical population, which reflects the presence of cultural practices related to the level and characteristics of child supervision. Indeed, in the context in which the study was conducted, it has been observed that, in general, adults are less aware of children's activities and allow them to be more self-managing in resolving their conflicts.

On the other hand, when comparing the scores of the scales of the profiles of caregivers of typical children and those of children with ASD, no significant differences were recorded, which indicates that in the studied environment, it is expected and desirable that the two types of caregiver figures act similarly with the children with regard to contributing to harmonious interactions, secure base support, supervision and monitoring, and setting limits.

Regarding the analysis by item, high similarities were found between the ideally sensitive profile of caregivers of children with ASD and the MBPQS sensitivity criterion. In three of these items, the similarity was also present between the ideal profile of caregivers of typical children and the criterion. Additionally, in the same way as with the profile of caregivers of typical children, similarities did not occur with the SUP scale; however, it was observed that discrepancies were present in behaviors that were neither characteristic nor uncharacteristic, which reaffirms previous findings in the sense that in the Ecuadorian context, generally the supervision and monitoring of children tends to differ from what is stated in the criterion, regardless of if the children have ASD. Additionally, the highest discrepancies between the ideal profile of caregivers of children with ASD and the criterion were found in the same items as the ideal profile of caregivers of typical

children, which indicates consistency in the considerations made by the participants when developing the prototypical profiles of both types of caregivers.

Conclusion

This study found high correlations between the prototypical profiles developed by the participants and the MBPQS normative sensitivity criterion. Only for the supervision and monitoring dimension were there significant differences between the criterion score and the ideal profiles of caregivers of both typical children and children with autism, which allows for the determination that adult supervision of minors in the Ecuadorian context differs from that proposed theoretically. Additionally, a considerable amount of similar behavior has been identified between the prototypical profiles developed by the participants and the MBPQS sensitivity criterion. The few high discrepancies were found in items from both profiles, which would indicate that the participants, in general, projected a high expectation of adult attention towards children whether or not they have ASD; however, that expectation does not mean that caregivers necessarily agree to the minors' wishes. Finally, it is important to note that the findings of both profiles reflect high consistency, which suggests that to create the ideal characterizations of caregiver figures, the participants took into account Ecuadorian social and cultural factors.

Consequently, the results of this study confirm that no specific Q-sort criteria are needed to evaluate child caregivers' sensitivity in the Ecuadorian environment and that the MBPQS is valid in terms of its content for the application with caregiver figures with both children with typical development and with autism. It should be emphasized that the use of this instrument requires prior training by professionals due to the particularities of the Q-sort methodology.

It is important to note that the information on the caregiver-child with ASD relationship collected with the MBPQS is useful and valuable both for clinical practice and for research on autism linkage relationships. As documented in several studies, the sensitive behavior of caregiver figures encourages the development of secure attachment bonds and, therefore, cognitive and socio-affective development (e.g., Fearon & Belsky, 2016) both in typical children and in children with autism (Kahane & El-Tahir, 2015; Teague et al., 2017). Therefore, the available information can serve as a basis for the design of intervention and support programs that meet the needs of children with the disorder and their parents (Keenan et al., 2016; Kiani & Nami, 2017).

Finally, as previously mentioned, it is important to emphasize that the participants in this study previously developed ideal security profiles for typical children and those with ASD using the *Attachment Q-set* (AQS) (Díaz, 2018), which could have affected the increase of the ideal sensitivity scores. On the other hand, it should be considered that the participating caregivers belonged to medium-high socioeconomic levels and that the professionals were academics with postgraduate training; therefore, the ideal profiles they created possibly corresponded to caregiver figures of children with typical development and with ASD from cities and the middle class. For these reasons, the results of this study should not be extrapolated to groups with different characteristics than those of the population studied.

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Authors' participation: a) Conception and design of the work; b) Data acquisition; c) Analysis and interpretation of data; d) Writing of the manuscript; e) Critical review of the manuscript.

E.D.M. has contributed in a,b,c,d,e; M.N.in a,,c,e

Scientific Editor in charge: Dra. Lilian Daset