

Review Article

# Assessment tools of occupational therapy for children and adolescents in Brazil: a literature review

## *Instrumentos de avaliação da terapia ocupacional para crianças e adolescentes no Brasil: uma revisão da literatura*

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### **Abstract**

**Introduction:** There is a growing interest in the use of methods to assess the effectiveness of practices developed by occupational therapists, however, when it comes to specific assessment tools of occupational therapy, although the use of it is seen as positive and advantageous, they seem to be little used and widespread in Brazil. **Objective:** This study aimed to identify and analyze original studies developed in the Brazilian territory that used systematic assessment tools created by occupational therapists for children and adolescents. **Method:** This is a systematic literature review research, with the searches being carried out in the databases: PubMed, Scopus, Scielo, Virtual Health Library (VHL) and in the journals: Brazilian Journal of Occupational Therapy, Revista de Terapia Ocupacional da Universidade de São Paulo, Revista Interinstitucional Brasileira de Terapia Ocupacional and Revista Baiana de Terapia Ocupacional, meeting the selection criteria adopted. **Results:** 37 studies were included, containing 15 instruments created by occupational therapists to assess children and adolescents. Four categories of instruments emerged from the analysis of the results, namely: *functional performance; occupational participation and performance; playful behavior*, and *sensory activity*. Most of the assessment tools presented good evidence of psychometric adequacy in the Brazilian context, although some still need further investigation. **Conclusion:** Because of the assessment tools and their main characteristics presented in this study, it was possible to apprehend a diverse panorama, which could enhance the caring processes in childhood and adolescence in the field of Occupational Therapy. There is a recommendation for future studies to investigate reliable assessment tools to compose the national scientific production.

**Keywords:** Systematic Review, Psychometrics, Human Development.

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### **Resumo**

**Introdução:** Observa-se um interesse crescente na utilização de métodos para avaliar a efetividade das práticas desenvolvidas por terapeutas ocupacionais, contudo, quando se trata de instrumentos próprios da terapia ocupacional, ainda que o uso seja visto como positivo e vantajoso, parecem ser pouco utilizados e difundidos no Brasil. **Objetivo:** Identificar e analisar estudos originais desenvolvidos em território brasileiro que utilizaram instrumentos sistematizados de avaliação criados por terapeutas ocupacionais para a população infantojuvenil. **Método:** Trata-se de uma pesquisa de revisão sistemática da literatura, sendo as buscas realizadas nas bases de dados: PubMed, Scopus, SciELO e BVS, além dos periódicos: Cadernos Brasileiros de Terapia Ocupacional, Revista de Terapia Ocupacional da Universidade de São Paulo, Revista Interinstitucional Brasileira de Terapia Ocupacional e Revista Baiana de Terapia Ocupacional, atendendo aos critérios de seleção adotados. **Resultados:** Foram incluídos 37 estudos, contemplando 15 instrumentos criados por terapeutas ocupacionais para a avaliação de crianças e adolescentes. Quatro categorias de instrumentos emergiram da análise dos resultados, a saber: *desempenho funcional; participação e desempenho ocupacional; comportamento lúdico e atividade sensorial*. A maioria dos instrumentos apresentou boas evidências de adequação psicométrica no contexto brasileiro, embora alguns ainda necessitem de maiores investigações. **Conclusão:** Diante dos instrumentos e de suas principais características apresentadas neste estudo, pôde-se apreender um panorama diverso, podendo potencializar os processos de cuidado em infância e adolescência no campo da terapia ocupacional. Há a recomendação para que futuros estudos se debrucem em investigar ferramentas avaliativas confiáveis para compor a produção científica nacional.

**Palavras-chave:** Revisão Sistemática, Psicometria, Desenvolvimento Humano.

## **Introduction**

Assessment has always been a topic of interest in occupational therapy. For this profession, the assessment process is broad and continuous, seeking to collect and interpret the information necessary for planning the intervention, being necessary to follow a logical line of reasoning in the search for answers and paths that enable greater knowledge about the occupational profile of the target individuals for analysis of their occupational participation and performance (Tedesco, 2000, 2017; Kudo et al., 2012; Mancini et al., 2020; Mazak, 2021).

The assessment ranges from the initial stages to the outcome of an intervention. One of the most effective ways to identify the individual's needs is the use of assessment instruments, which are specific tools that provide greater clarity for the definition of therapeutic goals, facilitating the measurement and documentation of results obtained in therapy (Chaves et al., 2010; Tedesco, 2017).

In this sense, Rocha et al. (2013) and Brito & Pinheiro (2016) emphasize the importance of professionals knowing the resources available for assessment, so that they can make appropriate choices and correctly use the instruments to ensure greater success in their interventions.

On the other hand, for at least two decades, the literature has highlighted weaknesses in the assessment in occupational therapy, pointing out that this professional finds difficulties between what is assessed and what would be the objectives of the profession (Magalhães, 1997; Tedesco, 2000). The scarcity of the use of more objective and systematized evaluative methods to identify the individual's needs and demonstrate the progress achieved in therapy is also highlighted, indicating that the evaluation area still requires investment from occupational therapists (Magalhães, 1997; Tedesco, 2000).

Some difficulties in the adoption of these tools still stand out today such as the lack of delimitation of the characteristics of the interventions related to the correct choice of instruments and the preference of occupational therapists for the use of instruments to carry out research, and not, in fact, in clinical practice (Tedesco, 2017). This difficulty can be observed in the study carried out by Bueno (2013), which aimed to identify the forms of assessment in the practice of occupational therapists in Children and Youth Psychosocial Care Centers (CAPSij). We found that these professionals use the following resources to carry out the process of identifying needs: anamnesis, development scales, open interviews, receptions, observation, and carrying out activities. However, half of the 24 professionals interviewed did not answer about their form of assessment, evidencing a lack of systematization, “[...] as if the assessment happened intuitively, something that is not true” (Bueno, 2013, p. 105). Even considering that occupational therapy assessments do not need to be carried out in a plastered manner, Bueno (2013) points out that systematizing this process favors and enriches the dialogue between all professionals involved in the treatment of children or adolescents, in addition to enabling literary production in the scientific area.

Along the same lines, a review study that sought to identify the instruments used by occupational therapists with the child population found 48 instruments used in the area, nationally and internationally (Silva & Martinez, 2002). However, they were not typical of the profession, it corroborates that other authors need efforts in this particular area (Gomes & Oliver, 2010). Chaves et al. (2010) investigated specific occupational therapy assessment scales in Brazil, finding seven instruments translated into Portuguese and validated, of which only one is specific for the assessment of children and two others may be used with adolescents. Thus, the need to investigate specific instruments of occupational therapy for this population in Brazil is reiterated.

Currently, this scenario has changed, and it is possible to observe that in the last 10 years, the interest in using specific methods to assess the effectiveness of the developed practices has been growing, in addition to a greater concern with the validation and reliability of the instruments adapted by occupational therapists in the Brazilian context (Tedesco, 2017; Correia, 2019).

In this sense, the importance of using assessment instruments that are efficient in their propositions is highlighted, that is, they present rigor in their history of creation and validation with the target population to result in reliable data on the constructs that intend to evaluate. In the case of the use of instruments produced in other countries, we observed the need to perform the cross-cultural adaptation and validation of this new version, including the study of the psychometric qualities of these instruments (Chaves et al., 2010; Chaves, 2012). Thus, Chaves et al. (2010) and Tedesco (2017) also point to the small amount of validated, reliable, and specific occupational therapy instruments available in Brazil.

The importance of promoting the production of occupational therapists on the assessment instruments is something that has been problematized in the national literature (Chaves et al., 2010; Chaves, 2012; Correia, 2019; Magalhães, 1997; Tedesco, 2000). This is relevant because the use of instruments developed by other professional categories can have consequences when they are not sensitive to the domains of intervention in occupational therapy, because the therapist's interest is in the performance and occupational participation of the individuals (Magalhães, 1997; Mazak, 2021).

Thus, the use of specific instruments in occupational therapy practices helps in the credibility and objectivity of the interventions, enabling the production of specific knowledge in the area, contributing to the scientific and clinical recognition of occupational therapy (Chaves et al., 2010; Chaves, 2012).

Motta & Takatori (2001) point out that assessment instruments in occupational therapy for children generally adopt the same formats and objectives as the occupational universe of adults. However, they differ in their approach to development and how they collect information.

Mancini et al. (2020) point out that, in the universe of childhood and adolescence, assessment instruments are used by occupational therapists for several reasons, such as helping to determine the eligibility of the child/adolescent who will receive the occupational therapy intervention, monitoring progress during the process of therapeutic intervention and, finally, to make decisions about the most appropriate and effective intervention method for each child and adolescent. For Motta & Takatori (2001), through these instruments, the occupational therapist seeks information about the interests of children and adolescents, what they do in their daily lives, how they do it, and why they do it to know their possibilities, potentials, difficulties, and challenges. Thus, it can favor the care process with this population. Thus, identifying the best evaluative tools in the practices of occupational therapy in childhood can contribute to the increment of the proposed actions and favor the advancement of the area in the country (Mancini et al., 2020).

Based on the above, this study aimed to identify and analyze original studies developed in Brazilian territory that used systematic assessment instruments (national or appropriately cross-culturally adapted) created by occupational therapists for children and adolescents.

## Method

This is a systematic literature review research, which involves a rigorous search to identify, evaluate and synthesize studies developed and published on a given topic (Grant & Booth, 2009).

We searched from September to October 2019, in the following databases: PubMed, Scopus, Scielo and Virtual Health Library (VHL), and in online journals: *Cadernos Brasileiros de Terapia Ocupacional*, *Revista de Terapia Ocupacional* of the University of São Paulo, *Revista Interinstitucional Brasileira de Terapia Ocupacional* (REVISBRATO) and *Revista Baiana de Terapia Ocupacional*.

The search strategy adopted consisted of using the following descriptors: (“*terapia ocupacional*” OR “*occupational therapy*”) AND (*avaliação* OR *validação* OR “*adaptação*”

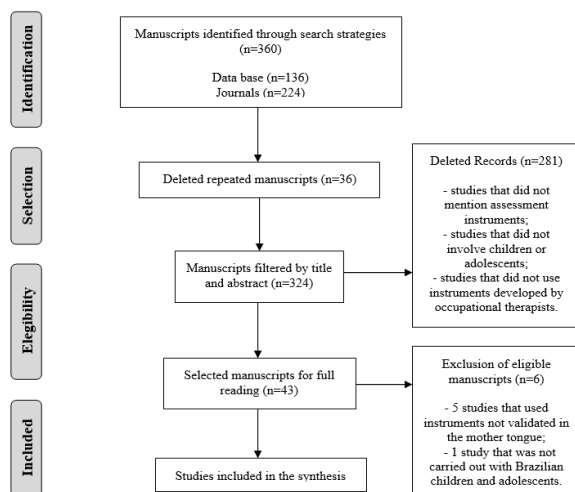
*transcultural” OR assessment OR validation OR “cross-cultural adaptation”) AND (infancia OR infanti\* OR adolesc\* OR criança OR infantojuvenil OR childhood OR infant OR child OR youth\*) AND (Brasil OR Brazil).*

Also, the inclusion criteria in this review were:

- Studies of cross-cultural adaptation and validation<sup>1</sup> for Brazil of instruments that were created exclusively by occupational therapists or occupational therapists who are members of the multidisciplinary creation team, who assess children and adolescents between 0 and 18 years old;
- Descriptive exploratory<sup>2</sup> studies that used instruments used in occupational therapy with children and adolescents from 0 to 18 years old;
- Studies carried out in a Brazilian context, presented in English, Portuguese or Spanish, authored by at least one Brazilian occupational therapist;
- Studies with validated instruments (in the mother tongue at least);
- No publication year delimitation.

We excluded editorials, essays, literature reviews, and studies that were not carried out in Brazil.

Figure 1 shows the flowchart that illustrates the steps followed in the search and the result of the search performed.



**Figure 1.** Flow diagram of identified, filtered, excluded, and included studies (Moher et al., 2009).

<sup>1</sup>Cross-cultural adaptation studies aim to make the translated instrument as faithful as possible from its original version, and for this, steps of translation, back-translation, analysis by judges and the achievement of semantic, idiomatic, experiential and conceptual equivalences for the target language must be followed (Beaton et al., 2000). After this process, the instrument is usually validated. The term validity can be defined as the ability to actually measure what it is supposed to measure, and should encompass the psychometric analyzes of the instrument's items (Pasquali, 2009).

<sup>2</sup>Exploratory descriptive researches are those carried out by researchers interested in practical action (Gil, 2002). Descriptive because they aim to describe the traits of a given population/phenomenon or, then, the finding of relationships between variables, with the use of standardized data collection techniques, such as questionnaires, being quite characteristic; and explanatory because they aim to provide greater familiarity with the problem, making it more explicit or to form hypotheses, generally taking the form of a case study (Gil, 2002).

During the analysis of the abstracts, the original authorship of each instrument used in the studies was manually and individually investigated, ensuring the selection criteria in productions that used instruments created by occupational therapists.

Thus, we observed in Figure 1 that, after the selection refinement, 37 articles were included in this review. After reading it in its entirety, we created a database to systematize the information collected, which included: the complete source of the article, the assessment instrument used, its objective, and categorization of each instrument in terms of the focus they give to children and adolescents development.

In addition, to compose this systematization of information from the final sample, we performed a specific search procedure about each assessment instrument, investigating the original authors and authors of the cross-cultural adaptation/validation of the instrument for Brazil and the respective dates, as well as its psychometric properties and the age range covered.

## Results

Below, Table 1 shows the selected articles:

**Table 1.** Characterization of articles included in the review.

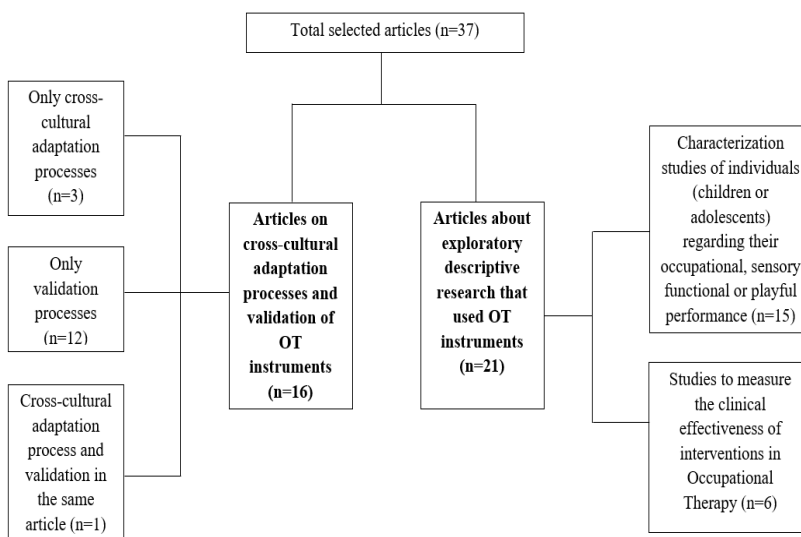
Article	Journal	Assessment instrument used
Demarchi et al. (2019)	Cad. Bras. Ter. Ocup.	Dynamic Cognitive Assessment of Occupational Therapy for Children (DOTCA-Ch)
Alves et al. (2019)	American Journal of Occupational Therapy	Here's How I Write - writing self-assessment
Santos et al. (2019)	Australian Occupational Therapy Journal	Child-Initiated Pretend Play Assessment (ChIPPA)
Silva & Pelosi (2018)	Rev. Interinst. Bras. Ter. Ocup. Rio de Janeiro	Play Model Assessment Protocols
Galvão et al. (2018)	Rev. Ter. Ocup. Univ. São Paulo	Participation and Environment Measure - Children and Youth (PEM-CY)
Sarraf et al. (2018)	Rev. Ter. Ocup. Univ. São Paulo	Development Coordination Disorder Questionnaire - Brazilian version (DCDQ-Brasil)
Reis et al. (2017)	Rev. Interinst. Bras. Ter. Ocup. Rio de Janeiro	- Pediatric Assessment of Disability Inventory (PEDI) - Sensory Profile
Silva et al. (2017)	Rev. Ter. Ocup. Univ. São Paulo	Coordination and Motor Dexterity Assessment (ACORDEM)
Franca et al. (2017)	Rev. Ter. Ocup. Univ. São Paulo	DCDQ-Brazil
Bender & Guarany (2016)	Rev. Ter. Ocup. Univ. São Paulo	PEDI
Brandão et al. (2016)	Rev. Ter. Ocup. Univ. São Paulo	Children's Hand-Use Experience Questionnaire (CHEQ)
Garcia et al. (2015)	Rev. Ter. Ocup. Univ. São Paulo	- ACORDEM - DCDQ-Brasil

**Table 1.** Continued...

<b>Article</b>	<b>Journal</b>	<b>Assessment instrument used</b>
Santos & Ferreira (2015)	Cad. Ter. Ocup. UFSCar	Canadian Occupational Performance Measure (COPM)
Marques et al. (2015)	Rev. Ter. Ocup. Univ. São Paulo	Occupational Roles Identification List
Cardoso et al. (2014)	Occup. Ther. Int.	- ACOORDEM - DCDQ-Brazil
Corrêa & Santana (2014)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Santos & Ferreira (2014)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Pereira et al. (2014)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Medeiros et al. (2014)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Maggi et al. (2014)	J Pediatr (Rio J)	PEDI
Segava et al. (2014)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Cunha & Gontijo (2013)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Cardoso & Magalhães (2012)	Rev. Bras. Fisioter.	- ACOORDEM - DCDQ-Brazil
Magalhães et al. (2011)	Rev. Ter. Ocup. Univ. São Paulo	ACOORDEM
Araújo et al. (2011)	Rev. Ter. Ocup. Univ. São Paulo	- Perceived Efficacy and Goal Setting System (PEGS) - DCDQ-Brazil - COPM
Segava & Cavalcanti (2011)	Rev. Ter. Ocup. Univ. São Paulo	COPM
Pfeifer et al. (2011a)	Canadian Journal of Occupational Therapy	ChIPPA
Pfeifer et al. (2011b)	Physical & Occupational Therapy in Pediatrics	ChIPPA
Baleotti et al. (2011)	Rev. Ter. Ocup. Univ. São Paulo	School-AMPS - Assessment of Motor and Process Skills - School Version
Mancini et al. (2010)	Rev. Ter. Ocup. Univ. São Paulo	PEDI
Pacciulio et al. (2010)	Occup. Ther. Int.	Knox Preschool Play Scale
Cardoso & Magalhães (2009)	Occup. Ther. Int.	ACOORDEM
Sant'Anna et al. (2008)	Rev. Ter. Ocup. Univ. São Paulo	Play Model Assessment Protocols
Lacerda et al. (2007)	Rev. Ter. Ocup. Univ. São Paulo	ACOORDEM
Fonseca et al. (2005)	Rev. Ter. Ocup. Univ. São Paulo	PEDI
Magalhães et al. (2004)	Rev. Ter. Ocup. Univ. São Paulo	ACOORDEM
Mancini et al. (2002)	Arq. Neuropsiquiatr.	PEDI

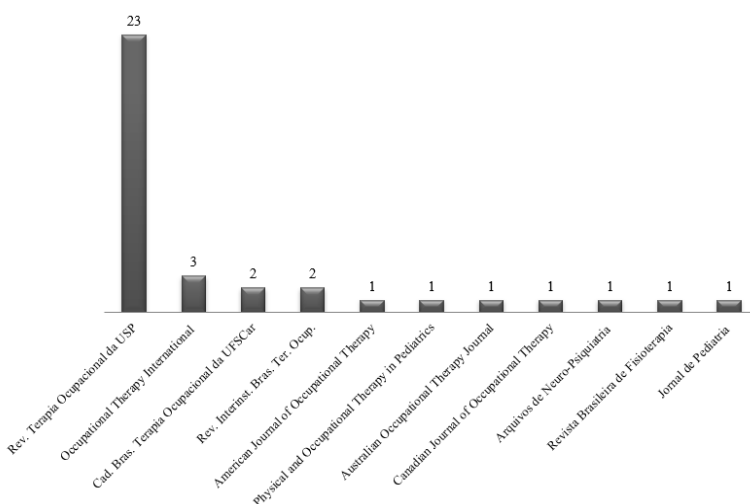
Of this total, 16 articles deal with processes of transcultural adaptation and validation of occupational therapy instruments for Brazil, and 21 refer to exploratory descriptive research that applied occupational therapy instruments with children and adolescents, covering both subject characterization and measurement surveys of the clinical

effectiveness of interventions in occupational therapy. The flowchart in Figure 2 shows a better description of these articles.



**Figure 2.** Diagram of the types of studies found in this review.

All articles included in this review were published between 2002 and 2019, and the publications came from 11 different journals (Figure 3):



**Figure 3.** Figure of the number of articles published in each journal.

Figure 3 shows that 34 of the 37 selected articles were published in specific occupational therapy journals, with emphasis on the *Revista de Terapia Ocupacional* at USP, which includes in its scope the theme of evaluative processes that contribute to improving technical and theoretical in the field of care and/or teaching. Furthermore,



the international visibility of Brazilian research published in international journals with a level of excellence is highlighted.

Based on the above, we identified a total of 15 assessment instruments in the articles (Table 2), and most of these studies adopted instruments to use in Brazil. Only one instrument was developed in Brazilian territory, namely, the Assessment of Coordination and Motor Skill (*Avaliação da Coordenação e Destreza Motora - ACOORDEM*) (Magalhães et al., 2004). As for the age group, 10 instruments are specifically for the assessment of children and three for children and adolescents. The other instruments do not specify the application age range; however, there is a recommendation for their use. These 15 instruments underwent a qualitative analysis of categorization, with the criterion defined based on the relevant domains in terms of the problems and objectives of the assessment. Thus, four categories of instruments were defined. The first category includes instruments that assess *functional performance*, that is, it discusses the efficiency of the child's abilities on the motor, cognitive, social, procedural, mobility and self-care functions. The second covers instruments that assess *participation and occupational performance*, that is, they seek to measure the levels of participation and engagement in the various occupations, as well as the areas (self-care, productivity, and leisure) and components (spiritual, physical, socio-cultural and mental) performance and the importance of the roles that children and adolescents play. The third discusses *playful behavior*, with instruments that assess children's imaginative and symbolic play, the organization of play, the communication of their needs and feelings, and playful attitudes in general. Finally, the fourth category discusses *sensory activity*, in which it presents a single instrument that assesses items such as sensory processing, modulation and behavior, and emotional responses linked to sensory activities.

Table 2 describes the objectives of each instrument and the information about the original authors and authors who adapted it for Brazil.

**Table 2.** Characteristics of the assessment instruments reported in the 37 review studies.

Category	Assessment instrument	Objectives	Age group	Original authors	Cross-cultural Adaptation/Validation in Brazil
1. Functional performance	PEDI	It is for parents/caregivers to inform about the child's functional profile, at three levels of function: self-care, mobility, and social function (Maggi et al., 2014).	6 months to 7 and a half years old	Haley et al. (1992) cited in Mancini's (2005) study	Mancini (2005)
	School-AMPS	It shows the child's functional performance in classroom tasks. It consists of two scales: the motor and the process (Baleotti et al., 2011).	4 to 8 years old	Fisher et al. (2002) cited in the study by Faria & Magalhães (2006)	Faria & Magalhães (2006)
	ACOORDEM	It detects motor coordination problems in children and assesses skills in the three areas of ICF	4 to 8 years old	Magalhães & Rezende (2001) cited in the study by	Developed in Brazil in the 2000s

**Table 2.** Continued...

Category	Assessment instrument	Objectives	Age group	Original authors	Cross-cultural Adaptation/Validation in Brazil
		function: a) body structure and function; b) activities; c) participation (Magalhães et al., 2004).		Magalhães et al. (2004)	
	DCDQ-Brazil	It is a questionnaire for parents with 15 items distributed in the following sessions: control during movement, fine motor skills and writing skills, gross motor skills and planning skills, and global motor coordination (Franca et al., 2017).	5 to 15 years old	Wilson et al. (2000) cited in the study by Prado et al. (2009)	Prado et al. (2009)
	PEGS	It uses illustrations to help children with physical disabilities to identify motor activities in which they have difficulty, which involves self-care, schoolwork, and playing (Ruggio et al., 2018; Araújo et al., 2011).	6 to 9 years old	Missiuna et al. (2004) cited in Ruggio's (2008) study	Ruggio (2008)
	CHEQ	It is centered on the assessment of the use of hands in daily life tasks by children and adolescents with asymmetric motor impairment (Brandão et al., 2016).	6 to 18 years old	Sköld et al. (2011) cited in the study by Brandão et al. (2016)	Brandão et al. (2016)
	Here's How I Write	It is focused on children's self-assessment of writing. It has 25 cards, in which each side illustrates a figure with a good and bad performance on specific writing components, in which the children point out the one that best expresses their performance (Alves et al., 2019).	8 to 10 years old	Goldstand et al. (2013) cited in the study by Alves (2015)	Alves (2015)
	DOTCA-Ch	It assesses and identifies potential limitations in children's primary cognitive areas, related to short-term memory function and performance (Uchôa-Figueiredo et al., 2017).	6 to 12 years old	Katz et al. (2004) cited in the study of Uchôa-Figueiredo et al. (2017)	Uchôa-Figueiredo et al. (2017)

**Table 2.** Continued...

Category	Assessment instrument	Objectives	Age group	Original authors	Cross-cultural Adaptation/Validation in Brazil
2. Occupational participation and performance	COPM	It allows measuring the individual's self-perception in occupational performance and satisfaction. It encompasses the areas of self-care, productivity and leisure, and the spiritual, physical, socio-cultural, and mental components (Corrêa & Santana, 2014).	Not specified (however, it is recommended for children over 8 years old due to the level of abstraction)	Law et al. (2005) cited in the study of Chaves (2012)	Chaves (2012)
	Identification List of Occupational Roles	It extracts information about the individual's occupational roles, providing data on the individuals' perception of their life, the degree of importance of each role, and information on their ability to maintain the balance between roles (Marques et al., 2015).	Not specified (but can be used with teenagers)	Oakley et al. (1986) cited in the study of Cordeiro (2005)	Cordeiro (2005)
	PEM-CY	It is based on the ICF and, through the perception of parents/caregivers of children and adolescents, assessing the participation and environmental factors in three sections: home, school, and community (Galvão, 2019).	5 to 17 years old	Coster et al. (2012) cited in the study of Galvão (2019)	Galvão (2019)
3. Playful behavior	ChIPPA	It measures the quality of a child's ability to self-initiate play. Conventional imaginative play and symbolic play are evaluated (Pfeifer et al., 2011a).	3 to 7 years old	Stagnitti et al. (2000) cited in the study of Pfeifer et al. (2011a)	Pfeifer et al. (2011a)
	Knox Preschool Play Scale	It is based on observation and provides an evolutionary description of play behavior typical of preschool children. Actions divided into four dimensions are presented to children: spatial domain, material domain, symbolic play, and participation (Sposito et al., 2012).	0 to 6 years old	Knox (2000) cited in the study of Sposito et al. (2012)	Sposito et al. (2012, 2019)
	Play Model Assessment Protocols	There are two assessment protocols for the Playful Model: the Initial Interview with Parents	Preschool-age	Ferland (2003) cited in the study of	Sant'Anna et al. (2008)

**Table 2.** Continued...

Category	Assessment instrument	Objectives	Age group	Original authors	Cross-cultural Adaptation/Validation in Brazil
		(IIP), which seeks to know the playful behavior of children at home, and the Assessment of Playful Behavior of Children with Physical Disabilities at Preschool Age (APB), which points out qualitative and individualized aspects in five dimensions of play behavior (Sant'Anna et al., 2008).		Sant'Anna et al. (2008)	
4. sensory activity	Sensory Profile	It measures sensory processing skills and estimates their effect on the child's everyday performance in three areas: sensory processing; modulation; and behavior and emotional responses (Reis et al., 2017; Mattos et al., 2015).	3 to 10 years old	Dunn (1994) cited in the study of Mattos et al. (2015)	Mattos et al. (2015)

## Discussion

This study revealed that 15 occupational therapy instruments assess children and adolescents available in Brazil and that they differ in terms of their focus on child and youth development. The results point to an increase in interest in the development of instruments systematized by occupational therapists.

The investigated sample shows the diversified character of the item assessment in occupational therapy with the child-adolescent population. This variety of approaches brings as an advantage a greater number of possibilities for professionals in the fields of practice and research, depending on the therapeutic purpose. However, despite this range of instruments, the literature still points to weaknesses in their use and dissemination, especially in the cynical practice of the occupational therapist (Magalhães, 1997; Tedesco, 2017), which indicates that this review can contribute to the dissemination of knowledge among these professionals.

The attempt of the “categories” created through the approaches of the instruments found consisted only in presenting them in a more didactic way. Despite having similarities within the same segment, they do not need to be enough, they can be used concurrently (combinations) both in practice and in research, depending on the established objective.

In this sense, five selected studies presented a combination of instruments, such as ACOORDEM and DCDQ-Brazil (n=3); DCDQ-Brazil, PEGS and COPM (n=1); and Sensory Profile and PEDI (n=1). Some authors see this combination as positive, both in research and in interventions. Winkler & Clemen (2004) state that the correlation between multiple assessment methods brings more accurate results for the

collection of information. In the validation studies, the application of different instruments can include the verification of criterion validity (Pasquali, 2009). Tedesco (2000) highlights as an advantage not only the use of more than one instrument with the same topic but also the use of instruments from different theoretical approaches, calling this process the Integrative Approach, that is, a more integrative approach in therapy, showing that this conduct reduces the risk of interventions becoming similar for all individuals, preventing individual specificities and needs from being disregarded.

These combinations of assessment instruments highlight the inherent need for interventions in occupational therapy centered on childhood and adolescence to better understand the demands and potential of the target individuals, focusing on their performance and occupational participation, which, therefore, requires differentiated assessments that address more than one aspect of development (Mancini et al., 2020).

Regarding psychometric qualities, we found that almost all assessment instruments found in this study showed good evidence of psychometric adequacy in the Brazilian context, although some have indicated the need for further analysis for further deepening to ensure their reproducibility (Cordeiro, 2005; Chaves, 2012; Faria & Magalhães, 2006; Paicheco et al., 2010; Pfeifer et al., 2011a; Mattos et al., 2015; Silva et al., 2017; Ruggio et al., 2018; Sarraff et al., 2018; Demarchi et al., 2019; Sposito et al., 2019; Alves et al., 2019; Galvão, 2019). Only in the Ludic Model Protocols (Sant'Anna et al., 2008) and in the CHEQ (Brandão et al., 2016) no studies were found on the validation processes in Brazil.

In the theoretical approaches, among the instruments described, we could identify that some explain which references are supported, such as COPM, for example, which is based on the Canadian Model of Occupational Performance and Engagement - CMOP-E (Chaves, 2012); the List of Occupational Roles, which is based on the Model of Human Occupation – MOH by Gary Kielhofner (Cordeiro, 2005); PEGS, which is based on Customer-Centered Practice (Ruggio, 2008); the Sensory Profile, which incorporates Dunn's Sensory Processing Model (Mattos et al., 2015); and the Ludic Model Assessment Protocols, which are based on Francine Ferland's Ludic Model (Sant'Anna et al., 2008). The other instruments do not mention a specific theoretical approach to occupational therapy in the publications of this sample.

During the construction of the profession, the different models, approaches, and paradigms were structured based on social, political, cultural, and economic contexts of each period, and those found in this study are the most used and cited in the literature. However, we observed that there is no single trend in the use of assessment approaches and instruments and that there is a scarcity of studies that say what has been the practice of occupational therapists with children and adolescents (Gomes & Oliver, 2010; Silva et al., 2020).

Most of the included studies adopted assessment instruments adapted from other countries to Brazil, something that is commonly seen as the best option among researchers, due to the time savings in the construction of a new instrument and also because of enabling cross-cultural research (De Sousa et al., 2013).

On the other hand, we should discuss the scarcity of instruments developed based on the Brazilian reality. Although the assessment instruments are cross-culturally adapted, the model and interpretation of the results are generally based on pragmatic and functionalist epistemologies coming mostly from North America and Europe and little considering the socio-political-cultural context of the Latin and South American countries, for example, running the risk of reducing social problems to individual problems (Galheigo, 2012; Guajardo Córdoba, 2017; Núñez, 2019). In the understanding of Guajardo Córdoba (2017), this view can distance Occupational Therapy practices from the need to transform the social reality that generates so much inequalities.

Thus, understanding that Occupational Therapy is not a practice out of human reality, Guajardo Córdoba (2017) points out that interventions must go beyond individuals and microsocial relationships, bringing the conflict so that there is a care in the face of scientism and objective measurements that are alien to the social and cultural reality of the countries of the South. Along the same lines, Galheigo (2012) and Mazak (2021) indicate that this biomedical and functionalist perspective has been gradually changing in the countries of South America.

In this sense, we recommend investment in the creation of Brazilian instruments for occupational therapy, based on identifications of a social and cultural reality specific to Latin America, or even Brazilian ones. Studies on the ACOORDEM corroborate these findings (Magalhães et al., 2004; Lacerda et al., 2007; Cardoso & Magalhães, 2009, 2012; Cardoso et al., 2014; Silva et al., 2017).

Another aspect observed in this study concerns the predominant age group that the instruments are intended for, that is, between 6 and 18 years old, with the average interval between the ages investigated by the instruments being 8.1 years old. This may be related because it is at school age that limitations and difficulties are usually more perceived, as it is common to have comparisons about child and youth development with peers. The literature points out that most cases of developmental changes are perceived late, that is, at school age, which indicates that there is still a lack of strategies for early identification of the most diverse developmental issues, especially with primary health care teams and of education (Della Barba et al., 2011). In this sense, the earlier an assessment in occupational therapy is carried out, the greater the chances of good results, understanding the instruments as facilitators of identifying needs in occupational therapy.

But what guides the occupational therapist in choosing an assessment instrument in the field of childhood and adolescence? Studies show that the occupational therapist chooses an instrument for several reasons, such as cost, administration difficulties, age, the potential and difficulties of the target individual, the formation of the therapist's skills, its theoretical bases, and from the psychometric qualities of the instrument, for example (Tedesco, 2000, 2017). Especially, in the phases of childhood and adolescence, the therapist also needs to pay attention to the particularities of this population, in which changes occur more quickly when compared to other phases of life, affecting all areas of development, leading to understanding that an assessment instrument needs to be sensitive to these changes and that the need for reassessment is constant.

It is worth pointing out that the process of evaluating children and adolescents is not simple. In addition to taking into account particular factors of development, which is dynamic, it is necessary to verify whether the reasoning behind the use of an instrument is associated with the other evaluations that occur in the therapeutic process, arising from tools such as interviews and observations, including subjective perceptions and the dynamics present in the relationship and the doing (Tedesco, 2017). It is not possible (nor desirable) to capture all the subtlety and dynamism of human action in evaluation processes; however, we must choose what is good enough to substantiate the occupational therapist's clinical reasoning (Magalhães, 1997).

Therefore, given the assessment instruments and their main characteristics presented here, it is possible to reflect on the use of each of them for the different aspects that permeate childhood and adolescence. Through evaluations based on systematized and validated instruments, there is a greater possibility of defining objectives, which leads to better guidelines for interventions and, consequently, for better results with the population assisted, whether in the clinical or scientific field. We also highlight the need for criticality by the occupational therapist when choosing the best way to carry out the assessment of the individual, considering his socio-political-cultural Brazilian reality. In this way, the look and the form of care for children and adolescents are broadened, in which the occupational therapy practice can contribute to more integral development.

## **Final Considerations**

We consider that this article fulfilled the proposed objective of investigating the instruments created by occupational therapists aimed at the assessment of children and adolescents in Brazil. We could observe the panorama of the diversity of instruments that can be used with this population to enhance the occupational therapy process and the care process as a whole.

As a limitation of the study, we should highlight that theses and dissertations and other national bibliographic products were not researched, which could perhaps expand the list of assessment instruments reported here, considering that there may be other types of assessment with the same characteristics as those presented in this study.

Along this path, we recommend future research to follow this constant update of existing instruments for the assessment of children and adolescents, as new discussions are always on the agenda, new paradigms are built and new ways of looking at this population are assimilated. Considering that the contribution of the occupational therapist professional has a lot to make up in this field, being able to offer a more holistic and expanded look to this population, studies that focus on investigating reliable evaluative tools should be part of the national scientific production.

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Mayara Soler Ramos Mazak: text design, organization of sources and analyses, writing and review of the text.

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