Cultural Competence Through Adaptation of Pediatric OT Assessments:

A Systematic Review

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Abstract

Importance: Cultural competence in pediatric occupational therapy assessments ensures equitable and effective care for children from diverse cultural backgrounds.

Objective: To identify, evaluate, and synthesize the current literature concerning assessments in pediatric occupational therapy to determine the efficacy of cultural adaptation.

Data Sources: A literature search occurred on May 15, 2025. Follow up searches were conducted on May 23, 2025. Databases included PubMed, OT Seeker, Humanities International Complete, and Academic Search Complete using Hawai'i Pacific University's online library databases. Search terms included "cross cultural," "assessments," "adaptations," "cultural competence," and "cultural adaptation,"as well as combinations of these terms.

Study Selection and Data Collection: This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Published studies on cultural adaptation of pediatric OT assessments were included in the systematic review. Data from presentations, non-peer reviewed literature, and dissertations were excluded.

Findings: Eight studies were included (two Level IB, three Level IIIB, two Level IV and one Level V) according to the American Occupational Therapy Association's Levels of Evidence.

The outcomes of these studies indicate that culturally adapted pediatric occupational assessments improve client engagement, family collaboration and therapeutic relevance across diverse populations.

Conclusion and Relevance: Cross-cultural adaptation of assessment tools and evaluation processes can lead to culturally responsive care, improving client engagement, family participation and therapeutic relevance for children from diverse cultural backgrounds.

What This Systematic Review Adds: There are limited high quality studies that evaluate cultural competency in pediatric OT assessments. This systematic review provides a starting point for evaluating how cross-cultural adaptations can improve cultural competence in OT practice. More research is needed to improve qualitative rigor and examine the long-term impact of culturally competent assessments.

Key words: Adaptations, assessments, cross-cultural, cultural competence, culturally adapted, occupational therapy, pediatrics

Cultural competency is a vital element of OT practice, especially in pediatric care where assessments and interventions must align with the diverse cultural values, language, roles and routines of the child and their family. As pediatric client populations continue to grow more diverse, occupational therapists (OTs) must be prepared to provide care that respects and reflects a wide range of cultural backgrounds. The American Occupational Therapy Association ([AOTA], 2020) emphasizes cultural competence as essential to delivering client centered care. However, many standardized pediatric assessments were developed within western, English-speaking populations, which limit their cultural relevance when applied in non-western settings (Reid & Chiu, 2011; Pfeifer et al. 2011). Without appropriate adaptations, these tools could affect the patient's functional abilities or fail to reflect family priorities.

Cross cultural adaptation such as language translation, consideration of societal roles and routines, and inclusion of family and cultural values, offer a way to promote cultural competence in pediatric assessments. Research has highlighted how cultural mismatches between clinicians and families can lead to reduced participation, decreased trust, and less effective intervention outcomes (Kramer-Roy, 2012; Frank et al., 1991). For assessments to be both accurate and meaningful, they must reflect not only the child's abilities but also their lived context of culture, language and daily life. Understanding how these factors impact cultural competence in OT services is crucial for improving practice, especially as OT continues to grow and serve increasingly diverse populations.

The purpose of this systematic review was to evaluate how cross-cultural adaptations during pediatric occupational assessment and evaluation can contribute to cultural competence. Specifically, this review examines how changes in language, perceptions of care and family involvement, and consideration of societal expectations may influence pediatric assessments and

their effectiveness and relevance during OT practice. This review aimed to provide insight into strategies for adapting assessment tools for different cultures and contexts and highlight the need for further research to further investigate cultural relevance and assessment validity.

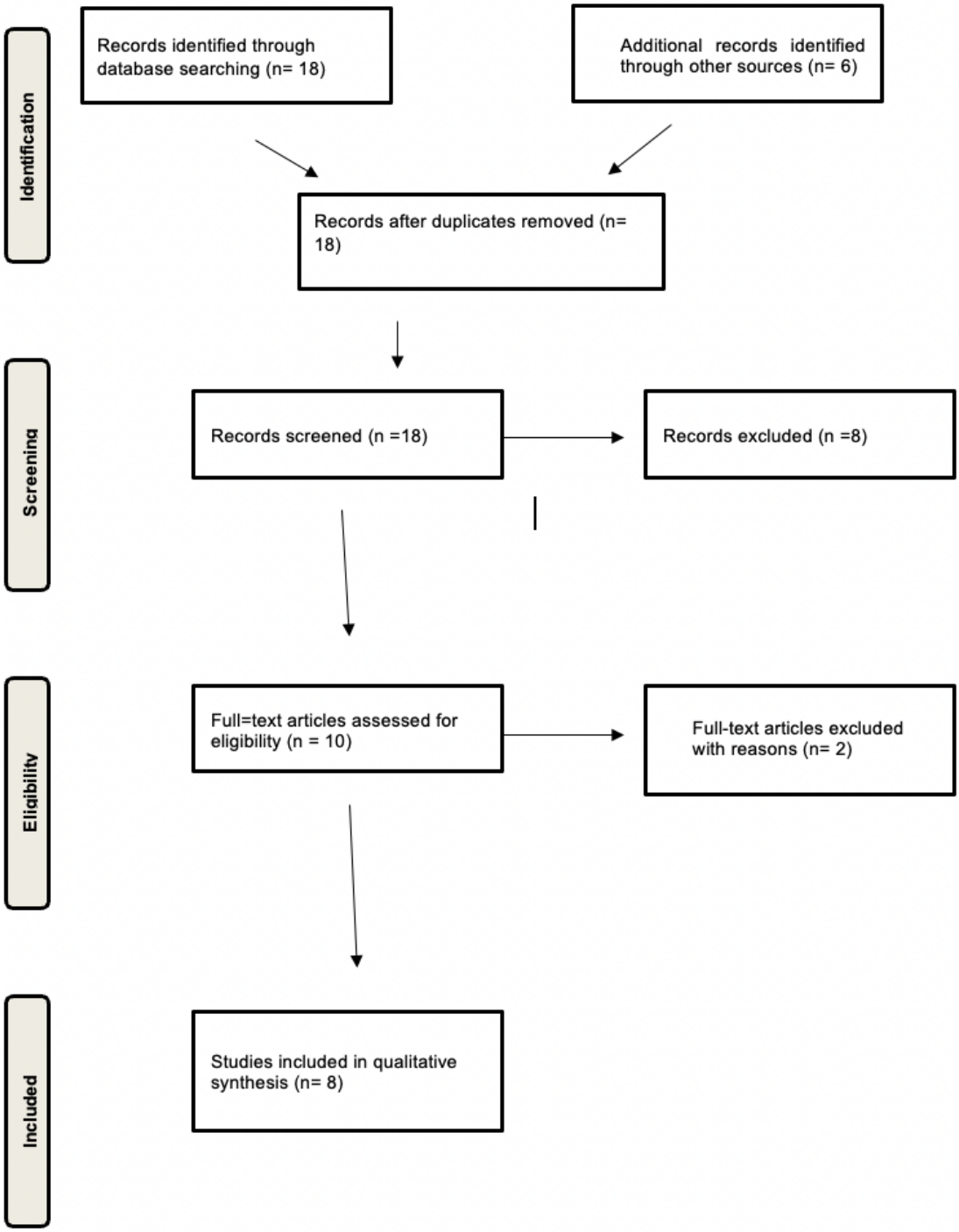
Method

The systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and incorporated recommended processes for conducting a systematic review. The guiding research question for this systematic review was: How do cross-cultural adaptations promote cultural competency in pediatric OT assessment?

A broad search of literature occurred on May 15, 2025. An additional search was conducted on May 23, 2025, to ensure all relevant research was included. The inclusion criteria for studies in this systematic review were as follows: peer-reviewed, published in English, and dated between 2021-2025. Exclusion criteria, in addition to those studies that did not meet the inclusion criteria, included articles that were systematic reviews, scoping reviews, dissertations, and presentations. A search for relevant literature was completed using electronic databases: PubMed, OT Seeker, Humanities International Complete, and Academic Search Complete through Hawai'i Pacific University's online library database. Search terms included: "cross cultural," "assessments," "adaptations," "cultural competence," and "cultural adaptation," as well as combinations of these terms. Appendix A provides an extensive list of all search terms used for this systematic review. The initial search included 10 articles related to the research topic (Figure 1). Five independent reviewers completed the screening and selection of the studies, assessed their quality, and extracted the data.

Figure 1

PRISMA Flow Diagram



Results

Eight studies met the inclusion criteria. The articles were assessed according to their risk of bias, level of evidence, and quality. This systematic review included eight studies that contained relevant information regarding cross-cultural adaptations in pediatric OT assessment and their impact on cultural competency. The information from these articles was divided into three themes: language translation; perceptions of care and participation; and societal expectations and impact on roles, rituals and routines. An evidence table is provided in Appendix B. The Cochrane risk-of-bias guidelines were used to assess each article and are provided in Appendix C.

Language Translation

Two of the eight studies discussed the efficacy of the language translation of prominent assessment tools. One of these studies was a Level I study, and one was a Level III study (See Appendix A). All studies provided evidence that the language translation of prominent assessment tools is effective and potentially beneficial.

Arestad et al. (2017) conducted a mixed methods study that involved seven caregivers (three English-speaking, four Spanish-speaking) who completed cognitive testing to inform decisions on content revisions for the Young Children's Participation and Environment Measure (YC-PEM). This study concluded that greater revisions of the English and Spanish versions of the YC-PEM is needed to achieve cultural equivalence and suggests the need for researchers to address conceptual equivalence in cultural adaptations with and without language translation. Gandara-Gafo et al. (2021) conducted a methodological study consisting of seven groups split into the research team, bilingual experts, back translation team, OTs, linguistic experts, and a

convenience sample of developing children who were receiving no special education or specialized medical services. This study sought to translate and culturally adapt the Evaluation in Ayres Sensory Integration (EASI) for international use, specifically adapting the English version to Spanish to maintain validity and reliability within Spanish-speaking communities.

A limitation of studies within the theme of language translation included participants failing to be a representative of real-world patients therefore minimizing generalizability (Arestad et al., 2017; Gandara-Gafo et al., 2021). The research by Arestad et al. also had a small sample size, which can be a limitation of a quantitative study. Furthermore, both studies lacked detailed reporting on strategies that support methods that are trustworthy, which limits the credibility of their findings.

Perceptions of Care and Family Participation

Two of the eight studies discussed the importance of family participation and perceptions and the need to incorporate the child's family and home dynamics into the OT process. One of these studies was a Level V study and one study was a Level III study (See Appendix A). All studies provided evidence that integrating family dynamics is effective and potentially beneficial.

Frank et al. (1991) conducted an ethnographic study that focused on a single pediatric patient with a chronic illness who had been hospitalized since birth. This study's ethnographic methods within OT allowed for development of a deeper and holistic understanding of the pediatric patient by uncovering the patient's capacities for emotion, interaction, and learning. The study concluded that incorporating the patient's family within care shows the therapist's respect for cultural values, preferences of caregiving, allows for collaboration and builds trust.

Kramer-Roy et al. (2012) used participatory action research (PAR) design to study the experiences of six Pakistani Muslim immigrant families with children who have significant impairments. The study split the family up into different discussion groups for mothers, fathers/adult brothers and siblings from ages 6-13 years old. In these discussions, they focused on cultural values, disability stigma and expressing their feelings. The study concluded that based on the results and key findings from the families they expressed parental and social support, especially with the support of religious leaders and the church, can and has helped reduce stigma and increase family confidence. Mothers of the children benefited from peer support from other mothers going through the same experiences and through this study, the siblings were able to get educated on their siblings' disability. Overall, the significant findings for this study showed improved confidence and communications in families and highlighted the importance of building culturally based care and relationships between therapists and families to best support the client.

Limitations of studies include a weakness in research design and lack of transparency in methods. Frank et al. (1991), as an ethnographic single case study, focused on one pediatric patient and is therefore lacking generalizability to broader populations. Kramer-Roy et al. (2012) used participatory actions research and included only six families. In addition, Kramer-Roy et al. (2012) failed to specify strategies to strengthen credibility. These limitations reduce the trustworthiness of the findings and highlights the need for more qualitative research in figure studies addressing family participation and perceptions of care.

Societal Expectations and Cultural Relevance of Assessment Implementation

Four out of eight studies on the topic discussed societal expectations related to culture (i.e., roles, rituals, and routines) and cultural relevance of assessment material specifically regarding assessment related to play. One of these studies was Level I (Arestad et al., 2017). Two of these studies were Level IIIB (Kramer-Roy, 2012; Reid & Chiu, 2011), and two studies were Level IV (Pfeifer, et al. 2011) (See Appendix A). Virtually all articles utilized in this review demonstrate the importance of developing and implementing culturally relevant assessments which consider contexts, cultural norms, and perceptions of disability and specific health conditions (Arestad et al., 2017; Frank et al., 1991; Gandara-Gafo et al*.,* 2021; Golos et al., 2021; Kramer-Roy, 2012; Pfeifer et al., 2011; Reid & Chiu, 2011; Rovai et al*.,* 2024). The central theme of societal expectations and cultural relevance of assessment implementation were significantly clear in the research of Arestad et al. (2017), Reid & Chiu (2011), Kramer – Roy (2012), and Pfeifer et al. (2011).

Arestad et al. (2017) set out to adapt the Young Children's Participation and Environment Measure (YC-PEM). Thefunctional pediatric assessment underwent cultural adaptation to establish Spanish and English pilot versions. The study uncovered the need to understand social concepts of roles, rituals, and routines that involve religious involvement, education, self-care, and the nature and prioritization of celebration in Hispanic family values. Reid and Chiu (2011) described variation of cultural influence on parenting roles. In their work, careful considerations in adaptation of westernized assessment (i.e., Mother–Infant/Toddler Feeding Scale (MITFS), Parent-Child Early Relational Assessment (PCERA), Alberta Infant Motor Scale (AIMS)) were employed to understand the experience of Chinese and South Asian migrant populations in Canada. These findings demonstrate the importance of a broad understanding of parenting styles

and roles across cultures. Kramer – Roy (2012) measured the effectiveness of the application of Participatory Action Research (PAR) in conjunction with occupational therapy assessments of Pakistani migrant families in the United Kingdom. This researcher described gaps in cultural sensitivity that minimizes communication between therapists and clients in addition to a lack of understanding specific cultural priorities and perceptions of parental roles, engagement in routines and rituals, concepts of play, and communication styles. Finally, Pfeifer et al. (2011) tested the reliability and cultural adaptation of the Child-Initiated Pretend Play Assessment (ChlPPA) for Brazilian populations. Their research highlights cultural differences in urgency, daily routines, and duration of assessment should be considered along with cultural adaptations of play items that are meaningful and engaging to children within the cultural context included in the study.

Limitations of these studies related to societal expectations and cultural equivalence of assessment and include limits in generalizability in reference to culturally relevant test material (i.e., toys, games, cartoons, etc), language translation, homogeneity, and sample size (Arestad et al. 2017; Pfeifer et al., 2011), exclusion of quantitative data due to lack of transferability (i.e., data transfer from eurocentric assessments into culturally diverse populations) (Reid & Chui, 2011). Finally, emerging research strategies were practiced by Kramer-Roy (2012) who was limited in their knowledge of occupational therapy at the time their work was written.

Discussion

The findings of this systematic literature review suggest that relevant information regarding cross-cultural adaptations in pediatric OT assessments will elicit cultural competencies, making the OT domain and process an overall diverse and effective practice.

The importance of ensuring cultural relevance for children and families in assessment was identified in four of the articles in this systematic review. Elements of social routines and familial norms (i.e., mother infant bonding, child play interactions, etc.) were highlighted in two articles.

Culture is a core context within OT, with recent literature emphasizing the importance of cultural competence as well as culturally sensitive assessments and intervention (Golos, 2021). Pfeifer et al. (2011) adapted the Child-Initiated Pretend Play Assessment (ChIPPA) for practice with Brazilian pediatric populations through multiple layers of translation and cultural adaptation procedures. This process can potentially be replicated in a variety of assessments to obtain more accurate data on culturally diverse individuals.

Of course, there have been occurrences where a family's cultural belief may interfere with best clinical practice (Hildebrand et al., 2013). However, during these moments or contextual situations occupational therapists can employ the Occupational Therapy Code of Ethics (AOTA, 2020), to promote collaboration with the respected family or intended client to determine the best plan of care while acknowledging and honoring their cultural differences (Hildebrand et al., 2013). The impact of not adapting more assessments to comply with language barriers and cultural differences would continue to place further hindrances on family expectations as well as the individuals not starting treatment or interventions with equal parameters. Adapting assessments to be culturally responsive can open the door to more effective interventions that are truly client centered and culturally relevant.

Strengths and Limitations

Strengths

One of the main strengths of this systematic review was that it closely followed the PRISMA guidelines, which helped create a clear and organized process for choosing articles, collecting data and reporting the findings. This process was further strengthened by the involvement of a five-person team who worked independently and collaboratively to review articles, assess their quality and reach collective agreements, reducing the risk of individual bias and strengthening reliability. The use of multiple databases (PubMed, OTSeeker, Humanities International Complete, and Academic Search Complete) also increased the likelihood of capturing a diverse range of articles. Furthermore, the reviews thematic analysis allowed for synthesis of evidence across multiple aspects of culture, such as language, family involvement, and social expectations, allowing for a holistic approach and understanding of cultural competence in pediatric OT assessments.

Limitations

Despite the strengths of the systematic review process, this review had several limitations. Many of the included studies had small sample sizes, potential researcher bias or lacked strong research methods. Additionally, studies published in English were excluded, which limits the inclusion of research specifically designed to include the impacts of different cultural contexts and other languages.

Implications for Occupational Therapy Practice

Cultural adaptation of pediatric OT assessments is not only a matter of language translation, but also requires consideration of cultural norms, family roles and daily routines. This review demonstrates the need for meaningful cultural adaptation to improve assessment accuracy and clinical outcomes for diverse populations. OTs must go beyond standardized tools developed in Western contexts and consider how a child's background, environment, and family values influence their participation in daily activities.

Therapists are encouraged to collaborate with families and communities to ensure assessments are both relevant and respectful of cultural differences. By adapting assessments, OTs can strengthen relationships with the client and families, increase engagement, and have better interventions that are more effective and individualized. This approach aligns with the Occupational Therapy Practice Framework's emphasis on client centered care and the values of health, well-being, and participation through engagement in various occupations.

As the pediatric population continues to grow and become more diverse, culturally responsive practice becomes vital. OTs must be trained not only in the use of culturally appropriate assessments, but also in the knowledge and skills needed to understand their own cultural biases, their clients' worldviews and having the ability to adapt their approaches based on the contextual background of clients.

Conclusion

Studies included within this systematic review provide evidence on the effectiveness of cross-cultural adaptations in promoting cultural competence within pediatric OT assessments. Additional research is necessary to strengthen quality and credibility of qualitative studies on this

topic, including methods such as member checking and audit trails. Culturally responsive assessment allows care to be equitable and family-centered for pediatric clients across diverse populations.

References

American Occupational Therapy Association. (2020). Occupational therapy code of ethics. *American Journal of Occupational Therapy, 74*(Supplement_3), 7413410005. https://doi.org/10.5014/ajot.2020.74S3006

Arestad, K. E., MacPhee, D., Lim, C. Y., & Khetani, M. A. (2017). Cultural adaptation of a pediatric functional assessment for rehabilitation outcomes research. *BMC Health Services Research, 17*, 1–13.https://doi-org.hpu.idm.oclc.org/10.1186/s12913-017-2592-6

Frank, G., Huecker, E., Segal, R., Forwell, S., & Bagatell, N. (1991). Assessment and treatment of a pediatric patient in chronic care: Ethnographic methods applied to occupational therapy practice. *American Journal of Occupational*, *45*(3), 252–263. https://doi-org.hpu.idm.oclc.org/10.5014/ajot.45.3.252

Gándara-Gafo, B., Beaudry-Bellefeuille, I., Mailloux, Z., Moriyón, T., Parham, L. D., Riego, S. S., Serrada-Tejeda, S., Roley, S. S., Toledo, P., & Schaaf, R. C. (2021). Cultural Adaptation of the Evaluation in Ayres Sensory Integration® (EASI) for Spanish-Speaking Populations. *American Journal of Occupational Therapy*, *75*(5),7505205090 . https://doi-org.hpu.idm.oclc.org/10.5014/ajot.2021.044693

Golos, A., Mor, R., Fisher, O., & Finkelstein, A. (2021). Clinicians' views on the need for cultural adaptation of intervention for children with ADHD from the Ultraorthodox Community. *Occupational Therapy International*, 1–13. https://doi-org.hpu.idm.oclc.org/10.1155/2021/5564364

Hildebrand, K., Lewis, L. J., Pizur-Barnekow, K., Schefkind, S., Stankey, R., Stoffel, A., & Wilson, L. S. (2013). *Frequently Asked Questions (FAQ): How can occupational therapy strive towards culturally sensitive practices?* https://miota.org/docs/FAQCulturalSensitivity.pdf

Kramer-Roy, D. (2012). Supporting ethnic minority families with disabled children: Learning from Pakistani families. *British Journal of Occupational Therapy*, *75*(10), 442–448. https://doi-org.hpu.idm.oclc.org/10.4276/030802212X13496921049581

Pfeifer, L. I., Queiroz, M. A., Santos, J. L. F., & Stagnitti, K. E. (2011). Cross-cultural adaptation and reliability of Child-Initiated Pretend Play Assessment (ChlPPA). *Canadian Journal of Occupational Therapy*, *78*(3), 187–195. https://doi-org.hpu.idm.oclc.org/10.2182/cjot.2011.78.3.7

Reid, D. T., & Chiu, T. M. L. (2011). Research lessons learned: Occupational therapy with culturally diverse mothers of premature infants. *Canadian Journal of Occupational Therapy*, *78*(3), 173–179. https://doi-org.hpu.idm.oclc.org/10.2182/cjot.2011.78.3.5

Rovai, G., Santana, C. A. S., Brandão, M. de B., & de Campos, A. C. (2024). Cross-cultural adaptation of the Rotterdam Transition Profile to Brazilian Portuguese: Measuring autonomy in participation of Brazilian youth with cerebral palsy. *Brazilian Journal of Physical Therapy*, *28*(3), 101080. https://doi-org.hpu.idm.oclc.org/10.1016/j.bjpt.2024.101080

Appendix A

Search Terms

Databases searched: EBSCOhost - 38 Database

Date of preliminary search: 5/15/2025

Search filters/parameters: Peer Reviewed

Search terms: (culture or cultural or ethnicity or identity or values) AND (occupational therapy or occupational therapist or occupational therapists or ot) AND pediatric assessment AND rehabilitation

Total number of articles located: 18

Total number of articles relevant:10

Inclusion Criteria: Peer-reviewed, published in English, and dated between 2021-2025.

Exclusion Criteria: Included articles that were systematic reviews, scoping reviews, dissertations, and presentations.

Final number of articles included: Eight

Appendix B

Evidence Table

AUTHOR/YEAR	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Settings	Intervention and Control Groups	Outcome Measures	Results
Arestad, K et. al., 2017	Level 1B Mixed Methods *Risk of Bias:* No mention	Group 1: n = 4 Group 2: n = 3	Group 1 = Spanish speaking caregivers Group 2 = English speaking caregivers	Soughts to address the limitations in the context of culturally adapting the YC-PEM (a patient reported functional outcome measure) in English and Spanish for potential use by caregivers of Hispanic children with special health care needs from ages 0 to 5 who reside in the U.S.	-In order to achieve cultural equivalence there should be greater revisions of the English and Spanish versions of the YC-PEM -Suggests the needs for researchers to address conceptual equivalence in cultural adaptations with and without language translation

Frank, G et. al.,	Level 5 qualitative, one group study *Risk of Bias:*	Pediatric patient with chronic illness, 3 years old and hospitalized since birth	*Intervention* group: n=1, *No Control Group* This study focused on one pediatric patient	-Occupational performance in context -Family participation and dynamics -Roles of environment in shaping behavior -Adjustments to emotional responses	Ethnographic methods within OT allows for a development of a deeper and holistic understanding of the pediatric patient by uncovering the patient's capacities for emotion, interaction, and learning. Incorporation of the patients family within care shows the therapists respect for cultural values, preferences of caregiving, allows for collaboration and builds trust.
Gandara-Gafo et. al., 2021	Level 3B Methodological *Risk of Bias:* low	*Group 1*: n = 4 *Group 2:* n = 3 *Group 3:* n = 2 *Group 4:* n = 11 *Group 5:* n = 8 *Group 6:* n = 2 *Group 7:* n = 5	*No Intervention* This was a methodological study, so there was no intervention in place, just interviews and translation. Group 2 & 3 = direct and back translation Group 6 = linguistic expert review Group 4 & 5 = cognitive interviews	Sought to translate and culturally adapt the EASI from English to Spanish to maintain validity and reliability in Spanish-speaking communities	"The results of this study provide evidence that the Spanish-language version of the EASI is a suitable tool for use in clinical practice and research with culturally diverse Spanish-speaking populations."

Golos, A et al., 2021	Level 4 Mixed methods, One Group study *Risk of Bias:* Moderate	*Participants* n = 28 OTs (100% female, 53.6% UO, 25% observant, 17.9% secular) *Inclusion Criteria* - Certified in Cog-Fun to children from the UO community or experiences delivering Cog-Fun to children from the UO community. *Study Setting* - Online survey in Israel - Participants worked in settings across cities with large UO populations	*Intervention* Cog-Fun was the focus of the study but the intervention itself was not being tested for efficacy. Instead it assessed the necessity and types of cultural adaptations to implement in the Cog-Fun for it to be effective for UO Jewish children *No Control Group* This study was descriptive and exploratory based on feedback from OTs	*Clinician Perspectives:* Their views on the importance of cultural adaptations to the Cog-Fun intervention for Ultraorthodox (US) children with ADHD - Cultural values and norms - Family routines and dynamics - Knowledge about ADHD - Communication between therapist, parents and schools	*Significant Findings* - Moderate–high need to adapt content to UO values, routines, and tech limitations - >85% reported need to modify graphic materials to fit UO norms - Communication challenges noted due to cultural/gender norms - Parents showed limited ADHD awareness - Need for increased ADHD education for families *Nonsignificant Findings* - No major adaptations needed for core Cog-Fun protocol (e.g., structure, sessions)

Kramer-Roy, D. 2012	Level 3B Qualitative *Risk of Bias:* Moderate	*Participants: 6 families* *Inclusion Criteria:* Pakistani Muslims, Immigrant, first generation, one or more children with severe impairments, all family members be willing to participate *Study Setting: conducted in participants home setting*	*Intervention* Participatory Action Research (PAR) with 6 Pakistani Muslim families with children with significant impairments. Group 1 = Mothers Group 2 = Fathers/Adult Brothers Group 3 = Siblings (6-13 yrs) *No Control Group*	Understanding of cultural differences and building good relationships with families is essential for providing good care	*Significant Findings For Families* - Father/Adult Brother Group: Challenged disability stigma with help from religious leaders - Mother Group: Enjoyed the support in sharing experiences and began a peer group - Sibling Group: Able to understand their siblings disabilities and expressed their feelings -Improved confidence & communications in the families *Significant Findings For OTs* - Knowing families culture and building trust helps provide better care - Participatory research is appropriate with family and occupation centered practice

Pfeifer, et al. 2011	Level 4 Instrumentation validation study *Risk of Bias:* Low	Group 1: n = 4 Group 2: n = 10	Child-Initiated Pretend Play Assessment (ChIPPA) Three Items Scored: PEPA (Percentage of Pretend Play Actions) NOS (Number of Objective Substitutions) NIA (Number of Imitated Actions) Translation and cultural adaptation of the ChIPPA for use with Brazilian pediatric populations Testing inter/intra-reliability among Brazilian surveyors	6 Stage Cultural Adaptation (Beation et al, 2000) includes: Stage 1: Early Translation Stage 2: Translation synthesis Stage 3: Back translation to original language Stage 4: Analysis Committee Stage 5: Author review the adapted version of assessment Stage 6: Pretest	Stage 1 of 5 (Translations): Discovered semantic technical issues - wording needed to be changed to reflect cultural equivalent in relevant terms (i.e., English to Brazilian) to ensure clarity of meaning Stage 6 of 6 (Pretest): Play materials and test content needed to be culturally relevant to Brazilian children and duration of play must be considered in culturally relevant day to day routines. Intra-rater Reliability: perfect agreement of NOS and NIA in 7 item ChIPPA. Inter-rater Reliability: 1 item in good agreement, 3 in moderate agreement for symbolic PEPA and NOS, NOS combined, and NIA. Symbolic NIA was non-significant. 3 items in poor agreement (conventional-imaginate)

					and combined PEPA, Imagivaniative and symbolic NIA)
Reid, D. T., & Chiu, T. M.L. 2011	Level 3B Mixed-methods *Risk of Bias:* low	Group 1: n = 8	*Intervention* Alberta Infant Motor Scale (AIMS) Parent-Child Early Relational Assessment (PCERA) Mother-Infant/Toddler Feeding Scale (MITFS) *No Control Group*	Measures were specifically intended to be appropriate for culturally diverse groups. The assessments used were determined to be the best available for the study's purposes.	Authors resigned to not report quantitative data in this article due to Western cultural design and focused on qualitative meaning of mother-child bonding providing important information.

Rovai, G et. al., 2024	Level 1B RCT *Risk of Bias:* low	*Participants: 6* Inclusion: Youth with cerebral palsy *Study Setting:* Content validation group: n = 30 Questionnaire group: n = 26	Test-retest reliability: n = 16 8 professionals to inform on translations	"To analyze influencing factors, 56 youth with CP, mean age 25 years (SD = 6.9 years), with good cognitive level remotely responded to the RTP, sociodemographic information, and functional classifications (gross motor, manual ability)."	"High levels of autonomy were found in the areas of Leisure and Rehabilitation, with the lowest proportion of participants with autonomy in Housing, Intimate Relationships, and Finances. Autonomy in participation was associated with age, gross motor and manual ability classifications, and with context-related factors." The Brazilian Portuguese version of the RTP was considered valid and reliable. Findings will support transition planning for young people with CP.
Note. [Define any acronyms used] RCT = randomized control trial, UO = ultraorthodox, OT = occupational therapy/occupational therapist					

Appendix C

Risk-of-Bias Table

Risk-of-Bias table from Randomized Controlled Trial (RCT) and Non-RCT (Two or More Group Design)										
	Selection Bias (Risk of bias arising from randomization process)			Performance Bias (effect of assignment to intervention)		Detection Bias		Attrition Bias	Reporting Bias	
Citation	Random Sequence Generation	Allocation Concealment (until participants enrolled and assigned)	Baseline difference between intervention groups	Blinding of Study Participants During the Trial	Blinding of Study Personnel During the Trial	Blinding of Outcome Assessment: Self-reported outcomes	Blinding of Outcome Assessment: Objective Outcomes (assessors aware of intervention received?)	Incomplete Outcome Data (data for all or nearly all participants	Selective Reporting (results being reported selected on the basis of the results?)	Overall risk-of-bias (low, moderate, high
Arestad, Kristen E et. al., 2017	(-)	(?)	(+)	(-)	(-)	(?)	(-)	(+)	(+)	M
Pfeifer, et al. 2011	(?)	(?)	(-)	(?)	(-)	(?)	(-)	(+)	(+)	L
Rovai, G et. al., 2024	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	L

Note. Categories for risk of bias are as follows: Low risk of bias (+), unclear risk of bias (?), high risk of bias (–). Scoring for overall risk of bias assessment is as follows: 0–3 minuses, low risk of bias (L); 4–6 minuses, moderate risk of bias (M); 7–9 minuses, high risk of bias (H).

Citation. Table format adapted from Higgins, J. P. T., Sterne, J. A. C., Savović, J., Page, M. J., Hróbjartsson, A., Boutron, I., . . . Eldridge, S. (2016). A revised tool for assessing risk of bias in randomized trials. Cochrane Database of Systematic Reviews 2016, Issue 10 (Suppl. 1), 29–31. https://doi.org//10.1002/14651858.CD201601

Risk of Bias for Before-After (Pre-Post) Studies with No Control Group (One Group Design)

Citation	Study question or objective clear	Eligibility or selection criteria clearly described	Participants representative of real-world patients	All eligible participants enrolled	Sample size appropriate for confidence in findings	Intervention clearly described and delivered consistently	Outcome measures pre-specified, defined, valid/reliable, and assessed consistently	Assessors blinded to participant exposure to intervention	Loss to follow-up after baseline 20% or less	Statistical methods examine changes in outcome measures from before to after intervention	Outcome measures were collected multiple times before and after intervention	Overall risk of bias assessment (low, moderate, high risk)
Frank, G et. al.,	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	moderate
Gandara-Gafo et. al., 2021	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	low
Golos, A et al., 2021	Y	Y	Y	N	N	Y	Y	N	Y	N	N	moderate
Kramer-Roy, D et.al., 2012	Y	Y	Y	Y	N	Y	Y	N	Y	N	N	moderate

Reid, D. T., & Chiu, T. M.L. 2011	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	low

Note. Y = yes; N = no; NR = not reported. Scoring for overall risk of bias assessment is as follows: 0–3 N, Low risk of bias (L); 4–8 N, Moderate risk of bias (M); 9–11 N, High risk of bias (H).

Citation. Table format adapted from National Heart Lung and Blood Institute. (2014). Quality assessment tool for before–after (pre–post) studies with no control group. Retrieved from https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools