Original Article

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TRANSCULTURAL ADAPTATION OF THE SELF-EVALUATION INSTRUMENT OF OCCUPATIONAL OPERATION FOR BRAZILIAN SIGN LANGUAGE

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ABSTRACT

Objective: to carry out the cross-cultural adaptation of the instrument Self-Assessment of Occupational Functioning for Brazilian Sign Language.
Method: prospective methodological research with translation and cross-cultural adaptation of Brazilian Portuguese into the Brazilian Sign Language, held from August 2016 to October 2017, based on the methodology for evidence-based sign language translation, with translation stages (profiles heterogeneity among translators), synthesis of translations, back-translation, review by judges (validation and semantic analysis), pilot test and final version of the instrument in video Brazilian Sign Language.
Results: needs for modifying the pronoun were raised and signs were added that could express self-reflection in questions using first-person pronouns. The following were also investigated: the need to replace some signals, the use of the datiological alphabet, the modification of the domain name to the context and the reality of the population, as well as adjustments and indications of use of the online version in Brazilian Sign Language, through equipment with greater speed of internet.
Conclusion: the pilot test showed that the apparent validation and content, during the process of cross-cultural adaptation to the Brazilian Sign Language of the Self-Assessment of Occupational Functioning instrument, was satisfactory.

DESCRIPTORS: Sign language. Validation studies. Occupational therapy. Deafness. Translation.

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ADAPTAÇÃO TRANSCULTURAL DO INSTRUMENTO DE AUTOAVALIAÇÃO DO FUNCIONAMENTO OCUPACIONAL PARA LÍNGUA BRASILEIRA DE SINAIS

RESUMO

Objetivo: realizar a adaptação transcultural do instrumento Autoavaliação do Funcionamento Ocupacional para Língua Brasileira de Sinais.
Método: pesquisa metodológica prospectiva com tradução e adaptação transcultural do português brasileiro para a Língua Brasileira de Sinais, realizada de agosto de 2016 a outubro de 2017, a partir da metodologia para tradução em língua de sinais baseada em evidência, com as etapas de tradução (perfis heterogêneos entre os tradutores), síntese das traduções, retrotradução, revisão por juízes (validação e análise semântica), teste-piloto e versão final do instrumento em Língua Brasileira de Sinais em vídeo.
Resultados: foram levantadas necessidades de modificação do pronome e acrescentados sinais que pudessem expressar a autorreflexão em perguntas, com a utilização de pronomes na primeira pessoa. Ainda foram averiguados: necessidade de substituição de alguns sinais, o uso da datilologia, modificação do nome de um domínio para o contexto e a realidade da população, bem como ajustes e indicações de utilização da versão *online* em Língua Brasileira de Sinais, através de equipamentos com maior velocidade de *internet.*
Conclusão: o teste-piloto mostrou que a validação aparente e de conteúdo, durante o processo de adaptação transcultural para Língua Brasileira de Sinais do instrumento Autoavaliação do Funcionamento Ocupacional, foi satisfatória.

DESCRITORES: Linguagem de sinais. Estudos de validação. Terapia ocupacional. Surdez. Tradução.

ADAPTACIÓN TRANSCULTURAL DEL INSTRUMENTO DE AUTOEVALUACIÓN DEL FUNCIONAMIENTO OCUPACIONAL PARA EL LENGUAJE BRASILEÑO DE SEÑAS

RESUMEN

Objetivo: realizar la adaptación transcultural del instrumento Autoevaluación del Funcionamiento Ocupacional para el Lenguaje Brasileña de Señas.
Método: investigación metodológica prospectiva con traducción y adaptación transcultural del portugués brasileño para el Lenguaje Brasileño de Señas, realizado entre agosto de 2016 y octubre de 2017, a partir de la metodología para la traducción en lenguaje de señas basada en evidencia, con etapas de traducción (perfiles heterogéneos entre los traductores), síntesis de las traducciones, retrotraducción, revisión por jueces (validación y análisis semántico), test-piloto y versión final del instrumento en Lenguaje Brasileño de Señas en video.
Resultados: se planteó la necesidad de modificar el pronombre y agregar señas que puedan expresar la autorreflexión en preguntas, con el uso de pronombres en primera persona. También se estudió la necesidad de reemplazar algunas señas, el uso de la dactilología, la modificación del nombre de un dominio para el contexto y la realidad de la población, así como realizar ajustes e indicaciones de uso de la versión online en Lenguaje Brasileño de Señas, a través de equipos con mayor velocidad de *internet.*
Conclusión: el test-piloto demostró que la validación aparente y de contenido ha sido satisfactoria durante el proceso de adaptación transcultural para el Lenguaje Brasileño de Señas del instrumento Autoevaluación del Funcionamiento Ocupacional.

DESCRIPTORES: Lenguaje de señas. Estudios de validación. Terapia ocupacional. Sordera. Traducción.

INTRODUCTION

Clinical and research instruments with reliable and valid measures are necessary for the application of effective protocols. Many instruments created for various purposes may not fit the needs of a new population. Thus, in the face of a new culture, these instruments must undergo cross-cultural adaptation, evaluation of the reliability and validity of the translated version.[1]

Investigating the metric properties of an instrument implies that to be reliable, the measures of this instrument must generate the same results, being replicable and consistent. If it is possible to measure what is wanted there is validation.[2] Different types of validation can be performed. One is the content validity that occurs from the confirmation that the content of an instrument effectively measures a given phenomenon.[3] Another very important type of validation is apparent validity. This should be performed by a group of judges, confirming whether the instrument measures what it suggests, by linking to a theory of support, when compared to other definitions.[2]

One of the most important transcultural adaptation models used in the last decades[4–8] has been the model proposed by Beaton and his collaborators.[9] However, this method returns to the needs of oral languages.

In populations that use Sign Language (SL) for communication, transcultural adaptation may require a number of other actions to ensure that they reach and embrace the specificities of these people who have unique linguistic and cultural characteristics with visuospatial experiences over oral-auditory experiences.

It is known that instruments translated, adapted and validated for the deaf population are still scarce[10] with the use of varied protocols for translation. In a recent literature review,[11] based on reflections about the multiplicity of translation protocols that have been used with deaf people using SL, an evidence-based methodology was proposed for translating instruments in the area of health for Brazilian Sign Language (*Lingua Brasileira de Sinais* – LIBRAS). In this review it was verified that, in different countries, there are studies that adapt methodologies used in oral languages for the needs of the deaf culture and SL,[12–14] others use translations with simultaneous help from interpreters or applications, electronic tools[15–16] and those who do just the simple translation.[17]

An important health professional, whose focus is on understanding occupational behavior and human experience in performing activities, is the occupational therapist who seeks to enable people to carry out their day-to-day activities with the best possible use and performance. Assessing the understanding of one's own functionality, capacity and how much the subject feels motivated to perform an activity or occupation becomes fundamental for this professional in proposing an effective therapeutic plan. An instrument that seeks to evaluate the occupational functioning, in the perspective of how the subject evaluates his own performance in the different activities performed in his daily life and how much he sees fit for this condition, is the Self-Assessment of Occupational Functioning (SAOF) instrument.

Understanding the impact that the vision of incapacity or low occupational functioning can have on the different areas of life and the lack of instruments translated to LIBRAS in the country and following the evidence-based methodology for translating instruments in the area of health for LIBRAS,[11] this study proposed to carry out the cross-cultural adaptation of the instrument Self Assessment of Occupational Functioning for Brazilian Sign Language.

METHOD

The research is characterized as a prospective methodological, based on the cross-cultural adaptation of the SAOF instrument.

At first, the contact was made via electronic mail with the main author of the instrument, Ms. Kathi Brenneman Baron, in August 2016, requesting authorization for the process.

The SAOF instrument was designed to be applied with people aged 14 to 85 years, either self-applied or with the option of being applied by an interviewer. The focus of SAOF is occupational functioning, covering seven areas: personal causation; values; interests; roles; habits; skills (physical or mental) and environment.[1,18] The instrument has a validated version for Brazilian Portuguese with options for 34 questions, yes or no, and one more open final question to describe the environments related to the environmental domain.[19]

Stages of cross-cultural adaptation

The translation and cross-cultural adaptation of the instrument from Brazilian Portuguese to LIBRAS followed the methodology proposed by Andrade et al.[11] They considered scientific evidence found by adopting five steps that must be followed to meet the needs of the population: 1) Translation; 2) Synthesis of translations; 3) Back translation; 3) Review by judges (validation and semantic analysis); 4) Pilot test and 5) Final video version.

Translation

Through video, five individual translations for LIBRAS were made and registered, from August 2016 to May 2017. The sample of translators was snowball for convenience, based on the criteria: bilingual or bicultural men and women, deaf community participants, certified interpreters, LIBRAS teachers, deaf people or health professionals. The researchers controlled the selection of the sample, seeking a heterogeneous profile regarding the criteria profession, age group and schooling. The first contact was made with deaf teachers from a public university in the region where the investigators work in this study, in order to indicate a deaf translator with certification and experience. A deaf teacher from a private university in the area was appointed. After the acceptance and realization of the first recording, the criteria for inclusion of the sample were presented to the first translator, requesting the appointment of a new person. This process was repeated, respecting the need for heterogeneous profile in the sample, up to the number of five participants of this stage. The SAOF response scale, in the version adapted for Brazilian Portuguese, only has the options yes, no and I do not know. Thus, the adaptation of the response scale only translated the corresponding signals into LIBRAS.

Synthesis of translations

The synthesis of the five translations was carried out by the analysis of a bilingual (Portuguese/LIBRAS) and bicultural group, formed by professors and deaf researchers and hearing of the university where the project was started in three weekly meetings during the period of May 2017. The translations were assisted and evaluated for clarity and comprehension, linguistic aspects and the need for adjustments, as shown in Chart 1. Each member pointed out the best translated version of each item, and could suggest modifications, adjustments and corrections in the last column. At the end, version 2 (V2), agreed upon between the participants of this stage, was recorded in LIBRAS with a certified interpreter.

Back translation

In this step, following the methodology for evidence-based sign language translation,[11] a certified hearing, and a deaf professor of LIBRAS, certified, also indicated by the deaf teachers of the researched university, in the same sample process for convenience, were invited to translate, individually, into Brazilian Portuguese the instrument in version V2 in LIBRAS, during the month of June, 2017. Both had no contact with the original instrument.

Review by judges and semantic analysis

The V2 version was evaluated and compared to the back-translation and the original instrument. To accomplish this stage, a sample for convenience, through the analysis of Lattes curricula of health Phd professors or focused on studies on linguistics with researches with the deaf population and with the Brazilian language of signs or by the indication of the participants themselves, a snowball type sample, was lifted. Five judges, PhD researchers, fluent in LIBRAS, among deaf and hearing were invited to participate in this process, seeking agreement of items and evaluation on the translation of the instrument as to the meaning of the items and the domains of the original instrument. For apparent validation and content, the researchers performed the semantic analysis suggesting adjustments and adjustments, from July to October 2017.

Chart 1 - Chart used for synthesis of translations and preparation of version 2 (V2). Uberaba, MG, Brazil, 2018

Item	Translators					Suggestion for modification
	Translator 1	Translator 2	Translator 3	Translator 4	Translator 5	
Title						
Personal causality						
Question 1						
Question 2						
Question 3						

Pilot test and recording of the final version

The final version was produced after apparent validation and content in October 2017. The production of the final version was attended by a certified interpreter as well as an environment with adequate video and lighting equipment. A pre-test was performed with a sample of ten subjects for convenience, from the contact with the Deaf Association and members of the deaf community of the researchers' city, during the same period.

RESULTS

The translation process was carried out following protocols required for filming, both for the environment and for the interpreter.[20] Five translators, deaf and hearing, were recruited, following the criteria mentioned above. The profiles of the translators varied in schooling, from high school to doctoral level, aged from 23 to 40 years old.

For the preparation of version 2 (V2), a group formed by three research professors with the minimum degree of master assisted and analyzed the translations, producing the synthesis of these. Researchers should choose the best translation for each item of the instrument and may propose adjustments.

It was considered necessary to adjust the semantic aspects to modify the pronoun “I” for the pronoun “you”, as well as the pronoun “my” for “your”. It was pointed out that, because it was a self-contained instrument, the image of the interpreter could confuse the participant without his understanding that the questions were self-reflexive. Another consideration raised was that signals that have more than one meaning in LIBRAS should be replaced, for example, the signal abilities, which also have the translation of professional, replaced by signal capacity.

Old signs or significant linguistic variations were replaced or two signs were used. It is the case of LIBRAS that has newer signals that have been used by the academic community, being chosen the use of the oldest signal next to the most current signal. Some signs such as “role” and “objective” were questioned as to the knowledge of most of deaf people, being replaced by the signs “social behavior/commitment/responsibility” and “dream/project/future” respectively.

For the back-translation process, V2 was presented to two participants. A deaf Libras teacher and a hearing interpreter, both certified and who translated the V2 version back into Portuguese. The two back-translations were grouped and presented to the Judges Committee for the apparent validation process (Chart 2).

The process of apparent validation and content of the LIBRAS version of the SAOF instrument was carried out based on the analysis of five judges. Those items that had an agreement proportion greater than 80% were kept. The items with lower agreement were adjusted, as suggested by the judges, and all the considerations were later analyzed by the group of researchers of this study regarding the pertinence.

Nine items were reshaped. The judges suggested the inclusion of reflective signs at the beginning of some questions added to the replacement of the pronouns translated to the third person “you” and “yours”, for “me” and “my”. As found in the original instrument. This suggestion would suppress the doubt raised in the translation process over the mediation of the interpreter. Items Question 2; Question 7; Question 10; Question 14; Question 16; Question 18 and Question 34 have been changed.

For domain number seven, Environment, was suggested to change the name to Environment/place in order not to confuse the participant with terms from other contexts. In the Occupational Therapy, in this model and instrument, the word environment is used to describe the entire environment of accomplishment of occupations with their physical resources, materials and human resources. However, the word environment was unanimously confused or raised the possibility of confusion by the judges with the concept of biology referring to the ecosystem. Thus, we chose to use the signal and the environment/place typology.

In Question 7, the sign “meaning” was replaced by “important”, while in Question 10, the “discover” sign of V2, referring to “identify” in the original instrument, was replaced by “find”. The role signal, referring to the occupational role of Questions 14, 16 and 18, has been replaced by the use of the behavior/commitment/responsibility signs together.

All the “domain” items of the instrument started to have the terminology of the term in question next to the legend, which is informative, to avoid a lexical crossing with another semantic field.

A final version was recorded for the pilot test that was applied with 10 deaf and over 18 people. The mean time of application of the instrument was 40 minutes. Through the test it was found that the online questionnaire should be answered preferentially on computers with higher speed internet.

The use of devices such as mobile phones and tablets with low speed internet may lead to loss of the questionnaire, due to internet failures and the difficulty to download videos. It is suggested that the instrument be used in places where the deaf person does not have a computer in his home. These places may be state and national deaf associations and federations, as well as public spaces that make these tools available free of charge, such as public libraries.

It should be noted that all stages of this process were videotaped, allowing subsequent archiving and consultation. This ensures that deaf researchers and listeners are given equal opportunity in relation to the availability of documents and study materials. It is also highlighted that, at the end of the research, it was suggested the insertion of optional subtitles in Portuguese to complement and facilitate the contextual understanding of the instrument.

Chart 2 – Illustrative chart with some items presented for apparent validation by the Judges Committee. Uberaba, MG, Brazil, 2018

Instrument items	Portuguese version	Version in LIBRAS - Glosas	Retro Translation 1	Retro Translation 2	Judges evaluation
Question 1	Do I know my skills?	*<PERGUNTA NÚMERO UM>* afirm *<VOCÊ PERCEBER PRÓPRI@ SU@ CAPACIDADE>* qu	Do you realize you can do it?	Do you realize that you have the capacity?	( ) adequate ( ) inadequate Justify:
Question 2	Do I always expect positive results from my actions and projects?	*<PERGUNTA NÚMERO DOIS>* afirm *<VOCÊ SEMPRE ESPERAR RESPOSTA BOA SU@ VIDA>*afirm *<TAMBÉM FAZER COIS@ FUTURO>*qu	Do you always expect the good response in your life and also do things in your future?	Do you always expect answers to the things in your life and also do things for your future?	( ) adequate ( ) inadequate Justify:

DISCUSSION

The results of this research highlight important aspects regarding the process of cross-cultural adaptation in methodological studies aimed at the translation and validation of instruments for SL.

Needs for modifying the pronoun were raised or signs that might express self-reflection in questions using first-person pronouns were added. The need to substitute some signs, the use of datiological alphabet, the modification of the name of a domain to the context and reality of the population, as well as adjustments and indications of use of the online version in LIBRAS, through equipment with greater *internet* speed.

The heterogeneous profile of interpreters, in the first stage of translation, follows the methodology of Andrade and collaborators[11] who emphasize in their reflections studies in the literature that emphasize the importance and enrichment of this process with the participation of bilingual researchers or participants with diverse characteristics in formation, performance, as well as age, depending on the target population.

The fact of LIBRAS being gestual-visual adds obstacles to the process of translation already common to oral languages, such as the need to understand a rich and complex linguistic structure with a large number of cultural variations within the national territory.[21] Replacing signals or adding others to better understand the participants illustrates this need. A recent validation study of content carried out in the state of Paraíba, Brazil, brought the need for language modification to identify the clinical signs and symptoms of sexually transmitted infections for access to the deaf population, choosing during translation by a common-sense language, simpler and clearer.[22]

The use of datiological alphabet together with a nominal signal, as occurred in the present research, is a facilitator in the process of cross-cultural adaptation. The methodology is commonly used and described in the literature as a tool used to express names of people, places and/or words without specific signal. It is still considered possible to use it through the handwriting alphabet by listeners who do not know the signal corresponding to the word they would like to express.[23]

On another important point, the conceptual differences of a term from one language to another can give rise to the configuration of a new expression, aiming at the reach and understanding of the context that one wants to achieve. During the cross-cultural adaptation of this research, domain 7, Environment, of the original instrument was changed to “Environment/place”.

The SAOF instrument arises from the Human Occupation Model (HOM) which conceives man as an open system, in which his occupational behavior would result from this system,[24] in constant change and organization.[25] In this model, occupation is central to human experience, understood as innate and spontaneous because of man’s desire to explore and dominate the environment, making it unique among animals.[24] In this perspective, the Environment domain in this instrument refers to the places where the individual lives, including people, objects and social resources,[18] beyond the physical space. During the validations, it was mentioned by the judges the possibility of the environmental domain being confused with terms of biology and ecology. Thus, the need for adjustment of the term has become justifiable for understanding the context and reference of the term in the perspective adopted by the HOM. The modification of a term or even the need for language adjustment are illustrated in other research. A British validation study mentioned in their test phase that deaf people sometimes understand concepts related to health from their experiences in communication.[26] Terms that are not present in the vocabulary or context of that community may require further changes and adjustments during the transcultural adaptation process of the instrument.

The pilot test considered as advisable the possibility of applying the online version in LIBRAS, preferably in equipment with greater internet speed. Another study using online tools also pointed out as an obstacle the restrictions that this type of equipment and tool require regarding the limitations of its use.[21] This study showed that the use of systems, with the need to upload video of the version in LIBRAS, requires internet transmission with a speed greater than 256 kbps (kilobits per second) to make the image stable. The same occurred for the present research.

Although using online tool with use of computers and internet can bring a limitation to the study or a sampling bias in the case of using this instrument in future research with the population, in the literature the use of online technologies by deaf people has been portrayed as fundamental. The use of these tools has enabled deaf people to participate fully in society, with greater academic and social independence, as well as satisfaction in the use of these technologies.[27]

Finally, the last suggestion accepted by the group of researchers, the use of Portuguese subtitles to complement and facilitate the understanding of the terms in their contexts, has also been reported in the literature. One study considered some options for applying the videos in LIBRAS, one of them being the video option with subtitles.[21] This option was pointed out as an important possibility of support for deaf people who are literate in the Portuguese language.

The proposal to translate and adapt an instrument of the health area for sign language has brought in this study the difficulty of access to professional researchers as well as bilingual translators with certification and translation experience in the area as an important limitation of the study. The sample of judges and trained professionals, who were located and accepted to participate in the study, highlights in this scenario a rare sample. Adding to this fact there is no similar studies, limiting the discussion and comparison with other articles that cover the theme. Despite these limitations, the study reached its goal, highlighting the urgent need for more research of this nature with translations and adaptations of health instruments.

The failures and negligences in the health area are evident, both in the care of deaf people, by professionals who are unaware of LIBRAS, and in the insufficient offering of interpreters in these spaces. The full participation of deaf people in society is closely linked to SL, and once this problem is highlighted in health services, attention must be given to the dangerous use of communication “by” them. A communication that would be given by hearing people, the accompanying person and the

health professional, making the deaf person passive in this process, with possibility of loss of their privacy, as well as the protagonism role in understanding the health-disease process.[28]

The adaptation and validation of the SAOF instrument for LS can be combined in solving this problem, helping to gather important information to devise more efficient therapies, as well as providing the deaf population with the opportunity to exercise their citizenship and have, in health spaces, instruments adapted to their needs.

CONCLUSION

This study presents important results regarding the universe of research focused on translation for LIBRAS and cross-cultural adaptation of health instruments for the deaf population.

The needs covered and the use of the methodology, for evidence-based sign language translation reveals the importance of the translation stage being carried out with different profiles of translators; the need for linguistic adjustments to take into account the specificities of a translation of an oral-auditory language into a visual-gestural language; in addition to the need to record all video steps, ensuring fair opportunities for future access to this material by deaf and hearing researchers.

The pilot test showed that the apparent validation and content, during the process of cross-cultural adaptation to LIBRAS of the SAOF instrument, was satisfactory.

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NOTES

ORIGIN OF THE ARTICLE

Article extracted from the thesis - Transcultural adaptation and analysis of the psychometric properties of the Self-Assessment of Occupational Functioning - SAOF scale for LIBRAS, linked to the project - The access and the validation of health assessment instruments for LIBRAS, presented or *Programa de Pos-Graduaçã*o *Atenção à Saúde* of the *Universidade Federal do Triângulo Mineiro*, in 2019.

CONTRIBUTION OF AUTHORITY

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CONFLICT OF INTERESTS

There is no conflict of interest.

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