

Original Article

# Cross-cultural adaptation, face validity, and semantic content validity of the Volitional Questionnaire (version 4.1, 2007) into Brazilian Portuguese

*Adaptação transcultural, validade de face e validade semântica de conteúdo do Questionário de Volição (versão 4.1, 2007) para o português do Brasil*

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## **Abstract**

**Introduction:** The Model of Human Occupation (MOHO) defines volition as a person's motivation to engage in an occupation. It encompasses their choice, experience, understanding, and anticipation of that occupation, influenced by personal causation, values, and interests concerning the environment. The Volitional Questionnaire (VQ) is extensively used to measure the volitional component of occupation and evaluate how the environment facilitates or inhibits an individual's motivation. Prior to the translation of the VQ into Brazilian Portuguese, there were no standardized instruments of this nature in Brazil.

**Objectives:** This study aims to outline the process involved in the cross-cultural adaptation of the VQ for Brazilian Portuguese, including assessments of face validity and semantic content validity. **Method:** The translation and cross-cultural adaptation were performed according to established protocols involving translation, back-translation, review by an expert committee, and assessments of face validity and semantic content validity. The expert committee comprised 20 participants: 12 occupational therapists, two final-year undergraduate students in occupational therapy, and six psychologists. **Results:** This study presents the initial outcomes of the VQ's cross-cultural adaptation, face validity, and semantic content validity. **Conclusion:** The preliminary findings suggest that the VQ's Brazilian version demonstrates face validity and semantic consistency. The subsequent phase will involve a pre-test and an assessment of psychometric properties.

**Keywords:** Validation Studies, Motivation, Occupational Therapy, Volition.

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### **Resumo**

**Introdução:** O Modelo de Ocupação Humana (MOHO) define volição como a motivação de uma pessoa para se envolver em uma ocupação. Abrange sua escolha, experiência, compreensão e antecipação dessa ocupação, influenciada por causas pessoais, valores e interesses relativos ao meio ambiente. O Questionário de Volição (VQ) é amplamente utilizado para medir o componente volitivo da ocupação e para avaliar como o ambiente facilita ou inibe a motivação de um indivíduo. Antes da tradução do VQ para o português brasileiro, não existiam instrumentos padronizados dessa natureza no Brasil. **Objetivos:** O objetivo deste estudo é delinear o processo envolvido na adaptação transcultural do VQ para o português brasileiro, incluindo avaliações de validade de face e validade de conteúdo semântico. **Método:** A tradução e adaptação transcultural foram realizadas de acordo com protocolos estabelecidos, envolvendo tradução, retrotradução, revisão por comitê de especialistas e avaliações de validade de face e validade de conteúdo semântico. O comitê de especialistas foi composto por 20 participantes: 12 terapeutas ocupacionais, dois estudantes do último ano da graduação em terapia ocupacional e seis psicólogos. **Resultados:** Este estudo apresenta os resultados iniciais da adaptação transcultural, validade de face e validade de conteúdo semântico do VQ. **Conclusão:** Os resultados preliminares sugerem que a versão brasileira do VQ demonstra validade aparente e consistência semântica. A fase subsequente envolverá o pré-teste e a avaliação das propriedades psicométricas.

**Palavras-chave:** Estudos de Validação, Motivação, Terapia Ocupacional, Volição.

## **Introduction**

In the Model of Human Occupation - MOHO, volition involves thoughts and feelings someone “[...] holds as important (values), perceives as personal capacity and effectiveness (personal causation), and finds enjoyable (interests)” (Kielhofner, 2008a, p. 34). Volition is a pattern of thoughts and feelings a person develops when anticipating, choosing, experiencing, and interpreting what they do, named the volitional cycle (Lee & Kielhofner, 2024).

In Brazil, the cross-cultural adaptation of MOHO instruments has increased. Recently, Mendes et al. (2024) conducted the cross-cultural adaptation, reliability, and convergent validity of Occupational Self-Assessment for Brazilian Portuguese. Gorla (2023) cross-culturally adapted the Occupational Performance History Interview - II (OPHI-II) (Gorla et al., 2021). Mazak et al. (2022) cross-culturally adapted the Short Child Occupational Profile (SCOPE). The Model of Human Occupation Screening Tool (MOHOST) was cross-culturally adapted, and results showed its face validation and good test-retest reliability (Cruz et al., 2021; Cruz et al., 2019). Although these instruments are essential to address MOHO elements, they do not profoundly focus on volition.

The Volitional Questionnaire (VQ) is an observation assessment of MOHO, authored by Carmen Gloria de las Heras, Rebecca Geist, Gary Kielhofner, and Yanling Li. It enables therapists to gather information about a person’s inner motivation and how the environment impacts occupational behavior. Therefore, it is a valuable measure to support interventions focused on facilitating occupational participation (University of Illinois Chicago, 2024). The VQ's observational nature is aligned with a client-

centered approach since information is gathered from the person's perspective and experience, allowing observation in nonverbal clients with cognitive difficulties (University of Illinois Chicago, 2024; Lanningan et al., 2024).

The VQ administration requires the therapist to observe a client engaging in occupation at least twice to complete the 14 items of the instrument and the environmental form, classifying the person's occupational behavior driven by volition as passive, hesitant, involved, spontaneous, or not observed (de Las Heras et al., 2007; Lanningan et al., 2024). Although at least two sessions to observe and complete the VQ are recommended, Lanningan et al. (2024) argue that three or five observations will provide relevant information to assess the factors impacting volition.

VQ is a valid measure of volition (Chern et al., 1996). Therapists and researchers can use the instrument to identify different levels of volition and thus can be applied to various settings (Li & Kielhofner, 2004). A psychometric study of the Finnish translation showed that all 14 items fit the Rasch model and appropriate item and person separation (Fan et al., 2020). A recent study in Italy also demonstrated that VQ is a valid, standardized, and reliable measure (Di Filippo et al., 2020). The Persian version of VQ reported face validity, inter-rater reliability, and appropriate internal consistency (Cheraghifard et al., 2019).

The VQ has already been translated and adapted in the following countries: China, Finland, France, Germany, Italy, Japan, Lithuania, Netherlands, Portugal, Slovenia, Spain, and Sweden. In Brazil, instruments focused on measuring volition are unknown. Therefore, the VQ must be cross-culturally adapted into Brazilian Portuguese to support the occupational therapy process with different clients and document changes in volition.

Our study aims to report the cross-cultural adaptation process of the Volitional Questionnaire (VQ) into Brazilian Portuguese by conducting translation, back-translation, and synthesis of the back translation, expert committee, face, and semantic content validity of the VQ (version 4.1).

## **Methods**

The cross-cultural adaptation of VQ is a methodological study conducted according to the Guidelines for the Process of Cross-Cultural Adaptation of Self-Report (Beaton et al., 2000) and the Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcome Measures (PRO) (Wild et al., 2005).

## **Ethics**

Our study was submitted to and approved by the research ethics committee of the Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo, Brazil, under number (CAAE: 52760621.8.0000.0068). All participants signed an Informed Consent Form.

## **Instrument description**

The VQ consists of three Volition Questionnaire Record Sheet models (Single Observation (A); Two Observations (B); Multiple Observations (C)); 1 Volitional Continuum Volition Questionnaire Recording Sheet template (D); and 1

Environmental Characteristics Record Sheet (de Las Heras et al., 2007; de Las Heras et al., 2017a) and 1 User Manual.

The VQ has a scoring scale with 14 behavioral indicators representing personal causation, values, and interests (de Las Heras et al., 2017b). All must be evaluated on a progressive 4-point scale (passive, doubtful, involved, and spontaneous) (de Las Heras et al., 2017b).

The Record of Environmental Characteristics must be evaluated regarding Spaces, Objects, Social Environments, and Occupational Forms/Tasks contained in the context of the environment where the evaluation takes place - as described in the MOHO Theory (Kielhofner, 2008b) and explained briefly in the manual.

### **Cross-cultural adaptation stages**

The first author of this study contacted the Model of Human Occupation Clearinghouse (based in the Department of Occupational Therapy at the University of Illinois, Chicago, USA) to obtain permission to conduct the cross-cultural adaptation and signed a Copyright Translation Agreement to disseminate the instrument in Brazil. As good practice, the first author contacted the lead author of the original VQ to participate in reviewing the back-translation process to ensure rigor.

### **Translation from English into Brazilian Portuguese**

Following ethical approval, two participants (T1 and T2) independently translated the VQ from English into Brazilian Portuguese. T1 wasn't familiar with the Model of Human Occupation (MOHO), while T2 was a practitioner with expertise in MOHO. After the translation stage, T1 and T2 met to seek a consensus on the translations, generating a single version named T3.

### **Back-translation**

The researcher submitted T3 to an English native professional from the United Kingdom, blinded for the instrument and MOHO to conduct the Brazilian Portuguese version of VQ back-translation into English. This procedure was required to verify whether the translated version was compatible with the original version of the VQ, generating the T4 (back-translated version). For transparency, only one expert conducted the back-translation instead of two - as recommended by the guidelines. However, to mitigate this limitation, the back-translated version was sent together with the original version, item by item, for evaluation by the primary author of the VQ, thus ensuring the validity of the back-translation process. The principal author of the original VQ reviewed the items that differed in meaning from the original version and suggested changes (T5). Researchers created a table for a better description of the stages: the first column presented the items of the original instrument, the next column displayed the back translation, and the final column contained a space for comments by the author of the original version. The revised version of Brazilian Portuguese resulted from the process mentioned above (T6).

### **Expert committee**

The Expert committee consisted of a convenience sample of seven experts. Three were occupational therapists with English proficiency, experience in cross-cultural

adaptation, and expertise in MOHO, and two were psychologists with English proficiency, experience in cross-cultural adaptation, and mental health conditions. In addition to these professionals, the two principal authors of this study also participated.

All committee members received an email with instructions and a table to complete. The table comprised a column with the sentences of the original version of the VQ in English and another with the corresponding Brazilian Portuguese version. They should evaluate each item according to the instruments' semantic, idiomatic, cultural, and conceptual equivalence. Semantic and idiomatic equivalence refers to the possibility of transferring the meanings of the concepts contained in the original instrument to the translated version. Cultural equivalence refers to the adequacy of expressions to the cultural context, while conceptual equivalence validates that the construct is consistent with what the measure intends to assess (Beaton et al., 2000; Guillemin et al., 1993; Mendes et al., 2024).

### **Face validity and semantic content validity**

Face validity consists of the expert's evaluation of the instrument's understanding of cultural fit in terms of interpretation (Alexandre & Coluci, 2011). After the expert committee review stage, twenty professionals (12 graduated occupational therapists, 2 undergraduate students in the last year of occupational therapy, and 6 graduated psychologists). The inclusion criteria for participants at the face and semantic content validity were occupational therapists or psychologists with mental health experience and no previous contact with the instrument.

They completed the instrument that analyses the degree of understanding of the scale (Ferraro et al., 2007), in which each VQ item was checked to determine whether it presents any difficult, confusing questions, or contains difficult and/or embarrassing words. They then completed the verbal numerical scale on the degree of understanding of the instrument, assigning a score from 1 to 5 for their level of knowledge, with 1 being equivalent to "I didn't understand anything" and 5 to "I understood perfectly".

## **Results**

### **Translation and synthesis of the translations**

T1 and T2 translations diverged regarding the semantic analysis of the words: "passive", "hesitant", "involved", "achievement", "supervisors/supervising". The authors analyzed the discrepancies and considered the most appropriate terms, and constructed T3: "not manifested", "doubtful", "engaged", "accomplishment", "supervisors/boss".

### **Back-translation**

The back-translated version was compared with the original English version of the VQ to check for divergence between the items. The original author discussed the terms and guided the choice of the most appropriate ones, maintaining the concept proposed by MOHO and resulting in the use of the following words: "passivo", "hesitante", "envolvido", "realização", "supervisor/superiores", originating the T4 version.

## Face validity and semantic content validity - Expert committee

Five occupational therapists and two psychologists participated, with a mean of 21 years since graduation. Two professionals had master's degrees, and five were Ph.D.s. In this stage, the expert committee compared the original English version of the VQ with the T4 version to verify the items' semantic, idiomatic, cultural, and conceptual equivalences. Table 1 and 2 shows the suggestions pointed out by the expert committee:

**Table 1.** Expert Committee suggestions for VQ- Single, Two, and Multiple Observation forms.

Participant	Semantic	Idiomatic	Cultural	Conceptual	
1	Change: "record sheet" ( <i>folha de registro</i> ) for "form" ( <i>formulários</i> ); "contexto of the environment" ( <i>contexto do ambiente</i> ) for "collection location" ( <i>local de coleta</i> ).	Change: "looks curious" ( <i>mostra-se curioso</i> ) for "shows curiosities" ( <i>mostra curiosidades</i> ); "continues in activity" ( <i>continua na atividade</i> ) for "continue with the activity" ( <i>prosegue na atividade</i> ); Change: "birthday" ( <i>data de aniversário</i> ) for "date of birth" ( <i>data de nascimento</i> ); "summary" ( <i>sumário</i> ) for "synthesis or resume" ( <i>síntese ou resumo</i> ).	Change "answer key" ( <i>chave de respostas</i> ) for "indicators" ( <i>indicadores</i> )	Change "respostas" for "indicators" ( <i>indicadores</i> )	
2	Change: "doubtful" ( <i>duvidoso</i> ) for "hesitant" ( <i>hesitante</i> ); "does not manifest" ( <i>não manifesta interesse</i> ) por "passive" ( <i>passivo</i> )				
3	Change: "doubtful" ( <i>duvidoso</i> ) for "hesitant" ( <i>hesitante</i> ); "does not manifest" ( <i>não manifesta interesse</i> ) por "passive" ( <i>passivo</i> )				
4	Change: "answer key" ( <i>chave de respostas</i> ) for "indicators" ( <i>indicadores</i> ); "incentive" ( <i>incentivo</i> ) for "encouragement" ( <i>encorajamento</i> ); Include the word "ambient" ( <i>ambiente</i> ) and put the verb "to do" ( <i>fazer</i> ) into infinitive form, resulting in: "the cliente has the desire to engage in the environment for pleasure and satisfaction, and to make discoveries in low-risk situations" ( <i>o cliente tem o desejo de se envolver no ambiente por prazer e satisfação, e fazer descobertas em situações de baixo risco</i> ) rather than "the cliente has a desire to engage with pleasure and satisfaction, and makes discoveries in low-risk situations" ( <i>o cliente tem o desejo de se envolver com prazer e satisfação, e faz descobertas em situações de baixo risco</i> ).				
5	Change: "doubtful" ( <i>duvidoso</i> ) for "hesitant" ( <i>hesitante</i> ); "does not manifest" ( <i>não manifesta interesse</i> ) por "passive" ( <i>passivo</i> )	Change: "looks curious" ( <i>mostra-se curioso</i> ) for "shows curiosities" ( <i>mostra curiosidades</i> )			
6	Change: "doubtful" ( <i>duvidoso</i> ) for "hesitant" ( <i>hesitante</i> ); "does not manifest" ( <i>não manifesta interesse</i> ) por "passive" ( <i>passivo</i> )	Change: "looks curious" ( <i>mostra-se curioso</i> ) for "shows curiosities" ( <i>mostra curiosidades</i> )			
7		Change: "looks curious" ( <i>mostra-se curioso</i> ) for "shows curiosities" ( <i>mostra curiosidades</i> )			

**Table 2.** Expert Committee suggestions for VQ- Environment form.

Participant	Semantic	Idiomatic	Cultural	Conceptual
1	Change: “record” ( <i>registro</i> ) for “form” ( <i>formulário</i> ) rather than “recort”; put in plural “type of environment”.	Change: “characteristics of the environment in that the cliente was observed” ( <i>características do ambiente no qual o cliente foi observado</i> ) for “characteristics of the environment in which the environment was observed” ( <i>características do ambiente em que o cliente foi observado</i> ); “stereo” ( <i>sonorização</i> ) for “noise or ambiente sound” ( <i>barulho ou quanto ao som do ambiente</i> ); doubt about the meaning of terms “one by one” ( <i>um a um</i> ) and “pers” ( <i>pares</i> ).		
2	Change “stereo” ( <i>sonorização</i> ) for “sound” ( <i>som</i> ).			
3		doubt about the meaning of the terms “one by one” ( <i>um a um</i> ) and “pers” ( <i>pares</i> ).		
4		doubt about the meaning of the terms “one by one” ( <i>um a um</i> ) and “pers” ( <i>pares</i> ).		
5		doubt about the meaning of the terms “one by one” ( <i>um a um</i> ) and “pers” ( <i>pares</i> ).		

Four of the experts raised questions about the items that began with “mostra”, such as “mostra curiosidade”; “mostra preferência”; “mostra que uma atividade é especial ou significativa” opting to change to “demonstra”, leaving: “demonstra curiosidade”; “demonstra preferência”; “demonstra que uma atividade é especial ou significativa”. The terms “hesitante”, “envolvido” and “superiores” were maintained by following the original author’s guidance. There was no common sense recording of the terms “um-a-um” e and “pares” regarding the meaning in Portuguese and the understanding of the concept concerning theory, respectively (T5). Subsequently, it was necessary to contact the primary author of the VQ again, who explained the terms “um-a-um” and changed the word to “cliente e terapeuta ou cliente e qualquer outro facilitador” and “pares” remained, generating the final version of VQ-Brazil (T6).

The principal researcher sent the VQ-Brazil to fourteen occupational therapists (including two undergraduate students from last year's course) and six psychologists to verify their understanding of the items (face validity) and semantic content validity, being three professionals Ph. D.s, and three masters. All participants had no experience using MOHO or related instruments.

According to the qualitative analysis scale (Ferraro et al., 2007), question by question, of the 14 items on the VQ form, all items but item 2 - “seeks additional responsibilities” (72%), showed approval higher than 80%, on the problematic criterion. In the “How would you ask?” or “comments” part, to item 2 two pieces of information were added: “seek new strategies to improve your performance”; “the question does not convey clarity”. In the criterion “confusing,” almost all items had approval higher than 80%, except items 2 - “seeks additional responsibilities” (79%), and 3 “invests additional energy/ emotion/ attention” (64%).

In the “How would you ask?” or “comments” part, item 3 was added: “Maybe indicate a relationship with creativity”; “on a first reading is confusing concerning item 2”; “Does this activity make you motivated?”. Regarding “embarrassment” and “difficult words,” no

items were mentioned. Regarding the grade on the general understanding of the instrument, the average was 4.5 (higher than 80%) (Ferraro et al., 2007).

Regarding the VQ- Environment form, the 4 items presented an evaluation equal to or higher than 80%. The score on the overall understanding of the instrument was also 4.5 (higher than 80%) (Ferraro et al., 2007).

## **Discussion**

Our study aimed to describe the cross-cultural adaptation of the VQ instrument. In light of the need for evidence-based practice, a measure of volition (occupation-based) can help practitioners and researchers gain insight into the client's volition to support interventions and measure their effectiveness.

VQ is a comprehensive measure to gather information about volitional behavior. It considers the impact of the environment on volition for occupation. VQ is flexible because any healthcare practitioner with knowledge of the MOHO can utilize it. VQ can be applied to any population that has or does not have a diagnosis. The cross-cultural adaptation of VQ was needed to address cross-cultural issues, particularly in the Brazilian population culture. Its use can enable therapists to improve their practice (Castro et al., 2014).

In addition, cross-cultural adaptation studies are essential because only a simple translation of an instrument into another language can generate significant changes or differences in the real meaning of the terms due to the concept's association with the cultural context of the place of origin (Peres et al., 2017).

Our study's entire cross-cultural adaptation process followed the guidelines of the primary current literature on the subject (Wild et al., 2005; Campos et al., 2019; Novelli et al., 2018; Epstein et al., 2015). However, the authors did not conduct the last stage (pre-test) since it will be part of the following research plan, which will comprise the psychometric properties of VQ. Nevertheless, in all stages, there was a need for changes in the terms, including the participation of the VQ's original author, when necessary, to guarantee the meaning of the concepts.

Semantic analysis refers to the meaning of the vocabulary and grammar of words (Guillemin et al., 1993). During the expert committee stage, there were divergences regarding the semantic equivalence of some words, and even after the translation and back-translation steps, it was necessary to consult the author of the original VQ. It appears that not all the stages of translation and back-translation were sufficient; therefore, working with one of the VQ authors provided validity of the translation and back-translation process, and the final version in Brazilian Portuguese aligned with MOHO theory. Moreover, regarding the expert committee, both the VQ Form and the Environmental Form scored 4.5 or higher on the general understanding of the instrument, being approved with more than 80% by all participants.

The VQ form presented item 2 - "seeks additional responsibilities," with scores below 80%, in the criteria, difficult (72%) and "confusing" (79%); and in item 3, "invests additional energy/ emotion/ attention," in the confusing criterion (64%). Concerning items 2 "seeks additional responsibility," and 3 "invests additional energy/emotion/attention", the researchers, together with the original author, decided to maintain the terms so as not to harm the final result of the instrument analysis and



judge that for these two items, there was a lack of prior knowledge about the model, and, consequently, of the manual a support resource for the application. The need for the manual is stated as part of the use of the VQ instrument.

Although the initial process of translating and adapting the VQ to reality has shown promising results, the absence of pre-test and reliability application at this stage is identified as a limitation to be addressed in a subsequent research phase.

## Conclusion

The cross-cultural adaptation of the VQ into Brazilian Portuguese has been concluded. This instrument can support healthcare professionals in gathering information about a person's volition to design interventions toward occupational participation. In addition, the VQ can document the person's progress throughout specific interventions. Our research is in the process of testing the VQ's psychometric properties of validity and reliability as the next stage.

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### **Author's Contributions**

Natalie Torres de Matos and Patrícia Cotting Homem de Mello: Organization of text and sources, text design, data analysis, and writing. Antônio de Pádua Serafim and Cristiana Castanho de Almeida Rocca: Text review. All authors approved the final version of the text.

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