Cross-Cultural Reproducibility of the Brazilian Portuguese Version of the Role Checklist for Persons With Chronic Obstructive Pulmonary Disease

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OBJECTIVE. This article presents the results of a cross-cultural reproducibility and test–retest reliability study of a Brazilian version of the Role Checklist, in a population with chronic obstructive pulmonary disease (COPD).

METHODS. The English version was translated and culturally adapted into Brazilian Portuguese, then administered twice at a 2-week interval to a group of 25 clinically stable individuals with COPD.

RESULTS. Cross-cultural adaptation led to adjustments in some terms used in the checklist. Values obtained for kappa suggested moderate-to-substantial agreement for Part I and Part II. No statistically significant correlations were found between agreement and variables of gender, occupation, marital status, level of education, level of depression, or severity of bronchial obstruction.

CONCLUSION. The Brazilian Portuguese version of the Role Checklist was found content valid and reliable for persons with COPD and probably for the Brazilian population in general.


Introduction

According to the Global Initiative for Chronic Obstructive Lung Disease (GOLD) (Fabbri, Pauwels, & Hurd, 2004; GOLD, 2003), chronic obstructive pulmonary disease (COPD) is a collection of lung disorders that include emphysema and chronic bronchitis. COPD is the fourth leading cause of death in the world (World Health Organization, 2004) and usually is progressive and associated with abnormal inflammatory lung response to noxious gases and particles. Symptoms include coughing, sputum production, and dyspnea on exertion, which may lead to social dysfunction and compromised quality of life (Camelier, Rosa, Jones, & Jardim, 2005). The most significant risk factor for COPD is smoking (Fabbri et al., 2004). Persons with COPD experience disabling breathlessness resulting in reduced exercise capacity and, consequently, limited activities of daily living (Veloso, Stella, Cendon, Silva, & Jardim, 2003). COPD management includes pharmacological and nonpharmacological interventions such as rehabilitation, oxygen therapy, and surgery. Pulmonary rehabilitation for persons with COPD aims to reduce symptoms, improve quality of life (Fabbri et al., 2004; GOLD, 2003), and improve occupational function (Coppola & Wood, 2000).

According to the American Occupational Therapy Association (AOTA; 2002), the focus of occupational therapy is to assist people to engage in meaningful and purposeful daily life activities. These activities can be categorized in seven areas of occupation: basic activities of daily living, instrumental activities of daily living, education, work, play, leisure, and social participation. Such activities reflect patterns that are developed during life and are influenced by the performance context. These patterns are habits, routines, and roles.
Roles enable a person to structure occupational participation (Kielhofner, 2002) and help to organize productive behaviors by providing a personal identity, conveying social expectations for performance, organizing the use of time, and placing the person within the social structure (AOTA, 2002; Branholm & Fugl-Meyer, 1994; Kielhofner, 2002; Oakley, Kielhofner, Barris, & Reichler, 1986).

Coppola and Wood (2000) defined the focus of occupational therapists in pulmonary rehabilitation as engaging clients in “collaborative processes of lifestyle redesign—a therapeutic program of occupational therapy dedicated to empowering people to actively select and experience individualized patterns of occupations that are simultaneously health promoting and personally satisfying” (p. 214). Occupational therapists will be better prepared to plan an individualized process for lifestyle redesign after identifying the person’s occupational roles, everyday activities, and daily life tasks that have been compromised by COPD (Coppola & Wood, 2000). Collaborating with clients to identify their occupational roles is a suitable start in the process of lifestyle redesign, because this process often leads to an understanding of the activities and tasks linked to the performed roles in the social context. To assess occupational roles, occupational therapists need reliable, valid, and culturally relevant assessments. Thus, the purpose of this study is to establish the validity and reliability of the Portuguese version of the Role Checklist (Oakley et al., 1986) for use with a Brazilian population with COPD.

Role Checklist

The Role Checklist, designed and empirically tested by Oakley and colleagues (1986), is a self-assessment appropriate for use with adolescents or adults. It was developed within the framework of the Model of Human Occupation (Kielhofner, 2002) to obtain information on clients’ perceptions of their participation in occupational roles. It is divided into two parts. Part I assesses, along a temporal continuum (past, present, and future), the major occupational roles (student, worker, volunteer, caregiver, home maintainer, friend, family member, religious participant, hobbyist/amateur, and participant in organizations) that organize daily life. Part II identifies the degree to which each role is valued: very valuable, somewhat valuable, and not at all valuable (Oakley et al., 1986).

Studies using the Role Checklist have been published involving diverse populations (Table 1). Two previous studies involved the methodology and reliability of translating the Role Checklist into Spanish (Colón & Haertlein, 2002) and French (Hachey, Jumoorty, & Mercier, 1995).

<table>
<thead>
<tr>
<th>Population Involved</th>
<th>Authors and Year of Publication</th>
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</thead>
<tbody>
<tr>
<td>Persons living in the community compared with an in-patient population</td>
<td>Dickerson &amp; Oakley, 1995</td>
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<tr>
<td>Women and physical exercise</td>
<td>Rust, Barris, &amp; Hooper, 1987</td>
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<tr>
<td>Mothers of young children</td>
<td>Crowe, VanLeit, Berghmans, &amp; Mann, 1997</td>
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<tr>
<td>Elderly persons</td>
<td>Duellman, Barris, &amp; Kielhofner, 1986</td>
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<td>Jackoway, Rogers, &amp; Snow, 1987</td>
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<td></td>
<td>Elliot &amp; Barris, 1987</td>
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<tr>
<td></td>
<td>Watson &amp; Ager, 1991</td>
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<tr>
<td>Patients with Alzheimer’s disease</td>
<td>Oakley, 1987</td>
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<tr>
<td>Adolescents</td>
<td>Barris et al., 1986</td>
</tr>
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<td>Adolescents with psychosocial dysfunctions</td>
<td>Lederer, Kielhofner, &amp; Watts, 1985</td>
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<td></td>
<td>Smyntek, Barris, &amp; Kielhofner, 1985</td>
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<td></td>
<td>Ebb, Coster, &amp; Duncombe, 1989</td>
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<tr>
<td>Psychiatric patients</td>
<td>Oakley, Kielhofner, &amp; Barris, 1985</td>
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<td></td>
<td>Barris, Dickie, &amp; Baron, 1988</td>
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<td></td>
<td>Hachey, Boyer, &amp; Mercier, 2001</td>
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<tr>
<td>Patients with bipolar affective disorder</td>
<td>Kusznir, Scott, Cooke, &amp; Young, 1996</td>
</tr>
<tr>
<td>Patients with multiple personality disorder</td>
<td>Sepiol &amp; Froelich, 1990</td>
</tr>
<tr>
<td>Patients with obsessive–compulsive disorder</td>
<td>Bavaro, 1991</td>
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<tr>
<td>Caregivers of patients with traumatic brain injuries</td>
<td>Frosch et al., 1997</td>
</tr>
<tr>
<td>Patients with brain injuries</td>
<td>Hallet, Zasler, Maurer, &amp; Cash, 1994</td>
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<td></td>
<td>Ponsford, Oliver, Nelms, Curran, &amp; Ponsford, 1999</td>
</tr>
<tr>
<td>Patients with hip fractures</td>
<td>Egan, Warren, Hessel, &amp; Gilewich, 1992</td>
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<tr>
<td>Survivors of bone marrow transplants</td>
<td>Baker, Curbow, &amp; Wingard, 1991</td>
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<tr>
<td>Persons with chronic pain</td>
<td>Gusich, 1984</td>
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</tbody>
</table>

Note. Role Checklist (Oakley, Kielhofner, Barris, & Reichler, 1986).

To date, the Role Checklist has been translated into 10 languages: Arabic, Chinese, Dutch, French, German, Hebrew, Japanese, Portuguese, Spanish, and Swedish. Although the checklist was translated into Portuguese by Linda Lehman, an occupational therapist, the reliability and validity of the translated version has yet to be established. Beaton, Bombardier, Guillemin, and Ferraz (2000) recommended establishing the reliability and validity of translated assessments before using them in practice. The cross-cultural adaptation process (translation and cultural adaptation) is required when an instrument developed in a specific language and culture is planned to be used in another country and language. The goal of the cross-cultural adaptation process is to eliminate bias in the translated version (Beaton et al., 2000). In occupational therapy, there are many standardized English-language assessments, but few valid and reliable non-English ones. Consequently,
occupational therapists who work in other countries or with populations who do not speak English are at a disadvantage (Colón & Haertlein, 2002; Hachey et al., 1995).

Method

Translation and Cross-Cultural Adaptation Procedure

This study followed a method previously used by Camelier, Rosa, Jones, and Jardim (2003); Camelier et al. (2005); and Sousa, Jardim, and Jones (2000) for translating and validating assessments for a Brazilian population with COPD. Other studies (Colón & Haertlein, 2002; Falcão, Ciconelli, & Ferraz, 2003) presented similar methods that also were used to guide the process of translating and testing reliability. The English and Portuguese versions, provided by the designer of the Role Checklist, were used in this study.

Step I. The first author of this article, who is fluent in English, translated the Role Checklist into Brazilian Portuguese and then compared it to the Portuguese translation by Linda Lehman. The translations were considered similar. To better adapt the Portuguese version to a Brazilian population, however, the following minor content and format adjustments were made to the Brazilian Portuguese version:

- **Content adjustments:** (a) The term occupational was added to the title in the Brazilian version to emphasize that the instrument is focused on occupational roles, and (b) in the participant in organizations role, examples of organizations were changed to ones more familiar to Brazilians, such as Rotary Club, Lions Club, and Weight Watchers (“Rotary ou Lions Club, Vigilantes do Peso”).
- **Format adjustments:** The phrase “at least once a week” was written in bold and italic type to be congruent with the English version and to emphasize the role instead of an isolated performed activity.

Step II. The Brazilian Portuguese version was field-tested in a group of 10 clinically stable patient–volunteers with COPD from the Pulmonary Rehabilitation Program at the Federal University of São Paulo, Brazil, to obtain information on their comprehension of the instrument. Doubts and difficulties regarding the terms used in that version were discussed with the designer of the Role Checklist and with a panel of specialists in cultural questionnaire adaptation, focusing on keeping the original content and format of the English version. The panel of specialists was composed of two bilingual Brazilian occupational therapists (advisors on roles, activities, and translations) and two bilingual Brazilian respiratory medical professionals (with previous experience in cultural questionnaire adaptation for COPD) (Camelier et al., 2003, 2005; Sousa et al., 2000).

The discussion resulted in a second Brazilian Portuguese version in which two other content adjustments were made:

- The term caregiver was changed from *Acompanhante* to *Cuidador* to better clarify the role’s name and its definition.
- Additional examples of housekeeping tasks (such as cooking and laundry) were included in the definition of home maintainer role.

Step III. The second Brazilian Portuguese version was translated back into English by a Brazilian occupational therapist fluent in English and unfamiliar with the original Role Checklist. This back-translated version was submitted to the designer of the Role Checklist to ensure that the intent of the instrument had been preserved. Consensus was reached when the back-translated version evidenced the content of the original version considering the opinion of each member and the results of the field test. This second version was then approved for the reproducibility test.

Step IV. The Brazilian Portuguese version was administered twice (2 weeks apart) to 25 persons with COPD who were consecutively selected from the COPD outpatient clinic of the Pulmonary Rehabilitation Program. This step aimed to measure the agreement between the two administrations.

Participants

After approval was obtained from the University Research Ethics Committee, 26 Brazilian persons treated by the COPD Out-Patient Clinic at the Federal University of São Paulo Lar Escola São Francisco, Brazil, diagnosed under GOLD criteria (Fabbri et al., 2004), were selected to participate in this study. One individual was excluded during the study because of clinical instability, resulting in a convenience sample of 25 individuals. This sample size has 80% power, with an alpha error of 5% to detect a correlation coefficient equal or higher than 0.60 (Hulley et al., 2001). Because anxiety and depression may influence how persons view themselves and their relationships with others (Souza, Cendon, Cavalheiro, Jardim, & Bogossian, 2003), the first author administered the Brazilian validated versions of the Beck Depression Inventory (Gorestein & Andrade, 1996) and the State-Trait Anxiety Inventory (Biaggio & Natalício, 1979) to participants as they entered the study to rule out depression and anxiety as unduly influencing reproducibility.

Participants included 16 men and 9 women who ranged from 49 to 85 years of age, with a mean age of 65.7 years. Participants had a mean of 5.2 ± 4.1 years of formal education and a mean Mini-Mental State Examination (Bertolucci et al., 1994) score of 27.5 ± 1.96. The demographics and disease characteristics of the sample are presented in Table 2.
Participants were distributed according to COPD stages (Fabbri et al., 2004): 3 (12%) were mild, 8 (32%) were moderate, 11 (44%) were severe, and 3 (12%) were very severe. Depression scores ranged from normal to severe. Trait-anxiety and state-anxiety scores ranged from low-to-high with the majority falling into the medium range (Table 2).

Data Collection

After the procedure was explained to the participants, they signed an informed consent form that had been reviewed and approved by the Federal University of São Paulo Ethics Committee. The first author administered the Role Checklist to each participant following the instrument’s administration guidelines (Kielhofner, 2002).

Data Analysis

Kappa (Bartko & Carpenter, 1976; Landis & Koch, 1977) and percentage of agreement were used to measure reproducibility, for each of the 10 roles in Parts I and II. The Student t test (Morettin & Bussab, 2004) was used to check for possible statistically significant differences between mean of agreement in subgroups of variables: gender, occupation, marital status, level of education, disease stage, and level of depression. Pearson correlation coefficient (Morettin & Bussab, 2004) was used to compare agreement and state-trait anxiety level. Statistical significance was set at a p value less than 0.05.

Results

Table 3 presents estimates of kappa and percent agreement for Part I and Part II. Estimates of kappa for individual roles in each part ranged from slight to almost perfect agreement, with the majority showing either moderate or substantial agreement. In some cases, it was not possible to calculate kappa because all participants checked the same response during both administrations, thus reflecting low variability in responses (Feinstein & Cicchetti, 1990). All of these cases were associated with high percentage of agreement.

Percentage of agreement for Parts I and II ranged from 52% to 100%, with an average of 84% (Table 3). Part II had lower scores compared with Part I (Figure 1). Table 4 presents a comparison between the data on percentage of agreement and trait-anxiety level.
agreement in this study and in the original English version of the Role Checklist study (Oakley et al., 1986).

There was no statistically significant difference between agreement and the subgroups in variables of gender, occupation, marital status, level of education, disease stage, and depression level scores (Table 5). A weak negative correlation between scores of trait-anxiety \( (p = -0.143) \) and state-anxiety \( (p = -0.240) \) was found.

**Discussion**

The purpose of this study was to establish the validity and reliability of a Portuguese version of the Role Checklist for use with a Brazilian population with COPD. Our findings suggest that the Brazilian Portuguese version of the Role Checklist is valid and reliable and can be used with the same confidence as the English version. The translation and cultural adaptation phase of this study aimed to preserve the intent of the original checklist while capturing the linguistic nuances within a Brazilian population. We considered the content and format adjustments that we made to the Brazilian Portuguese version acceptable, because the percentage of agreement was satisfactorily high in overall roles when compared to the original English version reliability study (Table 4) and the Spanish version study (Colón & Haertlein, 2002). The latter obtained positive results for intralanguage correlation among bilingual college students (0.907 for Part I and 0.798 for Part II).

In Part I, the friend role presented the lowest scores in percent agreement. Although the first author was present to answer any questions when participants completed the checklist, one participant wondered whether this role meant actually doing something regularly with a friend, just being a friend of someone, or just having friends. Studies conducted by Chen (2003) and Karpinski (2004) showed that human interrelationships are influenced by a person’s own psychological state and how the person understands and conceptualizes other people and their circumstances.

![Figure 1. Percentage of Agreement of Part I (Past, Present, Future), Part II, and Overall Parts of the Brazilian Portuguese Version of the Role Checklist](https://example.com/image1.png)
This finding may explain the lowest scores on the friend role, considering the level of subjectivity involved in this specific role and susceptibility to the influence of a person's mental representation of others.

As Colón and Haertlein (2002) discussed, choices in Part I are consistent and straightforward: An individual can easily identify whether he or she has performed a role in the past, is performing it in the present, or intends to perform it in the future. Part II, however, presented less consistent agreement. In this case, individual opinion about valuing circumstances and activities may vary more frequently. The French version study also obtained less agreement in Part II (Hachey et al., 1995). Fernandez-Castro, Limonero, Rovira, and Albaina (2002) studied the perception of control over future events and related it with its emotional valence in the social relationship context. The results were not conclusive and depend on further data and theoretical development. Skelton and Croyle (1991), studying mental representation in health and illness processes, stressed the influence of the psychological, social, and cultural factors when explaining human health–related behaviors. These influences may explain the variation in responses for Part II.

The agreement of Part I and Part II after two administrations was not dependent on gender, occupation, marital status, level of education, disease stage, or depression level scores. Although 68% of the sample presented some level of depression, it did not influence the reproducibility results, because participants who presented with no depression or mild depression did not differ significantly from those who presented with moderate-to-severe depression. The weak negative correlation between reproducibility and scores of trait-anxiety and state-anxiety does not seem to be relevant, because 64% of the sample presented the same level of trait-anxiety and 80% presented the same level of state-anxiety (medium level) typical of the Brazilian population (Biaggio & Natalício, 1979).

In summary, the results from our study support that the Brazilian version of the Role Checklist is valuable and reliable for use with a COPD population. We have provided a suitable and valid instrument for those who wish to evaluate and treat COPD patients in Brazil to help them redesign their lifestyle.

Study Limitations

The statistical analysis is limited when the sample was broken into subgroups with different demographic features. The overall sample size, however, had enough power for the reproducibility test (Hulley et al., 2001). Thus, the main purpose of the study was achieved.

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References


