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

Júnia R. Cordeiro, Aquiles Camelier, Frances Oakley, José R. Jardim

KEY WORDS

- chronic obstructive pulmonary disease (COPD)
- culture
- role

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.

Cordeiro, J. R., Camelier, A., Oakley, F., & Jardim, J. R. (2007). Cross-cultural reproducibility of the Brazilian Portuguese Version of the Role Checklist for Persons With Chronic Obstructive Pulmonary Disease. *American Journal of Occupational Therapy, 61*, 33–40.

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 (Velloso, 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.

Júnia R. Cordeiro, MSc, is Occupational Therapist, Rehabilitation Pulmonary Center, Federal University of São Paulo (UNIFESP)—Brazil; and Coordinator, Occupational Therapy Section, Hospital Israelita Albert Einstein, São Paulo, Brazil; juniacordeiro@terra.com.br

Aquiles Camelier, MD, is Associate Professor of Respiratory Division, Federal University of Bahia, Brazil.

Frances Oakley, MS, OTR/L, BCG, FAOTA, is Occupational Therapist, Occupational Therapy Section, National Institutes of Health, Bethesda, MD.

José R. Jardim, MD, is Associate Professor, Respiratory Division; and Director, The Pulmonary Rehabilitation Center at UNIFESP—Lar Escola São Francisco, São Paulo, Brazil. Corresponding address: Brazil Respiratory Division (Pneumologia—UNIFESP), Rua Botucatu, 740—3o andar, 04023-062 São Paulo, SP, Brazil; joserjardim@yahoo.com.br

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 1. Previous Studies on the Role Checklist

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

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.

Table 2. Demographic Characteristics and Scores From Beck Depression Inventory and State-Trait Anxiety Inventory (N = 25)

Variable	Subgroup	n	(%)
Gender	Female	9	(36%)
	Male	16	(64%)
Age (in years)	40–49	2	(8%)
	50–59	2	(8%)
	60–69	12	(48%)
	70–79	8	(32%)
	80–89	1	(4%)
	Mean = 65.7 ± 9.3		
Marital status	Single	3	(12%)
	Married	16	(64%)
	Widowed	6	(24%)
Education (years of formal education)	0–3	8	(32%)
	4–8	11	(44%)
	8 or more	6	(24%)
Occupation	Nonretired	8	(32%)
	Retired	17	(68%)
Beck Inventory	Normal (Score 0–9)	8	(32%)
	Low (Score 10–15)	6	(24%)
	Low to moderate (Score 16–19)	6	(24%)
	Moderate to severe (Score 20–29)	2	(8%)
	Severe (Score 30–63)	3	(12%)
Trait-Anxiety	High (Score > 50)	6	(24%)
	Medium (30 < Score < 50)	16	(64%)
	Low (Score < 30)	3	(12%)
State-Anxiety	High (Score > 50)	2	(8%)
	Medium (30 < Score < 50)	20	(80%)
	Low (Score < 30)	3	(12%)

Note. Beck Depression Inventory (Gorestein & Andrade, 1996); State-Trait Anxiety Inventory (Biaggio & Natalicio, 1979).

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

Table 3. Kappa, Percentage of Agreement, and Confidence Interval of the Brazilian Portuguese Version of the Role Checklist, Parts I and II

	Part I												Part II			
	Past				Present				Future				Kappa	%	CI	(95%)
	Kappa*	%	CI	(95%)	Kappa	%	CI	(95%)	Kappa	%	CI	(95%)				
Student	0.648	96	88	100	—	100	—	—	0.648	96	88	100	—	84	70	98
Worker	—	100	—	—	1.000	100	—	—	0.561	84	70	98	—	92	81	100
Volunteer	0.172	80	64	96	—	96	88	100	0.257	76	59	93	—	72	54	90
Caregiver	1.000	100	—	—	0.449	80	64	96	0.449	80	64	96	0.107	76	59	93
Home maintainer	0.865	96	88	100	0.783	92	81	100	0.595	88	75	100	0.308	72	54	90
Friend	0.199	64	45	83	0.409	76	59	93	0.516	76	59	93	0.411	64	45	83
Family member	—	92	81	100	−0.056	88	75	100	−0.056	88	75	100	—	72	54	90
Religious participant	0.481	80	64	96	0.834	96	88	100	0.752	92	81	100	0.685	84	70	98
Hobbyist/amateur	0.336	88	75	100	0.675	84	70	98	0.409	76	59	93	0.651	80	64	96
Participant in organizations	0.254	84	70	98	—	100	—	—	−0.087	84	70	98	0.268	52	32	72

Note. *Guidelines for interpretation (Landis & Koch, 1977): < 0.00 = poor; 0.00–0.20 = slight; 0.21–0.40 = fair; 0.41–0.60 = moderate; 0.61–0.80 = substantial; 0.81–1.00 = almost perfect. CI = confidence interval. — = calculation not possible. Role Checklist (Oakley, Kielhofner, Barris, & Reichler, 1986).

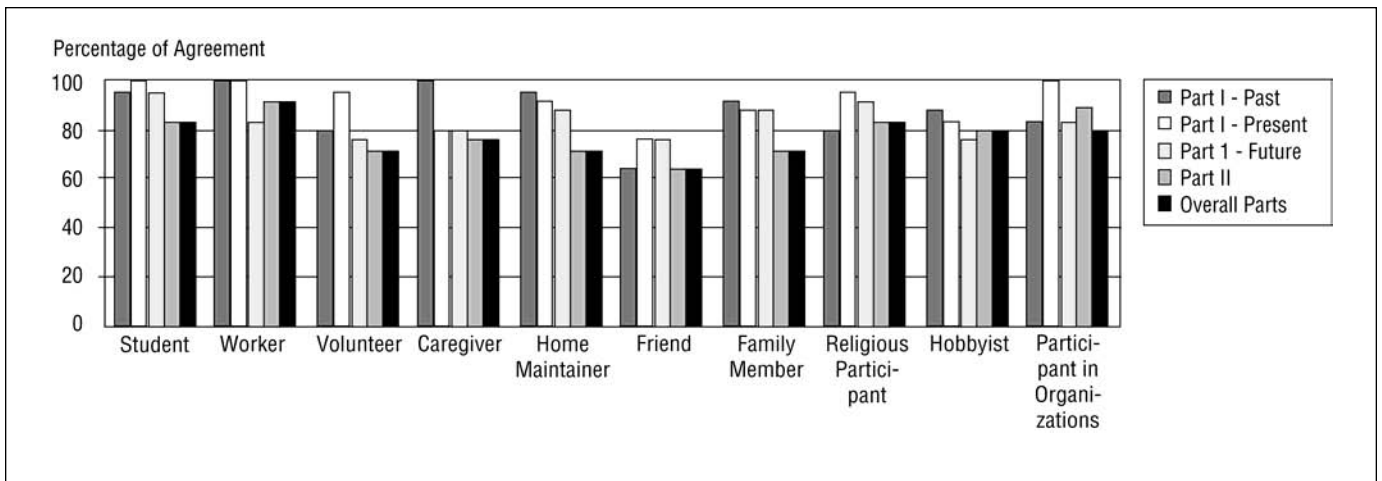


Figure 1. Percentage of Agreement of Part I (Past, Present, Future), Part II, and Overall Parts of the Brazilian Portuguese Version of the Role Checklist

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 linguis-

tic 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.

Table 4. Percentage of Agreement Comparing English and Brazilian Portuguese Versions of the Role Checklist

	Part I						Part II			
	Past		Present		Future		Overall Time Categories		English	Brazilian
	English	Brazilian	English	Brazilian	English	Brazilian	English	Brazilian		
Student	95	96	94	100	84	96	91	97	87	84
Worker	85	100	96	100	87	84	89	95	87	92
Volunteer	79	80	82	96	76	76	79	84	73	72
Caregiver	81	100	85	80	90	80	85	87	78	76
Home maintainer	91	96	97	92	90	88	93	92	76	72
Friend	90	64	90	76	89	76	90	72	86	64
Family member	94	92	91	88	92	88	92	89	88	72
Religious participant	89	80	89	96	89	92	89	89	79	84
Hobbyist/amateur	89	88	88	84	90	76	89	83	72	80
Participant in organizations	81	84	76	100	73	84	77	89	64	52
Mean	87	88	89	91	86	84	87	88	79	75

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

Table 5. Descriptive Statistics Comparing the Mean Agreement of the Sample Subgroups in the Brazilian Portuguese Version of the Role Checklist (N = 35)

Variable	Subgroup	n	Mean	SD	SE Mean	p*
Gender	Male	16	0.83	0.07	0.02	0.470
	Female	9	0.85	0.06	0.02	
Age (in years)	< 65	12	0.84	0.06	0.02	0.752
	≥ 65	13	0.83	0.08	0.02	
Occupation	Nonretired	8	0.84	0.07	0.03	0.943
	Retired	17	0.84	0.07	0.02	
Marital status	Married	16	0.83	0.07	0.02	0.567
	Single/Widowed	9	0.85	0.06	0.02	
Formal education	= 4 years	16	0.86	0.07	0.02	0.072
	= 5 years	9	0.81	0.07	0.02	
COPD stage ^a	1–2	16	0.86	0.07	0.02	0.659
	3–4	9	0.81	0.07	0.02	
Depression level score ^b	1–2	14	0.85	0.07	0.02	0.470
	3–5	11	0.83	0.07	0.02	

Note. COPD = chronic obstructive pulmonary disease, *SD* = standard deviation, *SE* = standard error. Role Checklist (Oakley, Kielhofner, Barris, & Reichler, 1986).

^aStage 1 = mild, stage 2 = moderate, stage 3 = severe, stage 4 = very severe; level of significance: $p < 0.05$.

^bLevel 1 = normal, level 2 = low, level 3 = low to moderate, level 4 = moderate to severe, level 5 = severe.

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. ▲

Acknowledgments

The authors acknowledge Maria Noêmia V. Pessoa, OT, for the back translation; Oliver do Nascimento, MD, Cristine M. S. S. Borges, MSc, PT, and Alessandra C. Davoli, OT, who participated in collecting data; and Oliver do Nascimento, MD, and Marcelo Ogava for the statistical analysis. They also thank the team and patients involved in the Pulmonary Rehabilitation Program at Federal University of São Paulo—Lar Escola São Francisco, Brazil.

References

- American Occupational Therapy Association. (2002). Occupational therapy practice framework: Domain and process. *American Journal of Occupational Therapy, 56*, 609–639.
- Baker, K., Curbow, B., & Wingard, J. R. (1991). Role retention and quality of life of bone marrow transplant survivors. *Social Science and Medicine, 32*, 697–704.
- Barris, R., Dickie, V., & Baron, K. B. (1988). A comparison of psychiatric patients and normal subjects based on the model of human occupation. *Occupational Therapy Journal of Research, 8*, 3–23.
- Barris, R., Kielhofner, G., Martin, R. M. B., Gelinas, I., Klement, M., & Schultz, B. (1986). Occupational function and dysfunction in three groups of adolescents. *Occupational Therapy Journal of Research, 6*, 301–317.
- Bartko, J. J., & Carpenter, W. T. (1976). On the methods and theory of reliability. *Journal of Nervous and Mental Disease, 163*, 307–317.
- Bavaro, S. M. (1991). Case Report—Occupational therapy and obsessive-compulsive disorder. *American Journal of Occupational Therapy, 45*, 456–458.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine, 25*, 3186–3191.
- Bertolucci, P. H. F., Mathias, S. C., Brucki, S. M. D., Carrilho, P. E. M., Okamoto, I. H., & Nitrini, R. (1994). Proposta de padronização do Mini-Exame do Estado Mental (MEM): estudo piloto comparativo (FMUSP/EPM). [Proposal for standardizing Mini-Mental State Examination (MMSE): A comparative pilot study (FMUSP/EPM)]. *Arquivos de Neuropsiquiatria, 52* (Suppl. 1).
- Biaggio, A. M. B., & Natalício, L. (1979). *Inventário de ansiedade traço-estado IDATE: Manual*. [State-trait anxiety inventory—STAI: Manual]. Rio de Janeiro: Centro Editor de Psicologia Aplicada.
- Branholm, I.-B., & Fugl-Meyer, A. R. (1994). On non-work activity preferences: Relationship with occupational roles. *Disability and Rehabilitation, 16*, 205–216.
- Camelier, A., Rosa, F., Jones, P., & Jardim, J. R. (2003). Validation of the Airways Questionnaire 20—AQ20 in patients with chronic obstructive disease (COPD) in Brazil. *Jornal de Pneumologia* [On-line serial], *29*, 28–35. Available at <http://www.jornaldepneumologia.com.br>
- Camelier, A., Rosa, F., Jones, P., & Jardim, J. R. (2005). Brazilian version of Airways Questionnaire 20: A reproducibility study and correlations in patients with chronic obstructive disease (COPD). *Respiratory Medicine, 99*, 602–608.
- Chen, S. (2003). Psychological-state theories about significant others: Implications for the content and structure of significant-other representations. *Personality Social Psychological Bulletin, 29*, 1285–1302.
- Colón, H., & Haertlein, C. (2002). Case Report—Spanish translation of the Role Checklist. *American Journal of Occupational Therapy, 56*, 586–589.
- Coppola, S., & Wood, W. (2000). Occupational therapy to promote function and health-related quality of life. In J. E. Hodgkin, B. R. Celli, & G. L. Connors (Eds.), *Pulmonary rehabilitation guidelines to success* (3rd ed., pp. 213–316). Philadelphia: Lippincott, Williams & Wilkins.
- Crowe, T. K., VanLeit, B., Berghmans, K. K., & Mann, P. (1997). Role perceptions of mothers with young children: The impact of a child's disability. *American Journal of Occupational Therapy, 51*, 651–661.
- Dickerson, A., & Oakley, F. (1995). Comparing the roles of community-living persons and patient populations. *American Journal of Occupational Therapy, 49*, 221–228.
- Duellman, M. K., Barris, R., & Kielhofner, G. (1986). Organized activity and the adaptive status of nursing home residents. *American Journal of Research, 40*, 618–622.
- Ebb, E. W., Coster, W., & Duncombe, L. (1989). Comparison of normal and psychosocially dysfunctional male adolescents. *Occupational Therapy in Mental Health, 9*, 53–57.
- Egan, M., Warren, S. A., Hessel, P. A., & Gilewich, G. (1992). Activities of daily living after hip fracture: Pre and post discharge. *Occupational Therapy Journal Research, 12*, 342–356.
- Elliot, M. S., & Barris, R. (1987). Occupational role performance and life satisfaction in elderly persons. *Occupational Therapy Journal of Research, 7*, 215–224.
- Fabbri, L., Pauwels, R. A., & Hurd, S. S. (Global Initiative for Chronic Obstructive Lung Disease Scientific Committee). (2004). Global strategy for the diagnosis, management and prevention of chronic obstructive pulmonary disease: GOLD Executive summary updated 2003. *Journal of Chronic Obstructive Pulmonary Disease, 1*, 105–141.
- Falcão, D. M., Ciconelli, R. M., & Ferraz, M. B. (2003). Translation and cultural adaptation of quality of life questionnaires: An evaluation of methodology. *Journal of Rheumatology, 30*, 379–385.
- Feinstein, A. R., & Cicchetti, D. V. (1990). High agreement but low kappa: I. The problems of two paradoxes. *Journal of Clinical Epidemiology, 43*, 543–549.
- Fernandez-Castro, J., Limonero, J. T., Rovira, T., & Albaina, S. (2002). Unrealistic optimism and perceived control: Role of personal competence. *Psychological Report, 91*, 431–435.
- Frosch, S., Gruber, A., Jones, C., Myers, S., Noel, E., Westerlund, A., et al. (1997). The long-term effects of traumatic brain injury on the roles of caregivers. *Brain Injury, 11*, 891–906.
- GOLD—Global Initiative for Chronic Obstructive Lung Disease. (2003). *Pocket guide for diagnosing, treating, and preventing COPD*. Retrieved October 11, 2003, from <http://www.goldcopd.com>
- Gorestein, C., & Andrade, L. (1996). Validation of a Portuguese version of the Beck Depression Inventory and the State-Trait Anxiety Inventory in Brazilian subjects. *Brazilian Journal of Medical and Biological Research, 29*, 453–457.
- Gusich, R. L. (1984). Occupational therapy for chronic pain: A clinical application of the model of human occupation. *Occupational Therapy in Mental Health, 4*, 59–73.
- Hachey, R., Boyer, G., & Mercier, C. (2001). Perceived and valued roles of adults with severe mental health problems. *Canadian Journal of Occupational Therapy, 68*, 112–120.
- Hachey, R., Jumoorty, J., & Mercier, C. (1995). Methodology for validating the translation of test measurements applied to occupational therapy. *Occupational Therapy International, 2*, 190–203.

- Hallet, J. D., Zasler, N. D., Maurer, P., & Cash, S. (1994). Role change after traumatic brain injury in adults. *American Journal of Occupational Therapy*, 48, 241–246.
- Hulley, S. B., Cummings, S. R., Browner, W. S., Grady, D., Hearst, N., & Newman, T. B. (2001). *Designing clinical research*. Philadelphia: Lippincott Williams & Wilkins.
- Jackoway, I. S., Rogers, J. C., & Snow, T. L. (1987). The Role Change Assessment: An interview tool for evaluating older adults. *Occupational Therapy in Mental Health*, 7, 17–37.
- Karpinski, A. (2004). Measuring self-esteem using the Implicit Association Test: The role of the other. *Personality Social Psychological Bulletin*, 30, 22–34.
- Kielhofner, G. (2002). *A model of human occupation: Theory and application* (3rd ed.). Baltimore: Williams & Wilkins.
- Kusznir, A., Scott, E., Cooke, R. G., & Young, L. T. (1996). Functional consequences of bipolar affective disorder: An occupational therapy perspective. *Canadian Journal of Occupational Therapy*, 63, 313–322.
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159–174.
- Lederer, J. M., Kielhofner, G., & Watts, J. H. (1985). Values, personal causation and skills of delinquents and nondelinquents. *Occupational Therapy in Mental Health*, 5, 59–77.
- Moretton, P. A., & Bussab, W. O. (2004). *Estatística básica* [Basic statistics]. São Paulo, Brazil: Saraiva.
- Oakley, F. (1987). Clinical application of the Model of Human Occupation in dementia of the Alzheimer's type. *Occupational Therapy in Mental Health*, 7, 215–224.
- Oakley, F., Kielhofner, G., & Barris, R. (1985). An occupational therapy approach to assessing psychiatric patients' adaptive functioning. *American Journal of Occupational Therapy*, 39, 147–154.
- Oakley, F., Kielhofner, G., Barris, R., & Reichler, R. K. (1986). The Role Checklist: Development and empirical assessment of reliability. *Occupational Therapy Journal of Research*, 6, 157–170.
- Ponsford, J., Olver, J., Nelms, R., Curran, C., & Ponsford, M. (1999). Outcome measurement in an inpatient and outpatient traumatic brain injury rehabilitation programme. *Neuropsychological Rehabilitation*, 9, 517–534.
- Rust, K. M., Barris, R., & Hooper, F. H. (1987). Use the Model of Human Occupation to predict women's exercise behavior. *Occupational Therapy in Mental Health*, 7, 17–37.
- Sepiol, J. M., & Froelich, J. (1990). Use of the Role Checklist with the patient with multiple personality disorder. *American Journal of Occupational Therapy*, 44, 1008–1012.
- Skelton, J. A., & Croyle, R. T. (1991). *Mental representation in health and illness*. New York: Springer-Verlag.
- Smyntek, L., Barris, R., & Kielhofner, G. (1985). The model of human occupation applied to psychosocially dysfunctional adolescents. *Occupational Therapy in Mental Health*, 5, 21–40.
- Sousa, T. C., Jardim, J. R. B., & Jones, P. (2000). Validação do Questionário do Hospital Saint George na Doença Respiratória (SGRQ) em pacientes portadores de doença pulmonar obstrutiva crônica no Brasil [Validation of Saint George Respiratory Questionnaire, SGRQ, in patients with chronic obstructive pulmonary disease in Brazil]. *Jornal de Pneumologia*, 16, 119–128. Available at <http://www.jornaldepneumologia.com.br>.
- Souza, C. B., Cendon, S., Cavalheiro, L., Jardim, J. R. B., & Bogossian, M. (2003). Anxiety, depression and traits of personality in COPD patients. *Psicologia, Saúde, and Doenças*, 4, 149–162.
- Velloso, M., Stella, S. G., Cendon, S., Silva, A. C., & Jardim, J. R. (2003). Metabolic and ventilatory parameters of four activities of daily living accomplished with arms in COPD patients. *Chest*, 123, 1047–1053.
- Watson, M. A., & Ager, C. L. (1991). The impact of role valuation and performance on life satisfaction in old age. *Physical and Occupational Therapy in Geriatrics*, 10, 27–62.
- World Health Organization. (2004). *Chronic obstructive pulmonary diseases*. Retrieved September 12, 2006, from <http://www.who.int/respiratory/copd/en/>