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RESEARCH ON TRANSLATIONS OF TESTS

Recovery Assessment Scale: Testing Validity With Portuguese Community-Based Mental Health Organization Users

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The aim of the present study was to develop the Portuguese version of the Recovery Assessment Scale (RAS-P), and to assess the validity of the findings using the revised test, with 213 users from 5 nonprofit community-based mental health organizations. Participants in the assessment completed a self-reported survey investigating their sense of personal recovery, personal empowerment, capabilities achievement, psychiatric symptoms' frequency, and demographic data. Evidence from exploratory and confirmatory factor analyses using the 24-item version of the test, validated a 4-factor structure for the RAS-P model based on the dimensions of Personal Goals and Hope, Managing Help Needs, Supportive Interpersonal Relationships, and Life Beyond Symptoms, consistent with components of the recovery process. Convergent and discriminant validity was also achieved using bivariate correlation coefficients among the 4 subscales' scores, between the overall scale and the subscales, and in relation to external variables. Findings allowed for the interpretation that the RAS-P is measuring a particular psychological construct, which is different from symptoms of the mental illness. A hypothesized significant association with personal empowerment and with capabilities achievement was demonstrated. Positive association was also found between participants' use of recovery-oriented services such as independent housing or supported employment programs. The RAS-P scores also revealed excellent internal consistency for the overall scale ($\alpha = .90$), and good consistency for the subscales ($>.75$), which attest to its precision in measurement. In conclusion, the study proved the RAS-P a reliable and useful tool in the context of the community mental health practice.

Keywords: recovery, scale, reliability, validity, Portuguese

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The vision of *recovery* was initially developed through the narratives of people who have experienced mental illness, introducing new perspectives on the possibilities of growth and life achievement of people diagnosed with a mental condition (Ahern & Fisher, 1999; Chamberlin, 1984; Deegan, 1988, 2005; Leete, 1989; Lovejoy, 1982). Since then, an increasing number of studies have described the recovery concept as being a multidimensional construct and evolutionary process, incorporating spheres that go beyond the hardships of experiencing a mental illness. Mental illness recovery is now understood to involve hope for the future, to reveal a positive identity development, the establishment of personal meaningful goals and accountability, feeling included and connected with others, and contributing to community life, (Andresen, Oades, & Caputi, 2003; Jacobson & Greenley, 2001; Lloyd, Waghorn, & Williams, 2008; Onken, Craig, Ridgway, Ralph, & Cook, 2007; Ralph, 2000; Sells et al., 2006; Slade et al., 2012; Young & Ensing, 1999).

The traditional perspectives in mental health that assigned a path of poor social functioning for every person with a diagnosis of mental illness were challenged by longitudinal and qualitative research evidence regarding personal recovery in mental illness (Davidson, Harding, & Spaniol, 2005; Davidson, Sells, Songster, & O'Connell, 2005; Hancock, Bundy, Honey, Helich, & Tamsett, 2013; Harding, Brooks, Ashikaga, Strauss, & Breier, 2005; Ridgway, 2001).

Published accounts also highlighted the association between the recovery process and the participation in empowering settings (Brown, 2009; Corrigan, 2006; Randall & Salem, 2005). An individual's empowerment is indeed considered a component or a moderator of the personal recovery process (Brown, 2012; Fisher, 1994; Ralph, 2000; Rappaport, 1993).

Several authors proposed the introduction of Nussbaum's (2000) capabilities framework in the mental health service system,

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to ensure the recovery orientation is put into practice (Davidson, Ridgway, Wieland, & O'Connell, 2009; Hopper, 2007; Ware, Hopper, Tugenberg, Dickey, & Fisher, 2008). The capabilities framework drew attention to people's agency, opportunities, and contexts—in other words, the options available in society to people in order to exert their own citizenship (Nussbaum, 2000). It is considered a more appropriate framework to rather compare to what extent settings promote people's community integration and recovery as opposed to their isolation in the mental health service system (Davidson et al., 2009; Ware, Hopper, Tugenberg, Dickey, & Fisher, 2007).

In many countries, empowerment and capabilities perspectives have challenged existing mental health programs, shifting them toward recovery-based procedures (Chamberlin & Rogers, 1990; Corrigan, 2006; Davidson et al., 2009; Farkas, Gagne, Anthony, & Chamberlin, 2005; Fisher & Spiro, 2010; Mueser, 2012; Ornelas, Duarte, & Jorge-Monteiro, 2014). The evaluation of effective mental health transformative interventions requires the use of adequate assessment instruments, and a shift from clinical- and illness-focused measures toward recovery and empowerment-oriented psychological assessments (Davidson et al., 2009; Nelson, Kloos, & Ornelas, 2014; O'Connell, Tondora, Croog, Evans, & Davidson, 2005). Several recovery-focused outcome measures have been developed and their psychometric properties analyzed through scholarly publication (Andresen, Oades, & Caputi, 2011; Cavelti, Kvrgic, Beck, Kossowsky, & Vauth, 2012; Hancock et al., 2013; Shanks et al., 2013; Weeks, Slade, & Hayward, 2011; Wilrycx, Croon, van den Broek, & van Nieuwenhuizen, 2012).

The Recovery Assessment Scale (RAS), which was developed by Corrigan, Giffort, Rashid, Leary, and Okeke (1999), is considered a useful measure to assess personal recovery with people who have experienced a mental illness (Corrigan, Salzer, Ralph, Sangster, & Keck, 2004). The RAS was implemented across a number of countries, therefore accomplishing a sound empirical evidence base (Cavelti et al., 2012; Salzer & Brusilovskiy, 2014; Shanks et al., 2013).

Development and Cross-Cultural Adaptation of the RAS

The RAS is a 41-item scale developed through a qualitative study involving people who have had mental illness experiences (Corrigan et al., 1999). Most of the items were generated through content analysis of four separate recovery stories, and only two additional items were generated after a debriefing process with an independent group of participants. The items demonstrated the participants' sense of recovery, which encompass domains such as personal confidence, optimism in the future, and the attainment of personal objectives, managing strategies for personal well-being and not feeling dominated by the illness or its symptoms. Corrigan et al. (1999), in a study with 35 participants, reported adequate test–retest reliability ($r = .88$) and excellent internal reliability for the RAS total score, and positively associated it with empowerment and quality of life, and inversely with symptoms.

The 24-item RAS five-factor model determined by Corrigan et al. (2004), with a large sample of 1,824 participants was generated using an exploratory factor analysis of a random half of the sample and cross-validated with a confirmatory analysis of the remaining half of the sample. Factors were named by the authors as Personal Confidence and Hope (nine items); Willingness to Ask for Help (three items); Goal and Success Orientation (five items); Reliance on Others (four items); and No Domination by Symptoms (three items). The internal consistency for the factors ranged from $\alpha = .74$ to .87. Their study proved the RAS useful for mental health services as a psychological outcome measure.

The RAS was subject to psychometric analyses to be implemented cross-culturally in Australia, Japan, and Israel (Chiba, Miyamoto, & Kawakami, 2010; Fukui, Shimizu, & Rapp, 2012; McNaught, Caputi, Oades, & Deane, 2007; Roe, Mashiach-Eizenberg, & Corrigan, 2012). McNaught et al. (2007) tested the RAS validity with 168 Australian individuals (98 men and 58 women). They reported good internal consistency for each of the five subscales ($\alpha = >.70$), which showed significant and positive association with recovery-related measures, and nonsignificant correlations with symptoms and psychiatric functioning measures.

In Japan, Chiba et al. (2010) translated the RAS used in a study with 209 participants living in the community ($n = 94$) and in inpatient ward contexts ($n = 115$). The authors developed the Japanese version with focus-group interviews, back-translation procedures, and using exploratory and confirmatory factor analyses. Their study supported the configuration of five factors proposed by Corrigan et al. (2004); but in the Japanese assessment, Factor 1 was made up of items originally from the Goals and Success category and the Personal Confidence and Hope subscale, possibly perceived as similar manifestations of the construct. High internal consistency was observed for the overall sample ($\alpha = .89$), a reliability level of .90 for the community sample, and of .87 for the inpatient sample. Validity of the Japanese RAS was also demonstrated by significant positive correlation with other recovery-focused measures, and inverse association with symptom measurement, in terms of discriminant validity.

A cross-cultural study between the United States and Japan was carried out by Fukui et al. (2012) using a multiple-group confirmatory factor analysis. They identified identical subscale domains, which revealed a parity of meaning for the study participants across both countries. Means were found to be lower in the Japanese sample, although the authors reported that the group means were indeed comparable, with the exception of seven items associated with the Personal Confidence and Hope and Reliance on Others domains. Besides the differences in the two samples in terms of diagnosis, exposure to the recovery vision and the type of recruitment site (consumer-run organizations vs. primary care services), Fukui et al. also took into consideration the effect of cultural aspects on these particular results.

In Israel, Roe et al. (2012) translated to Hebrew and used a 20-item version of the RAS (the four items with smaller weight in Factor 1 from the Corrigan et al., 2004, analysis were left out), with a convenience sample of 158 participants living in the community and receiving rehabilitation services. However, acceptable standards of fit were not found after confirmatory factor analysis to test the five-dimensional model. The authors then validated a briefer (12-item) version of the RAS (excluding three problematic items, the Goal and Success factor, and having three errors correlated). Roe et al. theorized that the Goal and Success factor was an independent or a prior condition that boosts the recovery processes, and thus considered the achieved four domains as the recovery core elements. The study did not find any association between the recovery factors and symptoms or functioning mea-

surements. Factors scores revealed satisfactory internal consistency: Personal Confidence and Hope ($\alpha = .72$), Willingness to Ask for Help ($\alpha = .91$), Reliance on Others ($\alpha = .66$), and No Domination by Symptoms ($\alpha = .71$). In light of those findings, Roe et al. suggested further research focusing on the sequential interrelation of the recovery process and the evaluation of the stability of the proposed model.

The translation and validation of personal recovery measurements have enhanced the capacity for their cross-cultural use or for the comparative evaluation of innovative mental health practices internationally. Therefore, the availability of a Portuguese version of the RAS is considered a valuable resource for mental health practitioners and researchers based in Portuguese-speaking countries such as Portugal, Brazil, Angola, and Mozambique, among others, with a combined population of 250 million across the world[1], and of relevance to the context of mental health system reform and policy change in those countries. Furthermore, although strengths-based approaches are evolving in mental health practice and policies, parallel development of sound and recovery-focused measurements is a challenging continuing endeavor (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014; Eignor, 2013; Maltzman, 2013).

Aim of the Study

The current study aimed to develop an equivalent Portuguese version of the 24-item RAS through participatory translation, and to assess validity of findings for its use in community-based mental health practice.

Method

Procedures and Participants

Data for this study came from 213 users who had experienced mental illness, 143 men (67.1%) and 70 women (32.9%), selected from five similar nonprofit community-based mental health organizations (CBMHOs), after being invited by written solicitations sent to each organization. The collection of data took place during 2012. The survey was previously subject to approval by CBMHO administrative bodies that granted their permission for data collection. A convenience sample procedure was deemed adequate to the research settings, and participants were assigned to the study according to the criteria of age (≥18 years), psychiatric diagnosis, participation in the program (≥3 months), and their willingness to participate in the study. They provided written informed consent, demographic information, and completed the standardized measures on recovery in mental health, personal empowerment, capability achievement, and psychiatric symptom distress. Respondents received a €6 ($6.60) incentive for participation in the larger cross-sectional study.

The current study created a participatory process of adaptation of the 24-item RAS (Corrigan et al., 2004), as is described briefly here. It is to be taken into account that translation to a different language may compromise the construct intended for measurement purposes because of grammatical differences and accidental changes in the meanings of item statements (Willis, DeMaio, & Harris-Kojetin, 1999). Published accounts highlighted the value of participatory action research and involvement of service users as partners in the research process (Hancock, Bundy, Tamsett, & McMahon, 2012; Hutchinson & Lovell, 2013; Ochocka, Janzen, & Nelson, 2002), and by doing so, also ascertaining the meaning of words and phrases in a given context for those that are responding to a research study(Wombacher, Tagg, Bürgi, & MacBryde, 2010). The current study used the participatory translation as a methodological step intended to prevent issues of error of measurement by increasing the content fit to context when adapting the test to a different culture or environment.

Taking these methodological concerns into consideration, a four-step participatory process was implemented in the validity analysis of the Portuguese version of RAS for the community mental health context. First, a translation committee was set up, composed of eight members: four individuals with a history of mental illness and one staff member, all of them with excellent knowledge of the English language, and three researchers with knowledge of the concept to provide independent translations. Second, in the course of two group reconciliation meetings, an interim translated version was completed. The interim version was then submitted to be substantiated by 27 program users who analyzed whether items were being read naturally and were clearly understood, and indicated whether the manifest content was adequate in terms of construct meaning and context use (McDowell, 2006; Willis et al., 1999). Finally, the data gathered were analyzed by the translation committee that confirmed the appropriate understanding of the items by participants so that the measure would be adequate for that context use.

At the end of this participatory process, the translation committee provided a preliminary Portuguese version to be subjected to the usual back-translation procedure, in order to identify unwanted semantic changes resulting from cultural differences and grammatical specificities. The original English version and the reversed document into English overlapped substantially and with only a few lexical and grammatical discrepancies in four items. The team of researchers reviewed the adjustment between the two documents, and only one of the items in the Personal Goals and Hope domain (PGH11-P in the Appendix) required major discussion about its intended meaning, as in the interim version, the research committee initially preferred the word *objectivo* (goal) instead of *propósito* (purpose), considering it a more commonly used term in day-to-day language:

PGH11-E: "I have a purpose in life"

PGH11- P: "*Tenho um Objectivo na vida*" (interim)

Considering the possible outcomes of the translation process, the research committee also concluded that the interim translation of the item reduced its comprehensibility. This item refers to the recovery process of regaining a new meaning and a new purpose in one's life, as referred to in literature (Deegan, 1988; Leete, 1989; Lovejoy, 1982). The wording of the item was then modified to "*A minhavida tem um propósito*" (Portuguese for "my life has a purpose" or "a meaning"). Finally, all items were listed in a questionnaire for data collection purposes. The translated items

[1] Available at http://www.observalinguaportuguesa.org/pt/dados-estatisticos/falantes-de-portugues-literacia.

were presented in the Appendix in accordance with the factorial structure observed in the current study.

Measures

This study used the 24-item Portuguese version of the RAS (Corrigan et al., 2004), referred to here as the "Portuguese version of the RAS" (RAS-P), which is composed of statements such as "I believe I can meet my current personal goals," "I have people I can count on," "My symptoms interfere less and less with my life," and "I ask for help when I need it," rated according to a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*).

Personal empowerment was measured using the Portuguese version of the Empowerment Scale (ES; Jorge-Monteiro & Ornelas, 2014), which is a consumer-constructed scale originally developed by Rogers, Chamberlin, Ellison, and Crean (1997). The ES is intended to measure subjective accounts of personal empowerment among users of mental health services according to a 4-point Likert scale ranging from *strongly agree* to *strongly disagree*. The validation study used the 25-item short version from Rogers, Ralph, and Salzer (2010), which reported good internal consistency ($\alpha = .82$) and is composed of items such as "I am usually confident about decisions I make," "Working with others in my community can help to change things for the better," and "I can pretty much determine what will happen in my life." The subscales tap into domains of Esteem and Efficacy, Power and Control, Optimism About the Future, and Community Activism. A 20-item model proved valid also presenting an overall satisfactory internal consistency ($\alpha = .79$) for the Portuguese version of the ES.

The Capabilities Questionnaire (CQ) developed for the community mental health field, resulting from a project titled "Fostering Capabilities and Integration of People with Mental Illness," funded by the Fundação para a Ciência e Tecnologia, was also included.[2] This instrument is also a collaboratively constructed measure developed to observe individuals' life capability achievements among participants in community mental health programs. The CQ is a self-rated measure with a 5-point Likert scale. It is composed of 104 items generated from a qualitative analysis of data from focus-group sessions. The research project adapted the capabilities framework for community mental health use, and analyzed the items following the Nussbaum list, which tap into 10 life dimensions: Health; Bodily Health; Bodily Integrity; Senses, Imagination and Thought; Emotions; Practical Reason; Affiliation; Other Species; Play; and Control Over One's Environment (Nussbaum, 2000). Regardless of the future refinement of the measurement, the constructed CQ presented an excellent preliminary reliability level ($\alpha = .98$) in terms of overall internal consistency.

For the purposes of discriminant validity analysis, the Colorado Symptom Index (CSI) was used, which is also a self-reported measure of psychiatric symptoms frequency within a temporal frame (Shern et al., 1994). We used the briefer 14-item version, in which participants rate the frequency of symptoms experienced in the past month according to a 5-point Likert scale (1 = *not at all*, 5 = *at least every day*). Conrad et al. (2001) found excellent internal consistency ($\alpha = .90$) and test–retest reliability ($r = .79$), and the measure includes statements such as "In the past month, how often have you felt nervous, tense, worried, frustrated or afraid?"; "In the past month, how often did you have problems thinking too fast (thoughts racing)?"; and "In the past month, how often have you felt like hurting or killing yourself?" The scale scores range from 14 to 70 and the higher ones indicate reports of more frequent psychiatric symptoms.

Data Analysis

Psychometric assessment of the RAS-P was first tested using confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). The CFA was performed using a maximum likelihood estimation method to find the best model fit for the measure (Arbuckle, 2003; Maroco, 2010). The model adequacy was analyzed by the comparative fit index (CFI; $>.90$), the Tucker-Lewis coefficient (TLI; $>.90$), the goodness-of-fit index (GFI; $>.90$), the root mean square error of approximation (RMSEA; $<.05$ with 90% confidence interval [CI] $<.10$), fit indices, and the chi-square statistic ($\chi^2/df < 5$), which are acceptable indices of fit and were used to determine the adequacy of the model of measure (Hu & Bentler, 1995; Maroco, 2010). A multivariate kurtosis coefficient was considered to observe the distribution properties. EFA was performed using multiple extraction methods (principal components, principal axis factoring, and maximum likelihood, with varimax or oblimin rotation) and observed the Kaiser-Mayer-Olkin (KMO) indicator ($>.80$) for the quality of the sampling and the eigenvalue (>1.0) and Scree plot procedures for decision on factor-component retention (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Second, convergent and discriminant validity were assessed with the Pearson correlation coefficients across subscales and with external variables. Scale and subscale internal consistencies were also assessed using Cronbach's alpha reliability coefficients. The missing data ($<5\%$) were substituted by the respective mean scores in the cases of less than three missing values per participant. All analyses were performed using the AMOS v.20 and SPSS v.19 statistical packages.

Results

Participants were between 19 and 74 years of age ($M = 41.57$, $SD = 10.35$), and the self-reported psychiatric diagnoses were schizophrenia (58.7%), bipolar disorder (15.5%), and major depressive disorder (10.8%). The psychiatric hospitalization experience varied considerably from no hospitalization at all to as much as 30 times ($M = 2.29$, $SD = 3.99$), with 162 (76.1%) of respondents having a history of hospitalization due to psychiatric reasons. Of the total, 85.5% of participants reported they were unemployed, retired, or receiving a social pension, and only 29 of them (13.6%) were using supported employment services. Most of the participants were single ($n = 176$; 87.6%). The vast majority were living with family members ($n = 112$; 52.6%) or in group homes ($n = 54$; 25.4%); only 40 (18.8%) were living independently or with a spouse; and just 17 (8%) reported making use of independent living services.

Validity and utility of the RAS-P findings were examined with factorial, convergent, and discriminant analyses. The RAS-P construct-related validity was first assessed with factor analyses intended to obtain solid evidence on the internal structure of the

[2] The project details are available at http://www.fct.pt/apoios/projectos/consulta/vglobal_projecto.phtml.pt?idProjecto=113301&idElemConcurso=3645.

construct measurement. The proposed five-factor model as found in the literature (Corrigan et al., 2004), identified as Model 1, was tested with CFA, but failed to reach the recommended standards for model fit (Hoyle, 1995; Hu & Bentler, 1995). Standardized estimates from the analysis are presented in Table 1.

In light of these results, the authors conducted a sequential process of factorial analyses (exploratory and confirmatory) to determine an adequate structure and model fit with this sample of community mental health service users. EFA was tested through multiple extraction methods (principal components, principal axis factoring, and maximum likelihood with varimax or oblimin rotations) that yielded identical structure solutions supporting a stable four-factor structure (Model 2) for the adapted measure, with a meritorious sampling adequacy (KMO = .89). Factors with an eigenvalue higher than 1.0 were retained. The scree plot analysis also favored the four-factor solution. Factor loadings from the principal components extraction, with the varimax rotation explaining 55.1% of the variance, are presented in the Appendix.

Most of the items retained in Factor 1s (Confidence and Hope) and 3 (Goal and Success) from the original factorial study (Corrigan et al., 2004) loaded onto one single latent factor in the current analysis. In addition, three items with the lowest weight ("Fear doesn't stop me from living the way I want to"; "I can handle what happens in my life"; "I can handle stress") from Confidence and Hope in the Corrigan et al. (2004) study loaded onto Factor 4 in the current assessment, whereas original Factors 2 and 3 remained stable.

The goodness of fit of Model 2 was then evaluated with a new CFA. Preliminary estimates still revealed a reasonable adjustment of data, as the majority of comparative fit indexes failed to reach the recommended standards found in the empirical literature. Standardized estimates for the RAS-P model with four factors showed a CFI of .881, a TLI of .865, a GFI of .849, and a RMSEA estimate of .068, 90% CI [.06, .08]. The χ^2/df for the adequacy of the model presented a value of 1,974. After concluding that the results were not so poor as to dismiss the model, subsequent analysis was conducted in order to improve the model's fit according to the item factor loadings (<.50) and modification indices greater than 11, with $p < .001$ (Hoyle, 1995; Maroco, 2010). Despite a load greater than .30 for three different factors (Factors 1, 2, and 3), the item "I have a desire to succeed" (PGH07) was maintained in Model 2, as it was high enough in the Personal Goals and Hope factor from the EFA, as noted in the Appendix. As a result, Item PGH07 was then excluded from subsequent analysis. The item "If people really knew me, they would like me" (PGH02) was also excluded from Model 2 because it presented a low factor weight in the same latent factor.

Table 1
Model Fit Statistics From CFA for the RAS-P

Fit indices	Model 1	Model 2[a]
χ^2/df	2.127	1.759
CFI	.864	.913
TLI	.844	.900
GFI	.835	.874
RMSEA	.073	.060

Note. CFA = confirmatory factor analysis; RAS-P = Portuguese version of the Recovery Assessment Scale; *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation.
[a] Adjusted model with 22 items.

The adjusted model of the RAS-P exhibited correlated errors between Item PGH09 ("I have goals in life that I want to reach") and Item PGH10 ("I believe I can meet my current personal goals") from Factor 1, and between Item BS05 ("My symptoms interfere less and less with my life") and Item BS06 ("My symptoms seem to be a problem for shorter periods of time each time they occur") from Factor 4. Multivariate kurtosis was observed with the Mardia's coefficient (kurtosis = 4,453). The estimates for the models are presented and compared in Table 1. The four-factor model with 22 items attained the recommended quality standards and was retained, as it confirmed a better goodness of fit with data (Maroco, 2010).

The RAS-P standardized scores are described in Table 2, which shows that all individual items loaded sufficiently onto the respective first-order factor, with observed weights from .51 to .87. Corrected item-total correlations indicated that all items are consistently associated with the total measure. Table 2 also presents the overall RAS-P mean score ($M = 3.89$, SD .54) for the total sample, obtained by summing the scores of individual items and dividing by the total number of items. The 22-item model revealed excellent internal consistency ($\alpha = .90$) in terms of the reliability indices. Reliability coefficients were also calculated separately for the four RAS-P subsets of items. All generated coefficient scores were above $\alpha = .75$, which suggested a high level of internal consistency between the items and the respective latent factor.

Convergent and discriminant validity was tested in order to add further evidence to the RAS-P construct-related validity. Estimated bivariate correlations ($p < .01$) among the subscales are summarized in Table 3. The correlations between the RAS-P total score and the subscale scores also presented strong positive associations (Goals and Hope, $r = .89$; Manage Needs, $r = .61$; Supportive Relationships, $r = .68$; Beyond Symptoms, $r = .82$).

The Pearson's correlation coefficients between RAS-P scores and external variables are also shown in Table 3. As expected, estimates showed that the RAS-P positively associated with personal empowerment ($r = .71$, $p < .01$) and with capabilities achievement ($r = .60$, $p < .01$). The analysis also found an inverse association of the psychiatric symptom index with the overall scores of the RAS-P ($r = -.22$, $p < .01$), and either with ES ($r = -.22$) or the CQ ($r = -.50$), $p > .05$. A similar analysis was conducted between the RAS-P subscales and the external outcome measures in this assessment procedure. All four subscales scores appeared positively associated ($p < .01$) with the ES (between $r = .40$ and $r = .63$), or with the CQ scores (between $r = 0.39$ and $r = 0.56$), and inversely with the symptom measurement scores. Results also revealed positive association ($p < .05$) of RAS-P scores with self-reported background variables, Independent Housing ($r = .15$) and Supported Employment ($r = .17$).

Discussion

With the purpose of obtaining an equivalent Portuguese version of the RAS, a participatory and comprehensive method of translation was implemented. The authors assumed that the participatory methodology ensured, to a significant extent, that the test attained adequate meaning of original items, wording, and lan-

Table 2
Descriptives, Reliability, Item Total, and CFA Loadings Scores for the RAS-P

Item/Scale	Min–Max	Mean	*SD*	Item-total correlation	α	CFA[a]
Personal Goals and Hope (PGH)					.88	
PGH01	1–5	4.01	.95	.55		.59
PGH03	1–5	3.87	.96	.53		.69
PGH04	1–5	4.11	.74	.52		.58
PGH05	1–5	3.97	.90	.64		.75
PGH06	1–5	3.95	.90	.53		.66
PGH08	1–5	3.77	1.05	.60		.64
PGH09	1–5	4.11	.79	.60		.68
PGH10	1–5	3.94	.83	.66		.74
PGH11	1–5	4.03	.75	.65		.70
Managing the Help Needs (MHN)					.77	
MHN01	2–5	4.05	.83	.49		.87
MHN02	1–5	4.07	.81	.44		.73
MHN03	2–5	4.04	.84	.41		.65
Supportive Interpersonal Relationships (SIR)					.75	
SIR01	1–5	3.87	.94	.41		.63
SIR02	1–5	4.10	.90	.51		.67
SIR03	1–5	3.93	.93	.46		.66
SIR04	1–5	4.34	.75	.46		.65
Beyond Symptoms (BS)					.78	
BS01	1–5	3.40	1.23	.52		.61
BS02	1–5	3.48	1.08	.57		.66
BS03	1–5	3.49	1.14	.44		.55
BS04	1–5	3.52	1.14	.48		.59
BS05	1–5	3.66	1.09	.55		.67
BS06	1–5	3.76	.94	.42		.51
RAS-P		**3.89**	**.54**		.90	

Note. CFA = confirmatory factor analysis; RAS-P = Portuguese version of the Recovery Assessment Scale.
[a] CFA values obtained with the 22-item adjusted model (Model 2).

guage level of the adapted measurement, and therefore addressed acceptability and adequacy of RAS-P content to the context of the study (McDowell, 2006; Urbina, 2014).

The validity of RAS-P use with CBMHO participants was initially tested through conducting sequential factor analyses. Results provided sound evidence of the adequacy of the four-factor model to be used among CBMHOs. Roe et al. (2012) also proposed a structure of four factors for the multidimensional recovery measurement, although concurrent studies across countries considered a five-factor configuration to be valid (Chiba et al., 2010; Fukui et al., 2012; McNaught et al., 2007).

The item arrangements generated by this study proved stable and were considered conceptually adequate for this cross-section of CBMHO users, while retaining the elements of representativeness present in recovery-related literature (Davidson, Sells, et al., 2005; Ralph, 2000; Ridgway, 2001; Young & Ensing, 1999).

The reviewed literature on cross-cultural validity of the recovery measurement highlighted the substantial overlap between the items that originally made up the Confidence and Hope and Goal and Success first-order factors (Chiba et al., 2010; McNaught et al., 2007; Roe et al., 2012). The three items with lower scores ("Fear doesn't stop me from living the way I want to"; "I can handle what

Table 3
Pearson Correlations Among the RAS-P First-Order Latent Factors, With the Total Scores and the External Variables

Scale	F1	F2	F3	F4	ES	CSI	CQ	Independent housing	Supported employment
F1. Personal Goals and Hope								.15[a]	.18
F2. Managing the Help Needs	.46							.19	.08[b]
F3. Supportive Interpersonal Relationships	.52	.30						−.04[b]	.10[b]
F4. Beyond Symptoms	.57	.39	.41					.15[a]	.12[b]
ES	.63	.42	.40	.61					
CSI	−.17[a]	−.12[b]	−.03[b]	−.28	−.22				
CQ	.56	.39	.43	.46	.44	−.50[b]			
RAS-P	.89	.61	.68	.82	.71	−.22	.60	.15[a]	.17[a]

Note. RAS-P = Portuguese version of the Recovery Assessment Scale; ES = Empowerment Scale; CSI = Colorado Symptom Index; CQ = Capabilities Questionnaire. Correlations are significant at the $p < .01$ level, with the exceptions given in the footnotes.
[a] Significant at $p < .05$ level. [b] Not significant, $p > .05$.

happens in my life"; "I can handle stress") from the Confidence and Hope factor in the Corrigan et al. (2004) study, loaded onto Factor 4 in the RAS-P assessment. This can then, theoretically, be associated with one's personal control over stress and fear, which is a consistent construct proposition of a life beyond psychiatric symptoms.

The adjustment of the RAS-P model was evaluated with a second confirmatory factor analysis that left out two items ("I have a desire to succeed" and "If people really knew me, they would like me"). Also observed qualitatively, those items may have been perceived as prior or general aspects of the recovery construct, instead of a specific manifestation of the respective latent factor. The elimination of items is not considered sufficient to improve the construct measurement (Maroco, 2010), but rather is for the purpose of achieving a better adjustment to the data. An alternate translation into Portuguese for Item PGH07 ("I have a desire to succeed)") can also be adequate, as follows:

PGH07: "*Tenho o Desejo de ser bem sucedido/a*" (revised).

Results from our study underlined the need for an accurate evaluation of the significance of the word "success" when using it cross-culturally (Willis et al., 1999).

The current study, along with a population sample from CBMHOs, added evidence to support a four-factor RAS-P model using the 24-item version of the scale. The resulting four-factor solution from the current assessment may have been affected as much by the use of the 24-item version of RAS, which is a more feasible measure, as by the practice context of the research settings that offer guidance toward goal achievement and community-based interventions, such as entering a vocational training course, returning to school, finding a job, or volunteering in advocacy or in community education campaigns (Nelson et al., 2014). Recovery-oriented settings are empowering and are also strength-based environments, as they foster participation and capabilities through bridging and bonding with valued and supportive community environments (Davidson et al., 2009; Jorge-Monteiro, Aguiar, Sacchetto, Vargas-Moniz, & Ornelas, 2014; Randall & Salem, 2005; Ware et al., 2007).

The current RAS-P configuration made the case for the renaming of the four latent factors according to the empowering recovery approach found in published literature (Brown, 2012; Chamberlin, 1984; Fisher, 1994; Fisher & Spiro, 2010). In keeping with the previous rationale, the denominations for each factor were defined as follows: Personal Goals and Hope (PGH; Factor 1), including the items that manifest a positive identity, optimism about the future, and goal orientation; Managing Help Needs (MHN; Factor 2), reflecting one's autonomy and ability to manage care; Supportive Interpersonal Relationships (SIR; Factor 3), expressing connectedness and an accessible social network; and Beyond Symptoms (BS; Factor 4), reflecting personal control over one's life and individuals living their life with a focus different from the use of medication or the illness (Corrigan & Ralph, 2005; Hancock et al., 2013; Jacobson & Greenley, 2001; Ralph, 2000; Slade et al., 2012; Ware et al., 2007).

The findings for the RAS-P were equivalent to other studies for the overall internal consistency or showing slightly higher reliability indices for the subscales (Chiba et al., 2010; Corrigan et al., 1999; Corrigan et al., 2004; McNaught et al., 2007; Roe et al., 2012). The RAS-P subscale scores presented good to excellent internal consistency levels in the current assessment, ranging from $\alpha = .75$ to .88. Results from the present study also showed that the overall mean score for the sample was far above the midpoint for the instrument, which indicates a good level of perceived recovery among these respondents from CBMHOs.

Convergent and discriminant validity was assessed among the four RAS-P subscales, and also in relation to the scores of the recovery-related measures of personal empowerment and of life capabilities achievement. Reviewed studies also found recovery strongly associated with empowerment as a component of the recovery process or as a mediating feature of recovery-oriented settings in mental health (Corrigan, 2006; Hancock et al., 2013; Jorge-Monteiro et al., 2014; O'Connell et al., 2005; Slade et al., 2012). The capabilities framework is also a conceptualization of quality of life in relation to the environmental conditions, values, and social role opportunities that foster the recovery process (Davidson et al., 2009; Ware et al., 2008). The current study found significant positive correlation between the personal perception of recovery and the individuals' scores of capability achievement. Interestingly, the PGH and the BS subscales achieved high estimates from bivariate correlation with the overall scores of the ES and CQ scales, suggesting that individuals who experienced more personal empowerment and capabilities achievement, also perceived higher levels of purpose of life.

The overall RAS-P and its subscale scores correlated inversely with the CSI measure. The findings were consistent with prior cross-cultural studies that also observed inverse or nonsignificant associations between data from the recovery scale and accurate measures of psychiatric symptoms or functional assessment (Chiba et al., 2010; Corrigan et al., 2004; McNaught et al., 2007; Roe et al., 2012). In particular, our results indicated that individuals who perceived a higher sense of recovery for the Personal Goals and Hope and Beyond Symptom subscales rated lower regarding symptom frequency. The achieved findings allowed for the conclusion to be reached that the Managing Help Needs and Supportive Interpersonal Relationships domains were independent from the level of symptoms as self-rated by these respondents. The current results indicated that, although associated, the empowerment and capabilities recovery-related scales assess approximate but not overlapping constructs, which are definitely different from the manifestations of the illness.

Moreover, the positive association found between the RAS-P scores and the attendance of recovery-oriented services by respondents (independent housing and supported employment) allowed us to consider the RAS-P useful in assessing users' context-related recovery outcomes (Mueser, 2012). Further evidence on these interactions should be investigated by future research on transformative change in mental health.

As a whole, the achieved estimates and the theoretical propositions under consideration supported the given interpretation of the findings, and therefore proved valid the use of the RAS-P in community-based mental health practice. Even so, in light of mental health transformative change, this will lead to evolving components of the recovery construct, such as those of the connectedness and citizenship, being the core elements for the personal process of recovery. It is expected that the recovery construct measurement will be subject to further assessments in order to continually embrace responsiveness to challenging personal

changes (Mueser & Cook, 2012). Likewise, participatory aspects of measurement conditions are pertinent upcoming issues for test validity and reliability improvements in the mental health field in the near future (Hancock et al., 2012; Maltzman, 2013).

Addressing study strengths and limitations, this study provided a valid recovery measurement useful in the context of Portuguese-speaking countries that face important transformative changes in their mental health service system. Making the RAS-P available through scholarly publication will enhance the capacity of the entire mental health community (practitioners, users, and researchers) toward implementing a recovery-oriented practice, and will enhance the potential for comparative cross-cultural research studies.

Furthermore, the observed four-factor configuration showed itself to be conceptually suitable for its use in community mental health services that adopt a recovery-oriented vision and practice (Davidson et al., 2009; Farkas et al., 2005; Mueser, 2012; Ornelas et al., 2014), using the 24-item version of the test. However, until more research is carried out with other test takers, community contexts, and including cross-culturally replication studies, the findings regarding factorial validity should be assumed as being no more than preliminary. Considering the limitation of sample size, being a fundamental requirement when performing exploratory factor analyses, diverse recommendations were found in published literature with samples larger than 100 participants (Fabrigar et al., 1999). Thereby, the authors did not regard reporting a ratio of 8.89 per item as being detrimental to the current results.

To conclude, as recovery has turned out to be a fundamental orientation process for worldwide mental health systems, it is pertinent to provide valid and reliable standardized outcome measures (Horn, Mihura, & Meyer, 2013; Maruish, 2013), and to assist the mental health practice in the light of the recovery vision. Therefore, the authors consider the Portuguese version of the RAS useful for recovery-oriented practice in Portuguese-speaking countries by community mental health researchers and practitioners.

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(*Appendix follows*)

Appendix

Translation and EFA Factor Loadings for the Portuguese Version of Recovery Assessment Scale (RAS-P)

	English (E)	Portuguese (P)
	Personal Goals and Hope	Objectivos pessoais e esperança
PGH01	I like myself.	Eu gosto de mim próprio(a). (.57)
PGH02	If people really knew me, they would like me.[a]	Se as pessoas realmente me conhecessem, gostariam de mim.[a] (**.45**)
PGH03	I have an idea of who I want to become.	Eu tenho uma ideia daquilo que eu quero ser. (.63)
PGH04	Something good will eventually happen.	Alguma coisa de bom eventualmente acontecerá. (.53)
PGH05	I am hopeful about my future.	Tenho esperança acerca do meu futuro. (.71)
PGH06	I continue to have new interests.	Continuo a ter novos interesses. (.74)
PGH07	I have a desire to succeed.[a]	Tenho o desejo de ter sucesso.[a] (**.52**)
PGH08	I have my own plan for how to stay or become well.	Eu tenho o meu próprio plano para estar ou ficar bem. (.58)
PGH09	I have goals in life that I want to reach.	Tenho objectivos na minha vida que quero alcançar. (.75)
PGH10	I believe I can meet my current personal goals.	Acredito que posso ir ao encontro dos meus objectivos pessoais actuais. (.76)
PGH11	I have a purpose in life.	A minha vida tem um propósito. (.56)
	Managing the Help Needs	Gerir as necessidades de ajuda
MHN01	I know when to ask for help.	Sei quando devo pedir ajuda. (.77)
MHN02	I am willing to ask for help.	Estou disposto(a) a pedir ajuda. (.80)
MHN03	I ask for help when I need it.	Eu peço ajuda quando preciso. (.76)
	Supportive Interpersonal Relationships	Relações de suporte interpessoal
SIR01	Even when I don't care about myself, other people do.	Mesmo quando eu não me preocupo comigo, outros fazem-no. (.77)
SIR02	I have people I can count on.	Tenho pessoas com quem posso contar. (.61)
SIR03	Even when I don't believe in myself, other people do.	Mesmo quando não acredito em mim, outros acreditam. (.70)
SIR04	It is important to have a variety of friends.	É importante ter uma rede de amigos. (.70)
	Beyond Symptoms	Além dos sintomas
BS01	Fear doesn't stop me from living the way I want to.	O receio não me impede de viver como eu quero. (.55)
BS02	I can handle what happens in my life.	Eu consigo lidar com o que acontece na minha vida. (.56)
BS03	I can handle stress.	Consigo lidar com o stress. (.55)
BS04	Coping with mental illness is no longer the main focus of my life.	Lidar com a doença mental já não é o foco principal na minha vida. (.61)
BS05	My symptoms interfere less and less with my life.	Os meus sintomas interferem cada vez menos com a minha vida. (.80)
BS06	My symptoms seem to be a problem for shorter periods of time each time they occur.	Cada vez que ocorrem, os meus sintomas parecem ser um problema por períodos cada vez mais curtos. (.74)

Note. EFA = exploratory factor analysis; PGH = Personal Goals and Hope; MHN = Managing Help Needs; SIR = Supportive Interpersonal Relationships; BS = Beyond Symptoms.
[a] Item dropped after model fit adjustment.

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