

# Factors associated with personal recovery in an outpatient sample of people with Schizophrenia in Brazil

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## Research Article

**Keywords:** Recovery, Mental Health, Schizophrenia, Functioning

**Posted Date:** July 21st, 2022

**DOI:** <https://doi.org/10.21203/rs.3.rs-1855705/v1>

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# Abstract

## Purpose

This study aimed to assess the level of personal recovery and its associated factors in a Brazilian sample of people with schizophrenia.

## Methods

This cross-sectional study comprised a non-probabilistic sample of 104 people with schizophrenia receiving outpatient care in a university psychiatric centre. Personal Recovery was measured using the short-version of the Recovery Assessment Scale (RAS), comprising 24 items. We first examined the domains of personal recovery in the study sample and their associations with the following clinical measures were also used: the Self-Assessment of Occupational Functioning Scale (SAOF); the general psychopathology, the Positive and Negative Syndrome Scale (PANSS); the Calgary Depression Scale for Schizophrenia; the Independent Living Skills Survey (ILSS) and the Clinical Global Impression (CGI). The mean scores of RAS domains were compared using ANOVA for repeated measures and clinical measures associated with RAS total score were identified using linear multiple regression. Significance level was  $p < 0.05$ .

## Results

RAS domains with the highest levels of recovery were “Goal/success orientation” and “Reliance on others”, while the domain “Not dominated by symptoms” presented the lowest score. Higher levels of personal recovery in general were associated only with a lower level of depressive symptoms (as measured by Calgary scale) and a higher score for occupational functioning (as measured by SAOF).

## Conclusion

This study replicated findings from the international literature about the domains of personal recovery and its associations with important clinical constructs. It also identified specific cultural aspects such as the importance of affective and social relationships (friends, family) for life and as support for processes recovery.

## 1. Introduction

Schizophrenia is often represented as a psychiatric disorder with high rates of functional impairment. Despite this negative view, two-thirds of affected individuals manage to achieve satisfactory levels of clinical recovery [1-4]. However, in the last decades, a new understanding related to the possibility of a personal recovery has also emerged. Personal Recovery has been defined as a subjective process aimed at changing and structuring a positive identity in people affected by severe mental disorders. This process is related to the continuing cultivation of hope and the establishment of new perspectives in life, increasing personally meaningful participation in society. [5,6].

Research has systematized measurable dimensions of recovery, such as: connection, both in the community and in personal life; hope and optimism about the future; construction of an identity beyond the disease; purpose and meaning of life; empowerment; and resilience, which is related to the positive management of difficulties that arise during the process of overcoming living with a severe mental disorder [7-9]. Several qualitative studies in recovery, based on the narratives and reports of people with lived experience, have also highlighted the presence of other similar dimensions such as: acceptance of the disease itself, from the subject and his family and friends; learning how to deal with their symptoms and difficulties; the achievement of citizenship; engaging in activities that are meaningful to self and others; insertion into a social and family support network [10-16].

Based on these studies and evidences, several countries have moved their efforts to adopt recovery as the guiding vision for their public policies and mental health services. For example, in 2012, the World Health Organization (WHO) published the “Plan of Action on Mental Health 2013-2020”, advocating recovery as a principle to be incorporated by countries in their mental health policies and routine practice [17, 18]. More recently, WHO [19] launched a series of “Guidance and Technical Packages for Community Mental Health Services: Person-Centered Promotion and Human Rights-Based Approaches”, emphasizing, among others, the increasing adoption of recovery-oriented practices. Along with this incorporation of the concept of recovery into mental health policies and manuals in different countries, there is a growing concern with its translation and operationalization into evidence-based practices in the clinical routine. In this sense, different standardized and validated measures can be used by services to assess its level of recoveryorientation and its implementation. [18,20].

While there is a progressive incorporation of recovery into mental health policies internationally, Latin America, specifically, is still in a period of consolidation of community mental health care. Despite the existence of innovative practices in this context, similar in many aspects to those oriented towards recovery, the use and incorporation of this concept is still at an early stage [21-23]. Most of the few published studies are related to the incorporation of the concept of recovery and the lived experience of its processes and dimensions by people with severe mental illnesses [23, 24], as well as the cross-cultural validation of instruments to be used in services and professional practices. [22, 25,26].

In Brazil, there is a growing consensus that the incorporation of recovery-oriented practices may contribute to mental health care policies and care, as well as expand what has already been implemented from the perspective and care practices of psychosocial rehabilitation [27, 28]. In recent years, studies in this field in Brazil have been mostly based on the narratives of people with lived experience of mental illnesses, seeking to understand their understandings and experiences related to the recovery process, pointed to elements such as: the non-linear experience of the recovery process; stigma and social barriers to access work, leisure and relationships with people; experience of self-stigma linked to illness and disability; the importance of reaching economic stability and/or developing meaningful occupational activities, as well as the view of professionals still focused on the disease and not on the perspective of recovery in the services [22, 29, 30].

Among recovery measures, the Recovery Assessment Scale (RAS) [31] stands out as one of the most widely used internationally. It has demonstrated satisfactory psychometric properties in different cultural contexts [32-37] including Brazil. Despite that, there are still no published studies using this instrument to assess the level of recovery and its associated factors among individuals with serious mental illnesses in Brazil. In this sense, this study aims to fill this gap. Moreover, to the best of our knowledge, this is the first quantitative research on personal recovery in the country.

## **2. Methodology**

### **2.1 Design and setting**

This is a cross-sectional study, with a non-probability sample that attended a university outpatient mental health service. The study was carried out at PROESQ (Schizophrenia Program), UNIFESP (Federal University of São Paulo), as part of an interdisciplinary project, in which all participants underwent a psychiatric, neuropsychological, occupational and clinical examination interview (blood and DNA tests, and neuroimaging). The study was approved by the Ethics Committee of UNIFESP and all participants agreed to participate in the study and signed the consent form.

### **2.2 Measures and procedures**

The short version of the RAS validated in Brazil has 24 items [25,38, 39] with response options available on a Likert scale, ranging from 1 to 5 (strongly disagree=1; disagree=2; not sure=3; agree=4 and strongly agree =5). The RAS is originally divided into five dimensions, which were replicated in an international study using factor analysis. These dimensions are: Goal and success orientation; Personal confidence and hope; No domination by symptoms; Willingness to ask for help; Reliance on others. In the validation study of the Brazilian version, 6 factors were found, through a principal component analysis. The only difference with the original version is that the dimension Personal-confidence and hope was split into two different factors. However, considering that the factor structure found in the Brazilian version of the RAS has not yet been confirmed and aiming at greater comparability of the results of the present study with international findings, the dimensional structure of five factors was maintained. The original scale is self-administered and the items are scored according to the higher the score, the better the patient's perception and perspective on his/her recovery process.

The following measures were used to assess symptomatology and functioning: ILSS-SR (Independent Life Skills Inventory) [40,41], SAOF (Self-Assessment Questionnaire of Occupational Functioning) [42,43] and other psychiatric assessment instruments such as PANSS (Positive and Negative Syndrome Scale) [44,45], CGI (Clinical Global Impression) [46,47], and Calgary Depression Scale [48,49]. All the instruments were administered by a trained researcher.

### **2.3 Data analysis**

Data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS) for Windows, version 23. Descriptive analysis was used to describe the study sample, in terms of percentage, mean and standard deviation. One-way ANOVA for repeated measures, with Bonferroni post-hoc test, was performed to compare the scores of RAS subscales, since they reflect different but still related dimensions of a same concept (recovery). Although such analysis is not frequently used for this purpose, it may identify which dimensions would be more important for the study participants. Finally, to determine the correlates of recovery, a multiple linear regression model was performed. The independent variables were: sociodemographic and clinical data, and the total scores of ILSS - SR, SAOF, CGI, Calgary Depression Scale and the three domains of PANSS (positive, negative and general symptoms). The dependent variable was the total score of RAS. A statistical significance of  $p < 0,05$  was set in all the analyses.

### 3. Results

The majority of the sample was male (67.30%), with an average age of 37 years (SD: 11,08), mostly single (78.80%), living with the family or accompanied (97%), with education in most up to high school (67.70%) and without occupation and/or own income (70.70%). The age of onset was 23.78 years and the majority underwent psychiatric hospitalization (65.70%).

The level of overall personal recovery, in terms of the RAS scale score, was equal to 92.84 (SD: 12.92), as the sum of the total items, and 3.97 (SD: 0.45), as the mean of the instrument items. The scores of the other clinical and functional measures used in this study are described in Table 1.

In terms of bivariate analyses, the variables that showed a significant association ( $p < 0.05$ ) with the level of recovery and that were retained to be included in the regression analysis were the following: occupational performance (SAOF;  $p < 0.01$ ), independent living skills (ILSS;  $p = 0.01$ ), general clinical impression (CGI;  $p = 0.03$ ), negative symptoms (PANSS negative symptoms;  $p = 0.02$ ). Variables that presented a significance level of  $p < 0.10$  were also retained for the regression analysis, which was the case only for the Calgary scale score ( $p = 0.07$ ). The details of sociodemographic, clinical and functional characteristics of the participants, as the results of univariate analysis, are described in Table 1.

*Please, insert Table 1 here*

Table 2 shows the comparison between the means of the RAS subscales, using the ANOVA test for repeated measures, with post hoc Bonferroni. Results pointed that Sphericity assumption seems to be violated according to Mauchly's test, but it might be assumed using Greenhouse-Geisser correction. The analysis presented an overall statistically significant result. It was found that subscale 5 (no domination by symptoms) had a lower score than the other subscales, with the exception of subscale 2 (willingness to ask for help). Subscale 3 (goal and success orientation) had a higher average than all subscales, with the exception of subscale 4 (Reliance on others), which, in turn, was also higher than the averages of subscales 2 (willingness to ask help) and 5 (no domination by symptoms).

*Please, insert Table 2 here*

The regression analysis (Table 3) showed that only measures of occupational performance (SAOF) and of depressive symptoms (Calgary) had a significant association with the level of recovery. Specifically, this result pointed to an association of higher levels of the person's recovery process with a better self-perception of their occupational performance and with lower levels of depressive symptoms.

*Please, insert Table 3 here*

## 4. Discussion

This study examines the recovery process and associated factors in a sample of people with schizophrenia in Brazil. To our knowledge, this is the first quantitative study on the level of recovery and its associated factors in a Brazilian sample, since most of the previous studies in the country focused on qualitative data from the narratives and reports of people with mental disorders.

The result of the mean score for RAS scale in the present sample (average score = 3.9) replicates findings from international studies. A literature review that included 28 international studies that used the instrument, found the mean score to range between 3.14 and 4.12 [33]. It is important to note that this review included studies from several countries, including non-English-speaking countries (such as Portugal, Spain, Sweden, Sweden, China and Japan).

According to the results of the analysis of variance (ANOVA), which compared the means of RAS domains, lower scores were found in the domain "no domination by symptoms" and the highest ones in the domains of "reliance on others" and "goal and success orientation". The higher score in the domain of trust in others might be related to the sociocultural aspect of this specific population in Brazil, which values the importance of long lasting affective and even financial support (especially from relatives) for life and, consequently, as support for processes recovery, as pointed out by a previous qualitative studies from Brazil [28-30].

The variables included in the regression model explain only 20% of the variance in the RAS score in the present sample. In addition, only sociodemographic and clinical variables, and measures of symptoms and functioning were introduced into the model as independent variables. On the other hand, factors that have been shown in the literature as more associated with the recovery process, such as hope, empowerment, well-being and quality of life, for example, were not included in this study [50,51]. This might explain the low percentage found in this study.

Positive Symptoms (as measured by PANSS) and global symptom and functioning assessment (as measured by CGI) did not demonstrate a significant association with personal recovery. Together with the lower score for the domain "not dominated by symptoms", compared to other RAS domains, this result is in convergence with international studies. For example, recent metanalysis have pointed that positive, negative and general symptoms usually have small and negative correlation with recovery measures [50,52]. In this sense, this finding suggests that the recovery process takes place beyond symptoms, and

that, even with their presence and manifestation, people are able to have meaningful ,productive lives, as stated in the most cited definitions of personal recovery [6].

The lack of significant association, in this study by the ILSS, between the clinical parameter of functional independence and recovery processes, could be related to the fact that performance and independence in some activities of daily living might not be considered in the participants' perception, as important for their recovery processes. Furthermore, almost none of the participants lived alone and therefore, might not need to carry out certain activities in their daily routine at home, for example. In this sense, it could also be associated with the above mentioned Brazilian and Latin-American sociocultural aspect of long lasting affective and financial reliance on family, which has been pointed out in previous studies [21-24,29, 33].

The significant association found between SAOF and RAS scores reinforces the importance of subjective assessment of the occupational dimension for the recovery process. This association is also in agreement with international studies, which point to the importance of the occupational dimension and performance of work activities such as, the function and role of the person with experience as a peer worker in health services. Accordingly, the perception and satisfaction that the person has of his/her own performance, as assessed by SAOF, in the area of personal causality, personal interests and sense of self-fulfillment, seem to be related to their recovery process (positive identity, purpose and meaning in life and empowerment) [50,54-56, 57].

It was also possible to identify a significant and negative association between personal recovery and depressive symptoms (as measure by Calgary scale). This finding converges with previous studies, which pointed out that affective symptoms are often the only symptoms showing a moderate and negative correlation with recovery [50,52,58]. This might also be explained by the fact that the presence of depressive symptoms as measured by this scale, especially hopelessness and self depreciation, points to a state opposite to recovery, in which hope and positive identity appear as core processes [57].

Some limitations should be mentioned. First, the study included a non-probability sample. Consequently, further quantitative Brazilian and Latin-American research on this topic is required, using a larger and probabilistic sample. Another limitation is the cross-sectional design, which does not allow causal inferences between the variables.

Despite these limitations, this study is the first to explore the factors associated with the recovery level for people with schizophrenia in Brazil, using quantitative data. It replicates, data from the international literature and highlights specific cultural aspects. As such, the study reinforces the idea of recovery as a universal process, and the need for better guidance of health practices and services aimed at promoting strategies to support people's recovery process.

## **Declarations**

### **Conflict of interests**

RAB has received honoraria for speaking and chairing engagements from Janssen, Torrent and Ache and outside this manuscript. He has also received personal fees and non-financial support from Janssen outside this manuscript. AG has been a consultant and/or advisor to or has received honoraria from Ache, Cristalia, Daiichi-Sankyo and Janssen. The other authors declare that they have no conflict of interest.

## Ethics approval

The study was approved by the Ethics Committee of UNIFESP and all participants agreed to participate in the study and signed the consent form. (number: 1737/06).

## Consent to participate

Participants provided informed consent.

## Funding

This study was partially funded by FAPESP (São Paulo State Research Support Foundation).

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## Tables

**Table 1. Descriptive and univariate analysis of the covariables of recovery level**

Variable	N (%) or Mean (SD)	<i>t</i> or <i>r</i> ( <i>p</i> -value)
Sex (n = 104)		
Men	70 (67.30%)	<i>t</i> = -0.91 (0.37)
Women	34 (32.70%)	
Age (n = 100)	37.77 (11.08)	<i>r</i> = -0.03 (0.78)
Marital Status (n = 99)		
Single	78 (78.80%)	<i>t</i> = 2.54 (0.01)
Others	21 (21.20%)	
Living alone (n = 99)		
Yes	03 (3%)	—
No	96 (97%)	
Education Status (n = 99)		
Until High school	67 (67.70%)	<i>t</i> = -0.51 (0.61)
Higher education	32 (32.30%)	
Occupation and/or own income (n = 99)		
Yes	29 (29.30%)	<i>t</i> = -2.37 (0.02)
No	70 (70.70%)	
Age of onset	23.78 (7.88)	<i>r</i> = 0.02 (0.80)
Psychiatric hospitalization (n = 99)		
Yes	65 (65.70%)	<i>t</i> = 0.64 (0.52)
No	34 (34.30%)	
SAOF (n = 103)	6.06 (0.95)	<i>r</i> = 0.37 ( <i>p</i> <0.001)
Calgary (n = 99)	2.36 (3.41)	<i>r</i> = -0.18 (0.07)
ILSS (n = 104)	7.62 (0.96)	<i>r</i> = 0.25 (0.01)
CGI (n = 99)	3.79 (0.99)	<i>r</i> = -0.21 (0.03)
PANSS Positive symptoms (n = 98)	13.00 (4.77)	<i>r</i> = -0.03 (0.75)
PANSS Negative symptoms (n = 98)	16.55 (5.49)	<i>r</i> = -0.24 (0.02)
PANSS General Psychopathology (n = 98)	28.92 (7.16)	<i>r</i> = -0.12 (0.25)

<b>Table 2</b> Description of overall and subscales RAS scores and comparison between subscales						
Subscales	Mean (SD)	Bonferroni Post hoc ( <i>p</i> )				
		1	2	3	4	5
1. Personal confidence and hope	3.97 (0.58)	–	,43	,06	1,00	,01*
2. Willingness to ask for help	3.82 (0.63)	–	–	,01*	,02*	1,00
3. Goal and success orientation	4.10 (0.57)	–	–	–	1,00	< ,01
4. Reliance on others	4.04 (0,61)	–	–	–	–	< ,01
5. No domination by symptoms	3.75 (0.74)	–	–	–	–	–

\* *p* < 0.05; *Bonferroni Post hoc*: significance level for comparison between sub-scales. ANOVA: *F* = 8.813; *p* < 0.001. Mauchly's Test of Sphericity: Mauchly's *W* = 0.581,  $X^2(2) = 55,155$ , *p* < 0.001. Grenhouse-Geisser = 0.834.

<b>Table 3.</b> Regression analysis of the correlates of RAS total score						
Correlates	B	SE	$\Delta\beta$	T	<i>p</i>	
Constant	75,83	11,96	–	6,34	<0.01	<i>R</i> <sup>2</sup> = 0,28
Marital Status (Single x Others)	-2.99	2.80	-0.10	-1.07	0.29	$\Delta R^2 = 0.22$
Occupation and/or own income (Yes x No)	-1.32	2.73	-0.05	-0.48	0.63	<i>F</i> = 4.70 ( <i>p</i> = <0,001)
SAOF	3.48	1.16	0.30	3.00	<0.01	[DW] = 1.92
ILSS	0.51	1.20	0.04	0.43	0.67	
Calgary	-0.77	0.31	-0.23	-2.45	0.02	
PANSS negative	-0.35	0.28	-0.17	-1.24	0.22	
CGI	-1.30	1.56	-0.11	-0.83	0.41	