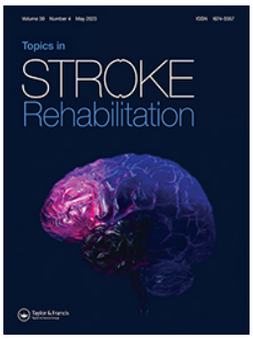

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The Stroke Self-Efficacy Questionnaire Brazil (SSEQ-B): a structural validity analysis

Pedro Henrique Deon[a,b], Marina Portugal Makhoul[c], Bianca Pacheco Loss[a], Eliana da Silva Jaques[b], Janete de Souza Urbanetto[a,b], Régis Gemerasca Mestriner[a,b], and Camila Torriani-Pasin[c*]

[a]School of Health and Life Sciences, Pontifical Catholic University of Rio Grande Do Sul, PUCRS, Porto Alegre, Brazil; [b]School of Medicine, Graduate Program in Biomedical Gerontology, Pontifical Catholic University of Rio Grande Do Sul, PUCRS, Porto Alegre, Brazil; [c]Motor Behavior Laboratory, School of Physical Education and Sport, University of São Paulo, São Paulo, Brazil

ABSTRACT

Background: Self-efficacy has been shown to play an important role in rehabilitation outcomes of stroke patients. The Stroke Self-Efficacy Questionnaire Brazil (SSEQ-B) is designed to assess self-efficacy of functional performance after stroke.

Objective: This research sought to address the structural validity of the SSEQ-B using exploratory and confirmatory factorial analyses.

Methods: This is a cross-sectional study. We performed a reliability assessment and structural validation of the SSEQ-B in 115 Brazilian stroke survivors living in Rio Grande do Sul or São Paulo. Results: Sample mean age was 62.7 ± 14.2 years. Internal consistency presents a Cronbach's Alpha (αC) of 0.829. Exploratory factorial analysis using the scree plot method revealed a bifactorial structure, consisting of activity and self-management domains. While confirmatory factorial analysis suggested a trifactorial structure, the loading ranges between factors 1 and 3 were very similar, suggesting they could be collapsed – resulting in the same factors found in the scree plot analysis. Both structures with subscales showed good construct validity.

Conclusion: SSEQ-B is a valid and reliable measure of stroke self-efficacy. The preferred structure of the SSEQ-B is bifactorial and includes the domains activity and self-management.

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Stroke; self-efficacy; validation; rehabilitation; questionnaires

Introduction

Stroke is a leading cause of disability and mortality worldwide.[1] The prevalence of people living with post-stroke functional deficits has increased due to the aging of the population.[1] In western countries, stroke impairs adult independence in terms of personal and work life,[2] and more than a third of stroke survivors experience dependence in their basic and instrumental activities of daily living.[3]

Patient-centered outcomes have been developed to ensure rehabilitation programs consider people's needs and expectations.[4] While body function and activity limitations can be diagnosed by healthcare professionals, patient-centered outcomes, including self-efficacy measures, are required when establishing meaningful goals and strategies in rehabilitation.[4–6] Self-efficacy is defined as an individual's belief in their ability to gain control and succeed in situations.[7] The Stroke Self-Efficacy Questionnaire (SSEQ) has been developed to assess specific functional domains after stroke (i.e. bed mobility, walking, dressing, self-management, and dealing with frustration and motivation to maintain a rehab/exercise program).[8]

The SSEQ was originally developed by Jones et al.[8] and exhibited good internal consistency (Cronbach α = 0.90). The authors used an 11-point scale (0 "not confident" to 10 "very confident"), providing a score ranging between 0 and 130 points. However, Riazi, Aspden and Jones[9] used the Rasch analysis in the original SSEQ and proposed an adapted 4-point scale (0 "not confident" to 3 "very confident"). Briefly, these authors show the chi-square test 'exhibited non-significant p-values for both scales, and the adapted SSEQreliability was good. The adapted version also exhibited satisfactory residuals for the "activity" and "self-management" domains. The rationale for the 4-point scale (providing scores ranging from 0 to 39) is the same as that for the original version,

CONTACT Régis Gemerasca Mestriner regis.mestriner@pucrs.br Av. Ipiranga, 6681 – Prédio 99 – sala 1519, Porto Alegre, Brazil
*These authors contributed equally to this study

where higher scores indicate greater self-efficacy. The same authors found the total SSEQ score correlated well with the occurrence of falls ($r = 0.803$, $p < .001$), and exhibited a good face validity. In the original version, the factorial analysis showed a "single factor structure" was able to explain the obtained scores.[8] However, the adapted version in English was bifactorial.[9] To date, the questionnaire has been transculturally adapted to Chinese,[10] Danish,[11] Italian,[12] Turkish[13] and, recently, to Brazilian Portuguese.[14]

The Stroke Self-Efficacy Questionnaire Brazil (SSEQ-B) was cross-culturally adapted by Makhoul et al,[14] who provided important measures of concurrent validity, reliability, and stability. However, the structural validity[15–17] of the SSEQ-B has not yet been addressed. Establishing structural validity is crucial when seeking to understand how the questionnaire scores reflect the dimensionality of the measured constructs, thus providing evidence for construct validity.[15,18] Hence, this research sought to address the structural validity of the SSEQ-B using both exploratory and confirmatory factorial analyses. We hypothesize that the SSEQ-B is structurally valid and useful to measure functional self-efficacy after stroke in the Brazilian population.

Method

This is a cross-sectional study following the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN guidelines). The sample consisted of Brazilian-born stroke survivors living in the states of São Paulo and Rio Grande do Sul. The participants were recruited from two rehabilitation services. This study was approved by the local Ethics Committees (registration numbers: 2.865.142, 2.746.172 and 4.383.420). All participants signed the consent form, and the research followed the ethical standards of scientific research involving human participants in Brazil. Data were collected between March and December 2019.

Participants

Participants in the late subacute (from three to six months post-stroke) or chronic (≥ 6 months post-stroke) phases[19] took part. Inclusion criteria were: an ischemic or hemorrhagic stroke diagnosed by image or medical report; more than 18 years of age; ability to understand and read Brazilian Portuguese. Exclusion criteria were: significant aphasia or cognitive impairment hampering the completion of the questionnaire. Data were collected using a sociodemographic form (including questions regarding gender, age, schooling, stroke etiology, time since stroke onset, number of previous strokes, smoking and drinking) and the SSEQ-B.[14] Data were collected in a single session by trained physiotherapists.

Actual questions of the SSEQ-B

The actual SSEQ-B questions are described in Brazilian Portuguese. Their equivalent in English is shown in brackets, as follows. Instructions: Quanto confiante você está hoje em dia que você é capaz (*how confident you are that you can do the tasks now in spite of your stroke*): 1) Manter-se deitado confortavelmente na cama todas as noites (*Get yourself comfortable in bed every night*); 2) Sair da cama sozinho, mesmo quando você se sente cansado (*Get yourself out of bed on your own even when you feel tired*); 3) Andar alguns passos, por conta própria, em qualquer superfície dentro da sua casa (*Walk a few steps on your own on any surface inside your house)*; 4) Andar pela sua casa para fazer a maior parte das coisas que você quer (*Walk about your house to do most things you want*); 5) Andar com segurança, por conta própria, em ambiente externo em qualquer superfície (*Walk safely outside on your own on any surface*); 6) Usar as duas mãos para comer sua comida (*Use both your hands for eating your food*); 7) Vestir-se e despir-se, mesmo quando você se sente cansado (*Dress and undress yourself even when you feel tired*); 8) Preparar para si mesmo uma refeição que você deseja (*Prepare a meal you would like for yourself*); 9) Persistir para obter progresso na recuperação após seu AVC, mesmo depois de ter alta da terapia (*Persevere to make progress from your stroke after discharge from therapy*); 10) Fazer seu próprio programa de exercícios todos os dias (*Do your own exercise programme every day*); 11) Lidar com a frustração de não poder fazer algumas coisas por causa do seu AVC (*Cope with the frustration of not being able to do some things because of your Stroke*); 12) Continuar a fazer a maioria das coisas que você

gostava de fazer antes do seu AVC (*Continue to do most of the things you liked to do before your Stroke*); and 13) Continuar a ficar mais rápido nas tarefas que ficaram lentas desde que você teve o AVC (*Keep getting faster at the tasks that have been slow since your stroke*).

Sample size

Sample size was determined using a rule of thumb for structural validity research,[20] in which at least 100 measures per assessed item are required. Because the SSEQ-B is a 13-item questionnaire, a minimum of 113 participants was established.

Statistical Analysis

Descriptive statistics and the Cronbach's alpha were used to test the internal consistency of the SSEQ-B. We used exploratory and confirmatory factorial analyses (using the same sample) to assess whether the factorial structure was adequate to the data. The confirmatory factorial analysis applied a covariance matrix using the robust estimator Weighted Least Squares Mean and Variance Adjusted (WLSMV) to test the quality of data adjustment. The following indicators were considered in the confirmatory analysis[20]: χ^2/gl (acceptable ~ 5), Comparative Fit Index (CFI; acceptable ~ 0.90), Goodness-of-Fit Index (GFI, acceptable ~ 0.90), Tucker Lewis Index (TLI; acceptable ~ 0.90), and Root Mean Square Error Approximation (RMSEA; acceptable ~ 0.08). Borderline values (within the confidence interval 95%) could be acceptable when using samples larger than 100 measures. The relationship between stroke onset and levels of stroke self-efficacy was tested using Spearman's Rank Correlation Coefficient and Analysis of Variance (ANOVA). Missing data will be computed and described. We hypothesized the SSEQ-B would exhibit the same factorial distribution the original SSEQ, in English. Statistical Package for the Social Sciences (SPSS) 25.0 and AMOS GRAFICS 23.0 were used to run the statistical analyses.[21]

Table 1. Sociodemographic and clinical characteristics of the studied sample.

Variables	Total sample (n = 115)	
Gender (n, %)		
Female (n, %)	*51*	*44.3*
Male (n, %)	*64*	*55.7*
Age *(years, mean ± SD)*	*62.7 ± 14.2*	
Schooling level (n, %)		
Illiterate	*4*	*3.5*
Incomplete Elementary	*24*	*20.9*
Complete Elementary	*24*	*20.9*
Incomplete High School	*5*	*4.3*
Complete High School	*33*	*28.7*
Incomplete College	*7*	*6.1*
College Degree	*18*	*15.7*
Stroke Etiology (n, %)		
Ischemic	*95*	*82.6*
Hemorrhagic	*20*	*17.4*
Time since stroke onset (months)		
Median (1st-3rd quartile range)	*36.0 (12.0–87.0)*	
Post-stroke phase (n, %)		
Late subacute (3 to 6 months)	*13*	*11.3*
Chronic (≥ 6 months)	*102*	*88.7*
Number of previous strokes (n, %)		
0	*78*	*67.8*
1	*17*	*14.8*
2	*10*	*8.7*
3	*8*	*7.0*
4	*2*	*1.7*
Smoking *(n, %)*		
No	*101*	*87.8*
Yes	*14*	*12.2*
Drinking *(n, %)*		
No	*96*	*83.5*
Yes	*19*	*16.5*

*Percentages are based on the total sample (n = 115).

Results

Sample characteristics

The study sample consisted of 115 participants, aged 62.7 ± 14.2 years, most were male (55.7%). Regarding schooling, 41.8% had elementary education and 28.7% completed high school. Most of the participants had ischemic stroke (82.6%) and 88.7% were in the chronic stroke phase. No missing data occurred in this cross-sectional study.

The median time since the stroke onset was 36.0 months [1st-3rd Quartile: 12.0–87.0] and 67.8% (n = 78) of the participants had experienced a single stroke episode. The prevalence of self-reported drinking and smoking habits were 16.5% and 12.2%, respectively. The participants other characteristics are summarized in Table 1.

Table 2. Central tendency and variability measures of the SSEQ-B scale items, adjusted question correlation (total) and internal consistency (αC) when excluding the question.

	Descriptive Measure			Internal Consistency	
SSEQ-B Item	Mean	SD	Median	Adjusted Item Correlation (total)	αC (Excluding the Item)
Question 1	2.53	0.882	3.00	0.309	0.828
Question 2	2.46	0.930	3.00	0.579	0.810
Question 3	2.71	0.723	3.00	0.503	0.817
Question 4	2.36	0.910	3.00	0.602	0.808
Question 5	1.54	1.110	2.00	0.655	0.802
Question 6	1.76	1.233	2.00	0.291	0.834
Question 7	2.31	0.949	3.00	0.564	0.810
Question 8	1.87	1.246	2.00	0.488	0.817
Question 9	2.56	0.870	3.00	0.293	0.828
Question 10	2.32	0.884	3.00	0.407	0.821
Question 11	1.82	1.097	2.00	0.539	0.812
Question 12	1.60	1.130	2.00	0.589	0.807
Question 13	2.19	0.999	3.00	0.388	0.823

SSEQ-B score: descriptive and consistency

The SSEQ-B scores are shown in Table 2. Totals ranged from 4 to 39 points, with an average of 27.9 ± 7.5. The highest mean scores occurred in questions 3 (2.71 ± 0.72), 9 (2.56 ± 0.87) and 1 (2.53 ± 0.88). The lowest mean scores were observed in questions 5 (1.54 ± 1.11), 12 (1.60 ± 1.11) and 6 (1.76 ± 1.23). The internal consistency measured by the Cronbach's Alpha coefficient (αC) was 0.83. No significant improvements in the αC occurred when any of the 13 questions was removed (Table 2). A weak relationship between time since the stroke onset and the SSEQ-B total score was found [r = 0.24, p = .009, n = 115] in the studied sample. SSEQ-B total scores did not differ (F2114 = 1.99, p = .14) when comparing people living with stroke from 3 to 6 months [25.31 (mean) ± 7.59 (standard deviation)], from 7 to 24 months [27.17 (mean) ± 8.79 (standard deviation)] and ≥ 25 months [29.11 (mean) ± 6.43 (standard deviation)]. Together, these findings suggest time since stroke onset exhibited a very weak influence on stroke self-efficacy in the studied stroke recovery phases.

SSEQ-B structural validation

The SSEQ-B structural validation was performed in two stages: validation of the factorial structure using Exploratory Factorial Analysis (EFA); and confirmation of the structure and validity of the internal model using Confirmatory Factorial Analysis (CFA).

Exploratory factorial analysis

The principal components extraction method revealed the exclusion of questions from the SSEQ-B was inappropriate (initial community criterion > 0.50). Because the *a priori* requirements were fulfilled, the Oblimin with Kaiser Standardization rotation method was used. The Kaiser-Meyer-Olkin (KMO) test showed a value of 0.81, indicating the correlation matrix was adequate for the factorial analysis. Bartlett's sphericity test was highly significant (414,177; p < .001), rejecting the hypothesis that the SSEQ-B questions are not correlated. The parallel analysis (Table 3) generated a model with three latent factors (1, 2 and 3) for eigenvalues greater than 1,

Table 3. Principal component analysis (factorial load) and commonality for the 13-question SSEQ-B.

		Parallel Analysis			Scree Plot	
		Factors [AB]			Factors	
SSEQ-B question	Communality [A]	1	2	3	1	2
Question 1	0.512		**0.688**		−0.035	**0.708**
Question 2	0.646	0.235	0.438	**0.771**	**0.564**	0.408
Question 3	0.738	0.275		**0.852**	**0.690**	0.121
Question 4	0.722	0.422	0.263	**0.842**	**0.753**	0.203
Question 5	0.594	**0.639**	0.456	0.550	**0.658**	0.368
Question 6	0.614	**0.759**			**0.528**	−0.099
Question 7	0.604	**0.690**		0.589	**0.766**	0.065
Question 8	0.533	**0.682**		0.495	**0.704**	0.042
Question 9	0.551		**0.718**		−0.087	**0.725**
Question 10	0.279	0.331	**0.453**	0.301	0.312	**0.411**
Question 11	0.514	0.295	**0.674**	0.409	0.322	**0.640**
Question 12	0.579	**0.598**	0.566	0.348	0.482	**0.487**
Question 13	0.446		**0.667**	0.235	0.108	**0.658**
Eigenvalues		4.505	1.756	1.071	4.505	1.756
Variance (%)		34.650	13.510	8.240	34.650	13.510
Accumulated variance (%)		34.650	48.161	56.401	34.650	48.161

A. Extraction Method: principal component analysis. A, B: Rotation Method: Oblimin with Kaiser Normalization (Converged rotation in 12 iterations)

which could explain 56.40% of the SSEQ-B variance. Factors 2 and 3 showed a percentage of explained variance of 13.51% and 8.24%, respectively.

The highest commonalities were found in questions 3 (0.738) and 4 (0.722) while the lowest explanatory power was found in question 10 (0.279). The factors in the tri-factorial structure were named as: Factor 1 (involving upper limb and walking-related tasks), Factor 2 (empowerment and responsibility) and Factor 3 (mobility and displacement).

In the scree plot method, the number of factors is selected by observing the discontinuity (elbow) between the highest and lowest eigenvalues. This analysis indicated two latent factors to be considered in the SSEQ-B structure (Figure 1).

Confirmatory factorial analysis

As the preliminary original version of the SSEQ was unifactorial and SSEQ-B does not have a pre-established factorial structure, the possibility of a single factor model was also tested in the study (forced by the exploratory analysis) and was able to explain only 34.65% of the SSEQ-B variance. Moreover, the internal consistency for the unifactorial structure was 0.83. In this model, the results showed the ratio between chi-square and degrees of freedom (x^2/gl) was 2.55, which is acceptable for model adequacy. The GFI was satisfactory (0.802), the scores for the CFI (0.760) and TLI (0.711) were higher than ideal. Moreover, the RMSEA was poor in the unifactorial structure (0.117/CI 90%: 0.095–0.139). Altogether, these findings suggest the unifactorial structure is inadequate for the SSEQ-B.

The exploratory factorial parallel analysis indicated a trifactorial model explains 56.40% of the variance in the SSEQ-B. Regarding the internal consistency, the Cronbach's alpha was 0.75 in Factor 1 (question 5, 6, 7, 8 and 12); 0.68 in Factor 2 (question 1, 9, 10, 11 and 13); and 0.78 in Factor 3 (question 2, 3 and 4). When assessing the adjustment, the x^2/gl index was 1.88, which suggests the model is adequate. The CFI and TLI were 0.780 and 0.836, respectively, which is acceptable. The GFI was 0.87 and the RMSEA was 0.09 [CI 90%: 0.063–0.112], both suggesting the trifactorial model was mathematically acceptable for the SSEQ-B

On the other hand, the Scree plot analysis showed a bifactorial structure explained 48.16% of the variance in the SSEQ-B. The internal consistency for the bifactorial model was 0.80 in Factor 1 (question 2, 3, 4, 5, 6, 7 and Q8) and 0.72 in Factor 2 (question 1, 9, 10, 11, 12 and 13). In the confirmatory analysis, the bifactorial structure exhibited an acceptable adequacy (x^2/gl = 1.99). The CFI and TLI also showed acceptable values (0.85 and 0.81, respectively). The GFI was 0.85, which is adequate for robust models. The RMSEA was 0.09 [CI90%: 0.070–0.117], an estimate that does not compromise the model (Figure 4). The factors in the bifactorial structure were named as: Factor 1: "activity" and Factor 2: "self-management," in accordance with the nature of the questions within the factors.

In summary, the bi and trifactorial structures were found to be the most acceptable for the SSEQ-B (Table 4). However, in the latter, factors 1 and 3

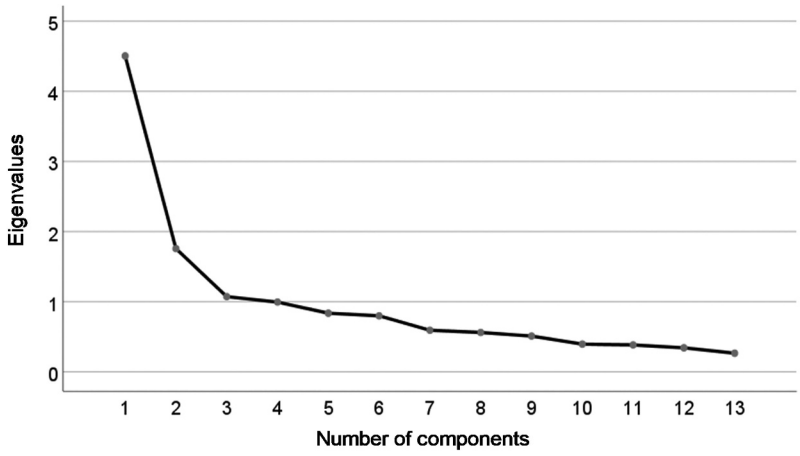

Figure 1. Scree plot of the exploratory factorial analysis of the SSEQ-B.

Table 4. Model adjustment indexes for the factorial structure of the SSEQ-B.

Model	x^2/gl	CFI	TLI	RMSEA	GFI	AGFI	RMR	ECVI
Unifactorial	2.549	0.760	0.711	0.117 (0.095–0.139)	0.802	0.723	0.094	1.910
Bifactorial	1.999	**0.847**	0.814	0.094 (0.070–0.117)	**0.853**	0.791	0.084	1.596
Trifactorial	**1.878**	0.780	**0.836**	**0.088 (0.063–0.112)**	0.868	**0.806**	**0.083**	**1.530**

x^2/gl: ratio between chi-square and degrees of freedom; CFI: comparative fit index; TLI: Tucker–Lewis index; RMSEA: the root mean square error of approximation; GFI: the goodness of fit index; AGFI: adjusted goodness of fit index; RMR: The root mean square residual; ECVI: expected cross-validation index. Bold values indicate acceptable indexes.

exhibited very similar loading ranges, which suggests they could be collapsed, thus indicating the suitability of the bifactorial structure for the SSEQ-B (Table 3). Structure of the SSEQ-B resulting from confirmatory factorial analysis is shown in Figure 2.

Discussion

The term self-efficacy has been used to refer to an individual's belief regarding their own abilities to gain control and succeed in different situations. Thus, self-efficacy combines people's feelings, a priori confidence and their perceived performance when experiencing individual, community or environmental situations.[7] Because self-efficacy is composed by many subjective issues, specific instruments have been developed for condition-dependent assessments. This is the case of the SSEQ, originally published in English, intended to assess the self-efficacy of people who suffered a stroke regarding their bed mobility, walking, dressing, self-management, and dealing with frustration

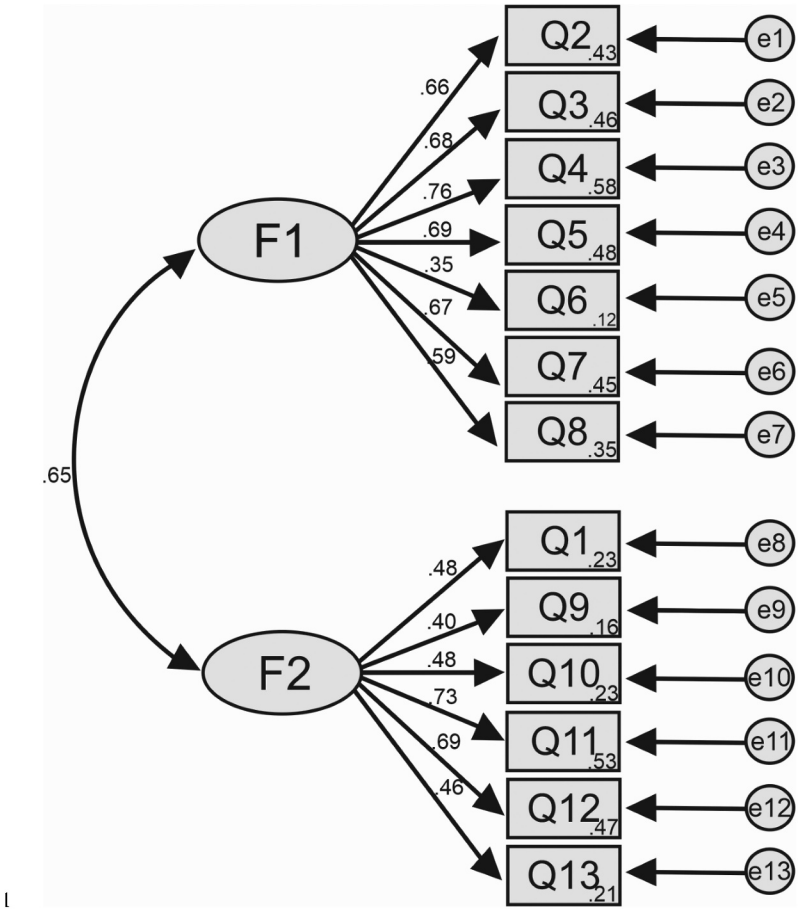

Figure 2. Structure of the SSEQ-B resulting from confirmatory factorial analysis. The two factors are F1: activity and F2: self-management. Number arrows denote correlations. The numbers above the directed arrows indicate item loadings (ranging from 0 to 1). The higher the loadings the stronger the association of the item with the factor.

and motivation to maintain a rehab/exercise program after stroke.[8] While SSEQ has been transculturally adapted and validated for use in many countries, the structural validity of the Brazilian version of the questionnaire (SSEQ-B) was still lacking until the current findings. Hence, this study provided evidence for structural validity using exploratory and confirmatory factorial analyses.

We found both the bi and trifactorial structures to be adequate for the SSEQ-B, while the unifactorial structure compromised the structural validation of the Brazilian version of the questionnaire. Our results are in line with other studies addressing the structural validity of the SSEQ in other languages.

While the preliminary version of the SSEQ in English[8] was unifactorial, a follow-up study using Rasch, and confirmatory factorial analyses suggested the English version of the SSEQ is better explained using a bifactorial structure. As in the present study, this structure includes the self-management and activities domains.[9] This is important because functional and management self-efficacy are not necessarily linked.[22] As typically seen in self-managed illnesses, stroke survivors may have different levels of self-efficacy when facing activities of daily living. Hence, someone with high levels of self-management may not exhibit self-efficacy in performing activities of daily living,[23] which agree with the bifactorial structure found in our results and in the current English version of the SSEQ.[9] In addition, other transculturally adapted versions of the SSEQ have a bifactorial structure.[10,12]

The current English[9] and Italian versions[12] of the SSEQ presents an identical distribution of self-efficacy-related questions. Questions 1 to 8 were classified as activities and 9 to 13 as self-management. Our results agree with the previous findings; however, the scree-plot method indicates Question 01 in the SSEQ-B should be included within the self-management domain. This result may be explained by the nature of question 1 ("to remain in bed comfortably every night") in Brazilian Portuguese. Although the original item represents an activity, the expression "to remain in bed" may sound like a "decision" (the person decided to remain in bed) in the Brazilian version. Thus, we understand question 1 is more compatible with the self-management domain in SSEQ-B. Questions 2 to 8 in the SSEQ-B assess activities (items related to mobility, displacement, and manual skills) while questions 1 and 9 to 13 address self-management issues (items including psychosocial factors and empowerment).

In the Chinese version of the SSEQ,[10] the principal component analysis also suggested a bifactorial structure, but with the 13 questions distributed differently in factors. The Chinese authors suggested alternative factor names: "Live with new challenges" and "Activity and engagement in exercises." The distribution of questions in each factor also differs from the original,[9] the Italian version[12] and the SSEQ-B. The Chinese authors explain the differences in terms of the traditional Chinese culture, which involves focusing on adapting to the challenges resulting from sudden major problems in life, such as a stroke.[24] It is important to note the concept of self-management in chronic diseases may differ between Eastern and Western cultures.[23,25] A person's cultural context influences health-related behavior, mostly because health issues are embedded in cultural aspects.[25] For instance, the perceived quality of life differs between Eastern and Western population living with chronic diseases because the former usually conceives health under a more holistic perspective.[23] This finding encourages further studies addressing the meaning of stroke self-efficacy to Eastern and Western populations.

In this study, a trifactorial structure was also mathematically valid, but did not provide any substantial improvement in comparison with the bifactorial structure. Although the trifactorial structure would be applicable in the SSEQ-B, the clinical meaning of those factors is more difficult to interpret. In the trifactorial model, Factor 1 (questions 5 to 8, and 12) would include questions regarding upper limb functioning (question 6 to 8), gait (question 5) and a generic question involving activity-related emotions (question 12). Factor 2 (questions 1, 9 to 11 and 13) would include responsibility and empowerment-related items. Finally, Factor 3 (questions 2 to 4) would involve mobility and displacement. Notably, the only difference between the bi and trifactorial structures is question 12, which asks if the respondent continues to do most of the things they liked to do before the stroke.

Stroke survivors may not be able to readily associate activities such as regular exercise or emotional control with the concept of self-care,[10] which may have influenced the composition of the bi and trifactorial structures. Overall, we strongly suggest the bifactorial model should be used in the SSEQ-B to facilitate clinical interpretation, as in the original[9] and other transculturally adapted versions of the questionnaire.[12]

Stroke-specific rehabilitation programs may improve occupational performance and patient satisfaction when self-efficacy is used to monitor functionality and independence.[25] The higher self-efficacy, the greater satisfaction and commitment to achieving the remaining rehabilitation goals.[26]

This study has some limitations. While running EAF and CFA in independent samples would be theoretically ideal, our dataset division would reduce the study power and may not guarantee all requisites to establishing independent groups. Thus, we decided to run EAF and CFA analyses in the same sample, fulfilling the statistical prerequisites suggested in the literature.[27–29] Moreover, we know the indexes GFI, SRMR, RMSEA, CFI, NFI and RFI are influenced by different factors, including sample characteristics and size.[27,30] Because we had more than 100 observations in the studied dataset, we assume borderline values for those indexes could be acceptable.[31,32] Although we assume the current factorial structure is valid and clinically useful, further studies employing larger datasets might be necessary to refine the SSEQ-B reported domains.

Another interesting issue is that the studied sample exhibited a wide range of time since the stroke onset. While it was an attempt to better reflect the Brazilian population living with stroke in the late subacute and chronic stroke phases, we cannot exclude the influence time since stroke onset has on self-efficacy; however, this relationship was not found in the current sample. Further studies are needed to better understand how people living with stroke perceive their self-efficacy through stroke subphases.

This study concludes the SSEQ-B is a valid measure of self-efficacy and exhibits a valid and clinically relevant bifactorial structure. This research provides guidance to clinicians and stroke survivors to establish rehabilitation goals, particularly in the self-management and activities domains of functionality.

Disclosure statement

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ORCID

Pedro Henrique Deon http://orcid.org/0000-0002-1019-9434
Marina Portugal Makhoul http://orcid.org/0000-0002-1459-5354
Bianca Pacheco Loss http://orcid.org/0000-0001-7161-5895
Eliana da Silva Jaques http://orcid.org/0000-0001-7903-7479
Janete de Souza Urbanetto http://orcid.org/0000-0002-4697-1641
Régis Gemerasca Mestriner http://orcid.org/0000-0001-9837-1691
Camila Torriani-Pasin http://orcid.org/0000-0002-7173-8390

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