

뇌신경재활

게시일시 및 장소 : 10 월 18 일(금) 13:15-18:00 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 15:45-16:30 Room G(3F)

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Korean Version of Stroke Rehabilitation Motivation Scale: Reliability and Validity Evaluation

Mina Park^{1*}, Ji-Yeong Lee¹, Yeajin Ham¹, Sang-Wook Oh¹, Joon-Ho Shin^{1†}

National Rehabilitation Center, Department of Rehabilitation Medicine¹

Objective

The purpose of this study is to translate and to verify the reliability and validity the Korean version of Stroke Rehabilitation Motivation Scale (K-SRMS), which was developed in Australia to evaluate the motivational level of stroke patient in rehabilitation.

Methods

The translation process followed the structural process, including translation, verification of conjugation of the Korean language, compromise process, reverse translation, feedback, final correction. The reliability was evaluated by using Internal consistency and test-retest analysis. The Validity was assessed by comparing the Korean version of the Behavior Inhibition System/Behavior Activation System (BIS/BAS) and using exploratory factor analysis.

Results

A reliability test was conducted for a total of 50 participants. The test-retest analysis result showed good reliability and the result of internal consistency was as good as the original version except for four items. With the exclusion of four items that made reliability insufficient, a total of 102 participants were enrolled for the validity test. Pearson correlation analysis demonstrated that BAS total result was significantly correlated with K-SRMS (Pearson's $r = 0.207$, $p < 0.05$). In exploratory factor analysis result, the K-SRMS was categorized into 7 factors, and Factor 1 and Factor 4 showed mutual concordance with a subscale of K-SRMS such as Intrinsic motivational factors and Amotivation, respectively.

Conclusion

The K-SRMS was newly developed and showed good reliability and validity. The K-SRMS could be used as a tool to objectify the degree of motivation for the rehabilitation of stroke patients in clinical care and research.

Keywords: Stroke Rehabilitation, Motivation, Validation, Translation, Surveys, and Questionnaires

Table 1. Internal Consistency and Test-Retest Reliability of the Korean version SRMS using Cronbach's alpha.

SRMS items and Subgroups [↵]	Internal consistency [↵] (Cronbach's alpha) [↵]			Test-retest reliability [↵] (Cronbach's alpha) [↵] (n = 50) [↵]
	Original [↵] (n = 31) [↵]	Korean ver. 1.4 [↵] (n = 50) [↵] (28-item) [↵]	K-SRMS [↵] (n = 50) [↵] (24-item) [↵]	
Extrinsic Motivation Introjected [↵]	0.173 [↵]	0.484 [↵]	0.641 [↵]	
1 [↵]				0.809 [↵]
8 (deleted) [↵]				0.467 [↵]
15 [↵]				0.764 [↵]
22 [↵]				0.719 [↵]
Amotivation [↵]	0.554 [↵]	0.185 [↵]	0.584 [↵]	
2 [↵]				0.734 [↵]
9 [↵]				0.464 [↵]
16 [↵]				0.791 [↵]
23 (deleted) (reverse) [↵]				0.627 [↵]
Intrinsic Motivation Knowledge [↵]	0.723 [↵]	0.525 [↵]	0.525 [↵]	
3 [↵]				0.744 [↵]
10 [↵]				0.578 [↵]
17 [↵]				0.744 [↵]
24 [↵]				0.616 [↵]
Extrinsic Motivation Regulation [↵]	0.738 [↵]	0.376 [↵]	0.539 [↵]	
4 [↵]				0.692 [↵]
11 [↵]				0.778 [↵]
18 [↵]				0.774 [↵]
25 (deleted) [↵]				0.662 [↵]
Extrinsic Motivation Identification [↵]	0.548 [↵]	0.392 [↵]	0.496 [↵]	
5 (reverse) [↵]				0.163 [↵]
12 (reverse) [↵]				0.486 [↵]
19 (deleted) [↵]				0.751 [↵]
26 [↵]				0.686 [↵]
Intrinsic Motivation Stimulation [↵]	0.806 [↵]	0.896 [↵]	0.896 [↵]	
6 [↵]				0.678 [↵]
13 [↵]				0.755 [↵]
20 [↵]				0.796 [↵]
27 [↵]				0.910 [↵]
Intrinsic Motivation Accomplishment [↵]	0.775 [↵]	0.703 [↵]	0.703 [↵]	
7 [↵]				0.775 [↵]
14 [↵]				0.825 [↵]
21 [↵]				0.534 [↵]
28 [↵]				0.784 [↵]

The number in this table is the question number of the original version. Question number 8, 19, 23, 25 were excluded after the reliability test. Question number 5, 12, 23 were the reverse items.[↵]

Table 2. Pearson's correlation test of Korean SRMS with Korean BIS/BAS (n = 102)

	EM Introjected [↵]	EM Regulation [↵]	EM Identifica tion [↵]	AM [↵]	IM Knowle dge [↵]	IM stimulation [↵]	IM accompli shment [↵]	K- SRMS total [↵]
BAS Reward [↵]	0.216*,	0.359**,	0.210*,	-0.220*,	0.251*,	0.314**,	0.217*,	0.221*,
BAS Drive [↵]	0.023,	0.282**,	0.209*,	-0.224*,	0.212*,	0.341**,	0.235*,	0.194,
BAS Fun [↵]	0.030,	0.311**,	0.198*,	-0.208*,	0.144,	0.304**,	0.195,	0.103,
BAS Total [↵]	0.110,	0.383**,	0.247*,	-0.261**,	0.243*,	0.383**,	0.259**,	0.207*,
BIS Total [↵]	0.268**,	0.242*,	0.085,	-0.151,	0.184,	0.170,	0.100,	0.099,

Values are presented as the Pearson correlation coefficient. BAS, Behavior activation system; BIS, Behavior inhibition system; SRMS, stroke rehabilitation motivation scale. * p<0.05, ** p<0.01, calculated by Pearson's correlation test[↵]

Table 3. The Exploratory actor analysis of Korean SRMS

Original SRMS items [↵]	Factor (factor loading) [↵]						
	1 [↵]	2 [↵]	3 [↵]	4 [↵]	5 [↵]	6 [↵]	7 [↵]
13 [↵]	0.830 [↵]						
27 [↵]	0.783 [↵]						
20 [↵]	0.752 [↵]						
14 [↵]	0.749 [↵]						
6 [↵]	0.661 [↵]						
15 [↵]	0.631 [↵]						
7 [↵]	0.538 [↵]						
1 [↵]		0.796 [↵]					
3 [↵]		0.732 [↵]					
21 [↵]		0.527 [↵]					
11 [↵]			0.784 [↵]				
10 [↵]			0.719 [↵]				
4 [↵]			0.525 [↵]				
28 [↵]			0.484 [↵]				
16 [↵]				-0.697 [↵]			
2 [↵]				-0.620 [↵]			
17 [↵]				0.538 [↵]			
9 [↵]				-0.445 [↵]			
12 [↵]					0.842 [↵]		
5 [↵]					0.609 [↵]		
18 [↵]						0.684 [↵]	
24 [↵]						0.607 [↵]	
22 [↵]							0.841 [↵]
26 [↵]							0.659 [↵]
% of Variance [↵]	30.09 [↵]	38.70 [↵]	45.30 [↵]	51.44 [↵]	56.76 [↵]	61.47 [↵]	65.93 [↵]
KMO [↵]							0.811 [↵]
Bartlett's Test [↵]	Chi-Square [↵]						999.678 [↵]
	df [↵]						276 [↵]
	Significance [↵]						0.000 [↵]

Question number 8, 19, 23, 25 were excluded after the reliability test[↵]

KMO, Kaiser-Meyer-Olkin scale; df, degree of freedom. [↵]