

Validity and Reliability of the Rosenberg Self-Esteem Scale-Thai Version as Compared to the Self-Esteem Visual Analog Scale

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Objective: To compare the validity and reliability of the Thai version of the Rosenberg Self-Esteem Scale with the Self-Esteem Visual Analog Scale.

Material and Method: The Rosenberg Self-Esteem Scale was translated into Thai and its content-validity checked by back translation. The reliability of the Rosenberg Self-Esteem Scale compared with the Self-Esteem Visual Analog Scale was then tested between February and March 2008 on 270 volunteers, including 135 patients with psychiatric illness and 135 normal volunteers. The authors analyzed the internal consistency and factor structure of the Rosenberg Self-Esteem Scale-Thai version and the correlation between it and the Visual Analog Scale.

Results: The Cronbach's Alpha for the Rosenberg Self-Esteem scale-Thai version was 0.849 and the Pearson's correlation between it and the Self-Esteem Visual Analog Scale 0.618 ($p = 0.01$). Two factors, viz, the positively and negatively framed items, from the Rosenberg Self-esteem scale-Thai version accounted for 44.04% and 12.10% of the variance, respectively.

Conclusion: The Rosenberg Self-Esteem Scale-Thai version has acceptable reliability. The Self-Esteem Visual Analog Scale provides an effective measure of self-esteem.

Keywords: Self-esteem, Rosenberg's self-esteem scale, Validity, Reliability

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The Rosenberg Self-esteem Scale (1965)⁽¹⁾ is a questionnaire used around the world. The original sample used for developing this scale comprised 5,024 high school juniors and seniors from 10 randomly selected schools in New York State. This scale uses 10 uni-dimensional items to measure global self-esteem. The Rosenberg Self-Esteem Scale has demonstrated reliability and validity across a large number of different sample groups and has been translated into and validated in various languages. The test-retest correlations are between 0.82 to 0.88 and Cronbach's alpha between 0.77 to 0.88⁽²⁾.

There have been various translations of the Rosenberg Self-Esteem Scale into Thai, but the most popular version is the one by Thapanee Thangjitpagdeesakul⁽³⁾, which was first validated

among 30 Thai juvenile delinquents. It was later re-validated among 722 young, Thai, female, university students by Beeber et al who reported a Chronbach's alpha of 0.79⁽⁴⁾. The validations were done in specific youth samples so the results could not be adapted to the general population. The present study is part of a larger project on 'Holistic Care for Patients with Schizophrenia' whose aim is to study the validity and reliability of the Rosenberg Self-Esteem Scale-Thai version (RSES-T) in a broader context (by age in normal vs. mentally ill persons) and to compare it with the Self-Esteem Visual Analog Scale which is more user-friendly and less time-consuming.

The Self-Esteem Visual Analog Scale (SVAS) is an instrument that approximates a measure of self-esteem by instructing subjects to mark the level of how good they feel about themselves on a 10-cm horizontal line representing a continuum from 'not at all' to 'very much'. The SVAS score is determined by measuring (in mm) from the left to the point on the line marked by the subject.

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Material and Method

Content validity

The Rosenberg Self-Esteem Scale was translated into Thai by the first author and back-translated by a psychiatrist whose primary language is English. The content validity of the translation was verified by comparing the English original with the back-translated version. The comprehensibility of the language was then tested on 15 normal Thai volunteers.

Reliability study

One hundred thirty five normal volunteers and 135 out-patients with psychiatric diagnoses, all over 18 years of age, participated in this study. The patients were diagnosed using either the ICD-10 or DSM-IV criteria at our Out-Patient Psychiatric Clinic. The normal volunteers were persons accompanying the patients who may or may not have to see a doctor (other than a psychiatrist) at Srinagarind Hospital, Khon Kaen University. The subjects were seen between February and March 2008. All of the subjects completed the RSES-T and SVAS by themselves or were assisted by one of the researchers if they had difficulty reading. The calculated sample size was 270. The authors analyzed the internal consistency, factor analysis, correlation between the two scales, and the association between the score and the identification data using SPSS 16.0. We used (a) Cronbach's Alpha to measure reliability (b) Pearson's correlation to measure the correlation between the two scales and (c) the t-test to compare between the normal subjects and the patients.

Results

The content of the back translation version in the present study was comparable to the original version. The 15 normal subjects found that every item of the RSES-T was easily understood.

The presented 270 subjects (168 females [37.8%] and 102 males [62.2%]) were all between 18 and 68 years of age and included 135 normal volunteers and 135 psychiatric patients. The majority of the subjects were Buddhists (98.5%), married (58.9), bachelor degree educated (43.3), government workers, and earning between 10,000-25,000 baht per month (Table 1). The patient group included diagnoses of schizophrenia, substance-use disorders, depression, bipolar disorder, stress related disorder, generalized anxiety disorder and sleep disorders and others (23, 3, 21.5, 16.3, 6.7, 11.9, 2.2, and 15.5% respectively excluded "None") (Table 2).

The RSES-T's Cronbach's Alpha was 0.849. The Pearson's correlations for the 10 items on the RSES-T version are presented in Table 3. Two factors from the RSES-T, namely, the positively and negatively phrased items, accounted for a respective 44.04 and 12.10% of the variance and consisted of a positive and negative item (Tables 4 and 5).

The Pearson's correlation between the RSES-T and SVAS was 0.618 and the correlation is significant at the 0.01 level (2-tailed) (Fig. 1).

The subjects in the normal volunteers group had a significantly higher score on the RSES-T than the patient group. Although the male subjects had a nominally higher mean score than the female subjects, the difference was not statistically significant. The RSES-T scores significantly correlated with age and income (Pearson correlation = 0.17 ($p = 0.005$) and 0.23 ($p = 0.000$), respectively). The subjects with a bachelor degree and/or post-graduation education had significantly higher scores than the subjects who finished only a primary school education (mean difference = 2.45 ($p = 0.04$) and = 3.53 ($p = 0.02$), respectively). Subjects who worked for the government had a higher score than housewives and students (mean difference = 3.16 ($p = 0.03$) and 4.15 ($p = 0.00$), respectively). The unemployed generally had a lower score than the employed but the difference was not statistically significant. In addition, there was no statistically significant difference among different patient diagnoses or different marital status (no data presented).

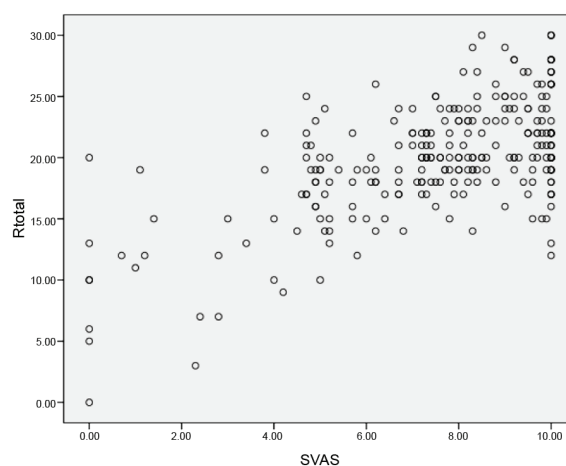


Fig. 1 Relationship between the identification data and the score from the Rosenberg Self Esteem Scale-Thai version

Table 1. Identification data

	Case		Normal		Total	
	n	%	n	%	n	%
Sex						
Male	48	35.6	54	40	102	37.8
Female	87	64.4	81	60	168	62.2
Age(years)						
18-25	66	48.9	57	42.2	123	45.6
25-60	59	43.7	67	49.6	126	46.7
> 60	10	7.4	11	8.1	21	7.8
Marital status						
Single	58	43.0	39	28.9	97	35.9
Married	72	53.3	87	64.4	159	58.9
Divorced	2	1.5	7	5.2	9	3.3
Separated	0	0	1	0.7	1	0.4
Widowed	3	2.2	1	0.7	4	1.5
Religion						
Buddhist	133	98.5	133	98.5	266	98.5
Christian	1	0.7	1	0.7	2	0.7
Muslim	1	0.7	1	0.7	2	0.7
Education						
Primary school	18	13.3	17	12.6	35	13.0
High school (level 1-3)	13	9.6	16	11.9	29	10.7
High school (level 4-6)	34	25.2	34	25.2	68	25.2
Bachelor degree	62	45.9	55	40.7	117	43.3
Master degree	8	5.9	12	8.9	20	7.4
Doctoral degree	0	0	1	0.7	1	0.4
Occupation						
Farmer	11	8.1	9	6.7	20	7.4
Worker	10	7.4	12	8.9	22	8.1
Housewife	13	9.6	15	11.1	28	10.4
Student	22	16.3	13	9.6	35	13.0
Civil servant	52	38.5	56	41.5	108	40.0
Merchant	16	11.9	24	17.8	40	14.8
Other	4	3.0	6	4.4	10	3.7
Unemployed	7	5.2	0	0	7	2.6
Income (Bath)						
No income	33	24.4	12	8.9	45	16.7
< 5,000	14	10.4	16	11.9	30	11.1
5,000-9,999	18	13.3	26	19.3	44	16.3
10,000-25,000	47	34.8	57	42.2	104	38.5
> 25,000	21	15.6	21	15.6	42	15.6
Other	2	1.5	3	2.2	5	1.9

Discussion

The Cronbach's Alpha of RSES-T in the current study was 0.849 compared to (a) 0.67 for the version translated by Thapanee Thangjitpagdeesakul⁽³⁾ validated among 30 Thai Juvenile delinquents and (b) 0.79 for the same version validated in 722 Thai female university students by Beeber et al⁽⁴⁾. The authors

Table 2. Diagnoses

Diagnosis	n	%
None	135	50.0
Schizophrenia	31	11.5
Substance and/or alcohol related disorders	4	1.5
Depressive disorders	29	10.7
Bipolar disorders	22	8.1
Stress related disorders	9	3.3
Anxiety disorders	16	5.9
Sleep disorders	3	1.1
Others	21	7.8
Total	270	100.0

confirmed the finding from Beeber et al that the item with the least correlation with other items was item number 8 (*viz.*, "I wish I had more self-respect). When this item was translated into Thai, the subjects interpreted it positively as "Having hope for themselves. There were low correlations in the item-total correlations for items number 7 and 8 and the internal consistency increased when these two items were excluded, as found in other studies^(4,5).

Typically, the Rosenberg Self-esteem Scale is treated as a uni-dimensional scale. Structure analysis of our version of the Rosenberg Self-esteem Scale —*using a factor analytic technique*— revealed in two factors with Eigen value greater than 1.00, which is to say that these factors contained both positively and negatively framed items. Some researchers found a similar result while others found a uni-dimensional structure. There is debate about the substantive meaningfulness of the distinction of factors with positively and negatively framed items. Carmines and Zeller concluded that a bi-dimensional result is a methodological artifact cum contamination⁽⁶⁾. Marsh⁽⁷⁾, however, did a confirmatory factor analysis, which led him to propose that results will vary according to the reading ability and age of the sample. Greenberger et al concluded that a two-factor structure is an artifact of item wording⁽⁸⁾. By comparison, Kaufman et al concluded that a two-factor structure revealed the positive and negative duality of the self⁽⁹⁾.

The current version of the self-esteem visual analog scale aims to assess self-esteem in general and has an alpha correlation of 0.618 with RSES-T. The limitation of the current version is that there are no details or dimensionality given for self-esteem as the authors measured it. An alternative is the Visual Analogue Self-Esteem Scale developed by Brumfitt and

Table 3. Pearson correlations among items of Rosenberg Self Esteem scale-Thai version (n = 270)

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	SVAS
R1	1	0.381**	0.454**	0.411**	0.443**	0.375**	0.312**	0.151*	0.454**	0.438**	0.499**
R2	0.381**	1	0.322**	0.266**	0.502**	0.538**	0.244**	0.319**	0.471**	0.385**	0.360**
R3	0.454**	0.322**	1	0.397**	0.415**	0.390**	0.322**	0.119	0.373**	0.480**	0.476**
R4	0.411**	0.266**	0.397**	1	0.305**	0.304**	0.324**	0.106	0.419**	0.505**	0.385**
R5	0.443**	0.502**	0.415**	0.305**	1	0.594**	0.279**	0.257**	0.547**	0.423**	0.470**
R6	0.375**	0.538**	0.390**	0.304**	0.594**	1	0.284**	0.274**	0.638**	0.453**	0.491**
R7	0.312**	0.244**	0.322**	0.324**	0.279**	0.284**	1	0.051	0.339**	0.429**	0.259**
R8	0.151*	0.319**	0.119	0.106	0.257**	0.274**	0.051	1	0.242**	0.087	0.165**
R9	0.454**	0.471**	0.373**	0.419**	0.547**	0.638**	0.339**	0.242**	1	0.522**	0.511**
R10	0.438**	0.385**	0.480**	0.505**	0.423**	0.453**	0.429**	0.087	0.522**	1	0.439**
SVAS	0.499**	0.360**	0.476**	0.385**	0.470**	0.491**	0.259**	0.165**	0.511**	0.439**	1

** Correlation significant at the 0.01 level (2-tailed)

* Correlation significant at the 0.05 level (2-tailed)

Table 4. Total variance explained by the first two factors of the Rosenberg Self-Esteem scale-Thai version

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	4.402	44.023	44.023	4.402	44.023	44.023	3.075	30.750	30.750
2	1.210	12.104	56.126	1.210	12.104	56.126	2.538	25.376	56.126

Table 5. Rotated component-matrix of the Rosenberg Self Esteem scale-Thai version

	Component	
	1	2
R1	0.620	0.320
R2	0.283	0.714
R3	0.664	0.229
R4	0.713	0.105
R5	0.415	0.659
R6	0.395	0.707
R7	0.659	0.043
R8	-0.173	0.725
R9	0.529	0.587
R10	0.767	0.233

Table 6. Pearson's correlation between the Rosenberg Self Esteem scale-Thai version and the SVAS

	Rosenberg	SVAS
Rosenberg		
Pearson correlation	1	0.618**
Sig. (2-tailed)		0.000
n	270	269
SVAS		
Pearson correlation	0.618**	1
Sig. (2-tailed)	0.000	
n	269	269

** Correlation significant at the 0.01 level (2-tailed)

Sheeran in 1999, which is a 10-item scale that uses pictures and words, designed for people with limited communication ability. This alternate scale shows strong internal reliability, test-retest reliability, validity

and high correlations with other measures of self-esteem⁽¹⁰⁾.

Conclusion

The Rosenberg's Self-Esteem scale-Thai version is a two-dimensional scale with acceptable

reliability comparable to the validation levels found in other studies. Rosenberg's Self-Esteem scale-Thai version has moderate correlation with the Self-Esteem Visual Analog Scale used for measuring overall self-perception of self-esteem.

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Potential conflicts of interest

None.

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ความตรงและความเชื่อถือได้ของแบบสอบถามความภูมิใจแห่งตน Rosenberg Self-Esteem Scale ฉบับภาษาไทย เทียบกับ Self-Esteem Visual Analog Scale

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วัตถุประสงค์: เพื่อตรวจสอบความตรงและความเชื่อถือได้ของแบบประเมิน Rosenberg Self-Esteem Scale ฉบับภาษาไทย

วัสดุและวิธีการ: คณะผู้นิพนธ์ได้แปล Rosenberg Self-Esteem Scale เป็นฉบับภาษาไทย และแปลกลับเป็นภาษาอังกฤษ แล้วทดสอบ internal consistency และ factor structure ของแบบประเมินนี้ในอาสาสมัคร 270 ราย ในระหว่างเดือนกุมภาพันธ์และเดือนมีนาคม พ.ศ. 2551 และเปรียบเทียบค่าสหสัมพันธ์ระหว่างค่าคะแนนของ Rosenberg Self-Esteem Scale ฉบับภาษาไทยกับแบบประเมิน Self-Esteem Visual Analog Scale

ผลการศึกษา: Rosenberg Self-Esteem Scale ฉบับภาษาไทยมีค่า Cronbach's Alpha คือ 0.849 และค่า Pearson's correlation ระหว่างคะแนนของ Rosenberg Self-Esteem Scale ฉบับภาษาไทยกับ Self-Esteem Visual Analog Scale คือ 0.618 ($p = 0.01$) Rosenberg Self-Esteem ฉบับภาษาไทยประกอบด้วย สอง factor ซึ่งเป็นคำถามด้านบวก และลบที่อธิบายตัวแปรได้ ร้อยละ 44.04 และ 12.10 ตามลำดับ

สรุป: Rosenberg Self-Esteem ฉบับภาษาไทยมีความน่าเชื่อถือในระดับที่ยอมรับได้ และสามารถใช้ Self-Esteem Visual Analog Scale ในการประเมินความรู้สึกมีคุณค่าในตนเองในคนทั่วไปได้
