Psychometric Evaluation of Hindi version of Satisfaction with Life Scale

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The present paper discusses the psychometric evaluation of adapted version of Satisfaction with Life Scale (SWLS) in Hindi language. This scale was developed by Diener, Emmons, Larsen and Griffin (1985) which assessesthe global life satisfaction of an individual. Back-translation method was used to translate the original scale. The sample consisted of 426 participants drawn from urban and rural areas of Varanasi. Male and female participants belonging to four age groups (i.e., 15-20, 25-30, 45-50 and 60-70 years) were included in the sample. Data analyses show that all the items of translated scale have moderate reliability. Confirmatory factor analysis produces the original single factor structure of SWLS.

Keywords: Life satisfaction, reliability, confirmatory factor analysis

Introduction:

Researchers working in the field of well-being have made endeavors to explain good health in focus of two distinct factors of human life (1) physical and (2) psychological. Psychologists working in the field of well-being have concentrated on the psychological aspect of human life, and termed it Subjective Well-Being (SWB). Diener (1984) identified three separate components of SWB: positive affect, negative affect, and life satisfaction. The first two components refer to the affective or emotional part of SWB; the later one refers to the cognitive-judgment aspect. In one of his most influential papers on the development of life satisfaction scale, Diener et al. (1985) discussed that although several scales for the assessment of affect existed (Bradburn, 1969; Kammann&Flet, 1983; Kozma& Stones, 1980), the measurement of global life satisfaction had received less attention.

Life satisfaction refers to a cognitive judgmental process. Shin and Johnson (1978) define life satisfaction as "a global assessment of a person's quality of life according to his chosen criteria". Judgment of satisfaction is dependent upon a comparison of one's circumstances with what is thought to be an appropriate standard. In his paper he also talked about those scale which were available to measure the SWB. Existing scales were either single item scales or were developed for geriatric population, e.g.,

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Neugarten, Havinghurst, and Tobin's (1961) Life Satisfaction Index, and Lawton's (1975) Philadelphia Geriatric Center Moral Scale. Furthermore, many of the scales did not appear to tapping the judgmental quality of life satisfaction, e. g., the Life Satisfaction Index, which includes a factor of zest vs. apathy (Neugarten et al., 1961). Thus, he developed a 5 item scale to measure the life satisfaction as a cognitive-judgmental process. The item-total correlations for the five SWLS items were: .81, .63, .61, .75, and .66 showing a good level of internal consistency for the scale.

The present study

The aim of the present study was to translate and adapt the Satisfactionwith Life scale developed by Diener, Emmons, Larsen and Griffin (1985) in Hindi language and estimating the psychometric properties of the translated scale. Permission was taken from the original authors to use and translate this scale in Hindi language.

Participants and Material

The sample for the study consisted of 426 participants drawn from urban and rural areas of Varanasi. Male and female participants belonging to four age groups (i.e., 15-20, 25-30, 45-50 and 60-70 years) were included in the sample. Translation and back-translation method was used to get the original scale in Hindi.

Satisfaction with Life Scale (SWLS; Diener et al. 1985)

This scale is used to assess the global life satisfaction. The SWLS includes five items (e.g. ''So far I have gotten the important things I want in life''), rated on aseven-point Likert-type scale. The SWLS demonstrated excellent psychometric properties in previous research (Pavot and Diener 2008).

Results

Reliability of translated scale was estimated using Cronbach's alpha statistics. Factorial validity calculated exploring factor structure of translated scale. Table 1 to 3 presents the outcomes ofalpha coefficient statistics. Table 1 presents the descriptive statistics of new scale

Tablel 1
Mean and SD of the items of scale(N=426)

Item No.	Description	Mean	SD
1.	In most ways my life is close to my idea	4.78	1.69
2	The conditions of my life are excellen	4.77	1.58
3	I am satisfied with my life	5.16	1.55
4	So far I have gotten the important things I want in life	4.74	1.50
5	If I could live my life over, I would change almost nothing	3.88	2.14

Table 2
Inter-item correlation matrix

	1	2	3	4	5
Item 1	-	.440	.420	.292	.286
Item 2	-	-	.577	.481	.247
Item 3	-	-	-	.435	.327
Item 4	-	-	-	-	.221

Table 3
Outcomes of Item-total statistics

	Scale variance It item deleted	Scale mean if Item deleted	Corrected item-Total correlations	Squired multiple correlations	Cronbach's Alpha if item deleted
Item 1	18.55	24.266	.488	.256	.685
Item 2	18.56	23.649	.596	.433	.646
Item 3	18.18	23.601	.614	.413	.641
Item 4	18.60	25.766	.474	.274	.691
Item 5	19.45	23.335	.355	.138	.757

Results indicate that mean scores of five items are 4.77, 4.78, 5.16, 4.74, 3.88 respectively on a 7 point scale and Inter-item correlation matrix (Table 2) showsthat all the five items are low to moderately (from .221 to .577) correlated with each other. Item-total statistics revealed that the corrected item-total correlations for five items are .488, .596, .614, .474, and .355 respectively.

Factor Structure of SWLS
Dimension reduction option in SPSS was used to explore the factor structure of translated version of SWLS. Following results were obtained from exploratory factor analysis.

Table 4
Outcomes of exploratory factor analysis

Indicators	Item 1	Item 2	Item 3	Item 4	Item 5
Communalities	.470	.649	.647	.478	.282
Component Matrix	.686	·806	·804	.691	.531
KMO Measure of sample adequacy	.784				
χ^2	480.50				
Variance Explained	50.51%				

EFA was used to examine the factor structure of Hindiversion. Kaiser–Mayer–Olkin measure (which calculatesthe sample adequacy for the overall scale and variables)and Bartlett test of sphericity (which calculates whether rmatrixresembles the identity matrix) indices were used.Both indices (KMO = .784) and Bartlett's test ofsphericity ($\chi^2 = 1156.20$, p<.001) indicated that thecorrelation matrix was adequate for using PCA.

Confirmatory Factor Analysis

AMOS 18.0 was used to check the factor structure of translated version of Satisfaction with Life. Model extracted from CFAto test the hypotheses produced a good fit indices: $\chi^2 = 3.84$, p>.05; $\chi^2/df = 0.96$, p>.05, CFI = 1.00, GFI = .996, RMSEA = .005, 90 % CI = .000-.072, SRMR = .017, and AIC = 25.84. All the indices of the goodness of fit model suggested excellent fit of data.
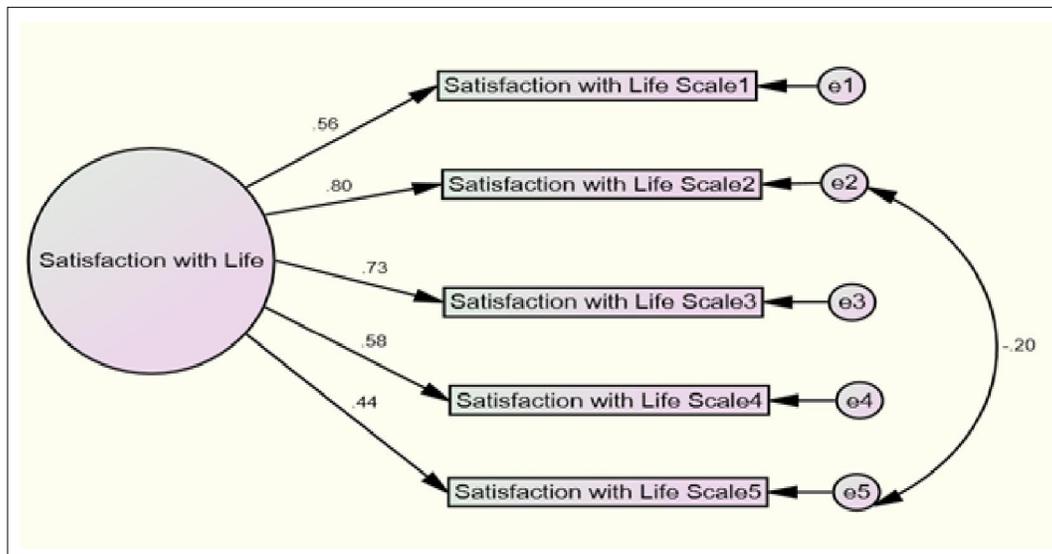

Figure 1: Structural model with Standardized Coefficient (β)

Discussion

The main purpose of the study was to adapt a Hindi version of the Satisfaction with Life Scale (1985) developed by Diener, Emmons, Larsen and Griffin. To produce this version back-translation method developed by Brislin (1970) was used. After analyzing data Cronbach's alpha of translated scale is was found .748. Results also explain that the corrected inter-item correlation of Item No.3 is highest (.614) and the lowest value of correlation is of Item No. 5 (.355). Exploratory factor analysis produces a similar unifactorial structure of original scale contributing 50.51% variance. Confirmatory factor analysis also reproduces the unifactorial structure of translated scale. Standardized β were found ranging from 0.44 to 0.80. It seems that the participants while giving their response to Item 5 were influenced by social desirability which is inbuilt in this item in its English version also. It is suggested that researchers using this scale must take care of the response given by the participants to this item.

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