

PSYCHOMETRIC PROPERTIES AND FACTOR STRUCTURE OF THE SATISFACTION WITH LIFE SCALE IN A MILITARY STUDENTS SAMPLE

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Abstract: The purpose of this paper is to present the results of a study that examined the factorial structure of Satisfaction with Life Scale – SWLS through confirmatory factor analysis and to analyze its psychometric properties in a 124 students sample from Land Forces Academy from Sibiu. The fit indices support the validity of the single factor structure of SWLS. The internal consistency of the SWLS was .75. This scale can be considered a useful tool in measuring the level of life satisfaction in a military student environment.

Keywords: Satisfaction with Life Scale, psychometric properties

1. Introduction

Satisfaction with Life Scale –SWLS is a five item scale created to assess the global level of satisfaction with life as fundamental dimension of well-being, without relating it to adjacent constructs like emotions (positive or negative) or loneliness [1]. The scale has positive psychometric properties: high internal consistency and reliability (Cronbach alpha = .87, test-retest stability coefficient at two months = .82). The scores on this scale are moderately to highly correlated with scores on other instruments that measure subjective well-being or different personality traits. It is also suitable for application on different age groups.

The authors of the scale refer to this construct as a critical cognitive process that involves a global assessment of a person's quality of life, in accordance with the criteria chosen by him/her. Assessment is done by comparing present living conditions with certain standards that are considered appropriate by the individual and are not imposed from outside.

Subjective well-being (SWB) has an *affective component* (pleasant and unpleasant emotions) and a *cognitive component* (satisfaction with life, marriage, work and leisure activities). These components correlate with each other moderately to highly and are therefore often measured together in instruments designed by various authors: "The affective and cognitive components of SWB are not completely independent; however, the two components are somewhat distinctive and can provide complementary information when assessed separately" [2].

Although there is a fairly high degree of agreement on the components of life satisfaction, individuals tend to give different importance to each of them. There are also individual criteria for measuring a "good life" in general and success in each of its components. Therefore, it is necessary that a scale allow an overall assessment of satisfaction and not their specific areas. This was the strategy of the authors of the scale.

Testing the validity of the scale, Pavot, Diener, Colvin and Sandvik [3] found that it is a suitable tool for measuring subjective well-being for various samples of subjects in different age groups and with different social statuses.

Pavot and Diener [4] revised the scale and presented a series of normative data for it, stating that "Scores on the SWLS can be interpreted in terms of absolute as well as relative life satisfaction. A score of 20 represents the neutral point on the scale, the point at which the respondent is about equally satisfied and dissatisfied. For example, scores between 21 and 25 represents lightly satisfied, and scores between 15 and 19 represent slightly dissatisfied with life. Scores between 26 and 30 represent satisfied, and scores from 5 to 9 are indicative of being extremely dissatisfied with life"

In a summary of the studies that used this scale as a satisfaction measurement tool, Pavot and Diener [5] show that SWL scores correlate significantly with the scores obtained on scales that measure mental health and may have predictive value in some behaviors related to this, such as suicide attempts. The SWLS also successfully measured the subjective well-being of people with serious health problems.

In more recent studies, Bendayan, Blanca, Fernández-Baena, Escobar, & Trianes [6] found that SWLS has the unifactorial structure identified by previous studies, being a valid tool for measuring well-being in populations of early adolescents, and Ortuño-Sierra, Aritio-Solana, Chocarro de Luis, Navaridas-Nalda and Fonseca-Pedrero [7] tested the psychometric qualities of SWLS in a sample of Spanish adolescents and identified the same unifactorial scale structures that obtained appropriate goodness of-fit indices. These studies confirm that SWLS is a useful tool for measuring life satisfaction in adolescent populations. Useche and Serge [8] applied SWLS to a sample of students at a Columbia University and identified the

unifactorial structure with coefficients of adequate load and internal consistency, Hinz, Conrad, Schroeter, Glaesmer, Brähler, Zenger, Kocalevent and Herzberg [9] show that SWLS has adequate psychometric qualities that recommend it as a valuable tool for epidemiological research and confirms the normative values based on those obtained in a large German community sample and Yun, Rhee, Kang and Sim [10] finds that SWLS has good psychometric qualities that recommends it for use in studies conducted on Korean population.

In the military environment, the scale was used to measure well-being in various samples. Regarding validation studies, we can mention the research conducted by Ngamal, Amir, Kutty, Mastor and Hisham [11] who analyzed the ability of the scale to measure the life satisfaction of some army veterans in Malaysia; in their study, only four of the five items loaded the scale satisfactorily, but the four-item scale proved to have good internal consistency.

Stevens, Lambru, Sandu, Constantinescu, Butucescu and Uscatescu translated the scale and adapted it for the Romanian population [12]. Also, Cazan [13] analyzed the psychometric qualities of the scale applied to a number of 342 Romanian students. The internal consistency of the scale was high with a Cronbach alpha coefficient of .82; CFA analysis indicated a one-dimensional structure of the scale and a good fit of the model.

2. Method

In this paper confirmatory factor analysis was used in order to identify the factorial structure of SWL and its psychometric properties. SWLS was applied to a sample of 124 first-year students of the Land Forces Academy from Sibiu – 91 boys and 33 girls – with a mean age of 20 years.

Satisfaction with Life Scale – SWL consists of five items as follows:

"Item 1 - *In most ways my life is close to my ideal.*

Item 2 - *The conditions of my life are excellent.*

Item 3 - *I am satisfied with my life.*

Item 4 - *So far I have gotten the important things I want in life.*

Item 5 - *If I could live my life over, I would change almost nothing*

These items are rated on a seven-point scale from 1 = Strongly disagree to 7 =Strongly agree.

3. Results

The independent-samples t-test showed that there is no significant difference between the levels of life satisfaction of men and women: $t(22) = -0.17$, $p = 0.85$. The Cronbach's alpha coefficient of

.75.indicated a good internal consistency of the scale

In table 1, we can see that the correlations of items with the total score are higher than .50 for four of the five items, but the value of the correlation coefficient between item no. 4 and the global score is 0.41, which is considered to be under the minimum acceptable. Since removing this item from the scale does not improve its validity and the one-factor model we tested obtained very good fir indices, we consider that the item must remain in the scale. In table 2, we can see that all the five items are positively and statistically significant correlated ($p < .001$). The fit indices shown in table support the validity of the single factor structure of SWLS.

Table 1. Cronbach's Alpha if Item Deleted for the SWLS

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	24.50	7.130	.657	.679
Item 2	24.61	7.150	.656	.680
Item 3	24.10	7.779	.531	.721
Item 4	24.16	7.584	.414	.754
Item 5	24.76	5.632	.520	.751

Table 2. Inter-item correlations for SWLS

	Item 1	Item 2	Item 3	Item 4	Item 5
Item 1	1				
Item 2	.662**	1			
Item 3	.556**	.440**	1		
Item 4	.394**	.334**	.327**	1	
Item 5	.430**	.502**	.280**	.288**	1

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

Table 3. Goodness-of-fit measures for the unifactorial structure of SWL

Statistical parameter	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	CFI	TLI	NFI
Value	6.66	5	1.33	.052	.97	.93	.98	.97	.96

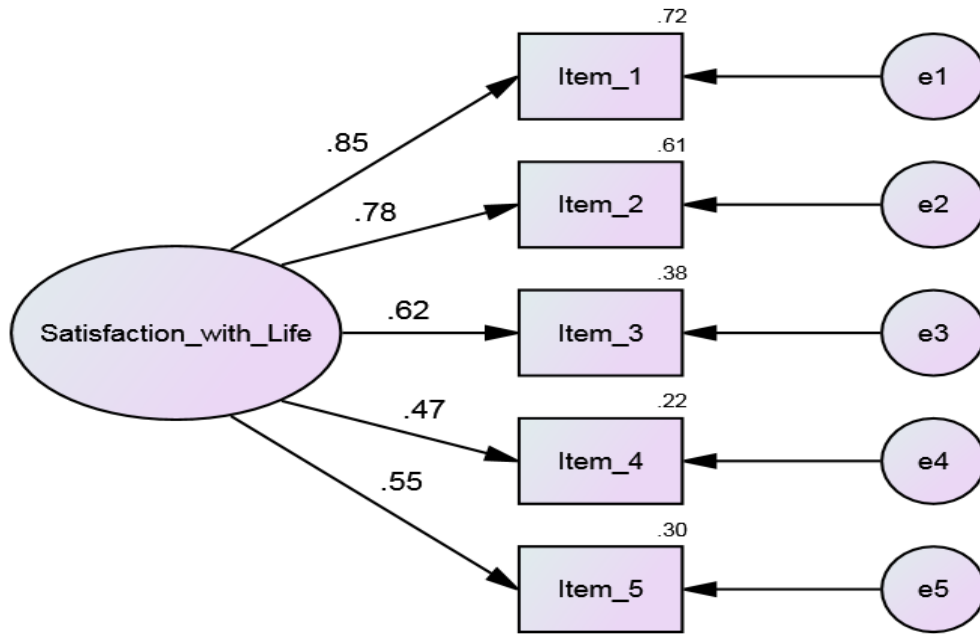


Figure 1: Factor structure of SWLS

4. Conclusion

The *Satisfaction with Life scale* has a good internal consistency. All five items of the scale are moderately to highly correlated with each other and four of them are significantly correlated with the global score. Although item no. 4 has a weaker correlation with the global score, the model we tested obtained very good fit indices and

therefore we consider that the item should be retained in the scale.

All these findings indicate that the scale is suitable for measuring satisfaction in this type of sample. However, the information that this scale provides must be supplemented with those obtained by other methods, of a quantitative or qualitative nature.

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