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Abstract

The purpose of this study was to develop an Arabic Version of the Schwartz Outcome Scale-10 (SOS-10, Blais, et al., 1999) that was designed to measure a broad domain of psychological health. The new measure was validated on a sample of 150 undergraduate students at Kuwait University. Items of the Arabic Version of the SOS-10 represented one major factor: the student's overall satisfaction with one's psychological health. This finding is consistent with Blais, et al. (1999) unifactorial structure of SOS-10. The measure had an alpha of .79, and showed strong correlations with commonly used measures of psychological health and depression, a clear evidence of its construct and discriminant validity. In the light of these findings, the author recommended to utilize the Arabic Version of the Schwartz Outcome Scale-10 to improve the psychological health of University students, to enhance their optimistic vision of future, and to build an active student personality.

Key words: Schwartz Outcome Scale, mental health.

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تطوير صيغة عربية لمقياس شوارتز الموجز للصحة النفسية

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الملخص

تلخص الهدف من هذه الدراسة في بناء صيغة عربية لمقياس شوارتز الموجز المصمم لقياس الصحة النفسية، والمؤلف من عشرة أسئلة فقط (SOS-10, Blais, et al., 1999). وقد تم التحقق من صدق المقياس الجديد من خلال تطبيقه على (١٥٠) طالباً منتظماً في جامعة الكويت. وقد أبرز التحليل العاملي لفقرات المقياس عاملاً رئيساً واحداً فقط، وهو الرضا العام للطالب عن صحته النفسية. وتتفق هذه النتيجة مع ما توصل إليه بليز وزملاؤه (Blais, et al., 1999) في دراسة سابقة أكدت البنية الأحادية للمقياس. وقد بلغ معامل ثبات الصيغة العربية للمقياس بطريقة الفا كرونباخ ٠,٧٩، بينما أبرزت فقراته معاملات ارتباط عالية مع فقرات المقاييس الشائعة للصحة النفسية والاكتئاب، مما يدل على الصدق البنائي والتمييزي للمقياس. وفي ضوء تلك النتائج، توصي الباحثة باستغلال المقياس المطوّر عربياً لتحسين الصحة النفسية للطلبة الجامعيين، وتعزيز نظرتهم التفاؤلية للمستقبل، وبناء شخصية طلابية نشطة.

الكلمات المفتاحية: مقياس شوارتز، الصحة النفسية.

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Introduction

Developing psychometrically sound and resource efficient tools for measuring treatment outcomes in behavioral health care has become an area of active pursuit. Motivated by increased pressure to demonstrate clinical benefit and economic accountability, providers on both an individual and organizational level have sought to integrate outcome measurement programs into the practice of mental health (Joint Commission on Accreditation of Healthcare Organizations, 1997; Wise, 2000). One of the challenges in this effort has been to develop measurement tools that are not tied to specific symptoms (e,g, lack of sleep) or disorders (e.g, obsessive-compulsive disorder) but rather tap into broader constructs related to multiple aspects of mental functioning and psychological well-being. An additional challenge has been to develop measures that are brief, cost and time efficient, and demonstrate utility across various service modalities (e.g, psychotherapy and pharmacotherapy) and different cultures.

The historical approach to outcomes assessment has focused mainly on specific conditions (e,g, anxiety disorders or depression) and has been principally connected with clinical traits research (Lambert, Okiishi, Finch, & Johnson, 1998). Although there has been a long history of outcomes measurement in some mental health services (e.g, psychotherapy), in general the present push to measure outcomes more widely has been resisted by many mental health practitioners and service organizations (Sederer, Dickey, & Herman, 1996; Talley, Strupp, & Butler, 1994).

The Schwartz Outcome Scale-10 (SOS-10; Blais, Lenderking, Baer, deLorell, Peets, Leahy, & Burns, 1999) was recently introduced into the literature as a measure that possesses the previously mentioned characteristics. The SOS-10 is a brief, cost-free, and easy to administer 10-

item scale that appear to measure a broad domain of psychological health. Traditional psychometric properties of the scale are quiet robust. The SOS-10 demonstrates a strong negative (divergent) correlation with measures of psychopathology and a strong positive (convergent) correlation with measures of psychological well-being. The scale has been sensitive to change in both inpatient (Blais, et al., 1999) and outpatient samples (Knight, 2000).

Since its introduction, the SOS-10 has been utilized in a variety of divert settings, including inpatient units, outpatient counseling centers, and psychotherapy research projects (Young, Waelher, Laux, McDaniel, Hilsenroth, 2003). A Spanish version of the SOS-10 has been developed and validated on the Hispanic Population in the United States, and has demonstrated the utility of the Scale for assessment of psychological well-being and treatment outcomes with Hispanic patients (Rivas-Vazquez, Rivas-Vazquez, Blais, Rey, Rivas-Vasquez, Jacobo, & Carrazana, 2001).

Statement of Problem

The recorded trends and levels of health indicators in the State of Kuwait certainly reveal that the government has, for long, paid considerable attention to issues of psychological and mental health development in the belief that such development has an indispensable basis for socio-economic progress. In this sense, investments on curative and preventive health programs have not yet been considered as an end in itself, but rather as a significantly rewarding economic endeavor.

The increase in the average age of the population coupled with a modern way of life in Kuwait has created a new set of health problems and has aggravated existing ones, e.g., heart related diseases, hyper tension, diabetes, and age-related diseases. Such a state of affairs calls not only for a qualitative development of healthcare services adequately capable of controling such diseases and their spread, but also for creating well-standardized and culturally relevant assessment instruments that would contribute to the improvement of psychological and mental health of the diverse population of Kuwait.

Aim of the Study

Hence, the goal of this study was to develop a brief outcome measure in Kuwait by translating the SOS-10 into a highly correlated Arabic version, and to validate the developed instrument on a sample of university students in Kuwait.

Methods and Procedures
Participants:

One hundred and Fifty (63 men and 87 women) undergraduate students of Kuwaiti authenticity majoring in education at the University of Kuwait participated (M age=23 yr., range 18-25).

Participants individually completed the Arabic Version of the Schwartz Outcome Scale-10 at the University during a time-limited administration of the measure. Each item was answered on a 6-point Likert-type scale ranging from 1 (Never) to 6 (All of the time or nearly all of the time). Means, Standard Deviations, and item-total correlation coefficients, and Alpha coefficients for the SOS-10 items are presented in Table 2.

Instrument and Translation Process

The initial translation of the original version of the Schwartz Outcome Scale (SOS-10) was prepared by the author. Care was taken to produce translated items free from idiomatic and dialectical influence as possible. Utilizing methodology suggested for development of translated measures (Brislin, 1970), this Arabic version of the SOS-10 was subsequently back translated into English by an independent bilingual professor of psychology at Kuwait University. To check for the equivalence of meaning between the original English version and the back-translated English version, they were administered to 30 bilingual students (12 men and 18 women) in a counter-balanced fashion at an interval ranging from 1 to 7 days (M= 3.25, SD=1.75 days, range 1 to 6 days). Table 1 shows that a high level of correlation was obtained between the two versions of the measure, with total scores correlating at .95. The correlations for the individual items ranged from .75 to .97 and all individual correlations were significant at $p<.01$ or greater.

Table 1

Means, Standard Deviations, and Correlations for the

Original Version and the Back Translated Version of the SOS-10

	Original		Back Translated		
SOS-10 item	M	SD	M	SD	r
Physical functioning	4.45	0.88	4.45	0.91	0.97
Confidence	4.81	0.62	4.80	0.69	0.90
Hopeful	4.51	0.84	4.49	0.84	0.93
Interested in life	5.21	0.87	5.22	0.90	0.96
Have fun	4.25	0.56	4.24	0.56	0.91
Psychological Health	4.31	0.92	4.31	0.95	0.82
Forgive self	3.86	0.69	3.85	0.70	0.75
Life is progressing	3.78	0.68	3.77	0.68	0.93
Handle conflicts	4.45	0.62	4.45	0.61	0.92
Peace of mind	5.01	0.61	5.02	0.63	0.82
Total scores	44.64	5.20	44.60	5.50	0.95

Note 1: N = 30, SOS-10 = Schwartz Outcome Scale – 10.
Note 2: All correlation values (r) are significant (p<.01).

This result was considered as an evidence of the cross-language equivalence of the two forms of the SOS-10.

Results

Item Analyses

Given that the Arabic version of the SOS-10 is scored additively to generate a total composite score, the subsequent item analyses were conducted to assess the content homogeneity of the 10-item measure among the sample. The results of these analyses are shown in Table 2. The overall mean score was 37.27 with a standard deviation of 5.39. The corrected item-to-scale correlations ranged between .35 to .70.

Factor Structure

To facilitate a comparison with the factor structure obtained by Blais, et al. (1999), the factor structure the Arabic Version of the SOS-10 was

investigated through principal components analysis (PCA) using parallel analysis as the guiding extraction criteria (see Table 3). The Kaiser criterion rule (K1) in which eigenvalues greater than 1 and Cattel's (1966) scree test were initially examined to estimate the number of retained components, as these criteria have typically been reported in previous studies (Blais, et al., 1999; Rivas-Vazquez, et al., 2001). It is important to note that Zwick and Velicer (1986) demonstrated the K1 criterion overestimated the number of sample components relative to a generated population structure. Similarly, Cattell's (1966) scree test was shown as slightly more accurate, albeit still overestimating the number of retained components. Parallel analysis, on the other hand, was shown by some recent studies (Knight, 2000; Mumford, et al., 2003; Tanguma, 2000) to be stable and more accurate extraction method.

Table 2
Item Analysis for the Arabic Version of the SOS-10

SOS-10 Items	Item M	Item SD	Corrected Item-Total Correlations	Alpha if Deleted
1- Given my current physical condition, I am satisfied with what I can do	3.77	1.07	.70	75.
2- I have confidence in my ability to sustain important relationships	4.05	.92	.68	77.
3- I feel hopeful about my future	3.77	1.02	.69	75.
4- I am often interested and excited about things in my life	4.57	.70	.34	76.
5- I am able to have fun	3.56	.79	.63	78.
6- I am generally satisfied with my psychological health	3.52	0.96	.69	75.
7- I am able to forgive myself for my failures	3.23	.94	.48	78.
8- My life is progressing according to my expectations	3.12	.92	.60	77.
9- I am able to handle conflicts with others	3.66	.83	.61	76.

Cont. of Table 2

SOS-10 Items	Item M	Item SD	Corrected Item-Total Correlations	Alpha if Deleted
10-I have peace of mind	4.01	1.00	.62	76.
Total Score	37.27	5.39	-	-
SOS-10 Coefficient Alpha	-	-	-	79.

Note 1: N = 150, SOS-10 = Schwartz Outcome Scale – 10.
Note 2: All item-to-scale correlations (r) are significant at p<.01.

To strengthen the factor structure evaluation of the Arabic Version of the SOS-10, the Guadagnoli and Velicer (1988) retention and interpretation criteria were utilized for solutions using both the K1 criteria and the parallel analysis. More specifically, Guadagnoli and Velicer (1988) demonstrated through Monte Carlo simulation studies that component saturation levels (factor loadings) of .60 with four or more items as most likely to produce stable and reliable component patterns.

Bartlett's Test of Sphericity (Bartlett, 1954) Chi Square (45, N=412) = 713.04, p<.001, suggests a reasonable level of correlation existed between the items of the scale. The Kaiser-Meyer-Olkin (KMO) measure of simple adequacy (Kaiser, 1974) was computed to estimate if the 10-item measure was appropriate for PCA analysis. The resulting KMO was .82. Kaiser (1974) considered KMOs in the 0.80s as "meritorious." Given the significant test of sphericity and level of sampling adequacy, the data gathered using Arabic Version of SOS-10 were deemed appropriate for PCA.

Using the K1 extraction criteria, the PCA resulted in two eigenvalues greater than 1, accounting for 45.68% variance. Examination of the scree plot suggested that two factors reflected a better representation of the underlying components of the Arabic Version of SOS-10. However, the more robust parallel analysis (Watkins, 2000) demonstrated that one factor should be retained for the scores of the measure.

Given the results from the parallel analysis, a PCA was computed with

a forced one-factor solution accounting for 34.83% variance. Table 3 presents the communalities and factor loadings for the forced one-factor solution as guided by parallel analysis. The communalities for the 10-item measure ranged from 0.09 to 0.52. Using the factor loading criteria presented by Guadagnoli and Velicer (1988), Factor 1 was represented by six items with factor loadings ≥ .60. These include items 1, 3, 6, 8, 9, and 10, respectively.

Table 3
Factor Loadings and Communalities for the Arabic Version of the SOS-10 using Parallel Analysis

Item	Random Eigenvalue	Sample Eigenvalue	Communality	Factor1
1	1.432	3.483	486.	70.
2	1.244	1.089	308.	66.
3	1.078	0.972	484.	70.
4	0.637	0.865	087.	30.
5	0.872	0.791	269.	61.
6	0.807	0.751	519.	72.
7	0.742	0.623	188.	43.
8	0.676	0.581	361.	60.
9	0.612	0.532	394.	63.
10	0.531	0.312	387.	62.

Note. N = 150. Parallel analysis was computed using Watkins (2000) Monte Carlo software with 100 replications. Underlined values indicate acceptable loading score.

The six-item, one-factor solution is appropriate for interpretation and is more likely to replicate across samples (Velicer & Fava, 1998). The single factor had primary loadings above .60 for SOS-10 items 1, 2, 3, 5, 6, 8, 9, and 10, and accounted for 34.83% of the variance. These items target the student's overall satisfaction with one's psychological health, an obvious indication of the construct validity of the Arabic version of the SOS-10. The findings of the current study corroborates the Blais, et al. (1999) opertionalization of the SOS-10 construct relative to the number

of retained components and their subsequent interpretation. The findings, however, are not consistent with the results of Rivas-Vasquez, et al. (2001) study that demonstrated a two-factor solution for the SOS-10.

Table 4
Convergent and Divergent Validity Correlations for
the Arabic Version of the Schwartz Outcome Scale-10

Scale	Validity	
	Convergent	Divergent
GPPT Happiness Scale	74.	
Rational subscale of IBI	68.	
SF-12 PCS	38.	
BDI-II		82.-
Irrational subscale of IBI		73.-
GPPT Dejection Scale		61.-

Note. GPPT = Group Personality Projective Test (Cassel & Khan, 1961); IBI = Irrational Beliefs Inventory (Koopmans, et al., 1994); PCS = Physical Health Component Scale (Ware, et al., 1995); BDI-II = Beck Depression Inventory-II (Beck, et al., 1996).

Convergent and Divergent Validity

Table 4 presented the convergent and divergent validity correlations for the Arabic Version of the Schwartz Outcome Scale-10. Strong positive (convergent) correlations were obtained with the Happiness subscale of the Group Personality Projective Test (GPPT; Cassel & Khan, 1961) and the Rational subscale of the Irrational Beliefs Inventory (IBI; Koopmans, Sanderman, Timmerman, & Emmelkamp, 1994). The scale was also moderately correlated with the physical component of the SF-12 (Physical Health Component Scale; Ware, Kosinski, & Keller, 1995). Strnong negative (divergent) correlations were obtained between the SOS-10 and the Beck Depression Inventory-II (BDI-II, Beck, Steer, & Brown, 1996), the Irrational subscale of the Irrational Beliefs Inventory (IBI), and the Dejection subscale of the Group Personality Projective Test (GPPT).

DISCUSSION

Results of this study proved the unifactorial structure of the Schwartz Outcome Scale-10 and provided a new evidence for the adequacy of the Scale as a reliable measurement instrument of a broad aspect of psychological health. Furthermore, the study demonstrates the successful Arabic translation and the establishment of initial reliability for a brief and widly applicable mental health outcome scale for use with university students.

The Arabic version of the Schwartz Outcome Scale-10 can be utilized to improve the psychological health of university students, and to enhance their optimistic vision of the future. Although further research is needed to more fully evaluate the properties of this new scale, the availability of a brief Arabic languagh measure of overall psychological well-being should fill a neglected outcome assessment niche and be of benefit to a large number of mental health consumers.

The fact that the entire sample of this study was drawn from a single Arab country may limit the generalizability of the findings to other Arab countries. Furthermore, utilization of the Schwartz Outcome Scale-10 in various clinical or medical settings in Kuwait awaits further investigation.

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