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Psychometric characteristics of the self - esteem inventory (SEI): A study with Jordanian school students

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Introduction:

Self - esteem is a popular and important construct in the social sciences and in every day life. Poor or- low self - worth is undesirable, and research links low self-esteem with loneliness (Peplau and Perlman, 1982), depression (Shaver and Brennan, 1990), social anxiety (Leary, 1983).

According to the dictionary definition, To esteem a thing is to prize it, to set a high mental valuation upon it; when applied to persons, esteem carries also the warmer interest of approval, cordiality, and affection" (Wiliams, 1979). In □□□ □□□□ □□□□ □□□ extent to which one prizes, values, approves, or likes one self.

In the social sciences, self - esteem is a hypothetical construct that is quantified, for example as the sum of evaluations across salient Attributes of one's self or personality. It is the overall affective evaluation of one's own worth, value, or importance. This conception underlies the assumption that measuring attitudes toward, or evaluations of one's self reflects a person's self -esteem. The concept of self esteem goes by a variety of names (e g., self -worth, self - regard, self-respect, self-acceptance) all of which are compatible with the dictionary definition of "esteem" ascribed to the self.

Regardless of the exact definition or label one chooses to employ, self-esteem is usually thought to be the evaluative component of a broader representation of self, the self - concept, the later being a more inclusive construct than self - esteem, one that contains cognitive and behavioral components as well as affective ones. As a result cognitions about the self (contained in the self - concept) may or may not influence self - esteem.

According to current models of affect and attitudes (e g., Frijda, 1986; Lazarus, 1984; Weiner, 1986), appraisals or judgments (e g., "I'm attractive/ unattractive", "intelligent /unintelligent", "hardworking /lazy") underline positive or negative feelings about the self. To the extent that such evaluations cover a relatively broad spectrum of personal attributes, self - esteem is an appropriate label. Over time, consistency in such judgments results in a relatively stable affective appraisal that is readily accessible to the individual because of the salience of the self in everyday life. Narrower constructs such as self-confidence or body -esteem refer to narrower self domains. Thus, self esteem is more global

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than the evaluation of a specific attribute (e.g., height or academic ability or a circumscribed set of related attributes (e.g., one's body or intelligence).

There is widespread acceptance of the psychological importance of self esteem. Further, it is widely assumed that self esteem is traitlike, thus self esteem levels are consistent over time within individuals. Self esteem is nearly as ubiquitous a construct as intelligence, but there is less agreement about how to measure it. Both self esteem and intelligence are everyday trait concepts that psychologists attempt to quantify, and both are defined as much in terms of their measurement and correlates as in terms of well developed theory. In fact "self esteem has been related to almost every variable at one time or another" (Crandall, 1973, p. 45). This includes personality correlates such as happiness (Freedman, 1978) and shyness (Jones and Briggs, 1984); cognitive correlates such as self serving attributaional bias (Tennen and Herzberger, 1987); behavioral correlates such as task effort and persistence (Felson, 1984; McFarlin, Baumeister, and Blascovich, 1984); and clinical correlates such as depression (Tennen and Herzberger, 1987) and coping ability (Taylor, 1983).

Conceptual and methodological problems combine to make valid measurement of self esteem difficult. Conceptual confusion is created by the fact that self esteem, like other important concepts, is used in ordinary language and academic psychology concurrently (Blascovich and Ginsburg. 1978). Thus implicit, common - language notions of self-esteem are some times substituted for more precise, explicit, scientific definitions creating the illusion of a universally accepted, well - defined, phenomenological entity (Wells and Marwell, 1976).

Although there is little dispute that global self - esteem involves self - evaluation, different hypothetical self evaluation processes have been proposed (Wells and Marwell, 1976). Minimally, self-esteem is described simply as an attitude, the evaluative component of self - concept (Gergen. 1971). Many researchers (e.g., Fleming and Courtney, 1984; Shavelson. Hubner, and Stanton, 1976) has expanded this description to include "facets" of self - esteem, detailing in hierarchical fashion the more specific self - evaluation components and subcomponents that contribute to global self - esteem (e g , math ability contributes to academic self - concept).

Other researchers concentrate less on the nature of the construct than on the adaptive and self protective functions of self esteem (Mossman and Ziller, 1968).

Given the ultimately subjective nature of self - esteem, it has been measured almost exclusively by self - report. Indeed, it is difficult to conceive of a behavioral or physiological measure that would tap self esteem directly. Considering the different theoretical approaches to the self esteem - construct as well as the vast number of studies in which self esteem has been measured, it is not surprising that different measurement approaches have evolved. The relative-merits of .direct and indirect self - report measures have been debated

(see Crandall, 1973). Some favor direct, face-valid questionnaires using items that are scored more or less additively (Wylie 1961) while others favor more indirect measures using complexly scored questionnaires, using, for example self - ideal discrepancy scores (Miskimins & Braucht, 1971). Researchers apparently prefer the former. The use of simple self - report measures has increased dramatically while the use of more complex measures has declined.

Another issue concerns measurement specifity. For example, some (e g., Rosenberg, 1965) argue that global self evaluations hold the most predictive promise, while others (Marsh, Smith and Barnes, 1983; Shavelson Hubner and Stanton, 1976) argue that more specific measures (i.e., based on facets of the self) are best.

Another methodological problem in assessment stems from the social desirability of high self - esteem. It is more socially desirable to present one self as high rather than low in self - esteem and to respond to face - valid scale items accordingly, thereby inflating self - esteem scores.

One of the most frequently used measures of self - esteem is the Coopersmith Self - Esteem Inventory (SEI) (1967). It was developed originally for use with children and has been modified for use with adults (Ryden, 1978). Items were drawn from work by Rogers and Dymond and from original research by Coopersmith (Bums, 1981). Five psychologists classified these items as reflecting high or low self esteem. Of all possible items, 50 items were selected on the basis of face validity. These items were designed to measure self - regard in four specific areas: general self -esteem, social peer self - esteem, home parents, school - academic. Also the inventory includes an eight - item lie scale designed to provide a measure of defensiveness or test - wiseness. Roberson and Miller, 1986). Each item in (SEI) is a declarative, self - descriptive statement worded in the first person.

Subjects are instructed to respond to each question by stating whether the statement is "like me" or "unlike me". One point is assigned for each item connoting high self - esteem that the respondent identifies as like me" as well as for each item connoting low self - esteem that is identified as "unlike me". Thus SEI scores can range from 0-50 (the items of the lie scale are excluded from the data for analysis.

In subsequent work, Coopersmith (1975) created form B of the SEI by selecting the 25 items with the highest item total correlations. This version was assumed to measure positive self - regard unidimensionally. In addition, others have modified the scale for use with adult sample (see Ryden, 1978). Authors continue to use both the 50- and 25 - item versions.

(SEI) has been widely used in the united States and other countries. A review of the self - concept measuring instruments by Shavelson, Hubner, and Standton (1976) has supported the test - retest reliability of the total self esteem

scale of this inventory but threw doubt on the validity of its subscales. In addition, Spatz and Johnston (1973) have reported high internal consistency coefficients for the total self esteem scale.

The SEI was selected for investigation in this study because (a) it has traditionally been used as ameasure of self - concept (Dyer, 1964), (b) it appears to have been employed in the greatest number of studies using the self - concept measures (Franklin, 1978). (C) assessment instruments developed in one cultural setting cannot simply be assumed to have the same universal applicability. One important criteria for the use of a scale in - □□ other than the one for which it was originally developed is the □□. Metric equivalence is achieved when the scale has the same psychometric properties in different cultural groups (Pretorius, 1993).

The researchers are not aware of any investigation of the reliability and validity of the SEI in Jordan.

The purpose of the present study was to present data from Jordanian school students to evaluate the psychometric properties of the (SEI), in the Jordanian culture, with special emphasis given to the instrument reliability, validity, and factor structure.

Method:

Subjects:

The schools where the study was conducted were selected randomly from amongst the schools in the city of Irbid (4 for males and 4 for females) during the academic year 2006/2007. then 16 classes were selected from these schools (8 classes for males and 8 classes for females). The total number of the subjects were 546 tenth-grade students 278 (50.9%) were males and 268 (49 1%) were females. Their ages ranged from 15.4 to 16,with a median of 15.7 years.

Instruments:

In addition to the Self-Esteem Inventory (Coopersmith, 1967), the following instruments were used in this study as criterion measures:

a. Children's Self concept scale (Piers and Harris, 1964).

b. the Self - Esteem scale (Rosenberg, 1965).

c. The anxiety scale.

The psychometric properties of these instruments applied to Jordanian students are reported elsewhere (Aldawod, 1982).

In addition to responding to the study instruments, the subjects were asked to provide information relating to the following demographic variables: (a), school (b) age. C. gender.

Procedure:

The Self Esteem Inventory (Coopersmith, 1967) was translated into Arabic. The translation was performed by the researcher and carefully checked by 4 colleagues who had specialized in English, translation, psychology, and measurement and evaluation.

The final translated version of the Self - esteem inventory and the other measures where administered by the researcher and the teachers of the school where the study was conducted.

Subject were asked to respond to the instruments during one session and to return them at the end of meeting

Statistical analysis:

Several statistical analysis were conducted subprograms from the statistical package for the social sciences: SPSS (Norusis, 1990) such as Descriptive, Pearson corr. Reliability and Factor analysis were used.

Results:

Descriptive statistics:

Descriptive statstics for the SEI were obtained for the 546 Jordanian school students described earlier. The mean and the standard deviation were 28.9 and 7.33. the range of scores was 31 (12-43) possible range is (0-50). The separate means and standard devidations were (m=28.8, S.D=7.22) for males and (M=29, S.D=7.47) for females. The ranges of scores for males and females were 12-42 and 15-43 respectively. Means and standard deviations and the ranges for the SEI scores are shown in table 1.

Table 1

Sex	Means	S.D	Ranges
M	28.8	7.22	12-42
F	29.0	7.47	15-43
Total	28.9	7.33	12-43

Item-total score correlations:

The item total score correlations of the Self - Esteem Inventory (SEI) table (2) ranged from 0.2 to 0.7. one of these correlations was in seventies and another one in sixties. Ten of the remainder correlations were in fifties and twenty three of them were in forties, nine of these correlations were in thirties and six of them were in twenties.

Table (2)

No. of Item	Item total correlation	No. of item	Item total correlation	No. of Item	Item total correlation
1	0.41	38	0.50	5	0.46
2	0.42	43	0.45	12	0.45
3	0.48	44	0.53	19	0.52
8	0.30	45	0.50	26	0.43
9	0.50	48	0.42	33	0.42
10	0.40	50	0.31	40	0.51
15	0.30	52	0.30	47	0.70
16	0.35	57	0.25	54	0.45
17	0.46	58	0.40	7	0.46
21	0.32	4	0.30	14	0.53
22	0.43	11	0.40	28	0.43
23	0.35	18	0.25	35	0.42
24	0.52	25	0.23	42	0.37
29	0.41	32	0.22	49	0.41
31	0.60	39	0.25	51	0.47
36	0.50	46	0.40	56	0.55
37	0.20	53	0.45		

Reliability estimate:

Alpha coefficient of reliability estimates:

The coefficient of alpha which gives an average of the correlations resulting from all possible ways of splitting a given test into two halves was 0.87 , and values of 0.82, 0.73, 0.74 and 0.77 for each of the four subscales. These values indicate that both the evaluating instrument as a whole and its constituents subscales display a quite satisfactory levels of reliability. The internal consistency estimate of reliability for the scale (Coefficient alpha= 0.87) was slightly higher than the previously reported coefficients (Colon, α= 0.84; Diaz, α = 0.86) (Diaz, 1984); Spatz and Johnston, 1973, α = 0.86). It is however lower than that reported by (Miller and Simpson, 1983, α = 0.89).

Test retest reliability:

The test retest reliability with three weeks interval between testing for the scale with 68 students (33 females, 35 males) was relatively high (r= 0.84, p.0.01), and values of 0.80, 0.70, 0.71, and 0.73 for each of the four subscales.

Correlations of the SEI scale and other measures:

The scores on the SEI scale were significantly correlated with the following criterion measures (a) Children's self concept scale (Piers and Harris, 1964) (r=0.54, p.0.01)

b. The self esteem scale (Rosenberg, 1965) (r= 0.58, p<0.01) and the

c. The anxiety scale (Aldawod, 1982) (r=0.50, p.0.01).

These significantly correlations could be considered as indicators of the validity of the scale. If an instrument validly assesses what it purports to measure, then scores obtained on that instrument should be significantly correlated with scores obtained on other instrument designed to measure the same construct or related construct.

Factorial structure of the SEI:

To investigate the factorial structure of the SEI. Principal factor analysis with varimax rotation was applied to the data. According to the Kaiser's criterion (Eigen value>l) ten factors were extracted and accounted for 45.8% of the total variance. As a general rule and according to the criteria set by Michael and Michael (1975), a factor was interpreted and : reported in this paper whenever it yielded a loading of at least 0.60 on one item, of at least 0.5 on a second item and 0.30 or greater on at least two other items.

Although as many as ten factors emerged in the analysis the six factor solution provided the most meaningful factors and accounted for 38.36% of the total variance. Table 3 displays the items that comprise each of the six factors' and their associated factor loadings:

Table 3

Items and Associated factor loadings for the 6- factor solution

Item number	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
14	0.68					
47	0.55					
12	0.45					
42	0.40					
40	0.37					
10	0.35					
17	0.34					
54	0.32					
52	0.32					

5	0.31				
23		0.70			
21		0.68			
22		0.60			
11		0.44			
51		0.31			
4			0.60		
44			0.55		
39			0.47		
58			0.40		
3			0.33		
45			0.32		
8			0.30		
2				0.65	
38				0.56	
16				0.45	
25				0.40	
31				0.36	
18				0.35	
28				0.33	
48					0.70
56					0.65
36					0.45
24					0.40

57					0.38	
33					0.35	
35						0.60
32						0.55
37						0.40
43						0.31
49						0.30
Eigen value	6.84	3.32	2.91	2.60	1.96	1.55
PCT of variance	13.68	6.64	5.82	5.20	3.92	3.10
Cum PCT	13.68	20.32	26.14	31.34	35.26	38.36

The first factor (Eigen value= 6.84) accounted for 13.68% of the variance and consisted of eleven items with loadings ranging from 0.31 to 0.68 three of the items defining this factor related to general self esteem subscale, six items related to home - parent, and two items related to school- academic subscale.

The second factor (Eigen value= 3.32 accounted for 6.64% of the variance and consisted of five items with loadings ranging from 0.31 to 0.70. the items defining this factor related to the general self-esteem sub scale.

The third factor (Eigen value= 2.91 accounted for 5.82% of the variance and consisted of seven items with loadings ranging from 0.30 to 0.60. Five of the items defining this factor related to the general self esteem subscale, and two items related to social - peer subscale.

The fourth factor (Eigen value= 2.6) accounted for 5.2% of the variance and consisted of seven items with loadings ranging from 0.33 to 0.65. four of the items defining this factor related to the general self esteem subscale two items related to social - peer subscale, and one item related to school academic subscale.

The fifth factor (Eigen value= 1.96) accounted for 3.92% of the variance and consisted of six items with loadings ranging from 0.35 to 0.70. four of the items defining this factor related to the general self esteem subscale one item related to social peer subscale and one item related to school academic subscale.

The sixth factor (Eigen value= 1.55) accounted for 3.1% of the variance and consisted of five items with loadings ranging from 0.30 to 0.60. two of the

items defining this factor related to the general self-esteem subscale, and one item related to social - peer subscale and two items related to school - academic subscale.

Table 4
The six factors and the number of items comprise them from each original subscale

Original subscales	Empirically derived factors						Total
	1	2	3	4	5	6	
General self esteem	3	5	5	4	4	2	23
Social - peer	-	-	2	2	1	1	6
Home - parent	6	-	-	-	-	-	6
School - academic	2	-	-	1	1	2	6
Total	11	5	7	7	6	5	41

Discussion and conclusions:

The obtained results of this study concerning the measurement characteristics of the Arabic version of the SEI confirm the appropriateness of this scale for measuring the self-esteem among Jordanian school students, and are consistent with previously reported results.

The statistical findings appeared to, indicate what could be judged as adequate item-total test correlations and inter consistency reliability, as reflected in the alpha value and stability over time as established by test- retest reliability.

The internal consistency coefficients for the subscales appeared to be relatively low compared to the internal-consistency coefficient of the total score for the SEI, perhaps because the subscales do contain fewer items than does the total scale and possibly because the subscales were designed to extract particular facets of the self concept.

Therefore when the subscales were pooled to yield a total test score, the internal consistency coefficient might have been expected to be higher than that for component parts (Anastasia, 1982).

Internal consistency coefficients yielded by the present study suggested that SEI measures essentially one construct, self esteem which consists of several facets. This suggests that sub scores may not needed to improve the inter pretation of test performance.

Evidence for the validity of the scale as used with Jordanian school students sample is based on the correlation of the self esteem scores with conceptually related variables like-self concept, anxiety. Based on its correlations to the other tests used here and its internal structure, the total test score of the SEI can be used as a valid measure of the self esteem.

In summary, the findings of this study indicate the support for the reliability and validity of the Arabic version of the SE1, and it has psychometric properties indicating that it may be useful in research with Jordanian school student subjects.

In addition to the acceptable psychometric properties, the SEI, has many advantages, include, its brief administration ease of use and a amenability to the younger population. Thus the SEI seems to be a helpful instrument for future research on childhood self esteem. The ease of use of SEI and its demonstrated utility and psychometric adequacy can certainly serve as a stimulus for further research in this area.

However, it is also fair to add that further refinement of the SEI for Jordanian subjects is probably necessary before this instrument can be considered of real value to Jordanian educators and psychologists.

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