Analysis Of Psychometric Properties Of The Index Of Self-Esteem Using Nigerian Samples

Ndimele, Stanley Chimezie

Dr. Eremie, D. Maxwell

Department of Educational Foundations, Rivers State University, Port Harcourt

Abstract: This study analyzed the psychometric properties of the Hudson's (1982) Index of Self-Esteem (ISE) using Nigerian samples with the aim of ascertaining its reliability and validity when used in Nigerian context. Three research questions guided the study. Descriptive design of survey type was adopted. The study sampled 216 senior secondary school one and two (SSS 1 & SS 2) students (male = 108; female = 108) from 12 public senior secondary schools in Rivers State of Nigeria using multi-stage sampling technique. The major instrument for data collection was the Index of Self-Esteem (ISE) and supplemented by Simple Ruthus Assertiveness Schedule (SRAS). Mean was used to determine the self esteem levels of the respondents, while the Cronbach Alpha, test-retest methods and correlation analysis were used to ascertain reliability (internal consistency) and concurrent validity coefficients of the ISE. The Nigerian norm (M = 30.89; F = 32.04) as provided by Onighaiye (1996) was the basis for interpretation of the mean scores of the respondents. Results showed that the mean scores of the senior secondary school 1 and 2 students in Rivers State of Nigeria are higher than the Nigerian norms provided by Onighaiye (1996) with the mean score for male (n = 108) = 65.98 and female (n = 108) = 69.99. Reliability coefficients of the Index of Self-Esteem (ISE) were found to be 0.84 and 0.83 using Cronbach Alpha and Test-retest methods respectively with no significant differences in the mean total scores. Also, the ISE showed high concurrent validity coefficient of 0.37 as it correlated highly with Simple Ruthus Assertiveness Schedule (SRAS). It can be concluded that the Index of Self-Esteem (ISE) developed by Hudson (1982) possess high psychometric properties (high reliability and validity coefficients) using Nigerian samples. It was therefore recommended that the Index of Self-Esteem (ISE) by Hudson (1982) should be adopted as a valuable instrument for assessing self-esteem and self concept of students or individuals above 12 years in school settings as well as other social settings in Nigeria.

Keywords: Self-esteem, reliability, validity, self-concept, assessment

I. INTRODUCTION

Self–esteem tends to have become a household construct which drive the behaviours, decisions and actions of most people, especially the teens in recent times. Robinson (1989) as cited in Ata (2014) defined self esteem as the sense of contentment and self acceptance that results from a person's appraisal of one own worth, attractiveness, competence and ability to satisfy one's aspirations,. Dunning & Sherman (1997) defined self–esteem as a personal sense of ability that is fundamental to an individual's identity, a motivation engine that powers one's cognitive machinery. Myers (2005) however, opined that an individual's self esteem could be

dependent on his/her socio-economic background, cultural and religious orientations, peer group influence, school environment and social gatherings.

High self esteem individuals have a firing desire to maintain or enhance their esteem (Leary, 1999), while individuals with low esteem are more likely to feel awkward, shy, conspicuous and unable to express themselves with confidence (Amazu, 2011). Such individuals are always worried about making a mistake, being embraced to ridicule and they have a strong tendency to avoid people (Myers, 2005). Self-esteem can influence a person's behaviour, actions, learning ability and outcomes. Since self-esteem is capable of influencing a person's learning outcomes, it cannot

be out of place to think or suggest that self-esteem could greatly contribute to the inconsistent academic performance of students in schools nowadays. It is therefore, imperative to develop instruments on self-esteem or validate the existing ones with which students' or individuals' self-esteem can be measured in order to identify at-risk groups so as to provide early intervention and counselling services where necessary.

However, there are different instruments developed and validated for measuring self-esteem. Some of them include the Coppersmith Self-Esteem Inventory by Ahmed, Valiant, & Seindle, 1985, Rosenberg's Self-Esteem Scale (RSE) by Rosenberg (1965), Index of Self-Esteem (ISE) by Hudson (1982), among others which have been widely standardized and used for measuring individual's self- Esteem and self-concept. Literature shows that the most common instrument for assessing self-esteem is Rosenberg's Scale for self-esteem (Rosenberg, 1979) cited in Ata (2005). This could suggest that it is the most widely standardized and validated and widely used instrument for measuring self-esteem. Because of the complexity of self-esteem, there is urgent need to validate other existing self-esteem instruments which have not been widely validated. It is against this backdrop that this study aimed at validating the Index of Self-Esteem (ISE) by Hudson (1982) using Nigerian sample. Hudson (1982) who developed the Index of Self- Esteem (ISE) using the American samples obtained the coefficient alpha of .93 and a two–hour test-retest coefficient of .92 which are high enough, while Onighaiye (1996) who standardized the ISE in 1996 using Nigerian samples obtained the following validity coefficients; concurrent validity with Symptom Cheek List (SCL) by Derogatis etal (1973) in scale C- interpersonal sensitivity- 46, scale D- depression = .38. Onighaiye also correlated the Index of Self- Esteem (ISE) with Ego Identity Scale (EIS) by Tan et al (1977) and obtained a discriminate validity of -42. This present study which aimed at validating the Index of Self-Esteem (ISE) by Hudwon (1982) will further confirm or prove otherwise the psychometric properties of the ISE in Nigerian context and make recommendations.

PURPOSE OF THE STUDY

The main purpose of the study is to standardize the ISE as an instrument for measuring self- esteem in the Nigerian context, Specifically, the study sought to:
✓ Investigate the level of self- esteem of respondents by comparing their means scores with the Nigeria norms.
✓ Ascertain the reliability coefficient of the ISE in Nigerian context
✓ Ascertain the validity coefficient of the ISE in Nigerian context

RESEARCH QUESTION

The following research questions guided the study:
✓ What are the mean scores of male and female senior secondary school students' self-esteem using the Index of Self-Esteem (ISE) in Nigeria?
✓ To what extent can the Index of Self-Esteem (ISE) be reliable for measuring clients' self-esteem in Nigerian sample?

✓ What is the validity coefficient of the Index of Self-Esteem (ISE) in Nigerian samples?

II. METHOD

The study is a descriptive survey type designed to standardize the Indext of Self-Esteeem (ISE) using Nigeria sample. The descriptive survey research method is considered appropriate for this study because it would enable the research to get first hand information of the client's self-esteem.

POPULATION OF THE STUDY

The population of the study consisted of all the 2245 senior secondary school one (SSS 1) students in public secondary schools in Etche, Oyigbo and Omuma local government areas of Rivers State (Source: Rivers State Senior Secondary Schools Board, 2018).

SAMPLE AND SAMPLING PROCEDURE

The sample size of the study consisted of two hundred and sixteen 216 senior secondary school one (SSS 1) students (108 male and 108 female students) which was drawn from the population using the simple random sampling technique. Three local government areas of Rivers State were randomly chosen for the study. In each of the three chosen local government areas, four (4) schools were selected using simple random sampling technique. Simple random sampling technique was also used to select eighteen (18) SSS 1 students in each of the four selected schools, given the sample size of two hundred and sixteen (216) students. The sample distribution is presented below:

LGA selected	No. of selected schools	No. of selected students	Total
Etche	4	18 Students X 4 schools	72
Oyigbo	4	18 students X 4 schools	72
Omuma	4	18 Students X 4 schools	72
Total	**12**	**54**	**216**

Table 1: Sample Distribution

III. DESCRIPTION OF MEASURE AND INSTRUMENT

INDEX OF SELF–ESTEEM (ISE)

Index of Self- Esteem (ISE) is a 25-item inventory developed by Hudson (1982) for the measurement of the Self-perceived and self-evaluative component of self concept which is the sum total of the self-perceived and the other-perceived views of the self held by a person. The inventory is designed for individuals above 12 years of age. The ISE measures both positive and negative fallings about the self; hence the inventory is believed to be one-dimensional. The inventory was prepared based on five points scale of 1., 2, 3, 4

and 5 and the response format was rarely or none of the time, a little off the time, some of the time, a good part of the time and most or all of the time respectively. The first part of the inventory contains respondents' demographic data such as name, sex, age and date while the second part consisted of 25 items which was used to elicit information on the self-précised and self-evaluative components of self concept.

SIMPLE RATHUS ASSERTIVENESS SCHEDULE (SRAS)

In order to assess the concurrent and discriminant validities of the Index of Self-Esteem (ISE), the simple Rathus Assertiveness Schedule (SRAS) by McCormic (1984) was administered to the respondents. The SRAS consisted of 30 items prepared on a six point scale such as very unlike me (1point), rather unlike me (2 points), somewhat unlike me (3points), somewhat like me (4points), rather unlike me and (5 points) and very much like me (6 points), etc. As indicated by McCormic, the scoring weights for the asterisked items are reversed, while the total score is obtained by summing item scores after correcting for reversed scoring weights.

PROCEDURE FOR SCORING OF ISE

As provided by Hundson (1982), there is direct scoring and reverse scoring of the items. Scores of negatively worded items were reversed, while scores of positively worded items such as reversed. For example, Scores of 3, 4, 5, 6, 7,. 14, 15, 18, 21, 22, 23, 25 were reversed while scores of items 1, 2, 8, 9, 10, 11, 12, 13, 16, 17, 19, 20, 24 were not reverse.

ORIGINAL NORMS AND PSYCHOMETRIC PROPERTIES OF ISE

Hudson (1982) who developed the ISE provided the original norms or means score for Male (M) & Female (F) (n=1,745) = 30. For the original psychometric prosperities, Hudson obtained a coefficient alpha of .93 and a two-hour test-retest coefficient of .92, while Onighaiye (1996) provided the Nigerian norms or mean scores for Male (M) (n=80) = 30.89 and Female (f) (n=80) = 32.04. For the psychometric prosperities using Nigerian samples, Onighaiye obtained the following coefficients of validity by correlating ISE with the stated test: Concurrent validity with SCL – 90 by Derogatis et al (1973) in scale C – interpersonal sensitivity = .42, scale D – Depression = .38, Discriminant validity with Ego Identity Scale (EIS) by Tan et al (1977) = .42. However, this present study was conducted to further validate the Index of Self-Esteem (ISE) for use in Nigeria. Thus, the Index of Self-Esteem (ISE) was the major instrument used for data collection in this study.

ADMINISTRATION

The Index of Self-Esteem (ISE) as well as the complementing instrument, which is Simple Rathus Assertiveness Schedule (SRAS) were administered to the selected respondents - Senior Secondary School Two (SSS 2) students in Rivers State with the help of their class teachers after establishing adequate rapport with the students in their classes. However, the ISE was re-administered to the same

respondents after a period of one week. The first and second scores obtained were correlated as to obtain the test-retest reliability coefficient.

STATISTICAL ANALYSIS

Descriptive statistics (Mean) was used to determine the self-esteem level of respondents. The reliability coefficients of the ISE were obtained using Cronbach Alpha and Test-retest methods while the concurrent validity coefficient was obtained by correlational matrix approach.

IV. RESULTS AND DISCUSSION

RESEARCH QUESTION 1

What are the mean scores of male and female senior secondary school students' self-esteem using the Index of Self-Esteem (ISE) in Nigeria?

INDEX OF SELF-ESTEEM (ISE) IN NIGERIA

Gender	N	Mean	Std. Deviation	Remarks
Male	108	65.98	9.64	Low Self-Esteem
Female	108	69.99	10.49	Low Self-Esteem
Total	216	67.99	10.25	

*Note: * Nigerian norms or mean score (M = 30.89; F = 32.04) by Onighaiye (1996) is the basis for*
Interpretation
- *Mean Score < Nigerian Norms = High Self-Esteem*
- *Mean Score > Nigerian Norms = Low Self-Esteem*
- *Age of respondents = 14 – 15 years*

Table 2: Men Scores of male and female senior secondary school students' self-esteem using the

Table 2 above showed that the mean scores of the senior secondary school 1 and 2 students in Rivers State of Nigeria are higher than the Nigerian norms provided by Onighaiye (1996) with the mean score for male (n = 108) = 65.98 and female (n = 108) = 69.99. Since the mean scores of the female and male students are higher than the Nigerian norms as provided by Onighaiye (1996), it is therefore concluded that both male and female senior secondary school students in Rivers State of Nigeria have low self-esteem.

RESEARCH QUESTION 2

✓ To what extent can the Index of Self-Esteem (ISE) be reliable for measuring students' self-esteem in Nigerian sample?

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.841	25

Table 4a: Reliability Coefficient of Index of Self-Esteem (ISE) using Cronbach Alpha formula

Table 4a above shows that the reliability coefficient of Index of Self-Esteem (ISE) using the Cronbach Alpha formula is 0.841. This shows that 84.1% of the variance in self-esteem construct depends on true variance in the trait measured while 15.9% depends on error variance. This indicates that in

Nigerian sample, the ISE has high internal consistency reliability; hence it is reliable for measuring students' self-esteem and self-concept in Nigeria.

TEST RE-TEST METHOD

ISE TEST 1	ISE TEST 2		
ISE TEST 1	Pearson Correlation	1	
	Sig. (2-tailed)	.000	
ISE TEST 2	Pearson Correlation	.830	
	Sig. (2-tailed)	.000	

*. Correlation is significant at the 0.05 level (2-tailed).
b. Listwise N=216
Table 4b: Reliability Coefficient of Index of Self-Esteem (ISE) using

Table 4b revealed that by conducting a one week test re-test, 0.83 internal consistency coefficient was obtained for the Index of Self-Esteem (ISE). Table 4b shows that there is high and positive correlation between and among the items of the ISE. This implies that the internal consistency coefficient of ISE in Nigerian sample is high with the value of 0.83, hence the ISE is reliable to measure students' self-esteem and self-concept in schools most especially in secondary schools in Nigeria.

RESEARCH QUESTION 3

✓ What is the validity coefficient of the Index of Self-Esteem (ISE) in Nigerian sample?

In this study, the concurrent validity coefficient of the ISE was determined as shown in table 5 below:

ISE	SRAS		
ISE	Pearson Correlation	1	.370
	Sig. (2-tailed)		.586
SRAS	Pearson Correlation	.370	1
	Sig. (2-tailed)		.586

a. Listwise N=216
Table 5: Concurrent Validity of Index of Self-Esteem (ISE)

Table 5 shows that the concurrent validity coefficient of the Index of Self-Esteem (ISE) is 0.37 using Nigerian sample. To obtain the concurrent coefficient, the Index of Self-Esteem (ISE) was correlated with a similar self assessment instrument, Simple Rathus Assertiveness Schedule (SRAS) developed by McCormick (1984).

V. DISCUSSION OF FINDINGS

This study also found that the mean scores for male (n = 108) = 65.98 and female (n=108) = 69.99 are higher than the Nigerian norms or means scores: M (n = 80) = 30.89 and F (n=80) = 32.04 as provided by Onighaiye (1996) which are the basis for interpreting the scores of the respondents in this study. Since the mean scores of the male and female senior secondary school students in Rivers State of Nigeria are higher than the norm, it implies that both the male and female senior secondary school one and two (SSS 1 & 2) students in Rivers State of Nigeria have low self-esteem, which is poor and could have negative effect on their academic pursuit. The results also revealed that the psychometric properties of the Index of Self–Esteem (ISE) using Nigerian samples are high and valid enough to measure self-esteem and self-concept of students in Nigerian context. For instance, the study obtained the reliability coefficients of 0.84 and 0.83 for the ISE using the Cronbach alpha and a seven–day Test–retest methods respectively. Also, the concurrent validity of the ISE was shown to be 0.37 which was obtained by correlating the Index of Self–Esteem (ISE) with the Simple Rathus Assertiveness Schedule (SRAS) by McCormick (1984). The findings indicate that the Index of Self-Esteem (ISE) is highly reliable and valid to measure the self-esteem of individuals above 12 years of age in Nigerian school setting as well as other social settings. These findings lend support to Hudson (1982) who developed the ISE and provided the original psychometric properties of the inventory using American samples and reported a co-efficient alpha of 93 and a two–hour test-retest coefficient of 92. This study also agreed with Onighaiye (1996) who first provided the psychometric properties of the ISE for Nigerian samples and obtained the following coefficient of validity by correlating ISE with stated test: Concurrent validity with SCL-90 by Derogatis et al (1973) in scale C-interpersonal sensitivity = .44, scale D = Depression = 38. Onaighaiye (1996) also correlated the Index of Self-Esteem (ISE) with Ego Identity Scale (EIS) by Tan, et al (1977) and obtained a discriminant validity of -.42. The coefficients of reliability and validity which are reported on the ISE in this present study corroborates those of Hudson (1982) and Onighaiye (1996) as stated above, which indicates that the ISE is highly reliable and valid to measure individuals' self-esteem and self-concept in Nigeria.

VI. CONCLUSION

From the findings of this study as well as other studies cited here such as Hudson(1892) and Onighaiye (1996) on the psychometric properties of ISE which indicated high reliability and validity coefficients, it could therefore be concluded that ISE is a reliable and valid instrument for assessing the self-esteem and self–concept of individuals above 12 years in Nigeria.

VII. RECOMMENDATION

Based on the findings of this study and the available data, the following recommendations are
✓ It was therefore recommended that the Index of Self-Esteem (ISE) by Hudson (1982) can be a valuable instrument in assessing self-esteem and self concept of students or individuals above 12 years in school settings as well as other social settings in Nigeria.
✓ The ISE instrument could be used by school councillors and mangers to assess their students' self-esteem/self–

concept after admission for better placement, guidance and counselling

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