Advances in Social Sciences Research Journal – Vol.1, No.3
Publication Date: May 15, 2014
DOI: 10.14738/assrj.13.126
Kolawole, E. B., & Fabunmi, J. I. (2014). Construction and Validation of Career Interest Scale for Senior Secondary Schools Students in Nigeria. *Advances in Social Sciences Research Journal, 1*(3), 35-47

Construction and Validation of Career Interest Scale for Senior Secondary Schools Students in Nigeria

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ABSTRACT

The construction and validation of career interest scale is borne out of the need to develop an interest scale that will be valid and reliable for the measurement of interest of any individual student who aspires to choose a direction of study that will enable him perform exceptionally well in any chosen field. The study is directed to the SSII students who are in their penultimate year of writing their final secondary school examination. A total of 1090 responses were processed. A multistage random sampling technique was adopted, and the population was the Senior Secondary Schools in the southwest Nigeria. The construct validity was established by convergent validity of the instrument "Student Career Inventory" (SCIn) with Career Interest Survey (downloaded from internet) and Vocational Interest Inventory developed locally by C.G.M. Bakare (1977) both with correlations of 0.63 and 0.58 respectively. Factor analysis was also employed to further confirm the content, construct, and the unidimentionality of the instrument. It also confirmed the criterion related reliability of the instrument with Holland's postulations. The result further proved that, apart from validity and reliability of the instrument, it revealed that there was significant difference in the choice of career interest between students in urban and rural locations; and between male and female students in south west Nigeria.

Keywords: Scale Construction, Career Interest, Secondary School Students, Nigeria

INTRODUCTION

Constructing and validating an instrument is essential to making available an instrument that can be relied upon to measure specific attributes of individuals to whom the instrument is directed. Career interest is the actual area of interest an individual may be eyeing as a result of internal or external motivations. If young adolescents are not guided in this all important area, he may end up choosing a career for reasons varying from mere aesthetics, societal approval, to other personal reasons that may end up being irrational or even bizarre. A test worthy instrument, if well handled, should bring out the permanent intrinsic interest of an adolescent, or take them out of the region of the temporary, to the realm of permanent interest. Most often, their interests do not correlate with their ability. If success must be recorded in any chosen career, interest must correlate with ability to be able to function most effectively in such field of endeavour. Ab Rahim & Samsiah (2007) cited Nuchols & Banduci (1977) opined that people might experience considerable anxiety if they fail to make appropriate career choices. This explains the researcher's interest in Holland's typology that places emphasis on the interplay of ability and environment. He states: "people can function and develop best and find job satisfaction in work environments that are compatible with their personalities. He classified these personality types into six thus:

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The Realistic; Investigative, Artistic, Social, Enterprising, and the Conventional. This he codenamed 'RIASEC' This researcher however has classified his personality types into seven, introducing the Authority which he identified as a type of people that love to exert authority as uniformed workers, or law enforcement agents. This kind of people are found across the whole group of people. So, instead of RIASEC, we now have 'RIASOAC' which stands for the Realistic, Investigative, Artistic, Social, Outgoing, Authority and Convectional. The Enterprising subscale of Holland now yields way to the Outgoing (similar to the Enterprising) and the Authority (that cuts across the whole lot of all the subscales).

Statement of the Problem

In Nigeria today, students are getting less matured at the time they are expected to take career decisions. The modal class of SSll students in the southwest Nigeria falls onto age 16 on the average. They tend therefore, as a result of status immaturity, choose careers relative to influence of parents, friends, societal acceptability and other social factors to the detriment of personal ability. Many of them choose subjects for study because they usually have good scores in them but this may be deceptive.

This paper therefore aims at designing an intervention perspective in choosing careers, not only based on factors above, but emphasizing interest and the ability of an individual. It is essentially an attempt to orientate student's choice of career due to both internal and external factors or rather the extents to which the student at the level of SSII, knows himself. This is so important because right choice is '' sine qua non" to self fulfillment and success in any chosen career. In fact, according to Salami, S O (2008), many of them have not yet reached the stage of identity status and therefore yet unstable in their choices. The scale "Students' Career Inventory" is based on personality typology likely to bring out from individuals, what type of personality he or she exhibits as that would help locate what type of career he/she could handle most efficiently, effectively naturally and easily.

Research Questions

The following questions were raised:

- Will the interest inventory so constructed have validity?
- Will the inventory have acceptable reliability?
- Will the inventory have acceptable psychometric properties?
- Will the scale be sex biased?
- Will the scale discriminate between rural and urban schools in the choice of career?

The following hypotheses were tested at 0.05 level of significance:

Ho1: the Student Career Inventory will not be valid.
Ho2: the Student Career Inventory will not be reliable.
Ho3: there will be no significant difference in career interest of male and female students.
Ho4: there will be no significant difference in career interest between students of rural and urban schools.

LITERATURE REVIEW

The need for construction and validation of a scale is sine qua non to meaningful measurement in all ramifications of life and more so in the field of education.

The need for measurement calls for diligent construction of scale for measurement purposes. Stephens (1946, 1951) discussed scales of measurement which he titled "On the theory of scale

of Mint", where he categorized all measurement in science into 4 types namely: the ordinal scale, the nominal scale, the internal scale and the ratio scale. Without good scale, it is impossible to advance in any field of human endeavour be it in the pure sciences or social sciences. In social sciences (and education), scales are much less precise than in the sciences. Alonge (1989), submitted that any good scale must measure fairly accurately and must have certain desirable properties. The acid test for such scale should include good proof of validity, reliability, unidimensionability, linearity, reproducibility and ease of administration. While validity speaks of truthfulness in measurement, i.e.it must measure what it is constructed to measure, reliability speaks of consistency in scores of a testee after two or more observations. It is the degree of confidence that can be placed on measurements for an individual or for a group. A reliable instrument is therefore dependable, predictable, accurate and exhumes confidence to return good and consistent results for the testee. When viewed from the angle of standard error, Alonge (2004) describes reliability as an idea of how much variation to expect in a test. Sidhu (2005) submitted that standard error enables an interpreter know the range of scores within which the test is accurate. Unidimensionality speaks about measuring one trait at an instant, in other words, an instrument designed to measure interest should not be used to measure anxiety. Linearity of a scale speaks of equal intervals within a scale i.e. same distance from the starting to the terminal point. Reproducibility ensures consistent measurement over time and space. Ease of interpretation also concerns the ability of any scale user to be able to interpret the result of a test based upon the validity, reliability, group of testee and the norm. In psychology, response scale must be designed. Prominent among such scale are the attitude scale like Likert (1932), Thurstone (1929 the equal appearing interval), Guttman and Borgadus (1925, this is the social distance scale. Each of these scales is credited with some unique qualities but for some reasons of ease of adaptation and ease of application, the Likert type scale is more widely patronized (Omirin 1999)). In social sciences, rating scales is popular because it elicits responses about a person's interest, feelings, beliefs and other attitudes which are either intrinsic or extrinsic interests. Interests, according to Sidhu (2005) are activities or objects that stimulates pleasant feelings in an individual. Fryer says it is a tendency to become absorbed in experience and to continue in it effortlessly. Interests can be acquired or genetic.

SCALE DEVELOPMENT METHODOLOGY

The value of any scale is dependent upon the degree to which the purposes of the assessment are fulfilled. A good scale must have good content, good response format and scoring procedure based on the purpose of the test, the domain to be measured and the intended test takers. (American , Research Association, American Psychology Association and National Council on Measurements in Education, 1999). Good scale development therefore involves definition of construct, and scale designs (Sax, 1980, Omirin, 1999). Definition of variables, Spector (1992) , a good item construction , item reviews, determination of response format, pilot testing of instrument, item review (as many times as possible), test re-test of instrument and data analysis are vital to good scale construction.

In this study, correlational and factor analysis were employed. Factor analysis (FA) has been confirmed to guarantee empirical validity, (construct and content). It also is essentially a data reduction instrument. It enables researcher to determine which item to discard and which to retain (Zurick and Velicer 1986). This is done by applying eigen value rule of greater than 1 (KMO>1) (Kaiser 1960, Cattell 1966). The Barrlett test of sphericity (Barrelrtt 1950,1951). Low eigen value connotes low contributions of a variable to the explanation of the variance in the variables.

THEORETICAL FRAMEWORK

The theoretical frame work is based on Holland (1959, 1992) Typology. Holland developed six personality types as follows:

The Realistic (denoted by R), the Investigative (I), the Artistic (A), the Social (S), the Enterprising (E) and the Conventional (C).

From the personality angle, Holland (1959) identified six groupings viz: the Realistic, Investigative, Artistic, Social, Enterprising and Conventional. This approach was referred to by Holland as the heuristic theory of personality.

This researcher, after careful considerations of the above, has identified seven personality groupings namely: Realistic, Investigative, Artistic, Social, Outgoing (instead of Enterprising), Authority (new grouping), the Conventional. The rational actually is the view that the social environment and the personality situation in the Europe of his time still holds sway for the present day, while the psycho-social environment remains as same.

Having proposed the six types of Personality groupings, he organized them into a hexagonal shape and each angle bears the first letter of each group in a clockwise direction starting with the 'R' in that order to produce R-I-A-S-E-C. He explained that the personality type adjacent to each other are more related to each other e.g. R-I are more related to each other than the one diametrically opposed to each other like R – S.

Interest, is a very important trait that has relationship with many other variables in the affective domain. Such variables have been identified by many authorities as inclusive of personality traits like attitude, aptitude, motivation, self-concept, career aspiration, attention and values.

Methodology

A multistage random sampling method was adopted for the study. Data were analyzed using both descriptive and inferential statistics to answer the various questions and hypotheses. Charts and graphs were used to answer the questions while t-test was used to test the hypotheses.

The following procedure for item generation was followed:

- Consulting experts, students, teachers textbooks and research works;
- Preliminary item development;
- Experts inputs and scrutiny;
- Reviews as many times as possible;
- Determine the item and response format;
- Trial-testing the resulting instrument;
- Administer the scale and analyse the response pattern;
- Ascertaining the preliminary validity and reliability co-efficient;
- Determining the standardization time
- Determining the norms, (Spector, 1992; De Vellis, 2003).

372 items were initially generated. They were subjected to experts' scrutiny . The items were then reviewed to pinpoint and remove items that looked ambiguous, invalid, irrelevant and duplicated. Badly worded ones were re-worded, or restructured to make them better. 123 items were removed leaving 249. The 249 items were subjected to item-total correlation analysis. The co-efficient ranged from 0.174 to 0.806 but most items vary from 0.30 to 0.07 connoting high homogeneity.

When the scales were initially subjected to reliability test, the crombach alpha of each of the subscales ranged from 0.66 to 0.89. 20 items per subscale were selected for factor analysis using the coefficients generated by item- total correlation analysis. The correlation matrix and the factor analysis were used to delete items due for deletion, while those considered good enough were retained.

Population

The population consists of senior secondary school class two students (SSII) across southwest Nigeria who are in the penultimate year to writing their Senior Secondary School Certificate Examination. 1300 students were targeted but only 1090 of the questionnaires were valid and were used. Data generated were from Students Career Inventory (SCIn) developed by the researcher. The Liker type scale was adopted. Responses was from dislike very much, (1), dislike, (2), undecided, (3) like, (4), to like very much.(5). The section A aspect of the questionnaire was designed to elicit information on the personal data of individual respondents, while the section B will be used to examine the hypotheses.

Will the Instrument be Valid?

The question of validity was answered by the following:

Construct Validity

The construct validity was established by testing the instruments against:

- A downloaded instrument called "Career Interest Survey" (CIS) and "Vocational Interest Inventory" (VII) by Bakere CGM. (1977)
- The correlation of SCIn with CIS yielded crombach alpha of 0.63 while it yielded 0.58 with VII which was reported to have 0.89 reliability coefficient.
- The Pearson Product correlation analysis was used to determine the concurrent validity between the SCIn and CIS on the one hand, and SCIn and the VII on the other hand.

Validation Processes

The Validity of the Instrument

As stated earlier, the construct validity of SCIn with two other instruments of CIS and VII yielded crombach alpha of .63 and .58 respectively. Further validity was confirmed by the intercorrelation analysis yielded by the communality which indicated high level of interaction with other items of each subscale. These points out the items are relevant to the construct.

The intercorrelation matrix of the subscales are highly significant and mainly from 0.40 to 0.60, suggesting a good cluster of items. No item has a value of lower than 0.280. Only two items has value above 0.70

The factor analysis itself is one of the most acceptable means of validating an instrument as it guarantees content, construct and unidimensionality of an instrument,(Nunally, 1978) and also addresses the empirical validity of such scale. (Anderson and Bouake, 2009). It sieves items by selecting the most valid ones for a scale.

The scale validation started at the construction stage when items were constructed relative to the subject matter – choice of caree interest. Care was taken to ensure that all items were related to each subscale of interest.

Expert's validation of the items was also a guarantee of item relativity to the construct under consideration.

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The item- total correlation also confirmed the homogeneity of the items because the correlation indices ranged from low to medium values in general. Only very few items reflect indexes with values below 0.30 and few items still above 0.75. The bulk of the items were within the range of 0.30 to 0.75. None of the items had negative value.

The intercorrelation of the subscales reflects something like the submission of Holland.

Table 1: Intercorrelation matrices of the seven subscales.

	B1	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	
B1	1							Realistic
sign. 2t								
B2	0.717	1						Investigative
sign. 2t	0.000							
B3	0.174	0.011	1					Artistic
sign. 2t	0.217	0.941						
B4	0.466	0.363	0.569	1				Social
sign. 2t	0.000	0.008	0.000					
B5	0.486	0.361	0.461	0.446	1			Outgoing
sign. 2t	0.000	0.009	0.001	0.001				
B6	0.372	0.248	0.462	0.613	0.409	1		Authority
sign. 2t	0.007	0.076	0.001	0.000	0.003			
B7	0.463	0.434	0.049	0.375	0.258	0.559	1	Conventional
sign. 2t	0.001	0.001	0.729	0.006	0.065	0.000		

P=0.05 level of significance.
N.B: All values are positive.

On this table, subscales 1 and 2 correlate highly at .717, and this confirms construct correlation in agreement with Holland's (1959) submission that the Realistic and the Investigative should correlate highly. This is a proof of criterion related, content and construct validities.

Subscale 3, Artistic correlates poorly with subscale 1 and 2 because the subscale is expected not to be at par with the Scientific. This also is another congruency pointer to Holland's postulation. It correlates well with three other subscales of 4, 5 and 6 which also is possible but again correlates poorly with the conventional which is in line with Holland's submission.

Subscale 4, [the Social] correlates fairly with 1, and 2, moderately with 3 [Artistic] and Authority, and significantly also with 5, and 6, which are the out-going and the authority. This is also understandable, since a person could be a combination of several personalities combined. However, one of his interests would be more prominent than the others. The Conventional [subscale 7 bvii] correlates highly with subscale 1, 2, and 6 fairly well.

In the Table 2 on next page, subscale 2 item 1 could be rounded up .300. while item 10 of the same subscale could be rounded down to .750. Another proof of validation is the factor analysis (F A) conducted on the 140 item instrument. F A has been confirmed to be a veritable tool in the hand of researchers to establish the validity of instruments (Kimberly 2009). The validity of an instrument is the guarantee the test constructor looks for in his work. It is the degree of confidence the test has to produce a result that can be relied upon concerning the intended construct. Factor analysis guarantees this by its ability to find the interrelationships of one variable with every other variable . The resultant principal component that results yields factors that are measured by the eigen values. Any factor which eigen value is not

greater than one (KMO < 1) is rejected. The factors that were chosen were those with eigen values greater than-1 (KMO>1).

Table 2: Intercorrelation Matrices of the 7 subscales

S/N	1	2	3	4	5	6	7
1	.433**	.280*	.603*	.510**	.650*	.389**	.552**
2	.624**	.741*	.642*	.450**	.677*	.597**	.670**
3	.571**	.418*	.529*	.520**	.582*	.679**	.615**
4	.618**	.736*	.678*	.631**	.671*	.538**	.640**
5	.687**	.579*	.455*	.592**	.506*	.411*	.635**
6	.515**	.586*	.515*	.385*	.498*	.504**	.558**
7	.441**	.658*	.447*	.497*	.652*	.648**	.511**
8	.642**	.507*	.407*	.623*	.547*	.634**	.575**
9	.580**	.687*	.620*	.315*	.687*	.546**	.667**
10	.570**	.772*	.660*	.388*	.572*	.559**	.632**

Subscale 1 = all significant at $p < 0.01$,

Test Administration.

After validation, the instrument was tested in schools in four out of the six states of Nigeria using the multistage random technique. The population is the SSII classes of all types of secondary schools in the four states in the southwest Nigeria viz: the federal government secondary (unity) schools, the state government schools and the private secondary schools. Both rural and urban schools were investigated.

Reliability

The crombach alpha is a tool in the hand of researchers to indicate how well items hang together or complement each other. It is a measure of quality or the togetherness of the items generated to measure a construct.

The overall reliability of the instrument at the initial stage was 0.913. Each subscale was subjected to reliability statistics i.e. scale crombach alpha if item-deleted, and the overall alpha improved to 0.966. from 0.913.The final scale reflects high internal consistency. (.966) The test-retest reliability of 0.66 was established after the scale was crafted. Time lag was seven weeks apart. This is also a proof that the test has aceptable reliability coefficient because testees were not likely to have remembered everything about the responses they gave seven weeks earlier.

Table 3: Subscale Reliability Statistics

Subscale	Before Correction	After Correction
1	.704	.918
2	.705	.864
3	.847	.868
4	.818	.848
5	.813	.917
6	.862	.919
7	.913	.937

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Table 4: Scale Reliability Statistics

Before Correction	After Correction
.913	.966

Reliability Statistics

Each subscale was subjected to reliability statistics in order to remove items that contribute least to the reliability of the subscale. It gives the scale mean if- item- deleted.

Item Deletion

Criteria For Item Deletion

- The following criteria were adopted for items deletion:
- All items not significant on the correlation matrix;
- All items that correlates less than 0.30 on correlation matrix;
- All items that correlate above 0.75 on correlation matrix;
- All items that fail to load on any factor on the rotated component matrix;
- A cutting point of .500 on the rotated component matrix was adopted, (even though those that load at .400 are generally acceptable).
- All items that explain least variance on the reliability statistics (their removal enhanced the reliability coefficient of the subscale/scale even if slightly);
- Trimming was employed to make for uniform number of items on each subscale.

Population and Sample

The population consists of all the SSII students in the southwest geopolitical zone of Nigeria A sample of between 25 to 30 students per school were randomly selected from the secondary school system. 19 secondary schools to cover the three senatorial districts were sampled per state, and a total of 76 secondary schools randomly selected to cover the entire southwest zone. A Federal secondary school per senatorial district was purposively selected. About 1,300 testees were targeted, but only 1093 responses that returned valid responses were used. They consist of almost equal number of both male and female testees.

The Instrument

The instrument named Students Career Inventory (SCIn) was developed by the researcher. It is a 70 item instrument constructed along the line of Holland's typology or simply, the Holland's six. Instead of Holland's typology of six personality models, the researcher identified the seventh personality model which he called the Authority. Holland had the six classes of personalities codenamed RIASEC- the realistic, the investigative, the artistic, the social, the enterprising and the conventional.

The authority aspect identified by the researcher is an off-shoot of the enterprising, but also reflects traits of all personalities here typified. So instead of the Holland's RIASEC, we now have RIASOAC, which decoded means the realistic, the investigative, the artistic, the social, the outgoing, the authority and the conventional.

The scale is a 70 items instrument, 10 per subscale.The 20 items per subscale selected from the correlation matrix generated by item-total correlation analysis were subjected to factor analysis to select the final 70 items that made up the scale. Items selected for factor analysis were those with crombach alpha coefficient of 0.30 to 0.75.

Before factor analysis was conducted, the instrument was subjected to Kaiser-Meyer-Othion (KMO) measure of sampling adequacy and the Barlett's test of sphericicity. Kaiser recommended a coefficient of 0.6 to be considered good enough for factor analysis (Kaiser, 1970, 1974). The seven subscales reflected values of between.686 to .820 except for subscale 4 that yielded 0.505 and the reason could not be ascertained. While the Bartlett's test of sphericity expects that the chi test should be significant at $p< 0.05$ for factor analysis to be appropriate, (Tabancehnich& Fidell, 2007; Barlett, 1954). The Barlett's test produced chi (X) values significant at $p = 0.000$.(see table 5 below).

Table 5: KMO and Barlett's Tests

	KMO'S measure of sampling adequacy	BARLETT'S test of sphericity	
Realistic	.726	X^2 df sig.	526.238 190 .000
Investigative	.801	X^2 df sig.	789.175 190 .000
Artistic	.820	X^2 df sig.	672.470 190 .000
Social	.505	X^2 df sig.	422.805 190 .000
Outgoing	.775	X^2 df sig.	626.981 190 .000
Authority	.686	X^2 df sig.	503.997 190 .000
Conventional	.755	X^2 df sig.	631.829 190 .000

All the subscales were significant beyond 0.01. $p < 0.01$ ($p=0.000$)

RESULTS

The question of whether the instrument will not have enough psychometric properties is answered by the analysis below:

Psychometric Analyses

The internal consistency was assessed using crombach alpha. Item analysis include item total and inter item correlations to examine the homogeneity (or multi-co linearity) of the items. Acceptable co-efficient for item – total correlations should be from 0.30 to 0.80 (Taberchnich & Fidell 2007)' Correlations of above 0.80 indicate redundancy of item as a result of multi-co linearity (Taberchnich and Fidell 2001).

- PCA (using varimax rotation) revealed factors ranging from 4 to 8 per subscale. The scree plot was employed to examine number of factors. In some cases the scree plots agree with the total variance explained while in some there were no agreement. Total

factors explained range from 65.9,67.1,67.1,68.3,70.1,70.7 to 74.0.

- From the result of the PCA and eigen values, total variance were extracted. A cutting point of .40 of factor loading was used to retain or delete items among others.

The pattern matrices indicate that most of the items were fairly distributed on most factors, while in subscale II, they load on only one factor mainly. This cluster is another proof of homogeneity of the items. The corrected item-total correlation for the instrument is an indication of high reliability of the instrument. Corrected correlations were all greater than .30

Hypothesis 1: the Student's Career Inventory will not be valid.

The hypothesis that the instrument will not be valid was rejected since the construct validity of the instrument was confirmed by the intercorrelation of the subscales crafted in the pattern of Holland's typology. The intercorrelation follows the pattern of Holland's submission. (see table 1) It therefore is a proof of content, construct and criterion related validity. The item deletion approach also attests further that the validity is improved. (Froman, 2001)

The factor analysis is yet another proof of validity (factorial validity) for scale development. Nunally, (1978) submitted that it guarantees content, construct and unidimentionality. Anderson and Bourke (2009) submitted that it guarantees the empirical validity of an instrument. It is also confirmed to be a veritable tool for item reduction.

On the intercorrelation matrix, no item has coefficient below .30 except one, which had a mtrx of .280 which can either be rounded up or even accommodated (Odeyemi 2011). The one that has a correlation of .772 can also be rounded down or also accommodated since it is bellow the acceptable norm of .80.

Hypothesis 2: The Student' Career Inventory will not be reliable.

The reliability of the instrument was established by the crombach alpha method of finding internal consistency. The reliability of each subscale was first examined using item – total statistics i.e. scale variance if item deleted. For instance, the item total statistics for subscale 1 is as below:

Table 6: Scale and Subscales reliabilities

Source of variability	No of items	Df	r cal	r tab	Result
Realistic	10	9	0.803*	0.602	Significant
Investigative	10	9	0.864*	0.602	Significant
Artistic	10	9	0.868*	0.602	Significant
Social	10	9	0.848*	0.602	Significant
Outgoing	10	9	0.917*	0.602	Significant
Authority	10	9	0.919*	0.602	Significant
Conventional	10	9	0.937*	0.602	Significant
Overall	70	69	0.966*	0.233	Significant

* $P < 0.05$

The above table shows the summary of the scale and subscale reliabilities by subscale and the overall reliability of the entire instrument. The hypothesis that the instrument 'Student's career inventory will not be reliable is hereby rejected.

Hypothesis 3: There will be no significant difference in career interest of males and females students.

Table 7: Test of significance of sex bias-ness by the scale [ScIn]

	Sex	N	Mean	Df	Tc_{al}	t-tab	Significance level
Realistic	Male Female	581 501	32.1736 28.5289	1080	6.683	1.96	.000*
Investigative	M F	581 501	35.1015 32.0299	1080	4.989	1.96	.000*
Artistic	M F	581 501	32.5577 31.9681	1035	950	1.96	.342
Social	M F	581 501	31.8158 31.0758	1049	1221	1.96	.222
Outgoing	M F	581 501	31.3494 29.3074	1080	3.773	1.96	.000*
Authority	M F	581 501	36.7504 34.9760	999	2.540	1.96	.011*
Conventional	M F	581 501	37.8864 35.4830	1080	3.291	1.96	.001*
Students Career Scale Interest	M F	581 501	237.6351 223.3693	1080	14.070	1.96	.000*

*P < 0.05

From the table above, it was observed that the scale is sex biased. All the subscales are significant except the artistic and the social which were not significant. The level of significance is beyond 0.001($p < 0.001$).

Hypothesis 4: there will be no significant difference in career interest between students in urban and rural schools.

According to Table 8 on next page, while the t-tabulated were1.96, t-calculated for all subscales from subscale 1 to 7 are as follows: 3.231; 2.229;2.140; 2.320; 3.043; 3.002; 2.341; 3

Table 8 on the next page shows that there is significant difference between choice of students career interest between the students of rural and urban locations. While the r-tabulated is 1.96, the r-calculated were all above r- tab. The confidence level is $p < 0.001$.

Table 21: Test of significance between Rural and Urban Schools in the choice of Students Career Interest.

	Place of location	N	Mean	Df	tc_{al}	r_{tab}	Significance level
Realistic	Rural Urban	68 1025	30.9412 30.2507	1091	3.231	1.96	.001*
Investigative	Rural Urban	68 1025	36.3382 33.4810	1091	2.229	1.96	.026*
Artistic	Rural Urban	68 1025	34.8088 32.0888	1091	2.140	1.96	.033*
Social	Rural Urban	68 1025	34.1471 31.2615	1091	2.320	1.96	.021*
Outgoing	Rural Urban	68 1025	33.5441 30.1512	1091	3.043	1.96	.002*
Authority	Rural Urban	68 1025	39.9265 35.6683	1091	3.002	1.96	.003*
Conventional	Rural Urban	68 1025	40.0735 36.5493	1091	2.341	1.96	.019*
Students Career Scale Interest	Rural Urban	68 1025	252.7794 229.4507	1091	3.219	1.96	.001*

P<.05

DISCUSSION AND CONCLUSION

From the above, it is obvious that the instrument , SCIn, has content, construct, concurrent, and criterion related validity. It is therefore valid. It was also found out that the instrument has high internal consistency depicted by the measure of reliability. It is therefore reliable. It was found out that there is significant difference in the choice of career interest of students between the rural and the urban locations. All the t-calculated were greater than the t-critical. While the t – critical for all subscales was 1.96, t-calculated ranged from 2.140 to 3.231, which were all greater than 1.96. That indicates that the hypothesis that there will be no significant difference in career interest between students of rural and urban locations is hereby rejected. This is in line with the findings of Mohammed (2008), Babatunde (2008), Oluwatimilehin (2011). It was also found that the scale is sex – biased. The t-calculated for each subscale was significant except for the Artistic and the Social subscales. While the t-critical for all subscales were 1.96, the t-test for the subscales ranged from 2.54, 3.291, 3.773, 4.989, and 6.683 and are therefore significant. However the social and the artistic subscales were not significant because the t-calculated were less than the t-critical. The scale therefore exhibits the same traits as most interest inventories. The major attribute of most interest inventories hereby resurfaces i. e. sex bias-ness. Even when efforts had been made to eliminate those factors that promote sex bias-ness from the inventories, the sex role mentality still manifests in inventories, even this just tested one. The overall scale biase-ness is significant beyond p< .001 tested at 0.05 level of significance. While the t-cal. for the overall scale is 14.070, the t-critical is 1.96. (Holland, 1959, UNESCO, 1977, Zunker, 2002, Babatunde, 2008, Owuamanam & Babatunde, 2008).

It is therefore recommended that the instrument could be used for measuring the career interest of secondary school students who need to be guided in the important task of choosing a career that is most realistic for future working bliss.

A longitudinal study of student's choice of career interest could be done to see how far the choices made by students are followed.

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