A Study on the Construction of the Scale to Measure the Socio-Economic Status in Rural and Urban Communities in India

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Abstract:

The commonly used available scales for measurement of socio-economic status with some cross regional applicability are old and have lost their relevance. There is a need for the development of a valid and reliable instrument for measurement of socio-economic status in rural and urban communities in India. The present study was undertaken to develop a cross regionally applicable scale for the purpose of enlisting true measures of socio-economic items applicable in multilingual, multicultural and multi religious setting of the country. For developing the scale, 10 components presumably determining the socioeconomic status were selected. These indicators were named as profiles. The final version of the scale was arrived at through two trial administrations on rural and urban families. The basis of selection of the families for the two trials was stratified random. The validity and reliability of the scale was established through defined test-retest methods. Both the initial version as well as the final version was in terms of contents and range of items in different categories of socio-economic status. The final version was arrived at through field trials and suggestions of the experts. The reliability of the scale was high with a correlation coefficient.

Key Words: Family components, socio-economic status, rural and urban community,

indicator and version etc.

Introduction:

The need and significance of quantifiability and measurability of the concept and variables in social science have led to the formulation of devices /methods for their measurement. Socio-economic status is one of the most important variables in social science studies/researches. It plays a significant role in planning and execution of developmental program and, therefore, there is a need for the development of a valid and reliable instrument for the measurement of socio-economic status. Socio-economic status of a family would mean the ranking of the family in the milieu to which the family belongs, in respect of defined variables viz., physical assets, economic status, education, occupation, social position, social participation, caste, muscle power, political influence, etc. Some elements of the above variables have a tendency to go together. It was felt that the currently available scales were either outdated or there was a need for re-definition of some relevant items for indicating the socio-economic status accurately.

Moreover, these scales were developed on smaller samples drawn from sub-strata of population and not on larger representative cross-section of the community. So, with a purpose of developing a reliable and valid instrument for measuring the socio-economic status, a field study was planned and carried out in the urban and rural areas of Visakhapatnam district, the elements, which have a tendency to go together. The exercise of grouping the items/ elements was done with the help of available experts (psychiatrists, psychologists, sociologists and social work professionals) as well as available standard socio-economic status assessment scales. The draft outline of thus reached scale was launched for finalization of the scale through field trials.

Steps of standardization of Socio Economic Status Scale:

For standardization of socio economic status scale following steps were followed.

Reviewing the literature:

The first step of constructing the tool, the researcher was to study and procure the tools available in the market. The researcher collected the large number of items depicting the different aspects of socio economic status from the past research studies and the documents. The researcher was study and procures socio economic status scale of P. Patel, Desai,   and Vora.

Determination of aspects of Socio Economic Status Scale: The researcher studied the components of the socio economic status mentioned in different books and research studies then decided 10 components of socio economic status scale. The components of socio economic status scale are;

Family Information, Education of the members of family, Professional Information of family members. Family Monthly Income, Residential accommodation, House hold equipments, Vehicles and other equipments, Entertainment facilities, Reading facilities and Social activities.

Construction of Items:

The items are generally prepared by the scale constructor. But for preparing items one can use three sources namely: (1) existing scales, (2) the description of these areas in psychology, economics, education, sociology & Social Work and available literature and documents (3) discussion with person working in the field. For the present investigation all sources was fully utilized. The researcher collected the available scales, literatures, past research studies and documents on the socio economic status and discussed with the experts in the field of sociology, social work, economics, education and evaluation. On the basis of the scales, past research studies, literature and documents and the discussion with experts' working in this field, the researcher constructed 70 items for the preparation from of the scale to measure the socio economic status of students.

For constructing the items, it was observed that the items depicting the facts should not be included in the preparation. The wording of the item should be simple, so that even the beginner can read, and understand the items. Therefore, the complex items were avoided as many as possible. Items having two meanings may not be selected for the inclusion in the scale. Ambiguous items were also avoided. However, there cannot be set rules for preparation of the items. Researcher constructed various items to measure each component of the socio–economic status. Researcher constructed 70 items in English and Telugu version for measuring various components of socio-economic status scale.

The Classification of Items:

The researcher was decided to study the socio economic status of high school student in relation to certain variables. There were 10 aspects of socio economic status scale. Keeping in mind all the main aspects, the items were classified. The table 1 show the number of items included in each aspect in the preparation form of the socio economic status scale.

Table: 1 Number of items included in each aspects of the preparation form of the scales to measure the Socio Economic Status

S. No.	Components of Socio Economic Status Scale	Number of Items
1.	Family Information	14
2.	Education of the members of family	5
3.	Professional Information of family members	5
4.	Family Monthly Income	5
5.	Residential accommodation	4
6.	House hold equipments	21
7.	Vehicles and other equipments	4
8.	Entertainment facilities	5
9.	Reading facilities	4
10.	Social activities	3
	Total	**70**

From table 1, it can be observed that there were 70 items included in the socio economic status scale. After the preparation form of the socio economic status scale, the researcher went to the step of judges' agreement. In below given Para, the details of the judges' agreement are given.

Evaluation by Judges:

For the step of judges' agreement of the preparation form of the socio economic status scale, the list of judges consisted members from different walk of life like, 4 educational officer, 2 psychologist, 3 senior lecturers of sociology & social work and 3 heads of the departments. Judges were evaluated by appropriateness of components, appropriateness of items to measure socio economic status. The judges were requested to tick mark (?) against appropriate column. Beside this, the judges' agreement was carried out under the objectives which are given below;

- ❖ To see whether the item can measure the socio economic status.
- ❖ To see whether there was the consistency between the item and the socio economic status of students.
- ❖ To see whether the illustration in the scale was perfect.
- ❖ To decide the total time to be required to administer the scale.

In obtaining responses from the judges, the "agree" response was given + 1 mark, and the "disagree" response was given – 1 mark. In all, 12 judges were selected and booklets were sent to them. Out of 12 booklets, all the 12 booklets were received back. Out of 12 booklets, all 12 booklets were found carefully filled in. The list of judges whose booklets were accepted is presented in table 2.

Table: 2 List of Judges and Number of Booklets were accepted

S. No.	List of Judges	Number of Accepted Booklets	
		Number	Percentage
1.	Educational Officer	4	33.33
2.	Psychologist	2	16.67
3.	Senior Lecturers of Sociology & Social Work	3	25
4.	Heads of the Departments	3	25

From table 2, it can be observed that there were 12 judges who responded the agreement over each item of the socio economic status scale. For finding the general degree of agreement among the judges over each item, the index of item objective congruence (IOC) was applied. The method of index of item objective congruence (IOC) was calculated under the following formula which suggested by Phongrat Thaveerat, (1997: 117).

$$IOC = \frac{\sum R}{n}$$

Whereas,

IOC means, the congruence between the scales objectives and the items in the socio economic status scale.

$\sum$ R means, the total scores of the agreements of the judges in each item.

N means, the total number of judges.

After the index of item objective congruence method was applied to the responses of the judges agreement, the obtained scores were compared with the criteria. According to Phongrat Thaveerat, (1997:117), the items which could be accepted, included in the pilot form of the scale should obtained index of item objective congruence value greater than 0.50. According to the foregoing calculation with index of item objective congruence, it can be observed that there were 70 items included in the preparation form of the scale to measure socio economic status. According to the judges' agreement, the obtained IOC value of each item indicated the accepted and the rejected items. In this way, out of 70 items, 7 items were to be discarded and 63 items were selected to be included in the scale to measure socio economic status. It can be said that 63 items were selected to be included in the pilot form of the scale to measure the socio economic status.

Scaling by experts:

As per evaluation made by judges some items were edited and some rejected and certain reworded with the help of guide. The socio economic status scale was consisted 63 items. With the help of guide and judges all the items of Socio economic status were scaled. For each question as per requirement space or options were given, the respondents were requested to tick mark (?) or fill necessary information as per requirements. The marking was made as per high value to low value of particular matter in ascending order. For example, for the component Education of the members of family, doctorate degree holder of the family member 7 mark and for uneducated 0 marks is allotted. The final form of the scale was prepared.

The Pilot Form of the Scale:

After the step of judges' agreement, the researcher prepared for the pilot form of the socio economic status scale. The table 3 show the number of items included in each aspects of the pilot form of the socio economic status scale.

Table: 3. Number of Items Included in Each Aspect of the Pilot Form of the Socio Economic Status Scale

S. No.	Components of Socio Economic Status Scale	Number of Items
1.	Family Information	7
2.	Education of the members of family	5
3.	Professional Information of family members	5
4.	Family Monthly Income	5
5.	Residential accommodation	4
6.	House hold equipments	21
7.	Vehicles and other equipments	4
8.	Entertainment facilities	5
9.	Reading facilities	4
10.	Social activities	3
	Total	**63**

From table 3, it can be observed that there were 63 items included in the scale to measure the socio economic status scale. After the judges' agreement, the selected items have been prepared for the pilot form of the scale.

Instructions:

- ❖ There were 63 items involved in the socio economic status scale.
- ❖ In Socio Economic status scale against each item, as per requirement space or options were given, the respondents were requested to tick mark (?) or fill necessary information as per requirements.
- ❖ The marking was made as per high value to low value of particular matter in ascending order. For example for the component Education of the members of family doctorate degree holder of the family member 7 mark and for uneducated 0 marks is allotted.
- ❖ There is no correct or incorrect answer to the item in the scale. All of your responses will be kept confidential, hence feel free to express your views and feelings.
- ❖ The result obtained from the analysis of the data will be reported anonymously and therefore they will not affect you personally.

The pilot form of the scale thus prepared. 280 copies were cyclostyled for the purpose of administering the scale to 280 students. The obtained responses of the pilot form of the scale were provided for the purpose of the item analysis. In below given Para, the details of the selection of the sample for item analysis were given.

Selection of the Sample for the Pilot Form of the Scales:

After preparing the pilot form of the scale, administered to the sample. The sample was selected in such a way that it should have the representation of the total population. Hence, it was decided to follow a random method of seeking the sample. Accordingly 280 students were selected from the schools of Visakhapatnam district. The table 4 gives the idea regarding the sample selected for the administration of the pilot form.

Table:4. Number of Students Selected from the High Schools in Visakhapatnam District

Standard	Urban Area		Rural Area		Total
	Male	**Female**	**Male**	**Female**	
8	25	25	25	25	100
9	25	25	25	25	100
10	20	20	20	20	80
Total	70	70	70	70	280

From the table 4, it can be observed that in the pilot study of the scale 70 male and female students from urban and rural area of Visakhapatnam district were selected. In the pilot study 100 students of 8th standard and 9th standard respectively and 80 students of 10th standard were selected.

Administration of the Pilot Form of the Scale:

For the pilot administration of the scale the researcher himself visited the schools of the Visakhapatnam district and administered the scale. Previous permission from the head master/head mistress of

the schools was taken. This was done through letter. The researcher went to meet the students in the classroom and had an informal talk with them. This was done with a view to take them into confidence and to establishing the rapport. The scales were distributed to the sample. Researcher gave enough time to the students to fill up socio economic status scale and observed their expressions.

Item analysis: The discrimination index was calculated.

Discrimination of Items:

Many techniques have been developed to show the degree to which an item was effective in discriminating individuals having high and low socio-economic status on either the total score or some other external criteria. Here the method that is adopted by the scale constructor is to set up two extreme groups on the basis of the total scores on the scale for computing the item. The t-value is then calculated for each item. The item having t-value larger than 2.58, were given a place in the final form of the scale. For the purpose of forming two extreme groups, the scale of 12 booklets ware arranged in an ascending order of the total score on the scale. That was the booklet scoring the highest score was placed first and the booklet scoring the lowest score was placed at the bottom. According to the method suggested by Allen Edwards (1969), 25% of the booklets (70 booklets) were taken from the top and 25% of booklets (70 booklets) were taken from the bottom. Thus the two groups, (upper and lower), were formed. After forming these two groups a numbers of samples answering each item were found out from the upper and lower group. Then for calculating t-value by using Statistical Package of Social Sciences (SPSS) was used.

In this way the researcher found out the t-value for each item of the socio economic status scale. For selecting the item, having t-value larger than 2.58, was selected for the inclusion in the final form of the scale. Keeping in mind this point of view, all of 63 items were selected for the inclusion in the final form of the socio economic status scale.

Reliability of the Socio economic status Scale:

It is very essential to obtain the final evidence of the reliability of the scale. Anastasi Anne (1968) said: "Despite optimum testing conditions, however, no test is a perfectly reliable instrument. Hence every test should be accompanied by item of its reliability." The prime purpose of the measurement is to arrive at some standard and precise judgment about an individual. The judgment has some value, if it is bases on dependable scores earned on dependable scale. The dependable scale means a reliable scale. The term reliability denoted trust worthiness or consistency.

In the present study, the researcher decided to use the test-retest method of estimating the reliability. The correlation co-efficient was computed by the SPSS. In this method, the selection of the most appropriate group is important. With the help of SPSS reliability is computed which is mentioned below in table 5.

Table: 5. Reliability Analysis of Socio Economic Status Scale

S. No.	Components of Socio Economic Status Scale	Number of Items
1.	Family Information	1.00
2.	Education of the members of family	1.00
3.	Professional Information of family members	0.99
4.	Family Monthly Income	0.95
5.	Residential accommodation	1.00
6.	House hold equipments	0.97
7.	Vehicles and other equipments	0.98
8.	Entertainment facilities	0.89
9.	Reading facilities	0.93
10.	Social activities	0.96
	Socio Economic Status Total	0.99

From table 5, it can be observed that the coefficient of correlation among all the components of Socio Economic Status Scale is ranged from 0.89 to 1.00. The highest value of coefficient of correlation is of component 'family information', education of the members of family which were 1.00 and the lowest value of coefficient of correlation is of component 'Entertainment Facility' which is 0.89. The reliability of test-retest method of all those components of Socio – Economic Status Scale and total of Socio Economic Status Scale are significant at all level of significance.

Validity of Socio economic status Scale:

In the process of scale construction and standardization, proof justification of purpose is known as the scale validation, consequently, validation of test score is the most important and significant step in the process of standardization of any scales.

For the present scale, the construct validity was employed to estimate the validity index by the statistical techniques.

Table: 6 Construct Validity of Socio Economic Status Scale

S. No.	Components of Socio Economic Status Scale	Number of Items
1.	Family Information	0.273
2.	Education of the members of family	0.874
3.	Professional Information of family members	0.249
4.	Family Income (Monthly)	0.926
5.	Residential accommodation	0.815
6.	House hold equipments	0.900
7.	Vehicles and other equipments	0.875
8.	Entertainment facilities	0.853
9.	Reading facilities	0.771
10.	Social activities	0.622

From table 6, it can be observed that Coefficient of correlation among each component with total score was computed. The coefficient of correlation among all the components of Socio Economic Status Scale is ranged from 0.249 to 0.926. The highest value of coefficient of correlation is of component 'Family Monthly Income' which 0.926 is and the lowest value of coefficient of correlation is of component 'Professional Information of family members' which is 0.249. The construct validity of all the components of Socio Economic Status Scale with total of Socio Economic Status Scale was significant at all level of significance.

Final Form of the Socio Economic Status Scale:

After establishment of reliability and validity of the scale, the researcher prepared the final form of the socio economic status scale. In the final form of the scale to measure the socio economic status 63 items were included. It can be said that the scales fulfilled the purpose for which it was designed.

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