Construction and Standardization of a Family Environment Scale

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Abstract

Family environment is dependent on various factors like- facilities available, cohesion in the family, expressiveness of its members, conflict, acceptance and caring among the members, means of reaction, parental personality, administrative and supervisory policies at home, humanistic relation and democratic relation or discipline among the family members etc. This Family Environment Scale is based on the Family Environment Scale (Bhatia & Chadha -2012) and the other Home Environment Scale which was developed by Akhtar & Saxena (2013). These two scales have given the way to the researcher to find out the various dimensions of a family. The social and environmental characteristics of families have measured by this scale. The main objective of the present study was to construct a Family Environment Scale including eight dimensions to measure the Family Environment of the college students. It is very important to ensure validity and reliability of the scale. The draft scale was administered on a sample of 120 students for item analysis. The scale was prepared in two versions – in English and Assamese languages. This Scale includes 64 statements. The Concurrent Validity of the Scale was estimated by correlating the set of scores with that obtained from administering the Family Environment Scale developed by Bhattia & Chatha (2012) and was found to be .66. The split-half reliabilities of Assamese and English versions of the scale were found to be .86 and .88 respectively.

Keywords: Family Environment Scale, Construction, Standardization

1.00 INTRODUCTION

Family is a social institution, a socially approved organization for meeting definite human needs. It is the first place where all aspects of a child such as emotional, social, moral and religious beliefs are developed in the right way. In a good family environment, a child gets maximum opportunities to improve his/her good qualities and social skills. The various factors of family environment like infrastructural facilities, cohesion among members, expressiveness, conflict, acceptance and caring among family members, means of reaction, parental personality, administrative and supervisory policies at home, humanistic relation and democratic relation or discipline among the family members, gender difference, etc. influence upon the behaviour of the children in the family. A child’s growth and development is based on the family environment.

Now a-days, it has been seen that crimes and social problems are increased day by day among the youth. Especially, the college students have faced so many problems in different spheres of their life like – aggression, maladjustment, frustration etc. These problems can be solved with the proper guidance of the family members. Healthy family relationship greatly influences the emotional intelligence of the adolescence. Nagra (2014) have found that socially intelligent individuals appear to experience better patience, cooperativeness, sensitivity, recognition, tactfulness, confidence level, sense of humour, a rich and meaningful life, as well as have enhanced social problem-solving abilities. Therefore, the family environment of the youth should be positive and co-operative.
A Family Environment includes two types of environment – physical environment and social environment. Physical Environment includes the materialistic aspects of the surrounding and social environment includes the social relationship between the individual surrounding the child. So the family is the primary place for a child’s education.

A developmental psychologist Diana Baumrind has worked on parenting styles and explained four types of parenting styles viz. Authoritarian, Authoritative, Permissive, and Uninvolved. Family Environmental Scale is used to measure different aspects which are included in a family like Acceptance and Caring, Cohesion, Expressiveness, Conflict, Recreational Orientation, Organisation, Independence, & Control etc. This Family Environmental Scale is developed by the researcher consists of 64 statements. This scale was developed to measure the family environment of the college students of Dhemaji and Lakhimpur districts of Assam. This scale is based upon the Family Environmental Scale developed by Bhatia and Chadha (2012).

2.00 REVIEW OF RELATED LITERATURE

An attempt was made by the researcher to find out the available literature related to Family Environment to find out the various aspects of this dimensions.


The main objective of the study was to estimate the validity or the family incongruence, with a view to know the discrepancies between family members’ perceptions or their family system with the help of Family Environment Scale. In this study two groups of family were selected for study. One group included twenty-six families who have faced delinquency-related problems and other twenty-six were healthy families. The researcher administered the Family Environment Scale on both of them before and after treatment. Result revealed that there is a significant difference between clinic and healthy family profile. In a delinquent or bad family environment has a low cohesion, high conflict and in a good or healthy family has lower conflict and high moral-religious emphasis.


The aim of the Scale was to translate the Family Environment Scale into Portuguese version and to estimate the validity of the scale. The translated version was applied on the members of Brazilian families to find out the internal consistency of the scale. This scale was included ten subscales. It result revealed that there were no significant differences between total scores of men and women. The reliability of the scale was estimated with the help of Cronbach’s alpha and it was found ranged from 0.61 to 0.78 for the ten subscales. Some subscales of the Family Environment Scale were influenced by the Cultural factor. This scale has revealed the reasonable internal consistency for evaluating the various changes of the family environment for therapeutic interventions.


This is an effective Scale for measuring Family Environment which is based upon the Family Environment Scale of Moos 1974. It includes the following three dimensions ----

* **Relationship Dimension:** It includes- Cohesion, Conflict, Expressiveness, Acceptance and caring.

* **Personal Growth Dimension:** It includes like- Independence & Active Recreational Orientation.

* **System Maintenance Dimension:** It includes like- Organisation and control.

This Scale includes 69 Items. Both the Face validity and Content validity were tested of the scale. Reliability of the scale was calculated with the help of Split Half Method and it was found = 0.95.


Home environment and socioeconomic status of a family both have an effect on intelligence of their children. Here has a positive relation to the Home environment also. Kaur & Kalaramnna (2004). Large family size, low educational status of parents, low parental involvement and low parental encouragement were found to be the major family factors associated with the scholastic backwardness. Children belonging to the joint normal families are better than the children of nuclear normal families (Devi & Kiran, 2007). To increase the academic performance of low achievement the quality of parent-child relationship should be strengthened and the children should be motivated and encouraged to perform better in the parents should take sufficient interest in the education of their children (Devi & Kiran, 2007). There is no positive & significant relationship between home environment and emotional maturity among boys’ and girls’ (Jadhav, 2010). All the eight family environment factors, viz, cohesion, expressiveness, conflict, acceptance and carrying, independence, active-recreational orientation, organization and control together showed significant role in the socio-emotional and educational adjustment of adolescent girls’ (Deepshikha & Bhanot, 2011). Healthy family relationship greatly influences the emotional intelligence also of the adolescence. Bhatia, 2012).

The various dimensions of the Family Environment Scale were selected on the basis of the various Family Environment Scales like- Family Environment Scale (Bhatia & Chadha, 2012) and the other Home Environment Scale which was developed by Akhtar & Saxena (2013).

3. OBJECTIVES OF THE PRESENT STUDY:

The main objectives of the study are as follows-

1. To construct a Family Environment Scale including eight dimensions to measure the Family Environment of the college students.

2. To Standardize the Family Environment Scales.

4. RATIONALE OF THE STUDY

Adolescence period has been recognized as a period of storm and risk-taking. During this period youth have to face many problems like – aggression, maladjustment, frustration, social problems, conflict, cybercrimes, drug/alcohol abuse, poor driving, murder, rape, violence in school, materialism, theft/stealing etc. So, it is very important to conduct research on adolescence to find out their problems.

In this regard, Family guidance is very important which will lead them into the right track to becoming a good citizen. Due to the development of science and technology the demands and needs of people are changing according to the time. In such a dynamic situation, construction of a Family Environment Scale by incorporating all those recent impressions of the college students is a matter of urgent concern. Through this scale the family environment of the college level student’s can be measured in a systematic way. The investigator has reviewed different Family Environment Scales where most of those are foreign tools and those are constructed on the basis of foreign family environment structure. The Indian family formation is quite different from that of the western structure. Therefore, the researcher has constructed this scale.

A number of available Family Environment Scales were reviewed by the researcher. Some of these scales were - Family Environment Scale (FES) developed Bhatia & Chadha, 2012 and Family Environment Scale (FES-AASS) of Akhtar & Saxena (2013). Keeping this in mind, with a review of related literature and tools available at hand, the investigator decided to
construct a Family Environment Scale to measure the family environment of the College students of Dhemaji and Lakhimpur Districts of Assam.

5. METHODOLOGY OF THE STUDY:

The effectiveness of a research work depends to a great extent on the methodology followed by the investigator. Following methodology was adopted in this study:

5.01 Method used in the study:

In the present study Descriptive Survey method was used.

5.02 Population:

The population of the study included all the degree level students of Arts, Science & Commerce streams pursuing B.A, B.Sc. and B.Com programmes in the colleges of Dhemaji and Lakhimpur districts affiliated to Dibrugarh University of Assam. There are a total of 46 colleges (Arts, Science & Commerce streams,) affiliated to Dibrugarh University (Record of 2015-2016) in Dhemaji and Lakhimpur District of Assam.

5.03 Samples of the Study:

For the present study, Purposive and Incidental Sampling techniques were used for selection of the sample from the college students. For construction and standardization of the tools, the researcher has selected purposively two colleges from Dhemaji district namely- Purbanchal College, Silapathar & Silapathar Science College which included three streams viz- Arts, Science & Commerce.

The sample for the try-out of the draft Family Environment scale consisted of 120 college students of Science, Commerce and Arts selected using Incidental sampling technique. Table-1 shows the Samples of students for Item Analysis and for estimating the reliability of the Adapted scales-

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Scales</th>
<th>Purpose</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Family Environment Scale</td>
<td>Item Analysis</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For Estimating Reliability</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Assamese medium=100,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>English medium=100)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>For Estimating Concurrent Validity</td>
<td>100</td>
</tr>
</tbody>
</table>

5.04 Statistical Techniques used in the Study: The Statistical Techniques viz. Mean, Standard Deviation, ‘t’-test and Product moment Co-efficient of Correlation were used in the study for statistical analysis.

6.00 CONSTRUCTION OF THE FAMILY ENVIRONMENT SCALE:

For Construction and standardization of the Family Environment Scale, following steps were followed:

6.01 Step-1: Writing and Editing of Statements of the Family Environment Scale:

For the construction of a family environment scale, it is very important to see the influences of the family members in their various actions. Therefore, various studies on the subject have been reviewed to find out the different dimensions of the family environment. On the basis of the literature review, following dimensions were included in the present scale:

1) Cohesion: It signifies the co-operation of the family members.
2) Expressiveness: It signifies the expressions/clarification of their feelings/thinking.
3) **Conflict**: It signifies the internal conflict situation of the family

4) **Acceptance and Caring**: It signifies the mental attitude, believe, looking after and moral commitment and strength of the family members.

5) **Active recreational Orientation**: It signifies the facilities of refreshes, means of enjoyment etc. between the family members.

6) **Independence**: It signifies the freeness and freedom of the family members.

7. **Organisation**: It signifies the administration and principles of the family.

8. **Control**: It signifies the rules and regulations which are applied in the family by the family members.

One hundred and twenty three (123) statements distributed over the eight dimensions were constructed in English language for the preliminary draft of the Family Environment Scale. The statements were then translated into Assamese and comments of the Subject Experts were sought for ensuring the Content Validity. Out of these 123 statements, 87 were positive and the remaining 36 were negative items. The detailed procedure is described below:

i) **Selection of the Sample of the present study:**
For the present study 120 students were selected from Purbanchal College, Silapathar & Silapathar Science College, including Science, Commerce and Arts stream for administering the first draft of Family Environment Scale.

ii) **Writing Instruction for the respondents**: Along with the statements the researcher has also prepared an instruction for the respondents.

iii) **Scoring Procedure**: The Family Environment Scale was designed in the line of a 5 point Likert-type scale having 5 responses i.e. **strongly agree, agree, undecided, disagree** and **strongly disagree**. Here, the respondents have to tick in any one box against each statement out of the five boxes. The score obtained by a respondent is calculated by adding the scores in all the statements. The Scoring procedure is shown below in Table-2 :

<table>
<thead>
<tr>
<th>Statements</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Positive items</td>
<td>5</td>
</tr>
<tr>
<td>Negative items</td>
<td>1</td>
</tr>
</tbody>
</table>

**6.02 Step-2: Try-out of the First Draft of Family Environment Scale (FES):** The items of the family environment scale were systematically arranged after incorporating the modification and comments by the experts of the Departmental Research committee. The draft FES was administered on a sample of 120 college students of degree level. The detailed procedure is described below:

First, the proper sitting arrangements were made for the students where they feel like a comfort zone to provide their responses correctly.

Second, the scales were distributed among the students. Proper instructions were given to the students.

Third, they were given time to read the written instruction carefully to become clear about the response options.

Fourth, the data were collected from the respondents.

Finally, the total score was calculated on the basis of their responses in each statement. Dimension-wise total and grand total for each respondent were found out.
6.03 Step: 3: Item-Analysis of the draft Family Environment Scale:

The detailed process of item analysis is stated below:

i) The researchers collected the responses from 120 (Science, Commerce and Arts) students and completed the scoring with the help of scoring key.

ii) The total scores obtained by the 120 respondents were arranged in descending order.

iii) Two groups were prepared on the basis of the total scores. Twenty five per cent (25%) of the respondents with the highest total scores constituted the High Group and 25% of respondents with the lowest total scores constituted the Low group. This way, in each of the High and Low Group consists of 30 students.

iv) The Mean scores of both the groups on each statement are found out separately.

v) The differences of the means of High and Low groups for each statement are calculated.

vi) The significance of difference between the means of High and Low groups for each statement is found out. That is nothing but the t-value.

vii) The ‘t’ value equal or greater than 1.75, it indicates the different between the high group and low group. As a higher ‘t’ value indicates the high discriminating power of the item.

viii) Then, on the basis of ‘t’ value, a final scale with 64 statements was prepared for measuring Family Environment of the college students of Dhemaji and Lakhimpur districts of Assam. All the dimensions were kept in mind while selecting the items.

Eight (8) items were selected from each dimension. Positive and negative statements were also kept in mind while selecting the statements. Out of the total 123 statements, 64 statements were selected and 59 were cancelled. Among the 64 selected statements, 38 are positive and the remaining 26 are negative statements. Table-3 and Table-4 show the process of selection of statements for the final draft:

**Table 3**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Dimensions</th>
<th>Items</th>
<th>Nature of Item</th>
<th>First Draft of FES (123 Items)</th>
<th>Item Numbers and Total number of items in bracket</th>
<th>Total Items</th>
<th>Final Draft of FES (64 Items)</th>
<th>Item Numbers and Total numbers of Items in bracket</th>
<th>Total Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cohesion</td>
<td>12</td>
<td>Positive</td>
<td>1,2,4,5,7,8,9,10,11,12= (10)</td>
<td>1,2,4,7,8,9= (06)</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td>3,6= (02)</td>
<td>3,6 = (02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Expressiveness</td>
<td>14</td>
<td>Positive</td>
<td>14,15,18,20,21,22,23,24,25,26= (10)</td>
<td>14,18,21,24,25=0(5)</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td>13,16,17,19= (04)</td>
<td>13,16,17= (03)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Conflict</td>
<td>16</td>
<td>Positive</td>
<td>28,31,34,36,41,42=(06)</td>
<td>42= (01)</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td>27,29,30,32,33,35,37,38,39,40= (10)</td>
<td>27,29,32,33,35,37,40= (07)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Acceptance and Caring</td>
<td>18</td>
<td>Positive</td>
<td>43,44,45,46,47,52,53,54,55,</td>
<td>47,51,55,56,59,60= (06)</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6,57,58,59,60= (13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td>48,49,50,51,55=(05)</td>
<td>48,50= (02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Active Recreational</td>
<td>17</td>
<td>Positive</td>
<td>61,62,63,64,68,69,70,71,72,73,74,75,76,77=(14)</td>
<td>62,63,64,68,73,74,75= (07)</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4
Total Nos. of Items Selected and Cancelled for the Final Draft

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>t-value higher than ≥1.75</th>
<th>t-value less than &lt; 1.75</th>
<th>Selected Items</th>
<th>Cancelled Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Cohesion</td>
<td>1,2,3,4,6,7,8,9,10,= (09)</td>
<td>5,11,12= (03)</td>
<td>08</td>
<td>04</td>
</tr>
<tr>
<td>2.Expressiveness</td>
<td>13,14,16,17,18,20,21,22,23,24,25,26= (12)</td>
<td>15,19= (02)</td>
<td>08</td>
<td>06</td>
</tr>
<tr>
<td>3.Conflict</td>
<td>27,28,29,30,31,32,33,35,37,39,40,41,42= (13)</td>
<td>34,36,38= (03)</td>
<td>08</td>
<td>08</td>
</tr>
<tr>
<td>4.Acceptance and Caring</td>
<td>47,48,50,51,52,53,55,56,58,59,60= (11)</td>
<td>43,44,45,46,49,54,57= (07)</td>
<td>08</td>
<td>10</td>
</tr>
<tr>
<td>5.Active Recreational orientation</td>
<td>62,63,64,66,68,69,71,72,73,74,75,76,77= (13)</td>
<td>61,65,67,70= (04)</td>
<td>08</td>
<td>09</td>
</tr>
<tr>
<td>6.Independence</td>
<td>78,80,81,82,85,86,87,89,90,91= (10)</td>
<td>79,83,84,88= (04)</td>
<td>08</td>
<td>06</td>
</tr>
<tr>
<td>7.Organisation</td>
<td>92,93,94,95,96,97,98,99,100,102,103,105,106,107,108= (15)</td>
<td>101,104= (02)</td>
<td>08</td>
<td>09</td>
</tr>
<tr>
<td>8.Control</td>
<td>109,110,111,112,113,115,116,118,119,120,121,122,123= (13)</td>
<td>114,117= (02)</td>
<td>08</td>
<td>07</td>
</tr>
<tr>
<td>Total</td>
<td>(96)</td>
<td>(27)</td>
<td>(64)</td>
<td>(59)</td>
</tr>
</tbody>
</table>

7.00 STANDARDIZATION OF THE FAMILY ENVIRONMENT SCALE.

In order to standardize the Family Environment scale, the content validity, concurrent validity and split half reliability of the scale were estimated. The Content Validity, Concurrent Validity and
Reliability of the final family environment scale were calculated. The procedures of estimating validity and reliability of the scale are described below:

7.01 Validity of the Family Environment Scale.

There are two versions of the Family Environment scale – English and Assamese versions. Validities of both the versions of the scale were found out separately.

7.01.01 Content Validity of the FES: In order to ensure Content validity of both the versions of the Family Environment Scale, the scales were presented before the members of Departmental Research Committee of the Department of Education, Dibrugarh University. Feedbacks about the scales were provided by them. The statements were modified incorporating the suggestion of the experts.

7.01.02 Concurrent Validity of the FES:

The Family Environment Scale (English version only) constructed by the researchers and the Family Environment Scale developed by Bhatia & Chadha, 2012 were administered on a sample of 100 students. Then, the product-moment coefficient of correlation between the two sets of data was calculated. The product-moment coefficient of correlation is found to be .66. This is the Concurrent Validity of the Family Environment Scale.

7.02 RELIABILITY OF FAMILY ENVIRONMENT SCALE:

Split-Half Method was used by the researcher for computing the reliability of the Family Environment Scale. The reliability of the English version and the Assamese version of the Family Environment Scale were found out separately. For computing the reliability of the scale, a sample of 200 college students was selected using Incidental Sampling technique. The detail procedure is described below:

First, Data were collected from 200 college students (100 English medium and 100 Assamese medium including Arts, Science & Commerce streams) to find out the reliability of the Family Environment Scale.

Second, verbal instructions were given to the students for correctly filling up the statements.

Third, total marks obtained in the odd-numbered items and even-numbered items were calculated separately.

Fourth, then the product moments co-efficient of correlation between the two sets of data (viz- (i) Total scores in odd-numbered items and (ii) Total marks in even-numbered items) was calculated. These gave the reliabilities of the half tests. These coefficients of Assamese version of FES were 0.76 and that of the English version of FES was found to be 0.78.

Finally, for the whole test, the Co-efficient of reliability was estimated with the help of Spearman-Brown Prophecy Formula. The reliability with the Split half method of the Assamese version of the FES was found to be 0.86 and that of the English version was found to be 0.88. Thus, the scale can be considered a good one to measure Family Environment. Table-5 shows the split-half reliabilities of the two versions of the scale:

<table>
<thead>
<tr>
<th>Scales</th>
<th>N</th>
<th>Split-half Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>English version of the Family Environment Scale</td>
<td>200</td>
<td>0.88</td>
</tr>
<tr>
<td>Assamese version of the Family Environment Scale</td>
<td></td>
<td>0.86</td>
</tr>
</tbody>
</table>
8.00 CONCLUSION:

The present study aimed to develop and standardize the Family Environment Scale. The Reliability and Validity of the scale were established. The scale is now ready to be used for measuring Family Environment of college students.

References


