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Construction And Standardization Of Home Environment Inventory

Mrs.Manashi Hajarika* , Dr.Asomi Chaliha**

** Research scholar, Department of Education, Dibrugarh University, Assam.*
***Associate Professor, Department of Education, Dibrugarh University, Assam.*

Abstract

The main objective of this study is to construct and standardize a Home Environment Inventory. The researcher used descriptive survey method in the present study. The researcher selected 180 sample students for tryout of the draft Home Environment Inventory and used t- test for item analysis of the draft Home Environment Inventory. The researcher selected 36 statements for final Home Environment inventory on the basis of high t-value. For estimating reliability of the inventory, the researcher collected data from 180 sample higher secondary level students and used pearson correlation of coefficient (r) technique for estimating reliability of the inventory and the reliability found to be .83.. The researcher estimated content validity of the Inventory on the basis of expert's comments.

Keywords: construction, standardization, Home Environment Inventory, reliability, validity, tryout, t-test technique, Person's correlation of coefficient.

1.0 INTRODUCTION

Home Environment is an important element in the socialization process of the individuals. Home environment means physical, social, cultural and psychological conditions of individual's usual residence, where one can feel secured. The Home Environment consists of the psychological, cultural and social environmental conditions within the families. Home environment plays an important role in over all development of an individual. Therefore it is very necessary to measure one's home environment to know how home Environment contributes one's over all development. There are various tools available to measure home environment but as society is changing rapidly and so the home environment of the people are also changing .So construction of an up-to date home environment inventory is a necessity for the researchers to get appropriate measures of one's Home environment. Therefore, the researcher attempted to construct and standardize a Home environment Inventory for higher secondary level students.

2.0. OBJECTIVE OF THE STUDY

2.1.1. To prepare draft statements of Home Environment Inventory to measure the Home Environment of higher secondary level students.

2.1.2. To determine the content validity of the Home Environment Inventory develops to measure the Home Environment of Higher Secondary level students.

2.1.3. To try out the draft Home Environment Inventory develop to measure Home Environment of Higher Secondary level students.

2.1.4. To make item analysis of the draft Home Environment Inventory develop to measure Home Environment of Higher Secondary level students .

2.1.5. To select the test items for the final draft of the Home Environment Inventory develop to measure the Home Environment of higher secondary level students.

2.1.6. To determine the reliability of the Home Environment Inventory develop to measure the Home Environment of higher secondary level students.

3.0 SIGNIFICANCE OF THE PRESENT STUDY

In the new era of knowledge expansion, the role of the Home is changing. As time demands, children's Home Environment is more dynamic and conducive for the all-around development of students. Home environment plays an important role in over all development of an individual. Therefore it is very necessary to measure one's home environment to know how home Environment contributes one's over all development. There are various tools available to measure home environment but as society is changing rapidly and so the home environment of the people are also changing .So construction of an up-to date home environment inventory is a necessity for the researchers to get appropriate measures of one's Home environment. Therefore, the researcher attempted to construct and standardize a Home environment Inventory for higher secondary level students.

4.0 REVIEW OF RELATED LITERATURE

In order to construct the Home Environment Inventory, the researcher reviewed various Inventories as mentioned below-

Kohli.et.al.(1993) conducted a study on adaptation of a Home environment Inventory for children in simple Hindi. In this research study, the researcher adapt Home Environment Inventory developed by Bradley (1993) consisting of 55 terms. This scale was translated in Hindi language and administered on 48 mothers. The researcher use product moment correlation to find the correlation and split half method for calculating reliability.

The Family Environment scale developed by Harpreet and Cadha (1993): This scale has eight dimensions and 69 items. These are- Cohesion, expressiveness, Conflict, Acceptance and caring, Independence, active recreational orientation, organization and Control.

Home Environment Scale developed by A.AKhtara and S.B. Saxena : This scale consist of 50 items divided into 10 areas- Protectiveness, Parental Involvement, Academic stimulation, Reward, parental warmth, punishment, participation in home affairs, control, permissiveness and parental expectation.

Margherita Lanz, Eleonora Maino(1974)'s Family Environment Scale: This scale access the social climate of the families.

Jean A. Laing,Jacob O. Sines(1982)'s Home Environment questionnaire: An instrument for accessing several behavioral relevant dimensions of children's environment.

Prerena Mohit(1990)'s Home Environment Inventory : This inventory consist of 24 items that are divided in five sub tests.

Beena Shah (1990)'s Family climate scale : This scale consist of 90 statements relating to ten dimensions of Family Climate.

5.0 METHODOLOGY

5.1. Method:

Descriptive survey method was used in this research study.

5.2. Population:

The total population is comprised of all the students studying in all the Higher Secondary schools, Junior Colleges and Degree Colleges of Nagaon District of Assam. The researcher will select only Assam Higher Secondary Education Council(AHSEC) recognized Higher Secondary Schools, Junior Colleges and Degree Colleges of Nagaon District offering Higher Secondary courses for the present study.

There are a total of 126 Assam Higher Secondary Education Council (AHSEC) recognized institutions in the Nagaon district of Assam that have been providing Higher Secondary courses. Under this category, there is a total of 66 Higher Secondary Schools, 41 Junior Colleges and 19 Degree Colleges that are providing Higher Secondary courses in Nagaon District of Assam.

Nagaon district has 10 revenue circles - Nagaon, Lanka, Samaguri, Dhing, Doboka, Hojai, Rupohi, Kampur, Kaliabor and Raha. There are 7 Census Towns or Urban area and 136 urban area in the Nagaon district of Assam. There are 21 Higher Secondary schools, 22 Junior colleges and 14 Degree Colleges in the Urban area and 45 Higher Secondary schools, 19 Junior colleges and 5 Degree Colleges in the Urban area of Nagaon District of Assam. The Sanskrit tools and Madrasas were excluded from the present study. The population institutions are tabulated below:

Table no:1 Population of Institutions

Sl.no	Types of college	Urban area	Rural area
1	Degree colleges	14	5
2	Higher secondary schools	21	45
3	Junior colleges	22	19
	Total	57	69
	Grand total	126	

Source: AHSEC office, Bamunimiodam (2018)

5.3. Sample:

For the present study, the researcher used quota sampling techniques while selecting Assam Higher Secondary Education Council(AHSEC) recognize Institutions offering higher secondary courses in Nagaon District of Assam and the researcher used purposive sampling techniques for collecting data from students of selected higher secondary schools, junior colleges and colleges of Nagaon district, Assam.

For the try out of the draft home environment inventory, the researcher used quota sampling techniques and selected three institutions offering higher secondary courses from Urban area namely- Raha college,Raha higher secondary school and Sukalpa junior college. And also selected three institutions from

rural area namely- Kaliabor College, Kaliabor Girls' Higher Seconady School and K.G junior College. Then the researcher purposively selected 30 sample students studying in H.S. 1st year from each Institutions and collected data from total 180 students.Out of this 180 students, 90 sample students are from Urban area and 90 sample students are from Rural area of Nagaon District of Assam.

For standardizing Home Environment Inventory, again another 180 Higher Secondary level students studying in H.S. 1st year were selected from the rural and urban area of Nagaon district of Assam. The researcher used quota sampling method while selecting the sample Institutons from urban and rural area. The researcher selected three institutions offering Higher secondary courses from urban area namely- Nowgang girls college,Motiram Bora Higher Secondary School and Rennaissence junior college(Raha) and also the researcher selected three institutions from rural area namely- Dr. B.K.B college(Puronigudam), Jokholabondha Higher Seconady School and Kalibor junior College. The researcher selected 30 sample students studying in H.S 1st year from each Institutions and collected data from 90 sample students from urban area and 90 sample students from rural area, a total of 180 Higher Secondary 1st year stduents of Nagaon District of Assam. In this context, purposive sampling techniques was used. The samples selected for the present study are as follows-

Table-2: Sample for item analysis and reliability testing of the Inventory

Name of the Inventory	Purpose	Total number of samples		
		Urban area	Rural area	Total (N)
Home Environment Inventory	Item analysis	90	90	180
Home Environment Inventory	For testing reliability	90	90	180

5.4. Statistical Techniques used:

The researcher used mean, standard deviation, t-test and Product Moment co-efficient of correlation for statistical analysis of the present study.

6.0

CONSTRUCTION AND STANDARDIZATION OF THE HOME ENVIRONMNET INVENTORY

The researcher followed some steps while constructing and standardizing the Home environment inventory. These steps are-

1. Planning and preparation
2. Selection of dimensions, writing and editing of statements
3. Tryout of draft inventory
4. Item analysis and
5. Standardization procedure

6.1. Construction of Draft Home Environment Inventory :

While constructing and standardizing Home Environment Inventory, the researcher followed a structured procedure. The steps, that had followed by the researcher is briefly summarized below-

6.1.1.Planning and Preparation of the Draft Home Environment Inventory :

Before writing and editing scale statements, the researcher makes a proper planning and prepared a blue print for the draft Home Environment Inventory. In this step, the researcher highlights the objectives, content, item allotment in each dimension, proportion of positive and negative items, marks against each response for the draft Home Environment Inventory.

6.1.2. Writing and Editing Statements of the Draft Home Environment Inventory:

After reviewing different related literature and Home Environment Inventories, the researcher selected six dimensions for the draft Home Environment Inventory. These dimensions are summarized below-

❖ **Parental Involvement**

Parental involvement refers to the engagement of the parents in their children's day-to-day activities viz. Curricular, co-curricular, domestic, career counseling, etc. Parental involvement is defined as Parents' active participation in their children's cognitive, affective and psychomotor development. Parent's involvement in their children's life can be categories in the following aspects-

- Social,
- Educational,
- Discipline,
- Safety,
- School Environment etc.

This inventory intends to measure parent's engagements in children's outdoor and indoor activities related to their children's career and future. In this inventory, the researcher only emphasizes the parents' involvement in the following aspects-

- Social,
- Educational, and
- School Environment.

❖ **Academic Stimulation**

Academic stimulation refers to encourage or motivate students to do well in their academic fields. Academic Stimulation is defined as 'the encouragement' that leads the students to progress further in their academic life.

In this dimension, Academic stimulation refers to the parents and family's invigoration and encouragement to develop children's academic skills and performance. This dimension intends to measure academic stimulation offered by the parents and family to develop academic performance in students in their academic fields.

❖ **Parental Expectation**

Parental expectation means the expectation of parents about the future attainment of their children. It refers to the belief of judgments of parents about their children's future achievements.

In this dimension, parental expectation refers to parents' desires, wishes, or goals about their children's future achievements. In this dimension, the researcher intended to measure parents' expectations in the following aspects of their children's life-

- Social,
- Educational, and
- Future goal or Career.

❖ **.Decision-Making**

Decision-Making is a continuous and dynamic activity. It is a process of selecting decisions from available alternatives. Decision-Making is a cognitive process of selection of an action from different possibilities. It refers to the student's ability to make decisions that are developed in Home Environment.

❖ **Socio-Economic status:**

Socio-economic status refers to an individual's family income, educational qualification, occupation, and position in the social hierarchy. Socio-economic status is the combination of one's social and economic position in society based on income, education, and occupation.

The socioeconomic status dimension of this inventory is intended to measure respondent's social and economic condition, their living standard, and their access to those facilities that contributed to give them a quality life in society.

❖ **Compromise**

According to the Cambridge dictionary, Compromise is an agreement in which the people involve and reduce their demands (as cited in dictionary.cambridge.org). It is a settlement of one's desire for the well-being of others.

In this dimension, compromise refers to the parents' and family members' encouragement to develop students' willingness to sacrifice their likes, favorites, ambitions for the sake of the family members to make them happy.

Based on these dimensions, the researcher prepared 57 statements both in Assamese and English language for primary draft of Home Environment Inventory. The details of the inventory are tabulated below-

Table no:3 The details of the first draft Home Environment Inventory

Sl. no	Dimensions	Positive	Negative	Total
1	Parental involvement	7	4	11
2	Academic stimulation	8	2	10
3	Parental expectation	6	2	8
4	Decision-making	7	3	10
5	Socio-economic status	4	5	9
6	Compromise	4	5	9
Total				57

The statements of the inventory were sent to the research experts for its evaluation with respect to content, language, structure, clarity and accuracy. The experts suggested some necessary rectification of the statements and as per the suggestion provided, the scale statements were modified. After the modification, the modified statements were again sent to the experts for a final check. Thus, the Inventory became ready for the draft tryout on sample respondents of the study.

6.1.3 Administration of the Draft Home Environment Inventory :

The researcher followed following procedure in the administration of the test-

6.1.3.1. Selection of the samples for tryout of the Draft Home Environment and Institutional Environment Inventory:

For the present study, the researcher used quota sampling techniques while selecting AHSEC recognized Institutions offering higher secondary courses of Nagaon District of Assam. The researcher also used purposive sampling techniques for collecting data from students of selected higher secondary schools, junior colleges and colleges of Nagaon district, Assam.

The researcher selected three institutions offering higher secondary courses from urban area namely- Raha college,Raha higher secondary school and Sukalpa junior college. And also selected three institutions from rural area namely- Kaliabor College, Kaliabor Girls Higher Seconady School and K.G junior College. The researcher selected 30 sample stuents studying in H.S. 1st year from each Institutions and collected data from 90 sample students of H.S.1st year from urban area and 90 sample students of H.S. 1st year from rural area of Nagaon District of Assam.

6.1.3.2 Guidelines and Writing Instructions of the Draft Home Environment Inventory :

The researcher provided necessary guidance and writing instructions in the front page of the Inventory. However, the researcher also provided verbal instructions to make the instruction more clear and specific.

6.1.3.3 Time Limit of the Home Environment Inventory :

The draft home environment inventory was first experimentally administered on 30 students and it had been seen that the average time taken by the students to complete the inventory is 35 minutes. Therefore, the researcher set a time limit of 40minutes for completing the Inventory.

6.1.3.4 Scoring Procedure of Home Environmnet Inventory :

The researcher followed Likert type scale while designing and preparing Home Environment Inventory . There are five options in each statement. The respondent has to tick that option which is suited to them. The scoring procedure is shown in the table no-4

Table: 4: Scoring procedure of Home Environment Inventory

Statements	Scoring key				
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Positive	5	4	3	2	1
Negative	1	2	3	4	5

6.1.3.5 Tryout of the First Draft of the Home Environment Inventory :

The researcher administered the draft Home Environment Inventory on 180 higher secondary level students of Nagaon district, Assam. While administering the first draft of the inventory, the researcher followed different steps. These steps are-

- **Sitting arrangement**: Proper sitting arrangement was made for sample respondents for making them comfortable before starting the tryout session.

- **Distribution and Instructions**: After arranging the classroom setting, the researcher distributed the draft inventory to the respondents and provided verbal and written

instructions to the respondents. The researcher provided written instructions as-

- Instruction for Home Environment Inventory

This inventory is meant for measuring Home Environment of the students of class XI.There are five options in each statement from where you have to tick any one of the given options. These options are- strongly agree, agree undecided, disagree, and strongly disagree.

The purpose of this inventory is meant for PH.D research work only. The answers of the statements will remain confidential and will not be publish in anywhere. The researcher will not disclose any personal information of the respondents and their Institution.

➢ **Collection of draft Inventory**: After completion, the filled in draft inventory was collected by the researcher from sample respondents.

6.2. Item Analysis of the Draft Home Environment Inventory :

The researcher followed the following procedure for item analysis of the draft Home Environment Inventory.

The researcher had calculated the collected data with the help of scoring key of inventory. After scoring, the researcher arranged the scores of 180 sampled students for the inventory separately in descending order i.e., from the highest to the lowest scores. Based on the scores, the researcher had selected highest 25% scores and lowest 25% and formed two separated groups as high group and low group of the inventory. The mean scores obtained on each individual item of both the high scoring group and the low scoring group were calculated. For a particular test item,the mean and standard deviation were calculated to find the differences between mean score that were obtained by the high scoring group and low scoring group. The calculated differences were taken as the discriminating power of that particular test item.

6.5. Item Selection of the Final Home Environment Inventory

The t –value is the measure of the extent to which a given test-item discriminates between the higher group and the lower group. A t value equal or greater than 1.75 means the average response of the high and low groups to a test-item differ significantly. The researcher identified the test items having higher and lower t value than 1.75. Out of the 57 item in the Home Environment Inventory, 47 items are having higher t value than 1.75. However, the researcher selected 36 statements in the final Home Environment Inventory for keeping uniformity of the scale statements in each dimension viz six statements each in six dimensions. The selected items for the final Home Environment Inventory with their respective dimensions and t-values are tabulated in the table no-5.

Table no 5: Final draft of Home Environment Inventory

Serial no	Nature of the Statements	Previous serial no.	t-value	Dimensions
1	Positive	6	2.96	Decision making
2	Negative	7	3.68	SES
3	Positive	8	2.65	Compromise
4	Positive	9	3.39	Parental Involvement
5	Negative	12	3.86	SES
6	Positive	13	3.31	Compromise
7	Positive	15	5.78	Academic stimulation
8	Negative	20	3.13	Parental involvement
9	Positive	57	3.16	Decision making
10	Positive	24	4.6	Parental Involvement
11	Negative	25	4.4	Parental involvement
12	Positive	28	2.8	Parental expectation
13	Negative	29	3.6	Decision making
14	Positive	30	3.88	SES
15	Positive	33	4.61	Academic stimulation
16	Negative	34	2.62	Compromise
17	Positive	35	3.69	SES
18	Negative	38	3.8	Parental involvement
19	Positive	39	4.7	Parental expectation
20	Negative	40	5.4	Compromise
21	Negative	41	3.5	SES
22	Positive	42	2.11	Parental expectation
23	Positive	43	3.16	Academic stimulation
24	Positive	44	4.36	Parental involvement
25	Positive	46	3.84	Academic stimulation

26	Positive	48	2.03	Parental expectation
27	Negative	49	2.48	Parental expectation
28	Negative	53	2.69	Compromise
29	Negative	22	4.19	Decision making
30	Negative	2	4.08	Academic stimulation
31	Negative	11	3.83	Decision making
32	Positive	51	2.73	Decision making
33	Positive	27	3.2	Academic stimulation
34	Positive	55	2.34	Parental expectation
35	Negative	19	2.3	Compromise
36	Negative	23	2.47	SES

7.0 STANDARDIZATION OF THE HOME ENVIRONMENT INVENTORY

The procedure of standardization of the Home Environment Inventory is discuss below-

7.1.1. Content Validity:

The researcher send the entire statements of the draft Home Environment Inventory to the experts and as all the statements are based on the comments of the research experts so the Inventory have high content validity.

7.1.2._Reliability Of The Home Environment Inventory :

The researcher calculated the reliability of Home Environment Inventory by using the split-half method of calculating reliability. For calculating the reliability, the researcher purposively selected 180 sample students from six Institutions offering Higher Secondary courses in Nagaon district, Assam. The samples for item analysis and standardization of the inventory are different. For standardizing Home Environment Inventory 180 Higher Secondary level students studying in H.S. 1st year were selected from the rural and urban area of Nagaon district of Assam. The researcher uses quota sampling method while selecting the sample Institutions from urban and rural area. The researcher selected three institutions offering Higher secondary courses from urban area namely- Nowgang girls college,Motiram Bora Higher Secondary School and Rennaissence junior college(Raha) and also the researcher selected three institutions from rural area namely- Dr. B.K.B college(Puronigudam), Jokholabondha Higher Seconady School and Kalibor junior College. The researcher selected 30 sample students studying in H.S 1st year from each Institutions and collected data from 90 sample students from urban area and 90 sample students from rural area, a total of 180 Higher Secondary 1st year stduents of Nagaon District of Assam. In this context, purposive sampling techniques was used. The researcher had followed a structured procedure for calculating the reliability of the

Home Environment Inventory. The procedure is as follows-

- Before administration of the inventory a proper seating arrangement was made by the researcher and verbally communicated with the students to make them comfortable.
- The researcher used the split-half method to calculate the reliability of the Home Environment Inventory. The researcher split the scores by using the odd and even method. After that, the researcher calculated the total marks separately in two parts- total marks of the odd numbers and total marks of the even numbers of inventory separately. The researcher used the product moment coefficient of correlation for calculating the correlation of the half test of Home Environment Inventory and found it to be 0.71. This is the reliability of the half test. The co-efficient of reliability of the Home Environment Inventory estimated with the help of Spearman brown prophecy formula. The reliability of Home Environment Inventory of the full test was found to be 0.83. Therefore, the reliability of the Home Environment Inventory is 0.83.
- After giving the verbal and written instructions to the students, the researcher collected data from the sampled students.
- In order to scoring the inventory, the researcher gave a score against each statement based on the scoring key of the inventory.

8.0 CONCLUSION :

By following above mentioned procedure, the researcher constructed and standardized the home environment inventory which can be used to measure the Home Environment of Higher Secondary level students.

REFERENCES

1. A.AKhtara and S.B. Saxena. Home Environment Scale. . Agra: National psychological corporation

2. Irwin, A., and Carol,W.(n.d).Human behaviour and environment: advance theory and research, Springer science and business media,8, Retrieved from http://books.google.co.in

3. Kohli,A.,Mohanty,M. and kaour,R.(2005). Adaptation of a Home Inventory for children in simple Hindi. Journal of Indian Association for child and adolescents mental health.1(4) retrieved from researchgate.net

4. Kothari, C.(2004). Research Methodology: methods and techniques,(2nd ed.) New Delhi: new age international publishers.

5. Koul, L. (2011) .Methodology Of Educational Research, New Delhi: fourth edition, Vikash publishing house PVT LTD.

6. Laing,J and Sines,J(1982).The home environment questionnaire.Journal of pediatric psychology.7(4).425-449.DOI: https://doi.org/10.1093/jpepsy/7.4.425

7. Mangal,S.(2012). Statistics and psychology and education, second edition, New Delhi ,PHI learning private Limited.

8. Laing,J.A. and Sines,J.O.(1982) The Home Environment questionnaire: An instrument for assessing several behaviorally relevant dimensions of children's dimensions of children's environment. journal of pediatric psychology.7(4).425-449 Retrieved from https://doi.org/10.1093/jpepsy/7.4.425

9. Harpreet and Cadha(1993)The Family Environment scale. . Agra: National psychological corporation

10. Margherita Lanz, Eleonora Maino(1974)'s Family Environment Scale

11. Margherita,L. and Maino,E.(1974).the family environment scale.DOI: http://doi.org/10.1007/978-978-94-007

12. Mohite, P(1990). Home Environmnet Inventory. Agra: National psychological corporation.

13. Saha, K., (2012). Statistics in Education and Psychology, New Delhi: Asian books private limited

14. Thorndike, R. and Hagen,N. (1927). The measurement and psychology of education, New Delhi: Willy eastern private limited.

15. Iqshanullah, Muhammad, Rexlin Selvin, and M. A. H. A. N. D. R. A. Kumar. "The Development and standardization of attitude scale towards social change." Int. Jr. of Edu. Sci. and Res 9.3 (2019): 25-30.

16. PRABHU, M., and S. ALLY SORNAM. "COMPUTER WORKSTATION ERGONOMIC ISSUES IN SELFFINANCING ENGINEERING COLLEGE LIBRARIES IN COIMBATORE: A PILOT STUDY." International Journal of Library Science and Research (IJLSR) 6 (2016): 69-76.

17. Sil, Amitava. "Study on Bamboo Composites as Components of Housing System for Disaster Prone Areas." International Journal of Civil Engineering (IJCE) 5.3: 11-18.

18. Yashoda, K., and T. KALYANI Devi. "Influence of Home Environment and type of school on Emotional Maturity of Adolescents." International Journal of Environment, Ecology, Family and Urban Studies 6.4 (2016): 9-14.

19. Ardi, Muhammad, et al. "Design of a environmental friendly house based on the local Wisdom of the bugines tribe in south sulawesi indonesia." International Journal of Environment, Ecology, Family and Urban Studies (IJEEFUS) 7.5 (2017): 1-6.

20. Auccahuasi, Wilver, et al. "Analysis of the level of attention and meditation in children, in the development of online classes caused by the covid-19, through a brain-computer interface." (2020).