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# Construction and Standardization of Beautiful Home Scale

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**Abstract**

This paper describes the construction and standardization of beautiful home scale for higher secondary students. The objective of the study was to develop the tool on beautiful home, determine its validity, reliability and to set the standardized norms to interpret the scores of beautiful home scale. 120 student of higher secondary school, UP board were considered as sample of the study. The first draft of the beautiful home scale consisted 132 items. Researcher administered beautiful home scale on 120 sample for first try out and used t-test for item analysis of the draft beautiful home scale. On the basis of high t value of total 84 items got selected for final Beautiful Home Scale. For establishing the reliability, the data were collected from 115 sample of higher secondary school students from UP board and Test-Retest method, Split-Half method, Spearman Brown formula and Cronbach's Alpha were applied for estimating the reliability of the scale. Reliability of the scale are 0.775, 0.919, 0.918 respectively. Based on the opinion of experts, researcher estimated content validity of the scale. Overall, it is concluded that the scale has good face validity. Intrinsic validity of the tool was 0.88.

**Keyword: -** Beautiful Home, Tryout, Reliability, Validity, t-test technique, Person's correlation of coefficient**.**

## Introduction

Home environment is that place, where emotional development, physical development, mental development and intellectual development of the child gets affected a lot. A good environment of home impacts positively on child conversely adverse home environment has negative effects on the child. Student's home environment impact on their academic achievement. from the beginning in the society, parent have been the important person for raising the children. That is why family is the considered as agent of the socialization. Success of the children in school is influenced by what they learn at home and how their family encourage them to pursue the education (Essien, 2002). In the home all forces, objects that affects children physical, emotional and mental development are collectively considered as home environment (Muola, 2010). Babara (1982) concluded that the child's attainment at school influences by home environment. Also, Touray (1982) suggested that the home environmental variables

could be manipulated to enhance students' academic performance. Therefore, it is necessary to measure one's home environment to know how it contributes to development of the child.

A term beautiful home was given by Former President of India, Dr. A.P.J. Abdul Kalam. Beautiful home is a made up of four dimensions viz. clean and green environment, mother's happiness, home transparency and spiritual home**.** In home, broadly two type of relationship exists among family member: - parent child relationship and husband wife relationship. When family member disagree on certain point of view tension, distress and misery becomes the natural outcomes in home. The major consequences of misunderstanding issues happen among family members due to miscommunication or lack of communication.

Physical surroundings, neighborhood, circumstances, physical structure, area of house, number of family member in the home, nature and type of relationships, education and attitude of the family members towards one other etc. these are the factors which impact the environment of the home. The environment of home directly affects the child's behaviour, attitude and adjustment to life. Every member of the home must be warmly connected to one another and there must be unconditional love, acceptance, permissiveness, cooperation and the house should be place of democratic**.**

**Review of the related literature on tool construction and standardization**

**Family Environment Scale developed by Harpreet and Chadha, 1993 (based on the family environment scale by Moos (1974).** It measures home environment across various areas viz. (i) cohesion, (ii) expressiveness, (iii) conflict, (iv) acceptance and caring, (v) independence, (vi) active recreational orientation, (vii) organization; and (viii) control**. (Bradley, 1993**) **constructed tool on Home Inventory.** It consists 55 items in English language covering areas namely: - Stimulation through toys, games and reading material; Language stimulation; Organization of the physical environment; Pride, affection and warmth; Stimulation of academic behavior; Modelling and encouragement of social maturity; Variety in daily stimulation; Avoidance of physical punishment. **Dr. Meenu Agarwal (2003) developed Home Environment Scale (HES)** to measure the level of home environment of students that influence the life values, personality and behavior pattern of the students. **Moreover,** to study the psychological climate of the home perceived by the children, Aaliyah Akhtar and Shail Bala Saxena had constructed a home environment scale in 2011. The scale consists 50 items belonging to 10 dimensions. In 2012 a home environment inventory was developed by K. S. Mishra It was a self-reported measure of the home environment of school going children. It measures home environment across 10 dimensions: control, punishment, protectiveness, conformity, social isolation, reward, deprivation of privileges, nurturance, rejection, permissiveness.

**Significance of the study**

In today's era society is changing rapidly. So, changes in home environment are required according to the changes in the society. Because every change happening either in society or home ultimately affects the development and achievement of the students. Considering these reasons, researcher decided to construct a tool on Beautiful Home Variable and standardize it.

**Objectives of the Study**

1. To prepare draft statements of Beautiful Home Scale developed to measure the Beautiful Home of higher secondary students.
2. To try out the draft Beautiful Home Scale.
3. To carry out item analysis of the draft Beautiful Home Scale.
4. To select the test items for the final draft of the Beautiful Home Scale.
5. To determine the reliability of the Beautiful Home Scale.
6. To determine the validity of the Beautiful Home Scale.
7. To determine the norm of the Beautiful Home Scale.

## Methodology

**Method:** Descriptive survey method was employed for the construction and standardization of Beautiful Home Scale.

**Population:** Higher secondary students of U.P. Board of Lucknow District, Uttar Pradesh comprising as a population for the study.

**Sample:** For the present study researcher used simple random sampling technique to select sample schools from among U.P. Board higher secondary schools, Lucknow district of Uttar Pradesh and random sampling technique was used by researcher to collect the data from higher secondary students of Lucknow. Data collected from 750 students were used for standardization of Beautiful home scale.

**Statistical Techniques Used**

The researcher used mean, standard deviation, t test and Pearson product moment correlation to analyze data for construction and standardization of tool.

**Construction and standardization of the Beautiful Home Scale**

The researcher followed pre-defined steps to construct a tool. 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

**Planning and Preparation: -**

In this step, researcher planned how to construct the Scale. Researcher tried to keep in mind the objective of the study and on the basis of the objective, researcher also decided what would be the dimensions of the scale, what would be the content of the scale, negative and positive items and what would be the marks against each of the items in the scale.

**Selection of variable, dimensions, writing and editing of statements: -** After deciding the objectives of the tool, First of all, the researcher did a review of the related literature for the variable on which tool has to be prepared. After getting the opinion of the supervisor and expert regarding the variable, researcher started to define the dimensions of the variables. Once again, the researcher took the opinion of the experts about the definitions of dimension. After getting the expert opinion, the researcher framed the subdimensions of the dimension and wrote the items of every dimension. researcher reached the conclusion about dimensions of the variable. The dimensions of the variable are: -

1. Clean and Green Environment
2. Home Transparency
3. Mother's Happiness
4. Spiritual Home

1. **Clean and Green Environment: -**

Clean and green environment includes not only clean home but also clean home surroundings like street etc. It includes management of waste, e-waste, maintaining greenery and a kitchen garden around home, making a eco-friendly home environment etc. Thus, it might include sub-dimensions like waste and water management, cleaning the home, use of natural resources and single use items, efficient use of electricity, habit formulation etc. Thus, Clean & Green Environment dimension was categorized into subdimensions such as,

- Waste Management
- Cleaning the home
- Single use items
- Water management
- Use of pesticides and chemicals
- Efficient use of electronic and electrical items
- Habit formulation

2. **Mother's Happiness**

Mother's happiness is the result of amalgamation of several factors like her attitude and expectations towards others and life, environment at home and behaviour of family towards her, physical health and psychological wellbeing, her participation in community and society, financial independence, time spent with self, and care for children and family etc. Mother's Happiness dimension was further categorized into subdimensions such as,

- Comparison
- Behaviour of the family
- Environment of the home
- Me time
- Financial empowerment and independence
- Concerned about child

3. **Home Transparency**

Home transparency can be described as sharing and acceptance of views and thoughts among family members, relationship between spouses and parent-child relationship, physical and emotional environment at home, communication and guidance in academics, societal and cultural norms, IQ and mental well-being of family members including children. Further, Home Transparency dimension was categorized into subdimensions such as,

- Relationship among family members
- Positive environment
- Noisy environment
- Communication
- Involvement with the child
- Intelligence quotient
- Mental well-being
- Social and cultural adjustment
- Dependence
- Emotional Security

4. **Spiritual Home**

In essence, Spiritual home means practise of spirituality and spiritual practices at home such as reading good books, prayer, meditation etc. It is supposed to inculcate qualities like love, compassion, selflessness, respect for others and nature by large, an understanding of right and wrong, discipline and belief in God. This will help the child to develop a positive mental health, exercise free will, self-love and lead a peaceful and harmonious life. Further, Spiritual Home dimension was categorized into subdimensions such as,

- Reading of good Books
- Prayer room
- Belief in God
- Meditation
- Silence
- Power of free will
- Self-Love
- Respect
- Mental Health
- Peace and Harmony
- Understanding Between right and wrong

Based on the above dimensions researcher prepared total 132 items in Hindi and English language for primary draft of Beautiful Home Scale. The details of the Scale are tabulated below:-

**Table No. 1.0**

**The Details of the First Draft of Beautiful Home Scale**

| S.No. | Dimensions | Positive | Negative | Total |
|---|---|---|---|---|
| 1 | Clean And Green Environment | 24 | 2 | 26 |
| 2 | Mother's Happiness | 23 | 10 | 33 |
| 3 | Home Transparency | 27 | 13 | 40 |
| 4 | Spiritual Home | 28 | 5 | 33 |
| Total | | 102 | 30 | 132 |

After preparation of the primary draft, researcher put the draft before supervisor, research experts, and language experts for evaluation of the tool with respect to content, structure, language, clarity and accuracy. After getting the opinion of the experts regarding tool, necessary rectification was done by researcher in the tool.

**Scoring Key:-**

5 point Likert Scale was employed for the tool. Scoring pattern for positive and negative items in 5 point Likert scale were as follows:-

**Table no. 1.1**

**Scoring procedure for "Beautiful Home Scale" Tool (Based on Likert's Five-point Scale).**

| Responses | Strongly Agree (SA) | Agree (A) | Neutral (N) | Disagree (D) | Strongly Disagree (SD) |
|---|---|---|---|---|---|
| Positive Items | 5 | 4 | 3 | 2 | 1 |
| Negative Items | 1 | 2 | 3 | 4 | 5 |

**Try out of the Draft Beautiful Home Scale: -**

The tool, which consists of 132 items, was administered on 120 students of higher secondary students Lucknow District for item analysis. The researcher explained the purpose of the tool. Further researcher gave proper instructions on how to respond to items of the test.

**Item Analysis of the Draft Beautiful Home Scale: -**

Researcher followed following procedure for item analysis Beautiful Home Scale.

Researcher provided marks to every administered tool according to the above scoring key table no. 1.1. Afterwards total score was calculated for each student and researcher arranged the total scores 120 students in descending order. On the basis of this, researcher selected two groups, one with top 27% students who got highest marks and another bottom 27% students who secured lowest marks in this test. Thus, this categorization method formed two groups of students, the group which has scored highest marks came under highest group and the group who scored lowest marks came under lowest group. Then, researcher calculated mean and standard deviation (SD) of every item in highest and lowest group. The calculated differences were taken as the discriminating power of that particular test item (using t test).

**Item selection of the Beautiful Home Scale: -** Researcher calculated t value for the selection and rejection of the item. Those items for which t value is less than critical value got rejected. Those items whose t value is more than critical value got accepted for second draft of the scale. Items which got selected and rejected are presented below in **table no. 1.2**

**Table 1.2**

**Item Analysis**

| Item No. | Higher Scoring Group $N_1 = 32$ | | Lower Scoring Group $N_2 = 32$ | | t-ratio Value | Significance Level 0.01, df= 62 |
|---|---|---|---|---|---|---|
| | $M_H$ | $S_H$ | $M_L$ | $S_L$ | | |
| 1 | 4.688 | 0.471 | 4.250 | 0.916 | 2.403 | **REJECTED** |
| 2 | 4.719 | 0.457 | 4.156 | 0.954 | 3.008 | SIGNIFICANT |
| 3 | 4.719 | 0.457 | 4.219 | 0.792 | 3.092 | SIGNIFICANT |
| 4 | 4.594 | 0.499 | 3.844 | 1.139 | 3.412 | SIGNIFICANT |
| 5 | 4.563 | 0.564 | 3.844 | 1.273 | 2.920 | SIGNIFICANT |
| 6 | 4.469 | 1.164 | 4.063 | 1.045 | 1.469 | **REJECTED** |
| 7 | 4.313 | 1.120 | 3.281 | 1.670 | 2.901 | SIGNIFICANT |
| 8 | 4.625 | 0.554 | 3.500 | 1.270 | 4.594 | SIGNIFICANT |
| 9 | 4.156 | 1.167 | 2.969 | 1.356 | 3.755 | SIGNIFICANT |
| 10 | 3.125 | 1.238 | 3.031 | 1.555 | 0.267 | **REJECTED** |
| 11 | 4.125 | 0.976 | 2.844 | 1.547 | 3.962 | SIGNIFICANT |
| 12 | 4.125 | 1.338 | 3.313 | 1.306 | 2.458 | **REJECTED** |
| 13 | 4.594 | 0.615 | 3.188 | 1.355 | 5.348 | SIGNIFICANT |
| 14 | 4.000 | 1.566 | 4.094 | 0.928 | 0.291 | **REJECTED** |
| 15 | 4.844 | 0.448 | 3.938 | 1.045 | 4.508 | SIGNIFICANT |
| 16 | 4.500 | 0.803 | 3.594 | 1.341 | 3.280 | SIGNIFICANT |
| 17 | 4.813 | 0.397 | 4.125 | 0.833 | 4.216 | SIGNIFICANT |
| 18 | 4.781 | 0.420 | 3.938 | 1.501 | 3.062 | SIGNIFICANT |
| 19 | 4.875 | 0.336 | 3.938 | 1.134 | 4.483 | SIGNIFICANT |
| 20 | 4.813 | 0.397 | 3.813 | 1.120 | 4.762 | SIGNIFICANT |
| 21 | 4.406 | 0.798 | 3.719 | 1.170 | 2.746 | SIGNIFICANT |
| 22 | 3.781 | 1.070 | 2.813 | 1.355 | 3.175 | SIGNIFICANT |
| 23 | 4.938 | 0.246 | 4.125 | 1.289 | 3.503 | SIGNIFICANT |

| | | | | | | |
|---|---|---|---|---|---|---|
| 24 | 4.688 | 1.030 | 3.938 | 1.105 | 2.808 | SIGNIFICANT |
| 25 | 4.719 | 0.634 | 3.813 | 1.469 | 3.204 | SIGNIFICANT |
| 26 | 3.844 | 1.347 | 3.375 | 1.454 | 1.338 | **REJECTED** |
| 27 | 3.625 | 1.454 | 2.563 | 1.268 | 3.116 | SIGNIFICANT |
| 28 | 4.094 | 1.329 | 3.063 | 1.480 | 2.933 | SIGNIFICANT |
| 29 | 3.813 | 1.533 | 3.813 | 1.148 | 0.000 | **REJECTED** |
| 30 | 4.563 | 0.801 | 3.063 | 1.294 | 5.577 | SIGNIFICANT |
| 31 | 3.406 | 1.341 | 2.781 | 1.313 | 1.884 | **REJECTED** |
| 32 | 4.500 | 1.078 | 4.031 | 0.999 | 1.804 | **REJECTED** |
| 33 | 3.625 | 1.476 | 3.281 | 1.464 | 0.935 | **REJECTED** |
| 34 | 4.094 | 1.400 | 3.281 | 1.529 | 2.217 | **REJECTED** |
| 35 | 4.375 | 1.008 | 3.688 | 1.330 | 2.330 | **REJECTED** |
| 36 | 4.813 | 0.471 | 3.719 | 1.350 | 4.328 | SIGNIFICANT |
| 37 | 4.906 | 0.296 | 3.750 | 1.295 | 4.923 | SIGNIFICANT |
| 38 | 3.875 | 1.338 | 3.094 | 1.228 | 2.434 | **REJECTED** |
| 39 | 4.938 | 0.246 | 4.125 | 1.129 | 3.978 | SIGNIFICANT |
| 40 | 5.000 | 0.000 | 4.000 | 0.950 | 5.952 | SIGNIFICANT |
| 41 | 4.063 | 1.216 | 2.969 | 1.402 | 3.333 | SIGNIFICANT |
| 42 | 4.844 | 0.369 | 3.625 | 1.338 | 4.967 | SIGNIFICANT |
| 43 | 4.625 | 0.793 | 3.875 | 1.212 | 2.930 | SIGNIFICANT |
| 44 | 3.531 | 1.545 | 2.844 | 1.298 | 1.928 | **REJECTED** |
| 45 | 4.594 | 1.241 | 3.188 | 1.595 | 3.937 | SIGNIFICANT |
| 46 | 3.969 | 1.356 | 3.688 | 1.148 | 0.896 | **REJECTED** |
| 47 | 3.750 | 1.320 | 3.094 | 1.376 | 1.947 | **REJECTED** |
| 48 | 3.938 | 1.294 | 2.938 | 1.318 | 3.063 | SIGNIFICANT |
| 49 | 3.438 | 1.480 | 3.094 | 1.201 | 1.020 | **REJECTED** |
| 50 | 4.781 | 0.420 | 3.625 | 1.212 | 5.101 | SIGNIFICANT |
| 51 | 4.188 | 1.061 | 3.219 | 1.338 | 3.210 | SIGNIFICANT |
| 52 | 3.188 | 1.655 | 3.313 | 1.306 | 0.335 | **REJECTED** |

| | | | | | | |
|---|---|---|---|---|---|---|
| 53 | 2.563 | 1.435 | 2.531 | 1.459 | 0.086 | **REJECTED** |
| 54 | 1.719 | 1.170 | 2.250 | 1.295 | 1.722 | **REJECTED** |
| 55 | 1.469 | 0.915 | 1.938 | 1.268 | 1.695 | **REJECTED** |
| 56 | 1.281 | 0.772 | 1.813 | 1.030 | 2.335 | **REJECTED** |
| 57 | 2.188 | 1.533 | 2.406 | 1.434 | 0.590 | **REJECTED** |
| 58 | 4.156 | 1.247 | 3.438 | 1.294 | 2.263 | **REJECTED** |
| 59 | 4.344 | 1.035 | 3.813 | 1.230 | 1.870 | **REJECTED** |
| 60 | 3.875 | 1.338 | 2.469 | 1.367 | 4.158 | SIGNIFICANT |
| 61 | 4.500 | 0.803 | 3.375 | 1.408 | 3.925 | SIGNIFICANT |
| 62 | 4.438 | 0.716 | 3.500 | 1.244 | 3.695 | SIGNIFICANT |
| 63 | 4.469 | 1.047 | 3.188 | 1.491 | 3.979 | SIGNIFICANT |
| 64 | 4.719 | 0.634 | 3.344 | 1.335 | 5.264 | SIGNIFICANT |
| 65 | 4.938 | 0.246 | 3.969 | 1.231 | 4.366 | SIGNIFICANT |
| 66 | 4.906 | 0.296 | 3.688 | 1.378 | 4.891 | SIGNIFICANT |
| 67 | 4.719 | 0.772 | 3.094 | 1.467 | 5.545 | SIGNIFICANT |
| 68 | 4.844 | 0.448 | 3.406 | 1.478 | 5.265 | SIGNIFICANT |
| 69 | 4.469 | 0.671 | 2.938 | 1.605 | 4.979 | SIGNIFICANT |
| 70 | 4.625 | 0.554 | 3.219 | 1.475 | 5.048 | SIGNIFICANT |
| 71 | 4.219 | 0.906 | 2.938 | 1.501 | 4.133 | SIGNIFICANT |
| 72 | 4.313 | 0.931 | 3.219 | 1.289 | 3.892 | SIGNIFICANT |
| 73 | 3.531 | 1.545 | 2.813 | 1.424 | 1.935 | **REJECTED** |
| 74 | 4.469 | 0.842 | 3.438 | 1.243 | 3.886 | SIGNIFICANT |
| 75 | 4.594 | 0.837 | 3.313 | 1.575 | 4.064 | SIGNIFICANT |
| 76 | 3.719 | 1.250 | 2.938 | 1.390 | 2.364 | **REJECTED** |
| 77 | 3.656 | 1.359 | 3.063 | 1.458 | 1.686 | **REJECTED** |
| 78 | 4.719 | 0.457 | 3.813 | 1.148 | 4.148 | SIGNIFICANT |
| 79 | 4.719 | 0.457 | 3.375 | 1.431 | 5.060 | SIGNIFICANT |
| 80 | 4.531 | 0.842 | 3.438 | 1.480 | 3.634 | SIGNIFICANT |
| 81 | 4.531 | 0.507 | 3.563 | 1.105 | 4.506 | SIGNIFICANT |

| | | | | | | |
|---|---|---|---|---|---|---|
| 82 | 2.375 | 1.338 | 2.313 | 1.355 | 0.186 | **REJECTED** |
| 83 | 2.813 | 1.615 | 2.500 | 1.391 | 0.829 | **REJECTED** |
| 84 | 4.750 | 0.440 | 2.938 | 1.318 | 7.378 | SIGNIFICANT |
| 85 | 4.500 | 0.672 | 3.688 | 1.281 | 3.177 | SIGNIFICANT |
| 86 | 3.688 | 1.401 | 3.063 | 1.605 | 1.659 | **REJECTED** |
| 87 | 4.156 | 1.019 | 3.313 | 1.256 | 2.951 | SIGNIFICANT |
| 88 | 4.000 | 1.164 | 2.844 | 1.370 | 3.638 | SIGNIFICANT |
| 89 | 4.031 | 1.356 | 3.031 | 1.402 | 2.900 | SIGNIFICANT |
| 90 | 3.969 | 1.177 | 3.469 | 1.295 | 1.616 | **REJECTED** |
| 91 | 4.469 | 0.567 | 3.750 | 1.320 | 2.830 | SIGNIFICANT |
| 92 | 3.406 | 1.624 | 2.844 | 1.221 | 1.566 | **REJECTED** |
| 93 | 3.594 | 1.341 | 2.781 | 1.211 | 2.544 | **REJECTED** |
| 94 | 3.844 | 1.347 | 3.000 | 1.437 | 2.424 | **REJECTED** |
| 95 | 4.313 | 0.896 | 3.406 | 1.241 | 3.350 | SIGNIFICANT |
| 96 | 2.063 | 1.390 | 1.969 | 1.092 | 0.300 | **REJECTED** |
| 97 | 4.688 | 0.471 | 3.125 | 1.314 | 6.334 | SIGNIFICANT |
| 98 | 4.500 | 0.803 | 3.250 | 1.481 | 4.197 | SIGNIFICANT |
| 99 | 4.781 | 0.420 | 3.313 | 1.401 | 5.679 | SIGNIFICANT |
| 100 | 4.344 | 0.827 | 3.750 | 1.191 | 2.316 | **REJECTED** |
| 101 | 4.625 | 0.793 | 3.531 | 1.502 | 3.642 | SIGNIFICANT |
| 102 | 4.563 | 0.716 | 3.125 | 1.338 | 5.359 | SIGNIFICANT |
| 103 | 4.438 | 0.878 | 3.031 | 1.448 | 4.699 | ***SIGNIFICANT** |
| 104 | 3.031 | 1.425 | 3.219 | 1.453 | 0.521 | **REJECTED** |
| 105 | 4.594 | 0.560 | 3.563 | 1.366 | 3.951 | SIGNIFICANT |
| 106 | 4.844 | 0.369 | 3.469 | 1.344 | 5.582 | SIGNIFICANT |
| 107 | 4.844 | 0.369 | 3.375 | 1.408 | 5.706 | SIGNIFICANT |
| 108 | 4.563 | 0.914 | 3.688 | 1.256 | 3.188 | SIGNIFICANT |
| 109 | 4.469 | 0.718 | 3.313 | 1.401 | 4.154 | SIGNIFICANT |
| 110 | 4.000 | 1.016 | 3.250 | 1.503 | 2.339 | **REJECTED** |

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | 3.969 | 1.257 | 3.219 | 1.518 | 2.152 | **REJECTED** |
| 112 | 4.250 | 1.164 | 3.219 | 1.362 | 3.257 | SIGNIFICANT |
| 113 | 4.344 | 1.004 | 3.156 | 1.505 | 3.714 | SIGNIFICANT |
| 114 | 4.563 | 0.759 | 3.438 | 1.390 | 4.018 | SIGNIFICANT |
| 115 | 4.969 | 0.177 | 3.719 | 1.326 | 5.288 | SIGNIFICANT |
| 116 | 4.875 | 0.336 | 3.875 | 1.338 | 4.100 | SIGNIFICANT |
| 117 | 4.000 | 1.191 | 3.188 | 1.447 | 2.453 | **REJECTED** |
| 118 | 3.563 | 1.413 | 3.281 | 1.442 | 0.788 | **REJECTED** |
| 119 | 4.656 | 0.483 | 3.688 | 1.148 | 4.400 | SIGNIFICANT |
| 120 | 4.875 | 0.336 | 3.719 | 1.250 | 5.052 | SIGNIFICANT |
| 121 | 3.438 | 1.501 | 2.469 | 1.218 | 2.835 | SIGNIFICANT |
| 122 | 4.594 | 0.499 | 3.500 | 1.244 | 4.615 | SIGNIFICANT |
| 123 | 3.750 | 1.368 | 3.063 | 1.190 | 2.145 | **REJECTED** |
| 124 | 2.688 | 1.512 | 2.594 | 1.411 | 0.256 | **REJECTED** |
| 125 | 4.875 | 0.336 | 3.844 | 1.273 | 4.432 | SIGNIFICANT |
| 126 | 4.500 | 1.107 | 4.000 | 1.078 | 1.831 | **REJECTED** |
| 127 | 4.438 | 1.190 | 3.563 | 1.243 | 2.877 | SIGNIFICANT |
| 128 | 4.656 | 0.483 | 3.938 | 1.014 | 3.621 | SIGNIFICANT |
| 129 | 3.281 | 1.571 | 2.750 | 1.459 | 1.402 | **REJECTED** |
| 130 | 3.469 | 1.626 | 3.125 | 1.264 | 0.944 | **REJECTED** |
| 131 | 4.625 | 0.492 | 3.938 | 1.105 | 3.215 | SIGNIFICANT |
| 132 | 5.000 | 0.000 | 4.063 | 1.045 | 5.073 | SIGNIFICANT |

*Significant but rejected

It is clear from the above table that there were 132 items from which 47 items got rejected and 85 items were accepted at significance level 0.01. For the sake of easier statistical analysis and calculations one more item was excluded after careful logical evaluation. Thus, a total of 84 items were kept in Beautiful Home scale finally. The item number of accepted and rejected items are shown in Table 1.3.

**Table 1.3**

**Item numbers of Accepted and rejected statements after Item Analysis**

| | | |
|---|---|---|
| **Accepted Item Numbers** | 2,3,4,5,7,8,9,11,13,15,16,17,18,19,20,21,22,23,24,25,27,28,30,36,37,39,40,41,42,43,45,48,50,51,60,61,62,63,64,65,66,67,68,69,70,71,72,74,75,78,79,80,81,84,85,87,88,89,91,95,97,98,99,101,102,105,106,107,108,109,112,113,114,115,116,119,120,121,122,125,127,128,131,132 | **84** |
| **Rejected Item Numbers** | 1,6,10,12,14,26,29,31,32,33,34,35,38,44,46,47,49,52,53,54,55,56,57,58,59,73,76,77,82,83,86,90,92,93,94,96,100,103*,104,110,111,117,118,123,124,126,129,130 | **48** |
| **Total** | | **132** |

Final draft consisted of 84 items. Dimension wise distribution of positive and negative items is presented in the following table: -

**Table 1.4**

**Dimension-wise distribution of Positive and Negative Items of the Scale**

| S.No. | Dimension | Nature of Item | Item No. | Total Items | Total Items in Dimension |
|---|---|---|---|---|---|
| I | Clean and Green Environment | Positive | 1,2,3,4,6,8,9,10,11,12,13,14,15,16,17,18,19,20 | 18 | **20** |
| | | Negative | 5,7 | 02 | |
| II | Mother's Happiness | Positive | 22,24,25,26,27,28,29,30,31,32,33,34 | 12 | **14** |
| | | Negative | 21,23 | 02 | |
| III | Home Transparency | Positive | 36,37,38,39,40,41,42,43,46,48,49,50,51,52,53,54,55,56,58,59,60,61,62,63 | 24 | **29** |
| | | Negative | 35,44,45,47,57 | 05 | |
| IV | Spiritual Home | Positive | 64,65,67,68,69,70,71,72,73,74,75,76,77,79,80,81,82,83,84 | 19 | **21** |
| | | Negative | 66,78 | 02 | |
| Total Positive Items = 18+12+24+19 | | | | 73 | **84** |
| Total Negative Items = 02+02+05+02 | | | | 11 | |

**Standardization of the Beautiful Home Scale**

**Reliability of the Beautiful Home Scale: -** The reliability of the scale has been calculated by three methods. Researcher administered tool on 115 students.

**Test-retest method: -**

Researcher prepared and administered the second draft of selected items to check the reliability of the test. The test-retest reliability method was used to calculate the coefficient of the correlation, for that Karl Pearson product moment method was applied. The obtained value for coefficient of correlation of the scale was 0.775.

**Split half Method: -**

The obtained scores were split into two groups based on odd and even serial number of items in tool. Then, Karl Pearson product moment correlation method was applied among the groups to calculate reliability of the test. Computed value of correlation coefficient was 0.851. This showed the reliability coefficient of the half test. Further, researcher applied Spearman-Brown prophecy formula to check the reliability of the whole tool, which was calculated to be 0.919, this shows intrinsic consistency of the tool is very high.

**Cronbach's Alpha Reliability**

The internal consistency of the tool was also checked by researcher. For that, the value of Cronbach's alpha coefficient was found 0.918, suggesting that the items of Beautiful Home scale have a very high internal consistency which reinforces the reliability of scale.

**Table No. 1.5**

**Reliability Coefficient of Beautiful Home scale**

| S. No. | Method | N (Number of students) | Reliability Coefficient |
|---|---|---|---|
| 1. | Test-Retest method | 115 | 0.775 |
| 2. | Half test Split half reliability using Karl Pearson's Product Moment | 115 | 0.851 |
| | Split-Half method using Spearman Brown formula | 115 | 0.919 |
| 3. | Cronbach's Alpha | 115 | 0.918 |

**Validity**

The items of the tool were prepared under the guidance of supervisor and experts. Necessary rectification was done in the tool in accordance with the valuable opinions of experts and supervisor, so the scale has high face validity. The intrinsic validity of the tool was 0.88. It is high and affirms the validity of the tool.

**Norms:-** The norms were established on 750 students for standardization of the tool. Interpretation of the Norms scale were decided on z score range which is given below:-

**Table no. 1.6**

**Norms for Interpretation of Beautiful Home scale based on Z-score range**

| S. No. | Raw Scores range of Dimension | | | | Raw score range of Full Scale | Z-score Range | Grade | Level of Beautiful Home |
|---|---|---|---|---|---|---|---|---|
| | Clean and Green Environment | Mother's Happiness | Home Transparency | Spiritual Home | | | | |
| 1. | 99 & above | 68 & above | 139 & above | 105 & above | 395 & above | +2.01 & above | A | Extremely High |
| 2. | 92 to 98 | 63 to 67 | 128 to 138 | 96 to 104 | 369 to 394 | +1.26 to +2.00 | B | Very High |
| 3. | 85 to 91 | 57 to 62 | 118 to 127 | 88 to 95 | 343 to 368 | +0.51 to +1.25 | C | High |
| 4. | 75 to 84 | 50 to 56 | 103 to 117 | 77 to 87 | 307 to 342 | -0.50 to +0.50 | D | Average |
| 5. | 68 to 74 | 45 to 49 | 92 to 102 | 68 to 76 | 281 to 306 | -1.25 to -0.51 | E | Low |
| 6. | 61 to 67 | 39 to 44 | 82 to 91 | 60 to 67 | 255 to 280 | -2.00 to -1.26 | F | Very Low |
| 7. | 60 & below | 38 & below | 81 & below | 59 & below | 254 & below | -2.01 & below | G | Extremely Low |

To find Percentile based norms, researcher calculated fixed value of percentile of scores obtained (highest was 400 and lowest was 206) and its interpretation. The beautiful home percentile table are given below:-

**Table 1.7**

**Norms for Interpretation of Beautiful Home scale based on Percentile**

| Percentile | Value/Score | Level of Beautiful Home |
|---|---|---|
| $P_{99}$ | 382 | **High (329 to 400)** |
| $P_{90}$ | 367 | |
| $P_{80}$ | 355 | |
| $P_{75}$ ($Q_3$) | 350 | |
| $P_{70}$ | 346 | |
| $P_{60}$ | 336 | |
| $P_{50}$ dn | 328 | **Low (206 – 328)** |
| $P_{40}$ | 320 | |
| $P_{30}$ | 310 | |
| $P_{25}$ ($Q_1$) | 305 | |
| $P_{20}$ | 297 | |
| $P_{10}$ | 279 | |

| | | |
|---|---|---|
| **$P_{05}$** | 260 | |

**Discussion and Conclusion**

It is worthwhile to note that home environment-based research studies are found in the case of children but beautiful home related studies for children are rarely found. Therefore, researcher decided to prepare the tool on beautiful home scale which can measure the children's home in respect of mother's happiness, transparency among family members, physical environment of home and attitude of spirituality among family members and children. For the first try out researcher had prepared 132 items and after expert opinion tool was administered on higher school student and t test was applied for item analysis. On the basis of high t value total 84 items got selected for final beautiful home scale. Reliability of the scale the scale was established by Test-Retest method, Split-Half method using Spearman Brown formula method and Cronbach's Alpha and reliability values of the scale are calculated as 0.775, 0.919, 0.918 respectively. On the basis of expert opinion face validity of the tool was established by the researcher and it can be concluded that the scale has good validity. Above procedure was followed by researcher for construction and standardization of the Beautiful Home Scale tool, which can be used to measure the Beautiful Home of the higher secondary students.

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