Standardizing the Scale to Measure the Attitude of the Homemakers towards the Management of Household Waste

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Abstract: Waste management has become one of the major issue universally. Inappropriate waste management could be a threat to environment as well as living beings too. Waste is not generated by any one entity but, industries, business and households are equally responsible for it. Proficient waste management starts from the source itself and for this it's very essential that individuals should have right attitude towards appropriate waste management. Management of household waste is very much related with the homemaker. The positive attitude of the homemaker can help in efficient waste management. The current research study was regarding standardizing the scale to measure the attitude of the homemakers towards the management of household waste. The scale consisted of two parts: (i) Segregation of household waste (ii) Disposal of household waste. Initially the scale consisted of 48 statements with the .80 reliability but after eliminating 6 indistinct statements the reliability of the attitude scale increased to .85. So finally, the standardized scale to measure the attitude of the homemakers towards the management of household waste was constructed with 42 statements and .85 reliability.

Keywords: Waste management, Household, Attitude, Homemakers, Women.

I. INTRODUCTION

It is said that the most intelligent animal on this planet is man, but this intelligence of man has now created worries for mankind. Expansion of technologies, urbanization, intensifying standards of people and moreover, ravenousness of people has endangered the sustainability of the mankind and environment mutually. The development of trade and industry is increasing the waste like anything. In India, waste generation is expected to upsurge to an epic figure of 300 million by 2047 that means the per capita waste would upsurge from 500 grams in the present to 945 grams in future. Similarly with the growing waste the need of land for disposal of waste would also escalate. The rapid evolution of population could be directly linked with the heap of waste generated in the community. [1]

Source segregation of household waste is the ultimate in efficient management of household waste but, all this is influenced by the attitude of the homemaker. The attitude is an individual belief regarding any person, object, custom or any matter. In psychology an attitude refers to a set of emotions, beliefs, and behaviors towards a particular object, person, thing, or an event. [8] The attitude of can be favorable/positive, unfavorable/negative or neutral/indifferent.

II. REVIEW LITRETURE

The study of Banga (2011) revealed that the attitude of forty percent respondents towards segregation were good while sixty percent believedthat its waste of time and dirty work. S. E. Kasala (2014) found that in Keko Machungwalacks, (Dar es Salaam, Africa), proper waste management and large number of residents (62%) disposes solid waste into open drains and natural streams. This practice indicates that, the attitude of people towards waste management is not very encouraging and environment in Keko Machungwa is at risk

Kaithery NN et al. (2019) discovered that more than three-fourth of the respondents was positive towards waste management. The study conducted by Ahmadi Siroos (2018) found that the women were not segregating their household waste adequately and much of the waste that could have been recycled, were wasted.

The above studies revealed the not so very positive attitude of the women towards waste management and their immediate environment. This reflects the inclination of the women towards sustainable management of household waste and environment, which is an issue of distress.

The awareness and attitudes of the people towards waste can affect the entire solid waste management (SWM) system. All steps in SWM—from household waste storage to waste segregation, recycling, collection frequency, amount of littering, willingness to pay for services, and opposition to the treatment and disposal facilities—depends on the awareness and participation of people. Thus, awareness and attitudes are crucial in the success or failure of a SWM system. [2]

III. RATIONALE OF THE STUDY

The problem of waste management has been increasing globally day by day and the waste from the houses is one of the dynamic issue in the current scenario.

The role of women as homemakers is very pivotal, as the homemaker is the one who knows and decides better that when, what and how much item is required in the house. Homemakers are directly related to household chores whether it's developed, developing or under developed country. Women are born managers and always ready to take responsibilities but, the attainment and success of any goal depends very much on the attitude of the person. It's very important that for efficient waste management the attitude of the homemakers should be positive. Once the attitude of the homemakers becomes positive then it becomes easy for them to handle their household waste competently. From the review it has been found that various research studies has been carried out related to attitude of the women towards managing their household waste but, most of the studies have not used standardized scale as a tool to measure the attitude. Therefore, to overcome these lacunae a need to develop a standardized scale was felt. The scale consisted of two main aspects:

(i) Segregation of household waste
(ii) Disposal of household waste.

IV. THE AIM OF THE PRESENT STUDY

(1) Conduct a comprehensive review of literature in the field of related research area.
(2) Construct a list of statements based on facts and related researches on household waste.
(3) Standardize the scale for appraising the attitude of the homemakers regarding household waste management.

V. METHODOLOGY

A. *Selection of Tool:* A comprehensive review of literature was done to prepare an attitude scale on household waste management. The review of literature included various online and offline research studies, articles and magazines related to waste management and environment. A list of statements related to segregation of household waste and disposal of household waste was prepared that incorporated 48 statements in total. To measure, the attitude scale was constructed on the basis of five point Likert Scale. The complete scale consisted of 48 statements related to:

• Attitude regarding Segregation of household waste (14Statements).
• Attitude regarding Disposal of household waste (34 Statements).

B. *Sample Selection*: To check the reliability of the scale and each statement a pilot study was conducted on 45 homemakers of Vallabh Vidyanagar. Sample selection was done through stratified random sampling technique. The study area had 9 yards in total out of which 5 homemakers from each ward were randomly selected. The reliability of the scale was tested on 470 total respondents including those 45 respondents.

C. *Scoring Of The Scale*: Most frequently used Likert type scale in the study of social attitudes follow the pattern devised by Likert and for this reason it's known as Likert – type scale. The scale consist of a number of statements which express either a favorable or unfavorable attitude towards the given item to which the respondent is asked to react. Usually five point of agreement or disagreement is used but many times three and seven points are also used. (7) In the current study the researcher had used 5 point rating scale of Likert to measure the attitude of the home makers towards household waste management. The five point scale consisted of "Strongly Disagree", "Disagree", "Unclear", "Agree", and "Strongly Agree". The scores assigned for the positive statement were one (1) to (5) i.e. Strongly Disagree was assigned one (1) and strongly agree was assigned five (5) respectively. In the negative statements it was reversed i.e. strongly disagree was assigned five (5) and strongly agree was given one (1) correspondingly.

The reliability of items on a Likert scale is something that cannot be overlooked since every researcher deems it necessary to collect accurate and objective data in conducting research. Hence, there is the need to estimate the reliability of the scale which is being used to measure the construct of interest. The reliability estimate for items on a Likert scale is measured using the reliability method known as Cronbach Alpha. Lee Cronbach in 1951 developed the Cronbach Alpha to offer a measure of the internal consistency of a scale or test, expressed as a number between 0and 1(Cronbach, 1951) which is used for items whose responses are on a scale. [8]

Seeing as Cronbach's alpha is the most common measure of internal consistency ("reliability"), it was selected to check the reliability of the given statements.

The formula used for Cronbach's alpha is:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Where:

N = the number of items.

c̄ = average covariance between item-pairs.

v̄ = average variance.

Cronbach's alpha is thus a function of the number of items in a test, the average covariance between pairs of items, and the variance of the total score.

VI. RESULT AND DISCUSSION

The reliability was tested for overall attitude scale and the reliability came to 0.80. Initially the attitude scale consisted of forty-eight statements but, after the test it had been found that Corrected Item-Total
Correlation for some statements were negative (-) and .0 value. This reflects that those selected items were entirely independent from one another i.e., are not correlated or share no covariance, the higher α coefficient, the more the items have shared covariance means the items were related to one another.

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Table: 1 List of eliminated items from the Attitude Scale

S.No.	Statement No.	Statements	Corrected Item-Total Correlation
1	6	I feel making shopping list is not possible every time.	-.200
2	7	I think old paper / magazines should be sold out.	-.179
3	12	I believe in using disposables in a gathering.	.033
4	13	I think old toys/equipment should be discarded.	.056
5	28	I think useless items should be thrown in waste.	-.363
6	47	I think waste segregation does not affect human health.	-.287

Owning to this, excluding those items becomes necessary. Consequently, those items were removed, then again, the reliability of the scale was tested and then it had been discovered that reliability increases to 0.85.

Table: 2 Final Reliability of the Attitude Scale

Reliability Statistics		Scale Statistics			
Cronbach's Alpha	No. of Items	Mean	Variance	S. D.	No. of Items
.85	42	162.5	154.1	12.41	42
.80	48	174.9	139.9	11.83	48

Earlier the scale consisted of 48 statements with .80 reliability but after eliminating 6 items from the complete scale finally consisted of 42 statements with .85 reliability (ref.table:2) where:
• Attitude regarding Segregation of household waste comprised of 13Statements.
• Attitude regarding Disposal of household waste comprised of 29 Statements.
According to the study of Keith (2017) the scale is reliable with the (0.84–0.90) reliability.

VII. CONCLUSION

The items declining the reliability, found indistinct and inapt were eliminated from the scale to increase the reliability of scale. Finally, with 0.85 reliability of the overall scale, the Standardized Scale to Measure the Attitude of the Homemakers towards the Management of Household Waste was successfully developed with 42 statements including Segregation and Disposal of Household Waste.

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