Development of Scale to Measure Attitude of Farmers towards Gir Cow

J. K. Patel[1], J. B. Patel[2], Krunal Gulkari[3] and N. B. Chauhan[4]

1 Associate Professor, SMC College of Dairy Science, AAU, Anand
2 Associate Professor, 3 PG Student and 4 Professor & Head
Department of Extension Education, BACA, AAU, Anand
E-mail: jbvadodara@gmail.com

ABSTRACT

Due to non-availability of a proper scale to measure farmers' attitude towards Gir cow in middle Gujarat region, it was thought necessary to construct a scale for the purpose. Keeping this in view, an attempt has been made to develop a scale for measuring the attitude of farmers. The technique chosen to develop the attitude scale was of "Scale Product Method" which combines the Thurston's (1946) technique of Equal Appearing Interval Scale for selection of the items and Likert's techniques of summated rating for ascertaining the response on the scale.

Keywords: *Attitude, Gir cow, Continuum, Reliability, Validity*

INTRODUCTION

Attitude has been defined as "the degree of positive or negative feeling, affect, opinion, action and belief associated with some psychological object". Psychological object may be any symbol, institution, person, phrase, slogan, idea or ideal towards which people may differ from each other with respect to positive or negative aspect. The cognitive component of an attitude consists of the beliefs, which involves attributes like favorable or unfavorable, desirable or undesirable, good or bad etc. The feeling component refers to the emotions which give attitude a motivating character or action tendencies. The action tendency component of an attitude includes all behavioral readiness associated with it. These three components of attitude, are, however, consistently related to each other. The psychological object for the present study has been conceptualized as the rearing of Gir cow.

METHODOLOGY

Among the techniques available for construction of scale, the methodology suggested by Likert (1932) and Edward (1957) was used in this study for scale construction and for ascertaining the response of the scale. The technique chosen to construct the attitude scale was of "Scale Product Method" which combines the Thurston's (1946) technique of Equal Appearing Interval Scale for selection of the items and Likert's techniques of summated rating for ascertaining the response on the scale.

Item collection

The items making up an attitude scale are known as statements. A statement may be defined as anything that is said about a psychological object. As a first step in the developing the attitude scale towards Gir cow a number of statements about Gir cow were gathered from the relevant literature, veterinarian, researchers, extension personals and officials of veterinary department who were directly or indirectly exposed to such knowledge system.

Editing of items

The collected statement's were edited in the light of the criteria suggested by Thurstone and Chave (1929) and Edward and Kilpatrick (1948). At last, 24 statements were selected as they were found to be non-ambiguous.

Judges rating of attitude statements

In order to judge the degree of "Unfavorableness" to "Favorableness" of each statement on the five point equal appearing interval continuum a panel of 50 judges was selected. The judges selected for the study comprised extension educationist, horticulturist, and statisticians with considerable practical experience in animal husbandry from the Anand Agricultural University and officials of veterinary department, Anand. The judges were visited personally along with letter of instructions to guide them for rating the statements in desired manner for each set of the statements.

Determination of scale and quartile value

The five points of the rating scale were assigned, ranging from 1 for most unfavorable and 5 for most favorable. On the base of judgment, the median value of the distribution, and the Q value for the statement concerned was calculated, the inter-quartile range for each statement was also worked out for determination of ambiguity involved in the statement from the following formula.

$$S = L + \frac{0.50 - \sum Pb}{Pw} \times i$$

Where,

S = Median or Scale value of statement

L = Lower limit of the interval in which the 50th centile falls

$\sum Pb$ = Sum of the proportion below the interval in which the 50th centile falls

P_w = Proportion within the interval in which the 50th centile falls

i = Width of the interval, which was assumed as equal to 1.0

Thurstone and Chave (Edwards, 1957) used the inter-quartile range Q as a means of the variation of the distribution of the judgments for a given statement. To determine value of Q, two other point were measured, the 75th centile and 25th centile. The 25th centile was obtained by the following formula:

$$C_{25} = L + \frac{0.25 - \sum Pb}{Pw} \times i$$

Where,

S = Median or Scale value of statement

L = Lower limit of the interval in which the 25th centile falls

$\sum Pb$ = Sum of the proportion below the interval in which the 25th centile falls

P_w = Proportion within the interval in which the 25th centile falls

i = Width of the interval, which was assumed as equal to 1.0

$$C_{75} = L + \frac{0.75 - \sum Pb}{Pw} \times i$$

Where,

S = Median or Scale value of statement

L = Lower limit of the interval in which the 75th centile falls

$\sum Pb$ = Sum of the proportion below the interval in which the 75th centile falls

P_w = Proportion within the interval in which the 75th centile falls

i = Width of the interval, which was assumed as equal to 1.0

Then the interquartile range or Q value was obtained by taking the difference between C_{75} and C_{25} thus,

$Q = C_{75} - C_{25}$

Final statements for attitude scale

When there was a good agreement among the judges, in judging the degree of agreement or disagreement of a statement, Q was smaller compared to the value obtained, when there was relatively little agreement among the judges it was reverse. Only those items were selected whose median (scale) values were greater than Q values. However, when a few items had the same scale values, items having lowest Q value were selected. Based on the median and Q values 8 statements were finally selected to constitute attitude scale. The scale values were ranging from 1.46 to 3.50 with 0.5 class intervals.

Reliability of the scale

A scale is reliable when it consistently produces the same result when applied to the same sample. In the present study, split-half method of testing reliability was used. The eight statements were divided into two halves with four odd numbered in one half and other four even numbered statements in the other. These were administered to 20 respondents. Each of the two sets of the statements was treated as a separate scale and then these two sub-scales were correlated. The co-efficient of reliability was calculated by the Rulon's formula (Guilford, 1954), which came to 0.79.

Content validity of the scale

Validity of the scale examined for content validity by determining how well content were selected by discussion with specialist, extension academicians, etc. thus, the present scale satisfied the content validity.

Scoring system

The selected eight statements for the final format of

the attitude scale are randomly arranged to avoid response biases, which might contribute to low reliability and detraction from validity of the scale. The responses can be collected on five point continuums *viz*., strongly agree, agree, undecided, disagree and strongly disagree with respective weights of 5, 4, 3, 2, and 1 for the favorable statements and with the respective weights of 1, 2, 3, 4, and 5 for the unfavorable statements.

No	Statements	SA	A	UD	DA	SDA
1	GIR cow is a prospective resource of high milk production for farmers. (+)					
2	I understand that GIR cow keeping is expensive. (-)					
3	I think that there are limited scopes of GIR as compared to foreign breeds. (-)					
4	I think that adoption of GIR is a risky venture. (-)					
5	I understand that raising GIR cow; animal growers can grow economically. (+)					
6	Raising GIR cow possible in the entire Indian situation. (+)					
7	There is more misinformation about GIR than reality. (+)					
8	I think that adoption of Gir opens and enhances new export market opportunity. (+)					

SA=Strongly Agree   A=Agree   UD=Undecided   DA=Disagree   SDA=Strongly Disagree

REFERENCES

Edward, A. L. (1957). Techniques of attitude scale construction. Vakils, Feffer and Simons Pvt. Ltd. Bombay -1.

Guilford, J. P. (1954). Psychometric methods. Tata McGraw hill publishing Co., Bombay, 597.

Likert, R. A. (1932). A technique for the measurement of attitude scales. Arch. Psychol. New York, No.140.

Thurstone, L. L. (1946). The measurement of attitude, *American J. Soci.,* Chicago Univ. Chicago Press, 39-50.