



Research Article

SCALE TO MEASURE THE ATTITUDE OF LOOSE FLOWER GROWERS TOWARDS LOOSE FLOWER CULTIVATION IN TAMIL NADU

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Abstract: Attitude refers to the degree of positive or negative affect associated with psychological object. The psychological object may be any symbol, phrase, slogan, person, institution, idea or ideal towards which the people may differ with respect to positive or negative effect. The psychological objects for the present study have been conceptualized as loose flower cultivation. In general, loose flowers are used for adornment by women, offered in religious ceremonies and used for making garlands on religious and social occasions. The present study, analyze the attitude of loose flower growers towards loose flower cultivation in Tamil Nadu by developing an attitude scale to measure the same. The study was contemplated to develop and standardize the same. The method of equal appearing intervals was used to develop the attitude scale, which comprises of 10 statements (five positive and five negative). The scale thus developed was reliable with $r_{tt} > 0.60$; $r_{tt} 0.68$ and validity test value 4.00.

Keywords: Attitude, Loose flower, Psychological object, Statements, Test

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Introduction

Flowers are the loveliest objects on earth. They instantaneously imply beauty because they are associated with things that offer pleasure and delight. Our age-old culture, paintings, art and craft, ideas, emotions, religion, philosophy and social traditions exhibit their memory evocative relationship with flowers. In general, loose flowers are used for adornment by women, offered in religious ceremonies and used for making garlands on religious and social occasions. They are also used for decoration of houses, temples and other venues during social gatherings and religious festivals. Most Hindu ladies adore their hair style with flower i.e., Gajra and veni and it is one of the important floral ornament which will and grace to their beauty opined by Yogesh Nagar [1]. In India, increasing domestic demand for loose flowers has also attracted farmers, mainly in leading flower producing states like Tamil Nadu, Karnataka, West Bengal, Madhya Pradesh and Maharashtra. According to Shivkumar [2] the soil and climatic conditions of South India are ideally suited for floriculture. Completely opened loose flowers with a strong fragrance are preferred under traditional use. They are used only for a day. The most widely cultivated flowers for these purposes are chrysanthemum, crossandra, rose, nerium, tube rose, marigold, mullai and pitchi. The objective of the study imposed the selection of districts based on maximum area under loose flower cultivation. The districts thus selected were Vellore, Thiruvannamalai, Krishnagiri, Salem, Dindigul and Madurai. About 103 statements were selected based on reviewing the literature, discussion held with scientists and extension personnel's. The items were screened and edited by following the informal criteria suggested by Edwards [3] for editing the statements was used in the construction of the attitude scale. After screening, 98 items were finally selected which formed the universe of content.

Material and Methods

Item scoring and computation of Scale values and Q values

The selected statements were then subjected to judge's opinion on a five-point continuum ranging from most unfavourable to most favourable. The lists of statements were then sent to 50 judges that comprised of scientists of State Agricultural Universities of Tamil Nadu, Andhra Pradesh, Kerala, Gandhigram rural university, Karnataka, Karnal and New Delhi. Out of 50 judges, 40 judges responded by sending their judgments. By applying the formula as suggested by Thurstone and Chave [4] the Scale values and Q values were computed for 98 statements by using the formula given below

$$S = I + \left[\frac{0.5 - \sum pb}{pw} \right] i$$

Where,

S-The median or scale value of the statement

I-The lower limit of the interval in which the median falls

$\sum pb$ -The sum of the proportions below the interval in which the median falls

Pw-The proportion within the interval in which the median falls

i-The width of the interval and is assumed to be equal to 1.0

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

Where,

Q-Interquartile range

C_{75} - the 75th centile,

$$C_{75} = I + \left[\frac{0.75 - \sum pb}{pw} \right] i$$

C_{25} - the 25th centile,

$$C_{25} = I + \left[\frac{0.25 - \sum pb}{pw} \right] i$$

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Table-1 Computation of equal appearing intervals

S	Statement No.	Scale value	Q value	Difference between successive scale values	Cumulative value of the differences	Equal appearing class intervals	Compartments
1	16	10	9.5	-	-		
2	86	9	28.5	1	1	1.025	I
3	43	8.75	8.25	0.25	1.25		
4	38	8.26	7.76	0.48	1.5		
5	39	7.5	3.5	0.76	1.98	2.05	II
6	3	6.91	6.41	0.58	2.75	3.075	III
7	18	6.91	6.41	0	3.33		
8	79	6.91	6.41	0	3.33		
9	89	6.91	6.41	0	3.33		
10	80	6.26	6.1	0.64	3.33		
11	15	6.25	5.75	0.01	3.98		
12	25	5.36	4.86	0.88	4	4.1	IV
13	88	5.27	4.77	0.08	4.88		
14	27	5.25	6.44	0.02	4.97		
15	28	5.25	1.98	0	5		
16	37	5.19	1.19	0.05	5		
17	4	5.18	3.68	0.01	5.05		
18	1	5.17	4.67	0	5.07		
19	59	5.17	4.67	0	5.07		
20	69	5.17	4.67	0	5.07		
21	77	5.15	4.65	0.02	5.07		
22	2	5.1	1.1	0.05	5.1	5.125	V
23	35	5.1	-3.73	0	5.15		
24	34	5	7	0.1	5.15		
25	31	4.97	2.08	0.021	5.25		
26	30	4.91	37.91	0.06	5.27		
27	41	4.91	-0.59	0	5.33		
28	45	4.91	-2.59	0	5.33		
29	40	4.76	-1.73	0.14	5.33		
30	49	4.76	-1.73	0	5.48		
31	57	4.71	4.21	0.04	5.48		
32	8	4.71	4.64	0	5.53		
33	54	4.66	4.16	0.04	5.53		
34	92	4.6	4.1	0.05	5.58		
35	11	4.57	4.07	0.03	5.64		
36	21	4.5	1.23	0.07	5.67		
37	33	4.5	2.87	0	5.75		
38	64	4.5	4	0	5.75		
39	97	4.5	4	0	5.75		
40	95	4.36	2.4	0.13	5.75		
41	71	4.33	3.83	0.02	5.88		
42	29	4.25	2.28	0.08	5.91		
43	91	4.21	-0.86	0.03	6		
44	66	4.11	0.94	0.1	6.03		
45	72	4.11	0.94	0	6.13		
46	70	4.03	3.53	0.07	6.13	6.15	VI
47	84	3.83	-1.24	0.2	6.21		
48	67	3.76	4.34	0.07	6.41		
49	83	3.76	0.26	0	6.48		
50	24	3.57	-0.78	0.18	6.48		
51	76	3.57	0.26	0	6.67		
52	81	3.57	-1.49	0	6.67		
53	17	3.5	-0.86	0.07	6.67		
54	44	3.5	2	0	6.75		
55	47	3.5	3	0	6.75		
56	22	3.41	-2.48	0.08	6.75		
57	65	3.41	0.83	0	6.83		
58	50	3.27	36.28	0.13	6.83		
59	58	3.26	1.09	0.01	6.97		
60	19	3.17	-0.32	0.08	6.98		
61	13	3	35	0.17	7.07	7.175	VII
62	93	3	2.5	0	7.25		
63	23	2.98	4.73	0.02	7.25		
64	20	2.78	23.28	0.2	7.27		
65	26	2.58	-0.98	0.19	7.47		
66	32	2.58	23.09	0	7.66		
67	48	2.58	-1.91	0	7.66		
68	9	2.5	-1.57	0.08	7.66		
69	10	2.5	22.33	0	7.75		
70	42	2.5	35.5	0	7.75		

Conti..

Table-1 Computation of equal appearing intervals

S	Statement No.	Scale value	Q value	Difference between successive scale values	Cumulative value of the differences	Equal appearing class intervals	Compartments
71	12	2.41	-1.09	0.08	7.75		
72	7	2.4	1.51	0	7.83		
73	36	2.37	0.19	0.03	7.84		
74	96	2.37	-7.46	0	7.87		
75	5	2.35	1.6	0.02	7.87		
76	73	2.33	4.16	0.01	7.9		
77	52	2.28	6.16	0.04	7.91		
78	51	1.96	34.97	0.31	7.96	8.2	VIII
79	75	1.83	-1.67	0.13	8.28		
80	90	1.83	-1.67	0	8.41		
81	14	1.57	-1.92	0.25	8.41		
82	46	1.57	-1.92	0	8.67		
83	78	1.57	-1.92	0	8.67		
84	85	1.57	-1.92	0	8.673		
85	94	1.41	-2.08	0.16	8.67		
86	60	1	-2.5	0.41	8.83	9.225	IX
87	68	1	-3.5	0	9.25		
88	55	1	34	0	9.25		
89	56	0.5	0	0.5	9.25		
90	62	0.5	0	0	9.75		
91	63	0.5	0	0	9.75		
92	74	0.5	0	0	9.75		
93	82	0.5	0	0	9.75		
94	53	0.37	-3.13	0.12	9.75		
95	61	0.37	-3.13	0	9.87		
96	87	0.37	-3.13	0	9.87		
97	6	0	0	0.37	9.87		
98	98	-0.07	-3.57	0.07	10.25	10.25	X

Table-2 Final Set of attitude items selected with corresponding Scale and Q values and the nature of the statement

S	Statement No.	Scale Value	Q Value	Statement	Nature of the statement
1	16	10	9.5	Loose Flower cultivation is a profitable farming with low investment and minimal care.	Favourable
2	39	7.5	3.5	Damage of flower crops by plant diseases and pests de motivates loose flower cultivation.	Favourable
3	15	6.25	5.75	The most successful loose flower grower is one who gets best return using minimum capital.	Favourable
4	37	5.19	1.19	Availability of plant growth regulators increases the production of loose flowers.	Favourable
5	35	5.1	-3.73	Government subsidies motivate the farmers for loose flower cultivation.	Favourable
6	21	3.41	-2.48	Loose flower cultivation gives high remuneration only in religious places.	Unfavourable
7	68	2.37	-7.46	It is better to grow other traditional crops than to go for loose flower cultivation.	Unfavourable
8	75	1.83	-1.67	Loose flowers can be cultivated only for making garlands.	Unfavourable
9	60	1	-2.5	Proper marketing channels are not necessary for loose flower marketing.	Unfavourable
10	98	-0.07	-3.57	Loose flower cultivation does not sustain the farmer economically throughout the year.	Unfavourable

Selection of attitude items

The attitude items to be included in the final attitude scale were selected based on the following standard. The statements selected should represent the universe of content with respect to loose flower cultivation. The scale values of the selected attitude items should have equal appearing interval i.e. distributed uniformly along the psychological continuum. Those items with high Scale values and smaller Q values should be selected as far as possible. There should be more or less equal number of statements with favourable and unfavourable attitudes as far as possible.

An objective methodology was formulated in order to select the attitude items keeping in mind the above-mentioned standard. Distributing statements with high scale value and smaller 'Q' values uniformly along the psychological continuum. Arranged scale value in descending order of their magnitude and calculated difference between the successive scale values and the cumulative total of the computed differences. Considering the time limitation from loose flower cultivation's point of view, it was decided to select ten statements to constitute the attitude scale. Since the selected scale values should have equal appearing interval and distributed uniformly along the psychological continuum. It was necessary to form ten compartments so as select 10 statements with one statement from each of the compartment. The basis for forming the compartments was that each compartment should be equally spaced in the continuum. For this purpose [Table-1] the last cumulative value of the difference (10.25) was divided by ten and taken as the width of the first class interval (1.025). The second interval (2.050) was computed by adding the first class interval width with the same value

.Consequently, adding the value of first width interval (1.025) with the width interval of second (2.050) gives the third interval (3.075). Subsequently, all the 10 intervals were worked out. Each class interval represented a compartment for the selection of the attitude items. For example, the value 1.00 is close to 1.025 of the cumulative value of difference. So, this formed the first compartment and similarly ten compartments were worked out.

To select the attitude items from the ten compartments the scale values and the corresponding Q values were considered. Based on the criteria already mentioned, items having high Scale values and low Q values were selected at one item from each compartment. Care was taken to ensure that the selected items represented the universe of content and covered different aspects of loose flower cultivation. Thereby, ten items were selected with equal appearing interval and with a uniform distribution along the psychological continuum. The attitude scale thus constructed is given in [Table-2].

Reliability of the scale

The reliability of the scale was determined by 'Split-half' method. The split-half method is regarded by many as the best method for measuring reliability suggested by Garrett[5]. According to Singh [6] the 10 selected attitude items were divided into two equal halves by odd-even method. The two halves were administered separately to 30 loose flower growers in a non-sample area. The scores were subjected to product moment correlation test in order to find out the reliability of the half test. The half-test reliability coefficient r was 0.523, which was significant at one percent level of probability.

Further the reliability coefficient of the whole test was computed using the Spearman-Brown Prophecy formula. The whole test reliability rtt was 0.68. According to Singh [6], when the purpose of the test is to compare the means of the two groups of narrow range, a reliability coefficient of 0.50 or 0.60 would suffice. Hence, the constructed scale is reliable as the rtt was > 0.60.

Content validity of the scale

It referred to the representativeness or sampling adequacy of the content of a measuring instrument. Content validation was carried out by subjecting the selected 10 items to judges' opinion. They were asked to indicate the extent to which each attitude item covered the domains of the psychological object 'loose flower cultivation' or judge each item for its presumed relevance to the property being measured. The responses were obtained on a four-point continuum of 'most adequately covers', 'More adequately covers', 'less adequately covers' and 'least adequately covers'. Scores of 4, 3, 2 and 1 were given for the points on the continuum respectively. Totally 30 judges responded by sending their judgments. The mean score 2.5 was fixed as the basis for deciding the content validity of the scale. If the overall mean score of the attitude items as rated by the judges was above 2.5, the scale will be declared as valid and if not otherwise. In the present case, the overall mean score was worked out as 4.0 and therefore the constructed attitude scale is said to be valid.

Administration of the scale

The 10 attitude items selected were arranged randomly in order to avoid biased responses. A five-point continuum of 'Strongly Agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly Disagree' was used as response categories. The scoring procedure adopted is given in [Table-3].

Table-3 Administration of the scale

Nature of the statement	Continuum				
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Favourable	7	5	4	3	1
Unfavourable	1	3	4	5	7

The final attitude statements selected was administered to obtain responses of loose flower growers. The score obtained for each statement was summed up to arrive at the attitude score for the respondents. The responses were grouped as unfavourable, moderately favourable and highly favourable based on the cumulative frequency method.

Conclusion

The attitude scale developed through Equal Appearing Interval (EAI) method lead the study to make 10 statements for measuring the attitude of the loose flower growers towards loose flower cultivation. As there are limited study and tools for measuring farmer's attitude pertaining to loose flower cultivation.

Application of research: Study will aid researchers in their research by adopting the scale developed.

Research Category: Agricultural Extension

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University: Tamil Nadu Agricultural University, Coimbatore, 641003, India

Research project name or number: PhD Thesis

Author Contributions: All authors equally contributed

Author statement: All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

Study area / Sample Collection: Vellore, Thiruvannamalai, Krishnagiri, Salem, Dindigul and Madurai districts of Tamil Nadu

Cultivar / Variety / Breed name: Nil

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

References

- [1] Yogesh Nagar (2018) *Ph.D. Thesis. Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalyaya, Gwalior, Madhya Pradesh* 474002
- [2] Shivkumar K. P. (2009) *Kisan World*, 61-62.
- [3] Edwards L. A. (1969) *Techniques of Attitude Scale Construction. Vakils, Feffer and Simons Private limited, Bombay, India.*
- [4] Thurstone and Chave (1929) *The Measurement of Attitudes. Chicago University Press, Chicago*, 97.
- [5] Garrett H.E. and Woodworth R.S. (1973) *Statistics in Psychology and Education. Vakils, Feffer and Simons Private Limited, Bombay.*
- [6] Singh A.K. (2008) *Tests, Measurements and Research Methods in Behavioural Sciences. Tata McGraw-Hill Publishing Company Limited, New Delhi.*