

ATTITUDE OF AGRICULTURE STUDENTS TOWARDS AGRIPRENEURSHIP: DEVELOPMENT AND VALIDATION OF A SCALE

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ABSTRACT

Agripreneurship is doing business in agriculture or taking entrepreneurship in agriculture. Attitude is defined as the degree of positive or negative affect associated with some psychological object. The main objective of the study was to develop a scale on Attitude of agricultural students towards agripreneurship. In present study 'Scale Product Method' was used which is combination of Thurston's technique of equal appearing interval scale for selection of the items and Likert's technique of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949). The statements, thus selected were edited on the basis of the criteria suggested by Edward (1969) and finally, 60 statements were selected. A schedule of 60 items was sent through 'Google forms' via email and whatsapp as well as through direct personal contacts to 140 experts working in the discipline of Agricultural extension of SAUs of Gujarat and other states. The judges were requested to sort out 60 statements on 11 point continuum from 'most unfavorable' to 'most favorable'. Out of them, 75 judges were responded. Based on Thurstone and Chave (1928) criteria in addition to Q as a basis for rejecting the statements in scales constructed by equal appearing interval scale method. Accordingly, when two or more items had the same scale values, those items having lowest Q values were selected. Thus, 24 statements were finally selected to constitute the attitude scale. A split-half technique was used to measure the reliability of the scale and the reliability coefficient was 0.82. The validity of the scale was also proved as per experts' judgments.

Keywords: agripreneurship, attitude, scale, statements, validity.

INTRODUCTION

Agripreneurship can be viewed as an approach for improving the socioeconomic circumstances of the rural poor in India. These include generating revenue, creating jobs, reducing poverty, and improving general health, nutrition, and food security (Bairwa *et al.*, 2014). A sustainable, community-focused, directly marketed agricultural good or service is known as agripreneurship. In order to offer agricultural produce, we define sustainable agriculture as a systems-oriented, holistic approach to farming that emphasizes the interdependencies of social, economic, and environmental processes. One important component of entrepreneurship is agribusiness, which contributes significantly to the economy in a variety of ways. However, over the previous few years, there didn't seem to be as much youth participation in the industry who were educated. Low economic opportunity availability emerged as a major contributing factor to that. However,

it is crucial that educated youth participate in agriculture. since they represent the nation's future (Hashanthi and Anjalee, 2023).

The agriculture industry has a significant potential to increase national GDP while directly employing and paying a larger and more vulnerable segment of the population. Increasing agribusiness's potential and requirement is essential to raising the agricultural sector's productivity and profitability. The economy will be able to take use of these characteristics, increase the primary sector at a rapid pace, and support rural development with the aid of entrepreneurship development. Additionally, it assists India in achieving balanced economic growth. To encourage targeted agriculture growth, the government must create developmental institutions and enact policies. Development of agribusiness will produce outstanding outcomes both at the macro and rural levels (Chand, 2019).

OBJECTIVE

The main objective of the study is to develop a scale on attitude of agricultural students towards agripreneurship.

METHODOLOGY

Attitude is the degree of positive or negative affect associated with some psychological object like symbol, phrase, slogan, person, institution, ideal or ideas towards which people can differ in varying degrees. Different types of rating scales have been developed to measure the attitude, among them, Thurston's equal appearing interval scale (1928) and the Likert's summated rating scale (1932) are quite well known. However, in present study 'Scale Product Method' was used which is combination of Thurston's technique of equal appearing interval scale for selection of the items and Likert's technique of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949). The steps advocated in construction and standardization of attitude scale to measure the attitude of agricultural students towards agripreneurship is as follows. The methods were followed as suggested by Vinaya *et al.* (2018), Jagadeeswari *et al.* (2019), Chauhan and Patel (2020), Yeragorla *et al.* (2021), Patel *et al.* (2022), Patel *et al.* (2023).

Item collection

The items making up an attitude scale are called statements. A statement may be defined as anything that is said about a psychological object (Edward, 1969). Initially, items reflecting the feelings of students towards agripreneurship were collected from relevant literatures, by consulting the major advisor, experts and extension personnel of Navsari Agricultural University and converted them in context to the present requirement. The statements, thus selected were edited on the basis of the criteria suggested by Edward (1969) and finally, 60 statements were selected as they were found to be non-ambiguous.

Judge's rating of attitude statements

A schedule of 60 items was sent through 'Google forms' via email and whatsapp as well as through direct personal contacts to 140 experts working in the discipline of Agricultural Extension of SAUs of Gujarat and other states. The judges were requested to sort out 60 statements on 11 point continuum from 'most unfavorable' to 'most favorable'. Out of them, 75 judges were responded. Finally, 75 schedules were kept for the construction of attitude scale.

Item analysis

The scaling technique developed by Thurston and

Chave (1928) analyze the judges' rating on the relevancy of the attitude scale items on 1 to 11 point continuum which shows most unfavorableness to most favorableness toward each item. The responses of 75 judges on 60 items were transferred into the excel sheet. In this scaling technique, scale value / median value (S) and interquartile value (Q) were found out for each statement.

The eleven points of the rating scale were assigned scores ranging from 1 for most unfavourable to 11 for the most favourable. Based on judgment, the median value/scale value of the distribution for the statement concerned was calculated with the help of following formula.

$$S = l + \frac{0.50 - \sum pb}{pw} \times i$$

Where,

S = The median or scale value of the statement

l = 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, which was assumed as equal to 1.0 (one)

The inter-quartile range (IQR) for each statement was also found out for determination of ambiguity involved in the statement. To determine value of Q at 75th centile and 25th centile, the following formulas were used. The 75th centile was obtained by the following formula.

$$C_{75} = l + \frac{0.75 - \sum pb}{pw} \times i$$

Where,

C_{75} = The 75th centile value of the statement

l = The lower limit of the interval in which the 75th centile falls

$\sum pb$ = The sum of the proportions below the interval in which the 75th centile falls

pw = The proportion within the interval in which the 75th centile falls

i = The width of the interval and is assumed to be equal to 1.0 (one)

The 25th centile was obtained by the formula.

$$C_{25} = L + \frac{0.25 - \sum pb}{pw} \times i$$

Where,

C_{25} = The 25th centile value of the statement

l = The lower limit of the interval in which the 25th centile falls

$\sum pb$ = The sum of the proportions below the interval in which the 25th centile falls

pw = The proportion within the interval in which the 25th centile falls

i = The width of the interval and is assumed to be equal to 1.0 (one)

Then the inter-quartile range worked out by taking the difference between $C_{75}(Q_1)$ and $C_{25}(Q_3)$.

In this manner the inter-quartile range (Q) for each statement was worked out. Those statements whose median value greater than Q value were selected.

RESULTS AND DISCUSSION

Thurstone and Chave (1928) described the criteria in addition to Q as a basis for rejecting the statements in scales constructed by equal appearing interval scale method. Accordingly, when two or more items had the same scale values, those items having lowest Q values were selected. Thus, 24 statements were finally selected to constitute the attitude scale. Those 24 statements for the final format of the attitude scale were randomly arranged to avoid the response bias. The final format of the scale is presented in Table 1.

Table 1: Selected attitude statements for the present study

Sr. No.	Statements	'S' value	'Q' value
1	Agripreneurship is a loss-making venture (-)	6.5	5.21
2	Good communication skills are not required for agripreneurship (-)	6.6	4.05
3	Agripreneurship does not raise living standards of the people (-)	6.8	5.30
4	Agripreneurship is better suited only to the people from farming families (-)	7	4.41
5	Agripreneurship does not aid in the promotion of collaborative efforts (-)	7.3	5.08
6	Working for any organization provides me more money than agripreneurship activities (-)	7.4	3.54
7	Small and marginal farmers are only suited to start agricultural enterprises (-)	7.5	4.51
8	Agripreneurship fosters a strong sense of autonomy (+)	7.6	3.35
9	Agripreneurship does not provide high net profit and income (-)	7.7	4.29
10	Agripreneurship fosters a strong feeling of relationship and trust (+)	7.8	3.05
11	The establishment of agro based enterprise is unproductive (-)	7.9	3.92
12	Agripreneurship is a good way to earn lot of money (+)	8.2	3.28
13	An agriclinic or agri-business training would motivate to accept agripreneurship as a profession (+)	8.3	3.18
14	Agripreneurship requires family, government, and political support to be successful (+)	8.4	2.79
15	Agricultural education paves a way to start a agribusiness for students (+)	8.5	2.97
16	Agricultural graduates have the prerequisite ability to start agribusiness (+)	8.6	3.10
17	The capability to persuade is more important for a successful agripreneur (+)	8.7	2.96
18	Agripreneurship is the hope for India's growing population (+)	8.8	3.06
19	Agripreneurship offers the chance to develop a job opportunities (+)	8.9	2.41
20	Agripreneurship is preferred by agriculture graduates with a creative nature (+)	9	2.98
21	Being my own boss rather than working for someone else (+)	9.1	3.01
22	Agripreneurship helps to improve the farmers economy (+)	9.2	2.29
23	There is more potential for entrepreneurship in agriculture which can only harnessed best by agriculture students (+)	9.3	3.05
24	It's important to give priority to agribusiness for development of the nation (+)	9.6	3.60

Reliability of the scale

Reliability refers to the consistency of scores obtained by the same individual when re-examined with test on different occasions or with different sets of equivalent

items. The split-half technique was used to measure the reliability of the constructed scale. All the 24 statements were divided into two equal halves with 12 odd numbered and 12 even numbered statements. These were administered to 50 students in the non-sample area via Google forms. The

coefficient of reliability between these two sets of scores was calculated by Rulon’s formula suggested by Guilford (1954).

The calculation of co-efficient to obtain reliability between the two sets was 0.82, which is significant at 1 per

cent level of significance. Hence, the scale developed was found highly reliable. The reliability test also done with Cronbach’s Alpha which showed the value of 0.82 which indicates that the scale has good internal consistency which is shown in Table 2.

Table 2: Reliability Statistics

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardized Items	N of Items
0.821	0.828	24

Table 3: Inter-Item Correlation Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
A1	1.00	0.65	0.64	0.36	0.54	0.30	-0.15	0.08	-0.21	0.33	-0.09	0.07	0.27	0.53	0.40	0.08	0.13	0.02	-0.35	0.02	0.07	0.18	0.44	0.18
A2	0.65	1.00	0.68	0.33	0.58	0.08	-0.11	0.19	-0.19	0.35	-0.12	0.12	0.26	0.30	0.30	0.10	0.25	0.09	0.00	0.10	0.09	0.20	0.50	0.06
A3	0.64	0.68	1.00	0.21	0.54	0.25	-0.08	0.24	0.05	0.30	0.06	0.26	0.24	0.29	0.42	0.17	0.22	-0.01	-0.15	0.20	0.27	0.36	0.44	0.27
A4	0.36	0.33	0.21	1.00	0.51	0.12	-0.05	-0.12	-0.25	0.04	-0.13	-0.31	0.24	0.30	0.33	0.05	0.06	-0.04	0.02	-0.01	-0.17	-0.18	0.13	-0.01
A5	0.54	0.58	0.54	0.51	1.00	0.02	0.23	-0.01	-0.06	0.25	-0.01	-0.16	0.29	0.36	0.54	0.17	0.28	0.21	-0.09	0.21	0.22	0.07	0.35	0.24
A6	0.30	0.08	0.25	0.12	0.02	1.00	-0.10	0.04	0.02	0.00	-0.04	-0.03	0.08	0.21	0.03	0.08	-0.01	-0.15	-0.16	0.04	0.05	0.12	0.06	0.08
A7	-0.15	-0.11	-0.08	-0.05	0.23	-0.10	1.00	0.22	0.33	0.12	0.23	0.14	0.22	-0.01	0.00	0.33	0.16	-0.01	0.22	0.16	0.03	0.07	0.01	0.32
A8	0.08	0.19	0.24	-0.12	-0.01	0.04	0.22	1.00	0.44	0.43	0.03	0.60	-0.03	-0.14	-0.10	0.20	0.01	0.13	-0.04	-0.02	0.05	0.35	0.29	0.10
A9	-0.21	-0.19	0.05	-0.25	-0.06	0.02	0.33	0.44	1.00	0.26	0.27	0.37	0.03	-0.20	0.05	0.08	-0.05	0.04	0.24	0.33	0.34	0.41	-0.01	0.49
A10	0.33	0.35	0.30	0.04	0.25	0.00	0.12	0.43	0.26	1.00	0.33	0.35	0.12	0.04	0.15	0.22	-0.01	0.06	0.19	0.02	-0.11	0.19	0.32	0.23
A11	-0.09	-0.12	0.06	-0.13	-0.01	-0.04	0.23	0.03	0.27	0.33	1.00	0.29	0.04	0.01	0.14	0.18	0.14	-0.07	0.21	0.07	0.06	-0.01	-0.01	0.15
A12	0.07	0.12	0.26	-0.31	-0.16	-0.03	0.14	0.60	0.37	0.35	0.29	1.00	-0.01	-0.11	0.01	0.16	0.10	0.15	0.11	0.18	0.21	0.38	0.38	0.24
B1	0.27	0.26	0.24	0.24	0.29	0.08	0.22	-0.03	0.03	0.12	0.04	-0.01	1.00	0.48	0.42	0.16	-0.03	-0.03	0.23	-0.04	-0.07	0.07	-0.13	0.16
B2	0.53	0.30	0.29	0.30	0.36	0.21	-0.01	-0.14	-0.20	0.04	0.01	-0.11	0.48	1.00	0.35	0.17	0.02	0.18	-0.14	0.05	0.10	-0.03	0.01	-0.01
B3	0.40	0.30	0.42	0.33	0.54	0.03	0.00	-0.10	0.05	0.15	0.14	0.01	0.42	0.35	1.00	0.27	0.17	0.19	0.01	0.06	0.12	0.18	0.23	0.23
B4	0.08	0.10	0.17	0.05	0.17	0.08	0.33	0.20	0.08	0.22	0.18	0.16	0.16	0.17	0.27	1.00	0.55	0.34	0.17	0.35	0.27	0.37	0.43	0.05
B5	0.13	0.25	0.22	0.06	0.28	-0.01	0.16	0.01	-0.05	-0.01	0.14	0.10	-0.03	0.02	0.17	0.55	1.00	0.50	0.24	0.51	0.53	0.53	0.59	0.19
B6	0.02	0.09	-0.01	-0.04	0.21	-0.15	-0.01	0.13	0.04	0.06	-0.07	0.15	-0.03	0.18	0.19	0.34	0.50	1.00	0.09	0.41	0.57	0.42	0.52	0.09
B7	-0.35	0.00	-0.15	0.02	-0.09	-0.16	0.22	-0.04	0.24	0.19	0.21	0.11	0.23	-0.14	0.01	0.17	0.24	0.09	1.00	0.30	-0.01	0.06	-0.11	0.01
B8	0.02	0.10	0.20	-0.01	0.21	0.04	0.16	-0.02	0.33	0.02	0.07	0.18	-0.04	0.05	0.06	0.35	0.51	0.41	0.30	1.00	0.66	0.53	0.51	0.45
B9	0.07	0.09	0.27	-0.17	0.22	0.05	0.03	0.05	0.34	-0.11	0.06	0.21	-0.07	0.10	0.12	0.27	0.53	0.57	-0.01	0.66	1.00	0.63	0.48	0.40
B10	0.18	0.20	0.36	-0.18	0.07	0.12	0.07	0.35	0.41	0.19	-0.01	0.38	0.07	-0.03	0.18	0.37	0.53	0.42	0.06	0.53	0.63	1.00	0.57	0.49
B11	0.44	0.50	0.44	0.13	0.35	0.06	0.01	0.29	-0.01	0.32	-0.01	0.38	-0.13	0.01	0.23	0.43	0.59	0.52	-0.11	0.51	0.48	0.57	1.00	0.42
B12	0.18	0.06	0.27	-0.01	0.24	0.08	0.32	0.10	0.49	0.23	0.15	0.24	0.16	-0.01	0.23	0.05	0.19	0.09	0.01	0.45	0.40	0.49	0.42	1.00

A – Question set with odd number statements B- Question set with even number statements

Validity of the scale

The validity test depends upon fidelity. It measures what it is to be purported to measure (Kerlinger, 1976). The validity issued to examine the content validity for determining

sampling adequacy or ampleness of the substance. It infers the content, the issue and the subjects of an estimating instrument of the scale represented the domain subject matter under study. As many items covering the area as possible were

selected by discussion with experts, reviewing the literature and adherence to the judges' ratings, it was presumed that the developed attitude scale battery satisfied the content validity.

Administering the scale

The final set of attitude scale consisted of 24 statements in which 15 statements were found to be positive and 9 statements found to be negative. The responses were collected on five point continuum viz., strongly agree, agree, undecided, disagree and strongly disagree.

Sr. No.	Response	SA	A	UD	DA	SDA
1.	For positive statements	5	4	3	2	1
2.	For negative statements	1	2	3	4	5

CONCLUSION

An attitude scale was developed for measuring the attitude of agricultural students towards agripreneurship by using 'Scale Product Method'. The developed attitude scale was found to be highly reliable and valid. The developed scale is well applicable to measure the attitude in other areas of the state and country. It will serve as a guideline for policy makers, planners and university authorities in planning and implementing efforts to develop and disseminate various programmes for improving the agripreneurship among the students.

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CONFLICT OF INTEREST

"No conflict of Interest" among researcher.

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