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Raviraj Kumar

Research Scholar, Department of Agricultural Extension Education, Bihar Agricultural University, Sabour, Bhagalpur, Bihar, India

Pankaj Kumar

Ph.D. Scholar, School of Social Science, CPGS-AS, CAU (Imphal), Umiam, Meghalaya, India

Adline Shanta Tigga

Associate Professor-cum-Senior Scientist, Department of Agricultural Extension Education, Bihar Agricultural University, Sabour, Bhagalpur, Bihar, India

Priyanka

Assistant Professor-cum-Junior Scientist, Bihar Forestry College and Research Institute, Munger, Bihar, India

Kumari Krishna Rani

Research Scholar, Department of Agricultural Extension Education, Bihar Agricultural University, Sabour, Bhagalpur, Bihar, India

Corresponding Author: Adline Shanta Tigga

Associate Professor-cum-Senior Scientist, Department of Agricultural Extension Education, Bihar Agricultural University, Sabour, Bhagalpur, Bihar, India

Assessing emotional intelligence among agricultural scientist of Bihar Agricultural University, Sabour: A gender-based analysis

Raviraj Kumar¹, Pankaj Kumar², Adline Shanta Tigga³, Priyanka⁴, Kumari Krishna Rani⁵

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ABSTRACT

Emotional intelligence (EI) has emerged as an important determinant of effective teaching and professional competence, enabling individuals to perceive, understand, regulate and manage emotions effectively. The present study was conducted to assess the level of EI among Faculty member and to compare EI between male and Faculty member. An ex-post facto research design was employed for the present study. Purposive sampling method was used to select six constituent colleges of Bihar Agricultural university and 140 Faculty member were selected from a population of 287 using proportionate stratified random sampling. Primary data were collected through a structured questionnaire administered using Google Forms. Emotional intelligence of respondents was measured by adapting emotional intelligence scale developed by Goleman (1995). Descriptive statistics and the independent-samples Mann-Whitney U test was used for data analysis. The findings revealed that the majority of male (41%) and female (46%) faculty member had a medium level of EI. A Mann-Whitney U test indicated no statistically significant difference in EI between male and female faculty members ($U = 2,582.50$, $Z = 0.552$, $p = 0.581$). Therefore, the null hypothesis was retained, indicating that there is no significant difference between gender among the faculty member. The study suggests integrating EI into faculty development, orientation, recruitment and in-service training programmes. Periodic EI assessment may also help identify training needs and enhance scientists' interpersonal effectiveness and psychological well-being.

Keywords: Emotional Intelligence, Scientists, Gender Differences, Faculty Development, Agricultural University

Introduction

Emotional intelligence (EI) has emerged as an important area of research in the fields of human development, psychology and education, as its influence individuals' abilities to perceive, understand, regulate and manage emotions in day-to-day life situations (Konthoujam *et al.*, 2025) [1]. Goleman (1995) [2] argued that EI is a key factor contributing to professional and personal success. His argument was built on the fact that IQ explains only 20% of the success in life, whereas the rest 80% could attributed to EI. Thus, in contrast to general intelligence, EI is dynamic and supports the development of self-regulation, motivation, empathy and interpersonal skills, all of which are essential for personal growth and social adaptation (Salovey *et al.*, 1990; Goleman, 1995) [3, 2]. So, now we can define Emotional intelligence is the ability to understand, use and manage your own emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges and defuse conflict (Segal *et al.*, 2026) [4].

Scientist in agricultural universities play a crucial role in the development of the agricultural sector and the socio-economic progress of a nation (Kassim *et al.*, 2016) [5]. They perform multiple functions, including conducting research to address agricultural challenges, developing and disseminating innovative technologies, guiding students and researchers, and advancing scientific knowledge (Awang *et al.*, 2010) [6]. They also provide technical expertise and consultancy to farmers, government agencies, industries, and other stakeholders. Given these responsibilities, scientists are required to manage their emotions, interpersonal relationships, stress and workplace challenges. All these jobs involve specific tasks, and some depend on each other for their achievement. The achievement of these jobs tends to build tension and pressure on staff (Olatoye *et al.*, 2025). However, as tension and pressure build up, employees who are not emotionally intelligent enough to control their feelings may exhibit aggressive reactions, which may lead to conflict and create a tense at working atmosphere, affecting their work life (Solanki, 2019) [7]. Therefore, this study aims to assess the level of Emotional Intelligence among the scientist of Bihar agricultural University, Sabour Bhagalpur (Bihar) and examine difference between male and female groups contributing to more holistic and adaptive agricultural profession. The findings are expected to contribute valuable insights for faculty development and institutional improvement.

Objectives of the study

- To assess the current Emotional Intelligence levels of Agricultural Scientist.
- To compare Emotional Intelligence level between male and female Scientist.

Materials and methods

The study was conducted in six constituent colleges of Bihar Agricultural University which were purposively selected for the study. The total population comprised of 287 faculty members across

the six colleges. A proportionate stratified random sampling technique was employed to select a sample of 140 respondents, with each college treated as a separate stratum and respondents selected in proportion to the respective college faculty strength. The present study employed an ex-post facto research design. Primary data were collected through a well-structured questionnaire administered using Google Forms, covering the respondents' socioeconomic characteristics and emotional intelligence. The collected data were analyzed using both descriptive and inferential statistical techniques, including frequency, percentage, mean, standard deviation. The data were analyzed using IBM SPSS version 23 and Microsoft Excel 2021.

Table 1. Sample Frame

University	Colleges	Population	Sample
Bihar Agricultural University	Bihar Agricultural College	144	70
	Mandan Bharati Agricultural College	20	10
	Dr. Kalam Agricultural College	21	12
	Bhola Paswan Shastri Agricultural College	25	13
	Nalanda College of Horticulture	52	25
	Veer Kunwar Singh College of Agriculture	25	13
	Total	287	70

Source: Field survey, (2025)

Independent variables

Emotional intelligence: In present study emotional intelligence level of respondents was measured by adapting emotional intelligence scale developed by Goleman (1995) [2]. A set of 50-items statements mea-

sured on a 5-point Likert type scale of Strongly Agree (5), Agree (4), undecided (3), Disagree (2), Strongly Disagree (1) was be used. For negatively word statement, reverse scoring was applied. Respondents were categorized into three groups viz., Low, medium and High based on their scores, using cumulative square root frequency method.

Table 2. Key variables and their Measurement

Sr no	Variable	Operationalization	Coding / Units	Level of Measurement
1	Age	State actual age	Years	Ratio
2	Academic Qualification	Highest degree successfully completed	Master's = 1 Doctoral = 2 Post-doctoral = 3	Ordinal
3	Income	State actual total income	Currency (actual amount)	Ratio
4	Job Experience	Total years of service	Years	Ratio
5	Marital Status	Current marital condition	Single = 1 Married = 2 Divorced = 3 Widowed = 4	Nominal
6	Family Type	Category of family structure	Joint family = 1 Nuclear family = 2	Nominal
7	Rural-Urban Background	Area of origin/residence	Rural = 1 Urban = 2	Nominal
8	Designation	Academic position held at BAU	Assistant Professor = 1 Associate Professor = 2 Professor = 3	Ordinal

Result and discussion

Table 2 shows that most of the male (74.29%) and Female (70.00%) Scientist were in 35–50 years age group, followed by < 35 years male (18.57%) and Female (24.29%) respectively. This indicates that most of the Scientist were within the youth age and people under this are active and economically productive (Adeogun *et al.*, 2016) [8]. The majority of the male (70%) and Female (74.29%) were married while 24.29% male and 18.57% female respondents were single. Marriage may be good for the any organisation or work place as it comes with a sense of responsibilities and accountabilities (Adebayo *et al.*, 2020) [9]. In addition, the findings revealed that the majority of both male

(57.14%) and female (64.28%) respondents having the designation of Associate Professor, followed by Professor, 17.14% of male and 14.20% of female respondents respectively. The majority of Associate Professors in the 35–50 years age group may be due to the career progression and experience requirements for attaining the position. These findings are consistent with those reported by Abu-Hamour (2013) [10]. The result as shown in table 2 conclude that most male (84.29%) and female (81.43%) respondent were having Doctorate degree qualification followed by post-doctorate qualification (7.14%) of male and (12.86%) of female. The finding may be due to the eligibility criteria prescribed by the University Grants Commission (UGC), which requires a Ph.D. for appointment and promotion to the positions of

Associate Professor and Professor (UGC, 2018) [11]. The result of the study is in accordance with study of Olatoye *et al.*, 2025. This implies that the university faculty members were Well-qualified, possessing the knowledge, skills and experience required to perform their assigned tasks effectively and the minimum qualification for the post of Associate Professor and Professor in is Doctorate degree.

Regarding years of experience, as shown in Table 2, majority of male (55.7%) and Female (58.6) of the respondents have been working in the university for about 10-20 years, followed by 25.7% of male and 24.3% of the female have been working in the university for about less than 10 years. The result is in line with the study of Djilali and Saleh, 2024. This showed that there are young faculty members have the ability and capability to work for a long time before reaching their retirement age (Olatoye *et al.*, 2025). However, result in the table 2

also revealed that the approximate half of the both male (50%) and female (55.71%) belonged to joint and nuclear family. Further, finding shows that majority of male (65.71%) and female (61.43%) Scientist having Rural background followed by 34.29% of male and 38.57% of female Scientist belonged to rural area. These finding are support by report of PIB, 2023 that 65% of the country's population lives in the rural areas and 47% of the population is dependent on agriculture for livelihood. In addition, the findings revealed that great proportion of the male (84.3%) and Female (91.4%) respondents earn between Rs 12–20 lakh per annum. This suggests that the annual income of Scientist is enough to support and maintain their work life. Thus, a relatively high salary motivates respondents, increases their job performance and improves their quality of life (Oyeyinka *et al.*, 2017) [12].

Table 3. Demographic Profile of Respondent ($n = 140$)

Sl. No.	Variables	Male Frequency	Male Percentage	Female Frequency	Female Percentage
1	Age				
	< 35 years	13	18.57	17	24.29
	35–50 years	52	74.29	49	70.00
	> 50 years	5	7.14	4	5.71
2	Marital status				
	Single	17	24.29	13	18.57
	Married	49	70.00	52	74.29
	Widowed	4	5.71	5	7.14
3	Designation				
	Assistant Professor	18	25.71	15	21.42
	Associate Professor	40	57.14	45	64.28
	Professor	12	17.14	10	14.20
4	Qualification				
	Master Degree	6	8.57	4	5.71
	Doctoral Degree	59	84.29	57	81.43
	Post-Doctoral Degree	5	7.14	9	12.86
5	Experience				
	Below 10 years	18	25.7	17	24.3
	10 to 20 years	39	55.7	41	58.6
	Above 20 years	13	18.6	12	17.1
6	Family Type				
	Nuclear Family	35	50	39	55.71
	Joint Family	35	50	31	44.29
7	Background				
	Rural	46	65.71	43	61.43
	Urban	24	34.29	27	38.57
8	Annual income				
	< 12 lakhs	5	7.1	5	7.1
	12–20 lakh	59	84.3	64	91.4
	> 20 lakhs	6	8.6	1	1.4

Level of emotional intelligence

Table 3. Distribution of Respondents Based on Level of Emotional Intelligence (EI) ($n = 140$)

Level of EI	Score range	Male		Score range	Female	
		Frequency	Percentage		Frequency	Percentage
Low	≤ 187	18	26	≤ 196	20	28
Medium	188–215	29	41	197–217	32	46
High	≥ 216	23	33	≥ 218	18	26

(continued on next page)

Level of EI	Score range	Male		Score range	Female	
		Frequency	Percentage		Frequency	Percentage
Total		70	100		70	100

The level of emotional intelligence among Scientist of Bihar Agricultural University is presented in Table 2. Among the 70 male respondents, 29 (41%) had a medium level of emotional intelligence, followed by 23 (33%) with a high level and 18 (26%) with a low level. Thus, the majority of male respondents had a medium level of emotional intelligence. Similarly, out of 70 female respondents, 32 (46%) had a medium level of emotional intelligence, followed by 20 (28%) with a low level and 18 (26%) with a high level. Overall, the findings suggest that most of both male and female respondents belonged to the medium emotional intelligence category, suggesting a moderate level of emotional intelligence among the faculty members. This indicates that female respondents are more emotionally intelligent compared to male.

These findings are consistent with previous research, which reported that male and female scientists had medium levels of emotional intelligence (Nehayadav, 2018; Vadivel *et al.*, 2019; Feimi *et al.*, 2023; Okubena *et al.*, 2025) [14, 15, 13, 16]. Similarly, Kumar (2026) [17] reported that faculty members at the University of Bihar had moderate to high levels of emotional intelligence. However, the present find-

ings are incongruent with finding of Kaloun *et al.* (2024) [18], Li *et al.* (2023) [19] and Orhan (2026) [20] who reported that teachers or faculty members demonstrated high levels of emotional intelligence. The majority of a medium level of emotional intelligence indicates that most respondents are still in the process of developing their emotional understanding and regulation abilities. Further, the respondents with high emotional intelligence indicate that some individuals have developed stronger emotional intelligence. Meanwhile, the respondents with low emotional intelligence highlight the need for interventions such as training, counselling to enhance emotional intelligence levels among scientist (Gaurav *et al.*, 2026) [21].

Emotional intelligence level between male and female scientist

Study hypothesis

H_0 - There is no significant difference in the Emotional Intelligence level between male and female scientist.

H_1 - There is significant difference in the Emotional Intelligence level between male and female scientist.

Table 4. Hypothesis Test Summary

S. No.	Null Hypothesis	Test	Sig. (p-value)	Decision
1	The distribution of Emotion is the same across categories of gender.	Independent-Samples Mann–Whitney U Test	0.581	Retain the null hypothesis
	a. The significance level is 0.050			
	b. Asymptotic significance is displayed			

A Mann–Whitney U test was employed to compare emotional intelligence (EI) between male and female respondents. The results (Table 4) showed a no significant difference between the groups ($U = 2,582.50$, $Z = 0.552$, $p = 0.581$). The mean rank for females (72.39) was higher than that for male (68.61), indicating that female scientist had higher emotional intelligence than male scientist. So, present study revealed a no statistically significant difference in emotional intelligence (EI) between gender, with female respondents had higher mean rank scores than male respondents.

This is in line with Ramesh, 2017 [22], Tommasi *et al.*, (2023) and Okubena *et al.*, (2025) [16] who also reported no significant differences in overall EI scores between genders. Abdulkareem (2026) [23] result revealed that there is no statistically significant relationship between gender and emotional intelligence among secondary school teachers in Northcentral Nigeria. This suggests that gender does not correlate with emotional intelligence. The finding of the is in contrast, Khurana *et al.*, (2022) reported significant EI difference between male and female managers. Asmamaw *et al.* (2023) [24] also reported significantly higher EI among female leaders than males, while D'Amico and Geraci (2022) [25] similarly found that females had greater ability-based EI.

Table 5. Independent-Samples Mann-Whitney U Test

Statistic	Value
Total N	140
Mann–Whitney U	2,582.50
Wilcoxon W	5,067.50
Test Statistic	2,582.50
Standard Error	239.86
Standardized Test Statistic	0.552
Asymptotic Significance	0.581

Conclusion

The study was conducted in six constituent colleges, namely Bihar Agricultural College, Mandan Bharati Agricultural College, Dr. Kalam Agricultural College, Bhola Paswan Shastri Agricultural College, Nalanda College of Horticulture and Veer Kunwar Singh College of Agriculture under Bihar Agricultural University, Sabour, Bhagalpur, Bihar. The study aimed to assess the level of emotional intelligence among and to examine the differences in emotional intelligence between male and female Scientist. Based on the results of hypothesis testing the null hypothesis was retained. Overall, the majority of both male (41%) and female (46%) respondents had a medium level of emotional intelligence. The findings indicate that emotional intelligence levels were similar between male and female respondent. A Mann–Whitney U test revealed no statistically significant difference in emotional intelligence between male and female faculty members ($U = 2,582.50$, $Z = 0.552$, $p = 0.581$). The mean rank was higher for females (72.39) than males (68.61), indicating comparatively higher emotional intelligence among female scientists.

The present study has some limitation particularly the relatively small sample size 140 and it was confined to only six constituent college of Bihar agricultural university in Bihar, which may restrict the generalizability of the findings to other institutional contexts. Other, limita

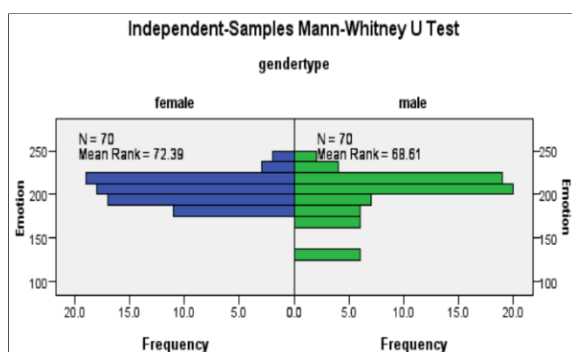


Figure 1. Independent Sample Mann-Whitney U Test for male and female

tion is self-reported measures were used. Individuals may have answered inaccurately or had social desirability bias. Further studies can be carried out in other than agricultural university with large sample size and other neighbouring state of Bihar. Based on the findings, organizations should integrate emotional intelligence (EI) into faculty development, orientation, recruitment and in-service training programmes to strengthen scientist emotional competencies. Periodic EI assessments may be conducted to identify training needs and support the psychological well-being of scientist to interact effectively with students, farmers, and other stakeholders.

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