Research Paper

Cross-Cultural Analysis of Emotional Intelligence in University Students

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ABSTRACT

This research paper delves into the realm of emotional intelligence (EI) among university students, specifically exploring variations based on gender, academic discipline (engineering and humanities), and age. Grounded in the frameworks proposed by influential EI models, the study employs a comparative analysis to examine the emotional intelligence levels of first-year students aged 17 to 22. The Emotional Intelligence Scale, a reliable and validated tool, is utilized to assess 60 participants, equally divided between engineering and humanities streams, and across gender lines. Results indicate no significant differences between engineering and humanities students, challenging common assumptions about EI in relation to academic disciplines. Surprisingly, males exhibit higher EI levels than females, contrary to existing research trends. Furthermore, a nuanced examination of emotional intelligence within gender groups reveals engineering males surpassing their female counterparts, while humanities males outperform humanities females. These findings underscore the complexity of emotional intelligence and suggest the need for further research to unravel the intricate interplay between academic pursuits, gender, and emotional intelligence.

Keywords: *Emotional Intelligence, University Students, Gender Differences, Academic Discipline, Comparative Analysis*

E motional intelligence is most commonly described as an individual's ability to recognize, categorize, and simplify both their own and others' emotions. Individuals with high emotional intelligence can not only identify and comprehend their own emotions but also those of others. They utilize emotional cues to guide their thoughts and actions, distinguish a range of emotions, appropriately assign labels to them, and adjust their emotional responses to align with the surrounding environment. The term "emotional intelligence" was initially introduced in a 1964 paper by Michael Beldoch and later in a 1966 paper by B. Leaner. In 1989, Stanley Greenspan proposed a model to delineate emotional intelligence, followed by a publication from Peter Salovey and John Mayer the subsequent year. However, the phrase gained widespread popularity in 1995 with the publication of the best-selling book "Emotional Intelligence" by science journalist Daniel Goleman. Salovey and Mayer defined emotional intelligence as "the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them

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appropriately, and to use emotional information to guide thinking and behavior." This definition was subsequently deconstructed into four proposed skills: perceiving, using, understanding, and managing emotions.

The field of emotional intelligence encompasses various theories and models aimed at explaining interrelated concepts and proposing assessment measures for mapping them. These models aid in conceptualizing emotional intelligence to foster a comprehensive understanding. Three main models include the ability model, which views emotions as effective antecedents of information; the mixed model, introduced by Daniel Goleman, covering five major emotional intelligence setups; and the trait model, introduced by K. V. Petrides, proposing a speculative contrast between ability-based and trait-based models.

Broadly, emotional intelligence consists of four interrelated components: perceiving emotions, understanding emotions, managing emotions, and using emotions. It refers to non-cognitive abilities that involve being aware of one's own and others' emotions and managing them effectively, akin to "street smartness" or common sense.

A review in the Annual Review of Psychology in 2008 found that higher emotional intelligence positively correlates with better social relations for children and adults, a positive attitude, improved academic achievement, better social dynamics at work, and enhanced wellbeing. This underscores the significance of emotional intelligence, as emotions significantly impact cognitive abilities, decision-making, and interpersonal skills.

Various studies demonstrate the importance of emotional intelligence, its impact on different professions, and the diversity in emotional intelligence across populations. For instance, M. Kumar's (2020) study on the emotional intelligence of higher secondary school students revealed that emotional intelligence was independent of gender, subject, school locality, family type, father's occupation, and family income. The emotional intelligence level of higher secondary school students was found to be average, with female students exhibiting higher emotional intelligence than male students.

Similarly, Mahfoozalam's (2018) study on the emotional intelligence of adolescent students indicated a significant difference based on school nature and gender. This study aims to investigate whether there is a significant difference in emotional intelligence between humanities and engineering students among university students of adolescent age.

REVIEW OF LITERATURE

Ravi Kant's (2019) study on university students revealed universally high levels of emotional intelligence across the student body. This aligns with the findings of Apoorv Tiwari et al. (2022), who suggested that emotional intelligence traits may serve as more robust predictors of leadership performance than traditional intelligence quotient (IQ).

Arti Ramkishan Chauhan's (2020) comparative study among B.A., B.Com, and B.Sc. college students demonstrated nuanced differences in emotional intelligence components. Notably, B.Com students exhibited higher self-awareness, while B.Sc. students demonstrated elevated self-development, value orientation, and overall emotional intelligence.

Suresh Agawam and Manor Kumar Sabena's (2012) comparative study between arts and science undergraduates identified a significant difference in the overall emotional intelligence levels of these two student groups.

Dr. B. Radha's (2018) study on emotional intelligence among management students disclosed a moderate level of emotional intelligence, with female students exhibiting a higher level compared to their male counterparts. However, no significant gender differences were observed in understanding emotions and handling relationships.

The concept of Emotional Intelligence is often associated with leadership, yet its practical application and training in the workplace remain underexplored. Krén & Séllei (2021) identified four EI models, including ability-based, trait-based, and mixed models. Alzoubi & Aziz (2021) categorized EI into self-awareness, self-management, social awareness, and relationship awareness.

Krén & Séllei (2021) introduced the Genos EI model, focusing on skills like self-awareness, awareness of others, authenticity, emotional reasoning, self-management, and inspiring performance. The theoretical method employed by Krén & Séllei expanded the Swinburne University Emotional Test, establishing Genos EI for a broader scope. Winton (2022) emphasized the link between leader-follower relationships and strategic decision-making, with EI contributing to higher job satisfaction levels. Mindeguia et al. (2021) explored the impact of leader's transformational behavior and team EI responses, revealing a direct link between leader-employee unity.

Miao et al. (2021) highlighted the relationship between servant leadership and EI, demonstrating superior leader-follower relationships. The meta-analysis suggested that organizations should prioritize hiring individuals with high EI strengths, fostering better leader-follower dynamics.

Pathak et al. (2021) underscored the importance of coping and emotional well-being, revealing that entrepreneurs with high EI demonstrated greater problem-solving and social skills. Zhao et al. (2022) explored the framework of stress and its impact on decision-making in high-tech industries, emphasizing the role of EI in handling stress.

Garcia Zea et al. (2020) focused on the military context, linking EI competency to leadership responsibilities and mental health. Alotaibi & Aziz (2021) extended this exploration to the healthcare sector, revealing the positive relationship between EI, empowering relationships, and work engagement among nurses.

Shah et al. (2020) reiterated the importance of continuous training in EI. Their survey among pharmaceutical sales professionals demonstrated that emotionally intelligent individuals can adapt to stressors effectively, reducing emotional exhaustion and enhancing coping mechanisms. The study emphasized the need for ongoing EI excellence, suggesting that leaders should integrate professional counselors and mentors within the organization. These professionals can provide feedback on workforce emotions, issues, and expectations, contributing to effective emotional management (Shah et al., 2020).

Emotional Intelligence proves indispensable across various domains, from leadership and decision-making to stress management and workforce engagement. As highlighted in the literature, continuous training and development in EI are crucial for individuals and

organizations to navigate complex emotions, foster positive relationships, and ensure sustained success. Further research is essential to explore nuanced aspects of EI in diverse contexts and industries.

Research Gap
While existing studies have explored gender differences in emotional intelligence, the literature lacks sufficient comparative analyses between humanities and engineering students. This research aims to address this gap by investigating potential significant differences in emotional intelligence among these academic cohorts. Additionally, the study aims to contribute insights into potential variations in emotional intelligence between male and female students within the context of humanities and engineering disciplines.

Objective of the Study
This study seeks to examine and analyze whether there are significant differences in emotional intelligence among engineering and humanities students and whether such differences extend to variations between male and female students.

Hypotheses
- There will be no significant difference among engineering and humanities students concerning emotional intelligence.
- There will be no significant difference among male and female students concerning emotional intelligence.
- There will be no significant difference among engineering male and female students concerning emotional intelligence.
- There will be no significant difference among humanities male and female students concerning emotional intelligence.
- There will be no significant difference among engineering male and humanities male

RESEARCH METHODOLOGY
The research methodology employed in this study involves a comparative analysis to explore variations in emotional intelligence among university students based on gender, academic discipline (engineering and humanities), and age. The study focuses on first-year students aged 17 to 22, utilizing the Emotional Intelligence Scale as the primary research tool. This scale, developed by Anukool Hyde, Sanjyot Pethe, and Upinder Dhar, comprises 34 items categorized into 10 factors, providing a comprehensive assessment of emotional intelligence. Participants rate each item on a five-point scale, ranging from 'STRONGLY AGREE' to 'STRONGLY DISAGREE.' The study's sample includes 60 participants, evenly distributed between engineering and humanities streams and across gender lines. Data analysis involves mean comparisons, variance assessments, and hypothesis testing, with statistical significance determined through t-tests. The methodology aims to unravel the intricate interplay between emotional intelligence, gender, and academic disciplines among university students.

Sample
The total sample of the present study consists of 60 first-year students aged 17-22, including 30 from the engineering stream (15 male and 15 female) and 30 from the humanities stream (15 male and 15 female).

Tools and Method

In this study, we aim to explore and compare emotional intelligence among first-year students, focusing on the independent variables of academic streams and gender. The independent variables include two streams: ENGINEERING and HUMANITIES, as well as two gender categories: MALE and FEMALE. Our primary focus, the dependent variable, is Emotional Intelligence, measured using the Emotional Intelligence Scale.

The Emotional Intelligence Scale, meticulously developed by Anukool Hyde (Indore), Sanjyot Pethe (Ahmedabad), and Upinder Dhar (Indore), serves as our research tool. This comprehensive scale comprises 34 items, thoughtfully categorized into 10 factors: A) Self-Awareness, B) Empathy, C) Self-Motivation, D) Emotional Stability, E) Managing Relations, F) Integrity, G) Self-Development, H) Value Orientation, I) Commitment, and J) Altruistic Behavior.

Participants rate each item on a scale: 5 for 'STRONGLY AGREE,' 4 for 'AGREE,' 3 for 'UNCERTAIN,' 2 for 'DISAGREE,' and 1 for 'STRONGLY DISAGREE.' The cumulative score provides insight into an individual's emotional intelligence, with a higher score indicating greater emotional intelligence and vice versa.

The reliability of this scale, assessed through rigorous testing, stands at an impressive 0.88, underscoring its consistency. Furthermore, the scale's validity, measuring the accuracy of its results, is robust at 0.93. This meticulously crafted tool will facilitate a nuanced exploration of emotional intelligence among engineering and humanities students, contributing valuable insights to the broader field of emotional intelligence research.

RESULTS AND DISCUSSION

The tables showcase a thorough examination of emotional intelligence, revealing no significant differences between engineering and humanities students or male and female students within each stream. The findings challenge stereotypes, indicating nuanced variations in emotional intelligence across academic disciplines and gender lines among university students.

Table 1: Stream difference on emotional intelligence

Stream	Mean	Variance	N	Hypothesized Mean difference	df	T stat	P(t<=t) one tail	T critical one-tail	P(t<=t) two-tail	T critical two-tail
Engineering	136	500	30	0	54	-0.38	0.35	1.67	0.70	2.004
Humanities	138	291	30							

Source: Calculated from Primary Survey

The observation of Table No. 1 indicates a notable difference in the mean values of the two classified groups concerning emotional intelligence. The total number of observations was 30 in both groups. The mean and variance values obtained by engineering students were 136 and 500, respectively, while humanities students recorded values of 138 and 291. Both groups shared a degree of freedom (DF) value of 54. The two-tail probability (P(T<= t)) was calculated as 0.70, surpassing our α value of 0.05. This suggests that there is no significant difference between engineering students and humanities students in terms of emotional intelligence. In essence, humanities students exhibit a higher level of emotional intelligence than their engineering counterparts.

Table 2: Gender difference on emotional intelligence

Gender	Mean	Variance	N	Hypothesized mean difference	df	T stat	P(t<=t) one tail	T critical one-tail	P(t<=t) two-tail	T critical two-tail
Male	139.46	268.67	30	0	53	0.95	0.17	1.674	0.341	2.005
Female	**134.56**	**513.35**	**30**							

Source: Calculate from Primary Survey

Observation from Table No. 02 indicates a discernible difference in the mean values of the two categorized groups regarding emotional intelligence. The total number of observations was 30 in both groups. The mean and variance values obtained by male students were 139.46 and 268.67, respectively, while female students recorded values of 134.56 and 513.35. Both groups shared a degree of freedom (DF) value of 53. The two-tail probability (P(T<=t)) was calculated as 0.341, exceeding our α value of 0.05. This implies that there is no significant difference between male and female students in terms of emotional intelligence. It suggests that males exhibit a higher level of emotional intelligence than females. A similar result was found in the study conducted by Mr. Vargha Mokhlesi and Dr. Chidanand B. Patil (2018) titled "A Study of Gender Differences in Emotional Intelligence and Learning Behavior among Children" and Asghar Ali, Nadia Saleem, and Nida Rahman (2021) in their study on "Emotional Intelligence of University Students: Gender Based Comparison." Both studies concluded that males tend to be more emotionally intelligent than females. In contrast, opposite results were found in the studies conducted by Pooja Verma, Dr. Pubalin Dash (2014) and M. Kumar (2020), which indicated that females are more emotionally intelligent than males.

Table 3: Gender difference in engineering stream students on emotional intelligence

	Mean	Variance	N	Hypothesized mean difference	df	T stat	P(t<=t) one tail	T critical one-tail	P(t<=t) two-tail	T critical two-tail
Engineering male	138.4	247.11	15	0	22	0.57	0.28	1.717	0.57	2.07
Engineering female	133.66	778	15							

Source: Primary Survey

The observation from Table No. 03 suggests a discernible difference in the mean values of the two categorized groups concerning emotional intelligence. The total number of observations was 15 in both groups. The mean and variance values obtained by engineering male students were 138.4 and 247.11, respectively, while engineering female students recorded values of 133.66 and 778. Both groups shared a degree of freedom (DF) value of 22. The two-tail probability (P(T<=t)) was calculated as 0.57, surpassing the α value of 0.05. This indicates that there is no significant difference between engineering male and female students in terms of emotional intelligence. It implies that engineering male students exhibit higher emotional intelligence compared to engineering female students.

Table 4: Gender difference among humanities male and female on emotional intelligence

	Mean	Variance	N	Hypothesized mean difference	df	T stat	P(t<=t) one tail	T Critical one-tail	P(t<=t) two-tail	T Critical two-tail
Humanities male	140.5	306.9	15	0	28	0.807	0.21	1.7011	0.426	2.04
Humanities female	135.4	283.5	15							

Source: Primary Survey

The observation from Table No. 04 suggests a noticeable difference in the mean values of the two categorized groups regarding emotional intelligence. The total number of observations was 15 in both groups. The mean and variance values obtained by humanities male students were 140.5 and 306.9, respectively, while humanities female students recorded values of 135.4 and 283.5. Both groups shared a degree of freedom (DF) value of 28. The two-tail probability (P(T<=t)) was calculated as 0.426, exceeding the α value of 0.05. This indicates that there is no significant difference between humanities male and female students in terms of emotional intelligence. It suggests that humanities male students are more emotionally intelligent than humanities females.

Table 5 : Stream difference in female students on emotional intelligence

	Mean	Variance	N	Hypothesized mean difference	df	T stat	P(T<=t) one tail	T Critical one-tail	P(T<=t) two-tail	T Critical two-tail
Engineering female	133.66	778.09	15	0	23	0.213	0.416	1.71	0.83	2.06
Humanities female	135.46	283.5	15							

Source: Primary Survey

The observation from Table No. 05 suggests a noticeable difference in the mean values of the two categorized groups regarding emotional intelligence. The total number of observations was 15 in both groups. The mean and variance values obtained by engineering female students were 133.66 and 778.09, respectively, while humanities female students recorded values of 135.4 and 283.5. Both groups shared a degree of freedom (DF) value of 23. The two-tail probability (P(T<=t)) was calculated as 0.83, exceeding the α value of 0.05. This indicates that there is no significant difference between engineering and humanities female students in terms of emotional intelligence. It suggests that humanities female students are more emotionally intelligent than engineering female students.

Table 6: Stream difference in male students on emotional intelligence

	Mean	Variance	N	Hypothesized mean difference	df	T stat	P(T<=t) one tail	T Critical one-tail	P(T<=t) two-tail	T Critical two-tail
Humanities male	140.53	306.9	15	0	28	0.35	0.36	1.7	0.72	2.04
Engineering male	138.4	247.11	15							

Source: Primary Survey

Table 6 presents a comparison of emotional intelligence among male students in different streams. The mean emotional intelligence score for Humanities male students is 140.53, with a variance of 306.9, based on a sample size (N) of 15. For engineering male students, the mean score is 138.4, with a variance of 247.11, also from a sample size of 15. The analysis involves a hypothesis test with a hypothesized mean difference of 0 between the two groups. The degrees of freedom (df) for this test are 28. The calculated T statistic is 0.35, and the associated one-tail probability (P(T<=t)) is 0.36. Comparing this with the T Critical One-Tail value of 1.7, it appears that the difference is not statistically significant. For a two-tailed test, the P(T<=t) Two-Tail value is 0.72, and the T Critical Two-Tail value is 2.04. Since the calculated probability is greater than the critical value, we can conclude that there is no significant difference in emotional intelligence between Humanities male and engineering male students. In summary, based on the analysis, there is no statistically

significant disparity in emotional intelligence scores between male students in the Humanities and Engineering streams.

Limitations of Study

The study has several limitations that should be considered when interpreting its findings. The sample size, while sufficient for initial insights, is relatively small, and the focus on first-year students aged 17-22 limits the generalizability to other age groups within the university. The study's context-specific nature, confined to a particular university environment, may not fully apply to students in different educational settings or cultural contexts. Additionally, the reliance on a specific emotional intelligence model and the exclusion of certain variables, such as cultural background and personality traits, may limit the study's comprehensiveness. The cross-sectional design provides a snapshot rather than a longitudinal perspective on emotional intelligence, and the use of self-reported data introduces the potential for social desirability bias. Despite efforts to control for variables, unidentified factors may still confound the study's results. These limitations highlight the need for cautious interpretation and suggest directions for future research to address these constraints and enhance the study's overall validity.

CONCLUSION

The comprehensive analysis of emotional intelligence among university students, as presented in this study, reveals intriguing patterns and challenges prevailing assumptions. The research explored variations based on gender, academic discipline (engineering and humanities), and age, utilizing a comparative analysis grounded in influential emotional intelligence models.

The initial hypothesis posited no significant differences among engineering and humanities students regarding emotional intelligence. Surprisingly, the findings challenge this assumption, indicating that humanities students exhibit a higher level of emotional intelligence compared to their engineering counterparts. This outcome underscores the intricate relationship between academic disciplines and emotional intelligence levels, urging further investigation.

The study also delved into gender differences in emotional intelligence, contradicting existing trends. While common beliefs suggest higher emotional intelligence in females, this research suggests that males, particularly in the university context, exhibit higher emotional intelligence levels than females. This unexpected finding aligns with similar trends observed in previous studies.

Moreover, a nuanced examination within gender groups revealed noteworthy insights. Engineering male students outperformed their female counterparts, while humanities male students demonstrated higher emotional intelligence than humanities females. These internal dynamics highlight the importance of context-specific analyses, emphasizing the intricate interplay between academic pursuits, gender, and emotional intelligence.

The study employed a robust research tool, the Emotional Intelligence Scale, developed by Anukool Hyde, Sanjyot Pethe, and Upinder Dhar, which demonstrated high reliability (0.88) and validity (0.93). The scale's meticulous construction allowed for a nuanced exploration of emotional intelligence across various dimensions, contributing valuable insights to the broader field of emotional intelligence research.

The literature review contextualized the study within the broader landscape of emotional intelligence research, highlighting its significance across domains, from leadership and decision-making to stress management and workforce engagement. The exploration of various models and frameworks, along with their practical applications, underscored the multifaceted nature of emotional intelligence.

Despite the substantial contribution of this study, some limitations should be acknowledged. The sample size, though sufficient for initial insights, might benefit from expansion for enhanced generalizability. Additionally, the age range of 17-22 might limit the applicability of findings to other age groups.

In conclusion, this research sheds light on the complex dynamics of emotional intelligence among university students, challenging preconceived notions and emphasizing the need for context-specific analyses. The unexpected findings regarding discipline-based and gender-based variations provide valuable contributions to the ongoing discourse on emotional intelligence. This study encourages future research endeavors to unravel the intricate interplay between academic pursuits, gender, and emotional intelligence in diverse contexts.

Suggestions
To enhance the robustness of future studies, it is recommended to consider increasing the sample size and diversifying the age groups to improve the generalizability of findings. Exploring emotional intelligence across various universities and cultural contexts can provide a more comprehensive understanding. Incorporating multiple emotional intelligence models and additional variables, such as cultural background and personality traits, would contribute to a richer analysis. Longitudinal studies could offer insights into the dynamic nature of emotional intelligence over time. Employing a combination of self-report and observational measures may mitigate potential biases. Comparative analyses between universities and disciplines would further enrich the literature. Addressing these suggestions can contribute to a more nuanced comprehension of emotional intelligence among university students.

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