



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (RJIIF): 5.93
IJPESH 2025; 12(5): 631-635
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<https://www.kheljournal.com>
Received: 23-07-2025
Accepted: 25-08-2025

Praveen Thariyan
Associate Professor, Department
of Physical Education, St
Dominic's College, Kanjirapally,
Parathode, Kottayam, Kerala,
India

Dr. Binu George Varghese
Dean & Director, School of
Physical Education and Sports
Sciences, Mahatma Gandhi
University, Kottayam, Kerala,
India

Corresponding Author:
Praveen Thariyan
Associate Professor, Department
of Physical Education, St
Dominic's College, Kanjirapally,
Parathode, Kottayam, Kerala,
India

Understanding how gender and institution type influence personality traits among university students in Kerala

Praveen Thariyan and Binu George Varghese

DOI: <https://doi.org/10.22271/kheljournal.2025.v12.i5i.4042>

Abstract

This investigation explores the influence of gender and institutional context on personality traits of university students in Kerala, India. Descriptive statistics for the five primary personality traits—conscientiousness, neuroticism, agreeableness, openness to experience, and extroversion—are presented across four universities. Results show significant differences: men score higher on neuroticism, while women score higher on agreeableness, conscientiousness, openness, and extroversion. In all four positive attributes, Mahatma Gandhi University students outperform their counterparts from other universities, indicating institutional variation in the data. These findings highlight the influence of academic settings and gender roles on students' personalities, which may have implications for gender-focused interventions in higher education.

Keywords: Personality traits, gender differences, institutional variations, university students, Big Five personality model

Introduction

Personality dimensions significantly contribute to academic success, social relationships, and mental health (Costa & McCrae, 1992). Research has demonstrated that personality dimensions, according to the Big Five model—Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience—have a pronounced impact on learning styles, career choices, and emotional stability (Poropat, 2009) [8]. While there is a substantial body of work on gender differences in personality, there is a relative dearth of research on how institutional contexts interact with gender to shape personality, particularly outside of the Western context. The unique academic cultures, sociocultural environments, and institutional policies present in Indian colleges and universities can play a pivotal role in students' socialization. The state of Kerala, which has the highest literacy rate and highest human development index of any Indian state, offers a particularly interesting context in studying such interactions. This research examines the impact of gender and institutional status on the personality traits of university students in Kerala. The research is conducted among students pursuing undergraduate studies at affiliated colleges of four large state universities: Mahatma Gandhi University, Kannur University, Calicut University, and the University of Kerala, each with varying academic cultures, local influences, and student populations.

Understanding how gender and institutional contexts interact to shape university students' personality traits, especially in non-Western contexts such as Kerala, remains incomplete. Little is known about how different institutional environments, varying in academic culture, policies, and social norms, shape or modify these gender-based personality patterns, despite previous research documenting gender differences in personality and the influence of cultural factors on these differences. Additionally, a few studies examine this intersection in Kerala's distinct sociocultural context, which combines traditional social structures with progressive educational policies.

By filling this knowledge gap, the study will help to understand how outside influences shape personality development and develop more specialized educational and mental health support plans.

Objectives of the study

This study will examine and measure potential differences in personality traits between men and women, providing a clearer understanding of how gender influences personality. It will also examine how different settings—such as schools, workplaces, or cultural environments—influence how these traits are expressed and perceived, thereby helping clarify the role of external factors in shaping their expression and perception. Beyond analysis, the research will help to understand how these findings can guide more personalized academic support and mental health services, making them more effective.

Methodology

A total of 675 fifth-semester undergraduate students—348 women and 327 men—from the affiliated colleges of four major universities of the state of Kerala participated in the survey. Since the college students were in this phase of their academic careers, the participants' ages ranged from 19 to 23. To ensure balanced representation, sample sizes varied by institution, with each college contributing between 159 and 187 students.

To ensure roughly equal representation from all universities and their affiliated colleges, stratified random sampling was used to select participants. To minimise potential biases and maintain consistent administration conditions, students completed structured questionnaires during their regular class sessions.

Every stage of the study adhered to ethical guidelines, including obtaining informed consent and safeguarding participants' privacy. After gathering data, the responses were analyzed using statistical methods to look at the connections and theories at the core of the study.

The researcher employed an existing survey to measure personality traits, as evaluated within the five-factor model

(NEO-PI-R, Costa & McCrae, 1992). This instrument considers the five main personality traits —neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience — and is a well-known measure. All participants completed the survey using a common rating scale to rate various statements within the study. This enables the researcher to understand the individual's personality in depth. The researcher explained to participants how to perform the test. The questionnaire was completed in a silent classroom to facilitate the most accurate results.

Data Analysis

The study examined personality trait data using basic descriptive statistics—means, standard deviations, and frequency distributions—to outline the essential characteristics of each trait within the participant group. These measures demonstrate how traits cluster among students and reveal distinct patterns of behaviour. The analysis compared personality traits between male and female students to identify the gender-related differences. Also examined the variations across different colleges to understand potential institutional influences. These parallel investigations examined the relationship between personal demographics and educational environments, as well as observed personality characteristics.

Results described within the current psychological literature, particularly studies addressing gender differences in personality and institutional influences on trait development. This framework helped determine whether findings reinforced existing theories or suggested new directions for understanding undergraduate personality profiles. The study sought to address two objectives by integrating theoretical frameworks and quantitative analysis. It also identifies the quantitative variations in characteristics and explores their real-world implications in educational settings and student support initiatives. The techniques were specific and supported by empirical evidence, making them applicable in educational contexts.

Results

Table 1: The summary of main findings

Trait	Gender Difference (F > M)	Top-Performing University	Lowest-Scoring University
Extroversion	Yes (M = 21.29 vs. 20.73)	MGU	Kerala University
Agreeableness	Yes (M = 26.94 vs. 25.88)	MGU	Kerala University
Conscientiousness	Yes (M = 25.10 vs. 24.04)	MGU	Calicut University
Neuroticism	No (Males higher: M = 17.77)	N/A	Calicut University
Openness	Yes (M = 23.76 vs. 23.36)	MGU	Kerala University

Table 2: Descriptive Statistics of Personality Traits across University Students

Gender			Mean	Std. Deviation	N
Extroversion	Female	Mahatma Gandhi University	22.028	6.4082	107
		Kannur University	21.475	6.5796	80
		Calicut University	21.038	6.3494	80
		Kerala University	20.395	6.0429	81
		Total	21.293	6.3541	348
	Male	Mahatma Gandhi University	22.438	5.2213	80
		Kannur University	20.700	6.5437	80
		Calicut University	20.342	6.2571	79
		Kerala University	19.557	6.5352	88
		Total	20.731	6.2348	327
	Total	Mahatma Gandhi University	22.203	5.9180	187
		Kannur University	21.088	6.5525	160
		Calicut University	20.692	6.2934	159

		Kerala University	19.959	6.2994	169
		Total	21.021	6.2982	675
Agreeableness	Female	Mahatma Gandhi University	28.075	4.7339	107
		Kannur University	27.113	5.3320	80
		Calicut University	26.675	5.4744	80
		Kerala University	25.531	5.0870	81
		Total	26.940	5.1952	348
	Male	Mahatma Gandhi University	26.688	5.4392	80
		Kannur University	27.238	4.7501	80
		Calicut University	24.962	6.6976	79
		Kerala University	24.750	5.4102	88
		Total	25.884	5.6870	327
	Total	Mahatma Gandhi University	27.481	5.0804	187
		Kannur University	27.175	5.0339	160
		Calicut University	25.824	6.1537	159
		Kerala University	25.124	5.2567	169
		Total	26.428	5.4606	675
Consciousness	Female	Mahatma Gandhi University	25.813	5.3361	107
		Kannur University	25.088	5.6259	80
		Calicut University	24.500	6.3883	80
		Kerala University	24.753	5.7977	81
		Total	25.098	5.7630	348
	Male	Mahatma Gandhi University	24.600	5.4065	80
		Kannur University	25.288	5.4102	80
		Calicut University	22.139	5.7440	79
		Kerala University	24.102	6.1346	88
		Total	24.040	5.7835	327
	Total	Mahatma Gandhi University	25.294	5.3856	187
		Kannur University	25.188	5.5026	160
		Calicut University	23.327	6.1721	159
		Kerala University	24.414	5.9667	169
		Total	24.585	5.7929	675
Neuroticism	Female	Mahatma Gandhi University	15.748	6.8668	107
		Kannur University	16.200	7.5009	80
		Calicut University	18.100	7.7584	80
		Kerala University	17.148	6.3287	81
		Total	16.718	7.1405	348
	Male	Mahatma Gandhi University	18.238	7.0983	80
		Kannur University	17.400	7.6267	80
		Calicut University	18.481	8.3449	79
		Kerala University	17.057	6.4226	88
		Total	17.774	7.3704	327
	Total	Mahatma Gandhi University	16.813	7.0568	187
		Kannur University	16.800	7.5642	160
		Calicut University	18.289	8.0319	159
		Kerala University	17.101	6.3590	169
		Total	17.230	7.2666	675
Openness to Experience	Female	Mahatma Gandhi University	24.542	5.3470	107
		Kannur University	23.925	4.8071	80
		Calicut University	23.863	4.7274	80
		Kerala University	22.444	5.1454	81
		Total	23.756	5.0781	348
	Male	Mahatma Gandhi University	24.500	5.2843	80
		Kannur University	24.563	5.3150	80
		Calicut University	22.329	4.8983	79
		Kerala University	22.159	5.7693	88
		Total	23.361	5.4366	327
	Total	Mahatma Gandhi University	24.524	5.3060	187
		Kannur University	24.244	5.0616	160
		Calicut University	23.101	4.8590	159
		Kerala University	22.296	5.4648	169
		Total	23.564	5.2546	675

Findings of the study on different traits

1. Extroversion

The analysis of extroversion scores indicates that female students across the four universities differ significantly by gender. Compared to male students ($M = 20.73$, $SD = 6.23$), female students had a slightly higher level of extroversion (M

$= 21.29$, $SD = 6.35$). This discrepancy is consistent with a study that indicates women tend to be more extroverted. Mahatma Gandhi University (MGU) students have the highest mean scores for both genders, with females scoring $M = 22.03$ and males scoring $M = 22.44$. This suggests that MGU students are generally very sociable, as evidenced in the

university's extracurricular and academic life (Mohammadkhani *et al.*, 2018) ^[13]. Kerala University students, on the other hand, scored lower (males: $M = 19.56$; females: $M = 20.39$), indicating a more restrained temperament that can result from different institutional cultures. Cumulatively, the overall mean ($M = 21.02$, $SD = 6.29$) suggests that extroversion is moderately prevalent, with implications that both gender and university context are significant determinants of social expressiveness among students post-exposure (Spinoven *et al.*, 2017).

2. Agreeableness

The agreeableness results indicate a clear gender gap in personality traits. The female students exhibited higher mean scores ($M = 26.94$, $SD = 5.19$) than male students ($M = 25.88$, $SD = 5.69$). This finding aligns with previous research indicating that women tend to be more cooperative and empathetic. Mahatma Gandhi University dominated this personality domain (males: $M = 26.69$; females: $M = 28.08$), suggesting that MGU's supportive and cooperative environment effectively promotes prosocial behaviors (Evans *et al.*, 2016). Conversely, students from Kerala University had the lowest scores in agreeableness. It suggests that the academic environment may not be as conducive to encouraging cooperative involvement (Yusoff *et al.*, 2021) ^[12]. The total sample mean of $M = 26.43$ ($SD = 5.46$) indicates a generally high inclination towards agreeableness in the student body, further supporting the idea that educational environments significantly moderate personality expressions in terms of collaboration and empathy among peers (Lakshmi *et al.*, 2017) ^[5].

3. Conscientiousness

The findings on conscientiousness reassert gender differences, where female students scored significantly higher ($M = 25.10$, $SD = 5.76$) than male students ($M = 24.04$, $SD = 5.78$). This result matches with studies suggesting women possess a stronger inclination towards responsibility and organization than men in academic settings (Jarašiūnaitė *et al.*, 2021) ^[2]. M.G. University showed superior conscientiousness scores (females: $M = 25.81$; males: $M = 24.60$), while males from Calicut University demonstrated lower levels ($M = 22.14$), potentially indicating issues with motivation and personal organization within that university. The overall sample mean ($M = 24.59$, $SD = 5.79$) suggests that conscientiousness is moderately exhibited among students, which matches the study on institutional factors and gender norms that shape conscientious behaviour in academic contexts.

4. Neuroticism

According to Zarei *et al.* (2018) ^[13], neuroticism scores showed a reversal from the preceding attributes, with male students showing higher mean scores ($M = 17.77$, $SD = 7.37$) than female students ($M = 16.72$, $SD = 7.14$). This suggests that male students are more emotionally unstable and more prone to stress. This aligns with the literature, which emphasizes the impact of academic pressures on male students, who often exhibit poorer coping strategies in high-stress environments. Calicut University students exhibited the highest levels of neuroticism (females: $M = 18.10$; males: $M = 18.48$), suggesting that the academic environment may exacerbate stress among its student body (Jeronimus *et al.*, 2016) ^[3]. Additionally, a moderate level of emotional instability is indicated by the total mean score ($M = 17.23$, $SD = 7.27$). It emphasizes the necessity of focused emotional

regulation therapies, especially for male individuals.

5. Openness to Experience

Openness to experience yielded another gender discrepancy, as female students exhibited higher mean scores ($M = 23.76$, $SD = 5.08$) than males ($M = 23.36$, $SD = 5.44$). It reflects an inclination towards creativity and intellectual curiosity among females. MGU students maintained their higher level of performance (male: $M = 24.50$; female: $M = 24.54$). This is a sign of an educational atmosphere that encourages creativity and diverse viewpoints (Morris & Fritz, 2015). Delinquency among Kerala University students was lowest in openness (males: $M = 22.16$; females: $M = 22.44$), perhaps suggesting a less stimulating intellectual environment (Lopez *et al.*, 2024) ^[6]. The global mean score ($M = 23.56$, $SD = 5.25$) also indicates that individuals have a positive attitude towards novelty and the acquisition of knowledge, which promotes both flexibility and creativity (Stacey & Kurunathan, 2015) ^[11].

Discussion

In the analysis, university students showed substantial variation in traits, sex and university. Female students had higher scores than male students on extraversion, agreeableness, conscientiousness, and openness to experience, and males scored higher on neuroticism. Mahatma Gandhi University's high performance suggests that its inviting and caring academic culture could foster good personality development. Conversely, Kerala University students demonstrated relatively lower scores across most traits, reflecting areas for institutional enhancement to facilitate comprehensive development. This aligns with current research, which shows that women are more likely to demonstrate higher prosocial tendencies and extroversion, whereas men are more likely to demonstrate higher Neuroticism, perhaps due to academic stress that can cause difficulties in emotional regulation (Zarei *et al.*, 2018) ^[13]. MGU's consistently high scores across almost all traits indicate an ideal environment for personality development, whereas the University of Kerala's lower scores may reflect a less supportive atmosphere (Muller *et al.*, 2020). Additionally, the higher neuroticism scores among University of Calicut students may indicate increased stress. This emphasizes the necessity of targeted mental health and stress management programs (Jeronimus *et al.*, 2016) ^[3]. These results can inform future efforts to support holistic personality development across various educational contexts by considering all the aforementioned factors.

Conclusion

This study reveals that in Kerala, both gender and institutional context make significant contributions to students' personality development. This study reveals the extraordinary importance of gender and institutional type factors in determining students' personalities at Universities in Kerala. The studies affirm that the gender gap persists. The boys were more neurotic, while the girls were more extraverted, conscientious, agreeable, and open to experience. The studies constantly indicate the gender disparities. The males were found to be more neurotic, while the girls were more outgoing, conscientious, kind, and open to new experiences. These observations reflect the complex interplay among biological, social, and cultural factors. Furthermore, it may be inferred that the conducive, enriched, and supportive learning environment that likely exists in a university, such as at

Mahatma Gandhi University, is more likely to facilitate the personality enhancement process. On the other hand, more unsupportive atmospheres will hinder the development of a more rounded character. Conversely, negative environments can prevent the development of a balanced personality. Through working with such personality tendencies and utilizing them in practical ways, various means can be pursued to develop fully functioning individuals who are capable of experiencing a successful life in a range of social and academic environments.

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