

Examining Gender and Age Differences in Triguna and Big Five Personality Dimensions: A Comparative Study of Young Adults

Ishu Parihar¹; Krishna Dutt²

¹Research Scholar, ²Professor & Head of the Department

^{1,2}Professor & Head of the Department, Department of Clinical Psychology, Era University, Lucknow

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Abstract: This study explores how age and gender shape personality — both through the lens of ancient Indian psychological theory and modern trait psychology. We looked at two frameworks side by side: the Triguna model from Sāṃkhya philosophy, which describes personality as three fundamental qualities (Sattva, Rajas, and Tamas), and the widely used Big Five model, which covers Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness.

We surveyed 434 young adults between the ages of 18 and 30, roughly split between males and females, using the Vedic Personality Inventory and the NEO Five-Factor Inventory. Since the data doesn't follow a normal distribution, Mann–Whitney U is used to compare groups.

The results were telling. Gender made a clear difference — women scored notably higher on Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. Interestingly, though, no significant gender differences showed up in the Triguna dimensions, hinting that the gunas may reflect something deeper in personality that sits beneath the surface-level traits that gender socialization tends to shape. Age, on the other hand, didn't seem to matter much — the two age groups (18–24 and 25–30) looked remarkably similar across both frameworks.

These findings suggest that within young adulthood, personality is more strongly influenced by gender than by the relatively small age gap we studied, and that indigenous and contemporary models of personality can complement each other in meaningful ways.

Keywords: Triguna, Big Five Personality, Gender Differences, Age Differences, Young Adults.

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I. INTRODUCTION

➤ Triguna: The Indian Concept of Personality

Indian psychological thought conceptualizes personality as a dynamic system shaped by enduring psychological dispositions as well as demographic variables such as age and gender. Within indigenous frameworks, Triguna theory emphasizes that personality is responsive to developmental stages, social roles, and experiential contexts, rather than being fixed or static. Despite this emphasis, empirical studies integrating demographic variables with both Triguna and contemporary personality models remain limited.

Triguna theory, derived from the Sāṃkhya philosophical tradition, proposes that psychological

functioning is regulated by the interaction of three fundamental qualities—Sattva, Rajas, and Tamas. Classical Indian texts acknowledge that the dominance of these gunas varies across life stages, suggesting that maturation and role transitions influence personality expression. The Bhagavad Gītā associates the gunas with action tendencies, ethical orientation, and cognitive maturity, thereby implicitly recognizing the developmental sensitivity of personality (Bhagavad Gītā, Chapter 18).

Empirical literature within Indian psychology provides evidence for demographic variations in Triguna composition, indicating the influence of psychosocial and developmental factors. Key findings from existing research highlight that:

- Guna dominance differs across population groups, reflecting contextual and developmental influences (Datar & Murthy, 2012).
- Indian perspectives on personality emphasize contextual embeddedness and developmental fluidity rather than fixed trait structures (Srivastava, 2012).
- Gender-based differences in personality energies have been observed, suggesting sociocultural conditioning and affective socialization effects (Rastogi & Kewalramani, 2010).

Intervention-based studies further demonstrate that the gunas are malleable and responsive to lifestyle practices such as yoga, reinforcing their developmental and modifiable nature (Deshpande, Nagendra, & Nagarathna, 2009). Additionally, applied research integrating Triguna theory with domains such as leadership, conflict resolution, and well-being underscores the contextual sensitivity of personality expression across age and gender groups (Agarwalla, Seshadri, & Krishnan, 2015; Modh, 2014).

Despite these findings, few studies have systematically examined age-based and gender-based differences simultaneously across Triguna dimensions and modern personality frameworks. This limitation highlights the need for integrative research that considers both indigenous and contemporary perspectives.

➤ *Big-Five Personality Factor*

Personality traits represent relatively stable patterns of cognition, emotion, and behavior that influence how individuals perceive and respond to environmental demands. In personality psychology, the Big Five model of personality provides a comprehensive and empirically validated framework for understanding individuals across five broad dimensions: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Owing to its strong psychometric foundation, the model has been widely applied to examine emotional regulation, coping processes, and mental health outcomes across diverse populations.

The five personality dimensions are commonly conceptualized as follows:

- Neuroticism reflects emotional instability, vulnerability to stress, and a tendency toward negative affect such as anxiety and depression.
- Extraversion represents sociability, assertiveness, positive emotionality, and engagement with the external environment.
- Openness to Experience involves intellectual curiosity, imagination, aesthetic sensitivity, and receptivity to novel ideas.
- Agreeableness encompasses empathy, cooperation, trust, and a prosocial interpersonal orientation.
- Conscientiousness refers to self-discipline, organization, persistence, and goal-directed behavior.

Collectively, these traits have been shown to influence psychological adjustment and stress-related outcomes in systematic and predictable ways.

Mental health concerns among undergraduate students have received increasing attention due to academic demands, developmental transitions, and psychosocial stressors. Empirical evidence indicates that personality traits significantly contribute to mental health outcomes in this population. Specifically:

- Neuroticism is consistently associated with psychological distress and poorer mental health.
- Extraversion, Agreeableness, and Conscientiousness are linked to emotional stability and psychological well-being (Zhao et al., 2025).

Coping styles play a central role in explaining how personality traits influence mental health outcomes. Coping refers to the cognitive and behavioral strategies individuals use to manage stress. Research suggests that individuals high in Neuroticism are more likely to rely on emotion-focused or maladaptive coping strategies, whereas those high in Conscientiousness and Extraversion tend to adopt problem-focused and adaptive coping styles (Jafarnejad et al., 2005). These coping strategies may function as mediators between personality traits and psychological well-being.

Recent findings further demonstrate that Big Five traits are closely linked to affective and physiological processes relevant to mental health. Personality traits influence the intensity of positive and negative affect in autobiographical memories, indicating their role in emotional processing (Hoehne, 2025). Additionally, higher levels of Neuroticism have been associated with insomnia and poor sleep quality, both of which are recognized risk factors for psychological distress (Lin, 2024; Souza & Faro, 2024).

Evidence from clinical and non-clinical populations also supports the relevance of the Big Five framework in understanding maladaptive psychological patterns. Personality disorder profiles assessed using the five-factor model reveal distinct configurations associated with emotional dysregulation (Pescic et al., 2018). Network-based analyses further suggest that personality traits function as central components within interconnected mental health systems rather than operating independently (Zhao et al., 2025).

The present study, therefore, examines the impact of age and gender on both Triguna dimensions and the Big Five personality traits, contributing to an integrated understanding of personality from indigenous and contemporary psychological perspectives.

II. METHODOLOGY

➤ *Research Design*

The present investigation adopted a comparative research design to examine differences in Triguna dimensions and Big Five personality factors across age groups and

gender. The study followed a cross-sectional, non-experimental approach, wherein naturally occurring groups were compared without manipulation of variables. Age and gender were examined independently, and no interaction effects were tested.

➤ *Participants*

The sample comprised 434 young adults, including 202 males and 232 females. Participants were categorized into two age groups for comparative analysis:

- 18–24 years (n = 237)
- 25–30 years (n = 197)

All participants were either currently studying or employed at the time of data collection. A non-random purposive sampling technique was employed to ensure that participants met the predefined eligibility criteria.

III. MEASURES

➤ *Triguna Dimensions*

The Vedic Personality Inventory (VPI) developed by Wolf (1999) was used to assess Triguna dimensions. The inventory consists of 56 items measuring Sattva (15 items), Rajas (19 items), and Tamas (22 items). Responses are recorded on a 7-point Likert-type scale ranging from strongly disagree to strongly agree. Higher scores indicate greater dominance of the respective guna. The scale demonstrates excellent internal consistency across all subscales and has been widely used in empirical research grounded in Indian psychological theory.

➤ *Big Five Personality Factors*

The NEO Five-Factor Inventory (NEO-FFI) developed by Costa and McCrae (1992) was employed to assess the five major personality dimensions: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The inventory consists of 60 items rated on a 5-point Likert scale. The scale exhibits strong reliability and validity across cultures and is considered a standard measure for assessing the Big Five personality structure.

➤ *Procedure*

Data were collected using a mixed-mode approach, incorporating both online and offline administration of questionnaires. Participants were briefed about the purpose of the study and provided informed consent prior to participation. Completion of the questionnaires required approximately 15–20 minutes. Confidentiality of responses was ensured, and participants were informed of their right to withdraw from the study at any stage without consequences.

➤ *Statistical Analysis*

Data analysis was conducted using R software. The Shapiro–Wilk test was applied to assess the normality of distributions for all study variables. As the data violated assumptions of normality, non-parametric statistical procedures were employed. Group differences based on gender and age categories were examined using the Mann–Whitney U test.

IV. RESULTS

➤ *Gender Differences in Triguna and Big Five Factors of Personality*

- *Descriptive Analysis*

Table 1 Descriptive Analysis

<i>Male</i> <i>N=202</i>	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Mean	76.71	74.21	70.45	23.78	26.13	27.57	26.79	28.5
Median	78	75	67	25	27	27	27	29
SD	11.70	14.48	17.47	6.37	5.79	4.42	4.66	5.89

<i>Female</i> <i>N= 232</i>	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Mean	77.25	73.46	73.09	25.93	26.87	29.84	29.37	30.85
Median	77	74	70.50	25	26.50	29	29	31
SD	10.61	13.93	17.59	6.54	5.60	4.49	5.44	4.57

Descriptive statistics were computed separately for male (n= 202) and female (n= 232) participants for all Triguna dimensions (Sattva, Rajas, and Tamas) and Big Five personality factors. The data showed adequate variability across both gender groups, allowing for meaningful group comparisons.

• *Test of Normality*

Table 2 Test of Normality

Male (N=202)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W=	0.980	0.976	0.971	0.976	0.956	0.924	0.962	0.970
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Female (N= 232)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W=	0.983	0.977	0.971	0.987	0.979	0.959	0.985	0.986
p-value	0.00	0.00	0.00	0.04	0.00	0.00	0.02	0.02

As the assumption of normality was not met, Mann–Whitney U tests were conducted to examine gender-based differences.

• *Difference between Males and Females*

Table 3 Difference between Males and Females

Variable	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W/t-value	23953	22039	25298	27121	24111	29568	30213	29232
p-value	0.34	0.14	0.07	0.00**	0.69	0.00**	0.00**	0.00**

* - $p < 0.05$
 ** - $p < 0.01$

The analysis shows that females scored significantly higher than males on Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. These differences were statistically significant at conventional levels of significance.

No statistically significant gender differences were observed for the Triguna dimensions, indicating comparable levels of Sattva, Rajas, and Tamas across males and females.

➤ *Age Group Differences in Triguna and Big Five Factors of Personality*

• *Descriptive Analysis*

Table 4 Descriptive Analysis

Age Group (18-24)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Mean	77.08	74.15	72.23	24.46	26.72	29.14	28.1	29.67
Median	78	75	69	25	27	28	28	30
SD	11.02	13.14	14.46	6.21	5.57	4.33	5.16	5.15

Age Group (24-30) (N= 197)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Mean	76.09	72.22	71.42	25.13	26.28	28.76	28.25	29.86
Median	78	74	69	25	27	28	28	30
SD	11.27	14.27	18.84	6.93	5.84	4.80	5.36	5.59

Participants were divided into two age groups: 18–24 years and 25–30 years. Descriptive statistics indicated similar distributions of Triguna and Big Five scores across both age groups.

• *Test of Normality*

Table 5 Test of Normality

Age group (18-24)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W	0.983	0.98	0.969	0.992	0.989	0.949	0.990	0.969
p-value	0.00	0.01	0.00	0.25	0.09	0.00	0.13	0.00

Age group (24-30)	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W	0.983	0.971	0.980	0.990	0.960	0.947	0.983	0.989
p-value	0.02	0.00	0.00	0.20	0.00	0.00	0.02	0.14

The Shapiro–Wilk test indicated normality for Neuroticism and Agreeableness in 18-24 age group and Neuroticism and Conscientiousness for 24-30 age group. Rest of the numbers show deviations from normality for other variables.

• *Difference Between Age Group-1 and Age Group-2*

Table 6 Difference between Age Group-1 and Age Group-2

Variable	Sattva	Rajas	Tamas	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
W/t-value	23872	25182	23964	-0.57	23699	24794	23125	23123
p-value	0.65	0.07	0.31	0.71	0.39	0.13	0.43	0.43

* - $p < 0.05$
 ** - $p < 0.01$

Mann–Whitney U tests and t-test were conducted to examine age-based differences across Triguna dimensions and Big Five personality factors. The results indicated no statistically significant differences between the two age groups on any of the Triguna components or Big Five dimensions.

V. DISCUSSION

The present study examined age and gender differences in Triguna dimensions and Big Five personality factors, adopting an integrative perspective that combines indigenous Indian psychological theory with contemporary trait-based models. The findings indicate that gender differences were more pronounced than age-related differences in personality expression among young adults, suggesting that sociocultural and psychological factors linked to gender play a more salient role during this developmental period.

The observation that females scored significantly higher on Neuroticism is consistent with well-established findings in personality psychology, which document greater emotional sensitivity and stress reactivity among women. From a Triguna-based interpretation, heightened Neuroticism does not necessarily reflect maladaptive instability but may indicate greater emotional awareness and responsiveness, particularly when it is not accompanied by elevated Tamas.

Prior research has emphasized that emotional sensitivity can coexist with psychological well-being when supported by adaptive regulatory mechanisms (Khanna et al., 2013).

In addition to Neuroticism, females demonstrated significantly higher levels of Openness to Experience, Agreeableness, and Conscientiousness, reflecting stronger cognitive flexibility, interpersonal sensitivity, and self-regulatory capacity. These traits closely correspond to the psychological attributes traditionally associated with Sattva, such as clarity, balance, ethical orientation, and prosocial behavior. Although no direct gender differences emerged on measured Sattva scores, the convergence of adaptive Big Five traits among females suggests a functional manifestation of sattvic qualities at the level of observable personality traits. This interpretation is supported by earlier work highlighting the role of Sattva in promoting psychological well-being and adaptive functioning (Khanna et al., 2013).

The higher Agreeableness observed among females aligns with indigenous and contemporary perspectives that emphasize nurturance, empathy, and relational orientation, qualities often reinforced through gender-role socialization. Betal (2015) noted that sattvic tendencies are reflected in interpersonal harmony, moral sensitivity, and cooperative behavior, which parallel high Agreeableness within the Big Five framework. Similarly, elevated Conscientiousness

among females may reflect stronger behavioral regulation and goal-directedness, corresponding to the self-discipline and balance emphasized in sattvic functioning. These findings are consistent with recent evidence demonstrating the positive role of Triguna-based personality characteristics in psychological adjustment, particularly among women (Kumar & Yadav, 2024).

➤ *Absence of Gender Differences in Triguna Dimensions*

The absence of significant gender differences in Triguna dimensions suggests that guna composition represents deeper psychological energies that may not be sharply differentiated by gender alone. This finding supports the conceptualization of Triguna as a foundational personality system, operating beneath surface-level trait expressions. While gender differences were evident in Big Five traits, the relative stability of Triguna dimensions indicates that sociocultural influences may shape how personality energies are expressed, rather than altering the underlying guna structure itself. Betal (2015) similarly emphasized that Trigunas function as core organizing principles of personality, with contextual factors influencing their behavioral manifestation.

➤ *Age Differences and Stability in Young Adulthood*

The absence of significant age-related differences across both Triguna and Big Five dimensions suggests relative stability of personality characteristics within young adulthood. From an Indian psychological perspective, this stability may indicate that major shifts in guna dominance occur across broader life transitions rather than within narrow age ranges. Khanna et al. (2013) observed that well-being-related aspects of Triguna show greater variation across lifestyle and experiential changes than across short developmental intervals. This interpretation is also consistent with trait psychology, which posits that core personality structures tend to stabilize by early adulthood, with minimal variation thereafter.

VI. LIMITATIONS AND FUTURE DIRECTIONS

The study is limited by its reliance on self-report measures and its cross-sectional design, which restricts causal interpretation. Future research may explore longitudinal changes in Triguna and Big Five dimensions across broader age ranges and examine the role of sociocultural variables in shaping gender-based personality expression.

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