

## **GENDER DIFFERENCES IN PERSONALITY TRAITS AMONG CAMPUS-PLACED PROFESSIONAL STUDENTS IN MADHYA PRADESH: AN EMPIRICAL STUDY USING 16PF**

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### **ABSTRACT**

Personality characteristics significantly influence professional conduct, adaptability in careers, and effectiveness within organizational settings. This study investigates gender-based variations in personality traits among professionally qualified students who have secured campus placements in Madhya Pradesh. The Sixteen Personality Factor Questionnaire (16PF) is employed as a standardized psychological instrument to assess these traits empirically. The primary objective of the research is to explore differences between male and female students across major personality dimensions that impact employability and workplace performance.

The study is based on data collected from a diverse and representative group of campus-placed students enrolled in management, engineering, and other professional programs. Appropriate statistical methods were used to examine and interpret variations across personality factors. The results indicate significant gender-related differences in dimensions such as emotional regulation, assertiveness, sensitivity, and independence, alongside certain traits where similarities were observed.

The findings offer valuable insights for recruiters, university placement cells, and educational institutions in developing inclusive and gender-responsive training, guidance, and career development programs. By presenting empirical evidence from a regional perspective, the study enhances existing employability literature and emphasizes the relevance of integrating psychological assessment tools into campus recruitment and placement practices.

**Keywords:** Gender-based differences, personality characteristics, 16PF, campus recruitment, professional education, Madhya Pradesh, employability, psychological measurement, empirical analysis.

### **INTRODUCTION**

Personality has long been recognized as a fundamental construct in understanding individual differences in behavior, cognition, and performance across diverse life domains, including education and work. Gordon Allport's trait theory laid the conceptual foundation by proposing that personality is composed of relatively stable traits or dispositions that guide an individual's consistent patterns of behavior. Building upon this framework, Raymond B. Cattell advanced personality research by adopting a scientific and empirical approach to trait identification, emphasizing measurable and universal dimensions of personality. Through systematic factor-analytic techniques applied to language-based descriptors of human behavior, Cattell sought to identify core personality traits that could reliably explain and predict human behavior across varied situations.

Cattell's pioneering work culminated in the development of the **Sixteen Personality Factor (16PF) Questionnaire** in 1949, which remains one of the most comprehensive and

psychometrically validated personality assessment tools. The 16PF conceptualizes personality in terms of sixteen primary factors and five global dimensions, offering a structured and objective assessment of individual personality profiles. Cattell defined personality as “that which permits a prediction of what a person will do in a given situation,” underscoring the predictive utility of personality traits in real-life contexts. Unlike typological approaches that emphasize pathological syndromes, Cattell’s trait-based model captures both adaptive and maladaptive dimensions of personality, thereby enabling a holistic understanding of human functioning.

Over the decades, the 16PF has found extensive application in clinical psychology, counseling, education, and organizational settings. Clinically, it has been employed for diagnosis, prognosis, therapy planning, and assessment of emotional adjustment, anxiety levels, interpersonal relations, coping styles, and moral–ethical orientations. Beyond clinical contexts, the instrument has demonstrated significant relevance in vocational guidance, career counseling, and personnel selection by identifying personality traits associated with job suitability, performance, adaptability, and long-term success. The breadth of information derived from the 16PF—including emotional stability, social boldness, conscientiousness, reasoning ability, and self-confidence—makes it particularly valuable in understanding individuals’ readiness to meet situational demands and role expectations.

In the contemporary Indian higher education landscape, **campus recruitment** has emerged as a critical transition point for students enrolled in professional programs such as engineering, management, pharmacy, and allied disciplines. While academic achievement and technical competencies are central to employability, recruiters increasingly emphasize personality-related attributes such as communication skills, emotional maturity, adaptability, teamwork, and ethical orientation. However, empirical research examining the relationship between standardized personality traits and campus selection outcomes remains limited, particularly within the regional context of **Madhya Pradesh**. Against this backdrop, the present study seeks to examine the co-relational relationship between the 16PF personality factors and campus selection outcomes among students of professional programs in Madhya Pradesh. By systematically analyzing personality dimensions in relation to selection status, this research aims to contribute to evidence-based placement practices, student development initiatives, and career guidance interventions within higher education institutions.

### **Review of Related Literature**

In view of the extensive utility and widespread acceptance of the Sixteen Personality Factor (16PF) Questionnaire, numerous empirical studies have been conducted to examine its effectiveness in assessing normal personality traits, as well as its application as a clinical instrument for the diagnosis of psychiatric disorders. Additionally, the 16PF has been widely utilized by mental health professionals for purposes of prognosis, therapeutic planning, and intervention design. Owing to its robust psychometric properties and multidimensional framework, the instrument has been applied across diverse populations and settings. A review of select empirical studies relevant to the present research is presented below.

**Huiling Fan and Zhiyuan Xu (2022)** examined the personality traits of children from economically disadvantaged families from a psychological education perspective. Using the 16PF framework, the study analyzed standard scores of personality traits and employed cluster analysis to identify differences across samples. The findings highlighted the influence of socio-economic factors on children’s psychological development and provided quantitative insights to inform targeted educational and social interventions.

**Xicheng Wen, Yuhui Zhao, Yucheng T. Yang, Shiwei Wang & Xinyu Cao (2021)** explored differences in personality traits among students from agriculture-related and non-agriculture-related majors in two Chinese universities using the 16PF and NEO-FFI instruments. While no significant personality changes were observed during the initial year of study, notable differences emerged by the senior year, particularly in communication and social expression. The study concluded that academic discipline, training methods, curriculum structure, and societal perceptions collectively influence the development of students' personality traits.

**Dr. Anju Shukla, Prof. Brijesh Singh, Prof. Namita P. Konnur, Namita P. Konnur, Dr Rakhi Gupta, Dr Divya G Chowdhry, Dr. Mitali Palit (2020)** examined the relationship between personality factors and creativity among management students in the National Capital Region, Delhi. Using the 16PF to assess personality and the Torrance Tests of Creative Thinking (TTCT) to measure creativity, the study found significant associations between personality traits and creative potential. The findings highlight the relevance of comprehensive personality assessment in identifying and developing creativity among future management professionals.

**Dr. Goutam Maiti (2020)** compared the personality traits of government and non-government primary teacher educators in West Bengal using the 16PF. Based on a sample of 200 educators and t-test analysis of sten scores, the study found no significant differences in personality traits across gender or institutional type, indicating uniformity in 16PF profiles among primary teacher educators.

**Marcus Bravidor, Thomas R. Loy, Jan Krüger, Christina Scharf (2019)** investigated the relationship between personality traits and career aspirations among German business students in accounting, taxation, and finance. Using the Big Five Inventory on a sample of 428 students, the study found significant personality differences across specialization preferences, with students inclined toward financial and tax accounting exhibiting higher conscientiousness and lower openness and neuroticism. The findings underscore the role of personality traits in shaping academic specialization and early career choices.

## OBJECTIVES

To examine the personality traits of students enrolled in professional programs in Madhya Pradesh using the 16 Personality Factors (16 PF) questionnaire.

## METHODOLOGY

The study was conducted on a sample of 500 young adults comprising both male and female participants, selected purposively to assess personality traits. An idiographic approach was adopted, emphasizing an in-depth and comprehensive assessment of each individual's unique personality characteristics. To fulfill the objectives of the study, the Sixteen Personality Factor (16PF) Questionnaire was administered.

### Description of the 16PF

The Sixteen Personality Factor Questionnaire, originally developed by Raymond B. Cattell in 1949, is a standardized self-report, multiple-choice personality assessment tool grounded in extensive factor-analytic research. The instrument identifies sixteen primary personality traits that collectively provide a comprehensive profile of an individual's personality. The 16PF is suitable for administration to both males and females aged 16 years and above. Although the questionnaire consists of six forms, only Form D was used for the present study, which comprises 105 items measuring the sixteen primary personality factors.

Factor	Low Sten Score Description (1-3)	High Sten Score Description (8-10)
A	Reserved	Outgoing
B	Less intelligent	More intelligent
C	Emotionally less Stable	Emotionally Stable
E	Humble	Assertive
F	Sober	Enthusiastic
G	Expedient	Conscientious
H	Shy	Venturesome
I	Tough minded	Tender minded
L	Trusting	Suspicious
M	Practical	Imaginative
N	Forthright	Shrewd
O	Self-assured	Apprehensive
Q1	Conservative	Liberal
Q2	Group oriented	Self sufficient
Q3	Undisciplined self-conflict	Following self-image
Q4	Relaxed	Tense

### Procedure

The Sixteen Personality Factor (16PF) Questionnaire was administered to the students following standardized instructions to ensure clarity and consistency. Upon completion, the responses were scored using the prescribed scoring keys. The collected data were systematically tabulated and analyzed using descriptive and inferential statistics, including mean, standard deviation (S.D.), and t-ratio, to examine the personality profiles of the participants.

### Result and Discussion

S. No.	16 PF	Gender	N	Mean	SD	t-value	p-value
1	<b>Factor A</b> (Reserved v/s Outgoing)	Male	222	5.9595	2.47214	0.411	0.681>0.005
		Female	278	6.0540	2.61914		
2	<b>Factor B</b> (Less intelligent v/s More intelligent)	Male	222	5.1982	2.90987	1.358	0.175>0.005
		Female	278	5.5540	2.91064		
3	<b>Factor C</b> (Emotionally less Stable v/s Emotionally Stable)	Male	222	5.4369	1.73416	1.466	0.143>0.005
		Female	278	5.6511	1.52850		
4	<b>Factor E</b> (Humble v/s Assertive)	Male	222	6.3559	1.67073	2.178	0.030<0.005
		Female	278	6.6871	1.71190		
5	<b>Factor F</b> (Sober v/s Enthusiastic)	Male	222	5.5946	1.55373	1.495	0.136>0.005
		Female	278	5.3957	1.41482		

6	<b>Factor G</b> (Expedient v/s Conscientious)	Male	222	5.7658	1.41712	0.571	0.568>0.005
		Female	278	5.8417	1.52599		
7	<b>Factor H</b> (Shy v/s Venturesome)	Male	222	6.4369	1.65677	0.890	0.374>0.005
		Female	278	6.5755	1.78634		
8	<b>Factor I</b> (Tough minded v/s Tender minded)	Male	222	4.9910	1.46757	0.569	0.570>0.005
		Female	278	4.9137	1.54351		
9	<b>Factor L</b> (Trusting v/s Suspicious)	Male	222	6.6532	1.79024	0.124	0.901>0.005
		Female	278	6.6331	1.79306		
10	<b>Factor M</b> (Practical v/s Imaginative)	Male	222	5.6126	1.58426	1.264	0.207>0.005
		Female	278	5.4353	1.53930		
11	<b>Factor N</b> (Forthright v/s Shrewd)	Male	222	6.6532	1.78771	0.387	0.699>0.005
		Female	278	6.7158	1.80708		
12	<b>Factor O</b> (Self assured v/s Apprehensive)	Male	222	5.2297	1.21693	1.790	0.074>0.005
		Female	278	5.0180	1.38703		
13	<b>Factor Q<sub>1</sub></b> (Conservative v/s Liberal)	Male	222	6.3243	1.94337	1.679	0.094>0.005
		Female	278	6.5935	1.64005		
14	<b>Factor Q<sub>2</sub></b> (Group oriented v/s Self sufficient)	Male	222	6.7297	1.31779	1.388	0.166>0.005
		Female	278	6.8921	1.28412		
15	<b>Factor Q<sub>3</sub></b> (Undisciplined self-conflict v/s Following self image)	Male	222	5.5090	2.26670	0.742	0.458>0.005
		Female	278	5.6547	2.10967		
16	<b>Factor Q<sub>4</sub></b> (Relaxed v/s Tense)	Male	222	5.9189	1.90087	1.713	0.087>0.005
		Female	278	5.6115	2.06575		

The results of Factor A (Reserved vs. Outgoing) show that male ( $M = 5.96$ ) and female students ( $M = 6.05$ ) scored at the same average level, and the p-value ( $0.681 > 0.05$ ) indicates no significant difference between the two groups. This finding suggests that male and female students enrolled in professional programs exhibit comparable levels of sociability, with neither group leaning strongly toward being reserved or outgoing.

For factor B (less intelligent vs. more intelligent), male ( $M = 5.20$ ) and female students ( $M = 5.55$ ) show similar mean scores, and the p-value ( $0.175 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students have

comparable levels of cognitive ability, without any group showing a clearly higher or lower IQ level based on this measurement.

For factor C (emotionally less stable vs. emotionally stable), male students ( $M = 5.44$ ) and female students ( $M = 5.65$ ) scored similarly, and the p-value ( $0.143 > 0.05$ ) indicates no significant difference between the two groups. This finding suggests that both male and female students show comparable levels of emotional stability, and neither group shows stronger or weaker emotional control.

For factor E (humble vs. confident), female students ( $M = 6.69$ ) scored higher than male students ( $M = 6.36$ ), and the p-value ( $0.030 < 0.05$ ) indicates a significant difference between the groups. This finding suggests that female students in professional programs are significantly more spoken than their male counterparts.

For Factor F (Sober vs. Enthusiastic), male students ( $M = 5.59$ ) and female students ( $M = 5.40$ ) show similar average scores, and the p-value ( $0.136 > 0.05$ ) indicates no significant difference between the groups. This finding suggests that both male and female students show comparable levels of enthusiasm and emotional expression, with neither group leaning heavily toward being quiet or overly enthusiastic.

For factor G (purposeful vs. conscientious), male ( $M = 5.77$ ) and female students ( $M = 5.84$ ) show almost equal mean scores, and the p-value ( $0.568 > 0.05$ ) shows no significant difference between the groups. This indicates that both male and female students show similar levels of conscientiousness and responsibility, and neither group shows a stronger tendency toward appropriateness or conscientious behavior. Kajonius & Johnson (2019)<sup>1</sup> found that although women sometimes report slightly higher conscientiousness scores, the differences are usually too small to be practically meaningful in educational and workplace contexts.

For Factor H (shy vs. brave), male students ( $M = 6.44$ ) and female students ( $M = 6.58$ ) scored similarly, and the p-value ( $0.374 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students show comparable levels of self-confidence and courage, and neither group is clearly shy or excessively brave.

For Factor I (Tough Minded vs. Soft Minded), male students ( $M = 4.99$ ) and female students ( $M = 4.91$ ) show almost equal mean scores, and the p-value ( $0.570 > 0.05$ ) confirms no significant difference between the two groups. This indicates that male and female students have similar levels of sensitivity and emotional reactivity, and neither group shows a stronger tendency to be tough or soft.

For factor L (reliable vs. suspicious), the mean score for male ( $M = 6.65$ ) and female students ( $M = 6.63$ ) is almost the same, and the p-value ( $0.901 > 0.05$ ) shows no significant difference between the groups. This indicates that both male and female students show similar levels of trust and suspicion, and neither group shows a stronger tendency to trust or be suspicious.

For Factor M (Practical vs. Imaginative), male students ( $M = 5.61$ ) and female students ( $M = 5.44$ ) show comparable mean scores, and the p-value ( $0.207 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students show similar levels of practicality and imagination, with neither group showing a different preference for either trait.

For Factor N (Forthright vs. Shroud), the mean score for male ( $M = 6.65$ ) and female students ( $M = 6.72$ ) is almost the same, and the p-value ( $0.699 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students show similar levels of clarity and strategic thinking, with neither group leaning heavily towards being more articulate or more perceptive.

For factor O (confident vs. worried), male students ( $M = 5.23$ ) and female students ( $M = 5.02$ ) show similar mean scores, and the p-value ( $0.074 > 0.05$ ) indicates no significant difference between the two groups. This suggests that while both male and female students show comparable levels of self-confidence and fear, neither group shows a significantly stronger tendency towards self-confidence or anxiety..

For factor Q1 (conservative vs. liberal), male ( $M = 6.32$ ) and female students ( $M = 6.59$ ) show similar mean scores, and the p-value ( $0.094 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students show comparable tendencies in their openness to new ideas, without any group being clearly more conservative or more liberal.

For Factor Q2 (group-oriented vs. self-reliant), male students ( $M = 6.73$ ) and female students ( $M = 6.89$ ) show similar mean scores, and the p-value ( $0.166 > 0.05$ ) confirms no significant difference between the groups. This indicates that both male and female students show comparable preferences for group participation and independence, and neither group shows a strong tendency to be more group-oriented or more self-reliant.

For Factor Q3 (Undisciplined self-struggle versus the pursuit of self-image), male ( $M = 5.51$ ) and female students ( $M = 5.65$ ) show similar average scores, and the p-value ( $0.458 > 0.05$ ) indicates no significant difference between the groups. This suggests that while both male and female students show comparable levels of self-control, discipline and adherence to self-image, neither group shows a stronger tendency towards or away from disciplined behaviour.

For Factor Q4 (Relaxed vs. Tense), male students ( $M = 5.92$ ) and female students ( $M = 5.61$ ) have comparable mean scores, and the p-value ( $0.087 > 0.05$ ) indicates no significant difference between the groups. This suggests that both male and female students experience similar levels of stress or calm, and neither group shows a clearly more relaxed or more stressed state of mind.

## CONCLUSION

The present study concludes that out of the sixteen personality dimensions measured through the 16PF questionnaire, only Factor E (Humble vs. Assertive) shows a statistically significant gender difference among students enrolled in professional programs in Madhya Pradesh. This result indicates that male and female students differ mainly in aspects related to assertiveness, dominance, and interpersonal influence, while they remain largely similar across the other personality traits. The lack of significant gender differences in the remaining fifteen factors suggests a broadly comparable personality structure between male and female professional students, likely shaped by shared educational settings, academic requirements, and socio-cultural experiences. Overall, the findings imply that gender-related differences in personality are limited and domain-specific rather than pervasive, emphasizing the need to prioritize individual personality characteristics over gender-based assumptions in academic contexts, career counseling, and campus placement processes.

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