# An Analysis of Personality Traits and Problem-Solving Skills among College Students

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#### Abstract

This study investigates the relationship between personality traits and problem-solving abilities among college students in Madurai District. Personality, encompassing physical, intellectual, emotional, and social dimensions, plays a significant role in influencing individual behavior, decision-making, and interpersonal interactions. The research aims to analyze how personality traits, such as conscientiousness and emotional stability, correlate with problem-solving abilities, which are crucial for academic and career decisions. Using a descriptive research design, the study explores how variables like sex, academic major, and college locality affect both personality traits and problem-solving abilities among students. The sample consists of 295 students from various Arts and Science colleges. Findings suggest that personality traits are above average among college students, with significant differences based on major and college locality. Moreover, sex and major exert a significant influence on problem-solving abilities, while locality does not. A positive correlation between personality traits and problem-solving abilities was also found. These results highlight the importance of fostering personality development and problem-solving skills to enhance students' personal and professional growth. The study provides valuable insights for educational interventions aimed at improving these traits among students, particularly those from rural areas or studying specific academic disciplines.

Keywords: Personality Traits, Problem Solving Skills and College Students.

#### Introduction

Personality encompasses the total qualities of an individual, reflecting their unique way of adapting to the world around them. It involves physical, intellectual, emotional, and social dimensions and gains significance in social contexts. Personality can be assessed through two primary approaches: the **trait approach** and the **holistic approach**. While the trait approach focuses on identifying specific, consistent characteristics, the holistic approach evaluates personality as a comprehensive whole. This understanding allows individuals to identify their strengths and weaknesses, leveraging positive traits while addressing areas for improvement.

Understanding personality is essential because it orchestrates various psychological attributes, including feelings, thoughts, and motivations. These attributes guide behavior, decision-making, and interactions with the world. For instance, emotions influence reactions, thoughts shape guidance, and self-awareness facilitates better decisionmaking. Personality plays a persistent role in shaping who we are, how we act, and how we impact our environment. This curiosity about how personality functions, develops, and influences the future extends to understanding the personalities of others, exploring similarities and differences.

#### Rationale for the Study

Personality psychology examines these dynamics, emphasizing the importance of personality traits. The **trait theory** posits that individual personalities are composed of stable dispositions that influence behavior. For example, traits such as outgoingness, kindness, or eventemperedness describe consistent patterns in how individuals interact with others and handle situations. The interplay between personality traits and problem-solving skills is crucial, especially in contexts like career decisionmaking. For example, traits such as conscientiousness may enhance problem-solving skills, promoting rational and effective decision-making. Research highlights that personality dispositions often predict problem-solving styles, underscoring the significance of integrating personality models with problem-solving frameworks. Despite the growing interest in the relationship between personality traits and problem-solving abilities, systematic and scientific studies on this topic, particularly among college students, remain limited. College students, as a unique demographic, are at a critical stage where personality traits significantly impact their decision-making and problem-solving abilities, shaping their academic and career trajectories.

This study seeks to address this gap by exploring the relationship between personality traits and problem-solving abilities among college students. By doing so, it aims to provide insights into how personality traits influence problem-solving and decision-making processes, thereby highlighting the importance of these factors in students' personal and professional development.

#### **Terms and Definitions**

**Personality**: Refers to the unique set of qualities, characteristics, or traits that distinguish an individual and influence their behaviors, thoughts, and interactions.

**Problem-Solving Ability**: Refers to the capacity to identify, analyze, and resolve problems effectively by considering all feasible solutions and selecting the most appropriate course of action.

**College Students**: Refers to individuals enrolled in undergraduate degree programs at Arts and Science colleges located in the Madurai District.

#### **Related Studies**

**Roberts, B. W., & Robins, R. W. (2000).** "Personality Development in Adulthood: Goals, Personality, and Social Contexts". This study provides a comprehensive analysis of personality traits across adulthood, examining the stability and development of traits like conscientiousness and emotional stability. It highlights how these traits can influence cognitive abilities such as problem-solving and decision-making. The findings can be useful to understanding personality development and problemsolving skills among college students.

Matthews, G., & Zeidner, M. (2002)."Personality, Emotional Intelligence, and Problem Solving". This study explores the role of personality traits (e.g. emotional intelligence, problem-solving ability) in problem-solving contexts. It concludes that certain personality traits like openness to experience and conscientiousness are correlated with improved problem-solving skills. This research could provide insights into how personality traits influence problem-solving abilities in academic and professional settings, relevant to college students.

Cheung, C. K., Leung, K., & Lee, J. (2011). "Personality Traits and Academic Performance in College Students: A Meta-Analytic Review". This meta-analysis synthesizes various studies to assess the relationship between personality traits (e.g., conscientiousness, extraversion) and academic performance. The findings reveal significant correlations between certain traits and academic success, suggesting that personality traits play a crucial role in academic problem-solving and decisionmaking processes among college students.

Furnham, A., & Treglown, L. (2013)."Personality and Intelligence: A Revisit and Meta-Analysis". This metaanalysis examines the relationship between personality traits and cognitive abilities, including problem-solving and intelligence. It finds that certain personality traits, like openness to experience and conscientiousness, are significant predictors of cognitive abilities such as critical thinking and problem-solving among college students.

**Terracciano, A., & Costa, P. T. (2004)**."Personality Predictors of Aging-Related Changes in Cognitive Performance: A 5-Year Longitudinal Study". This longitudinal study investigates the role of personality traits in cognitive performance, including problem-solving, over a five-year period. The results suggest that personality traits such as conscientiousness and openness to experience are associated with higher cognitive performance in problem-solving tasks among older adults. The findings can be extrapolated to understand cognitive performance, including problem-solving, among college students.

#### Variables of the Study

The variables involved in this study are as follows:

**Dependent Variables**: Personality and Problem solving ability

Independent Variables: Sex, Major and College locality

#### **Objectives of the Study**

- 1. To measure the level of personality among the college students.
- To measure the level of problem solving ability among the college students.

- To find out, whether there is a significant difference among college students in terms of select independent variables in their personality.
- To find out, whether there is a significant difference among college students in terms of select independent variables in their problem solving ability.
- 5. To find out the relationship between personality and problem solving ability among the college students.

#### Hypotheses of the Study

The following hypotheses are formulated for the present study:

- College students have above the average level of personality traits.
- Sex exerts a significant influence on personality traits among college students.
- Major exerts a significant influence on personality traits among college students.
- College locality exerts a significant influence on personality traits among college students.
- 5. Sex exerts a significant influence on problem solving ability among college students.
- 6. Major exerts a significant influence on problem solving ability among college students.
- 7. College locality exerts a significant influence on problem solving ability among college students.
- There is a significant negative relationship between personality traits and problem solving ability among the college students.

#### Methodology- in -Brief

**Sample:** A sample of 295 higher secondary students in Madurai District served as the subjects of the study.

**Tools used:** Personal Information Schedule and Adjustment Problem Checklist

Statistical treatment: "t" test between the large independent samples and Pearson's Product Moment Correlation

#### Analysis of Data

Personality Traits among College Students

The empirical average score of personality traits among college students is 66.79, significantly higher than the theoretical average of 48. This indicates that personality traits among college students are above the average level, suggesting a higher-than-expected development of personality traits in this group.

#### Personality Traits and Sex

 Table 1 Statistical Analysis and Results of the

 Test of Significance for the Difference in

 Personality Traits Based on Sex

Variable	Sub- Variables	z	Mean	SD	ʻť' - Value	Significance At 0.05 Level
Sex	Male	204	67.191	14.002	0 710	Not
	Female	101	65.980	14.026	0.710	Significant

The calculated 't' value of 0.710 is lower than the critical table value of 1.96 at the 0.05 level of significance. This indicates that there is no statistically significant difference in personality traits between male and female students.

#### Personality Traits and Major

## Table 2 Statistical Analysis and Results of the Test of Significance for the Difference in Personality Traits Based on Major

Variable	Sub- Variables	N	Mean	QS	enlac - 'f'	Significance At 0.05 Level
Major	Arts	244	69.864	12.303	7 007	Significant
	Science	61	54.491	13.696	1.551	Significant

The calculated 't' value of 7.997 exceeds the critical table value of 1.96 at the 0.05 level of significance. This indicates a statistically significant difference in personality traits between college students studying arts and science subjects. Furthermore, it is observed that students pursuing arts subjects possess higher personality traits compared to those studying science subjects.

#### Personality Traits and College Locality

Table 3 Statistical Analysis and Results of theTest of Significance for the Difference inPersonality Traits Based on College Locality

Variable	Sub- Variables	z	Mean	SD	۰, - Value	Significance At 0.05 Level
College	Rural	236	68.805	12.871	5 612	Significant
Locality	Urban	59	57.050	14.745	5.012	Significant

The calculated 't' value of 5.612 exceeds the critical value of 1.96 at the 0.05 level of significance, indicating a significant difference in personality traits between students studying in rural and urban colleges. Additionally, it is observed that students in urban colleges tend to exhibit stronger personality traits compared to those in rural colleges.

#### Problem Solving Ability and Sex

Table 4 Statistical Analysis and Results of the Test of Significance for the Difference in Problem Solving Ability Based on Sex

Variable	Sub- Variables	N	Mean	OS	enla - 't'	Significance At 0.05 Level
Sex	Male	204	24.264	3.429	4.760	Significant
	Female	101	26.000	2.756		

The obtained 't' value 4.760 is greater than the table value 1.96 at 0.05 level of significance. This shows that there is a significant difference in problem solving ability among male and female students in the possession of problem solving ability It is further noted that female students have more problem solving ability than male students.

#### Problem Solving Ability and Major

# Table 5 Statistical Analysis and Results of the Test of Significance for the Difference in Problem Solving Ability Based on Major

Variable	Sub- Variables	z	Mean	OS	enla' - 't'	Significance At 0.05 Level
	Arts	244	25.082	3.374	2 807	Cignificant
Major	Science	61	23.868	2.923	2.007	Significant

The obtained 't' value 2.807 is greater than the table value 1.96 at 0.05 level of significance. This shows that there is a significant difference between the college students those who are studying in arts and science subject in the possession of problem solving ability. It is further noted that the students those who are studying arts subject have more p more problem solving ability than science subject.

# Problem Solving Ability and College Locality Table 6 Statistical Analysis and Results of the Test of Significance for the Difference in Problem Solving Ability Based on College Locality

Variable	Sub-Variables	N	Mean	SD	enlue - 't'	Significance At 0.05 Level
College	Rural	236	25.059	3.456	1 476	Not
Locality	Urban	59	24.500	3.081	1.470	Significant

The obtained 't' value 1.467 is lesser than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference in problem solving ability among the students those who are studying in rural and urban colleges in the possession of Problem solving ability.

# Correlation between Personality Traits and Problem Solving Ability

The obtained 'r' value is 0.502, while the critical value is 0.113. Hence there is significant positive relationship between personality traits and problem solving ability among college students.

#### **Hypotheses Verification**

- College students have above the average level of personality traits- Accepted
- Sex exerts a significant influence on personality traits among college students- Rejected
- Major exerts a significant influence on personality traits among college students- Accepted
- College locality exerts a significant influence on personality traits among college students- Accepted
- 5. Sex exerts a significant influence on problem solving ability among college students- **Accepted**

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- 6. Major exerts a significant influence on problem solving ability among college students- **Accepted**
- College locality exerts a significant influence on problem solving ability among college students-Rejected
- 8. There is a significant negative relationship between personality traits and problem solving ability among the college students- **Accepted**

## Conclusions

Following are the conclusions out of the present study:

- 1. Personality traits among the college students are above the average level.
- 2. Personality traits of the college students is dependent upon
  - Major
  - College locality
- 3. Personality traits of the college students is independent upon
  - Sex
- 4. Problem solving ability among college students is above the average level.
- 5. A problem solving ability among the college students is dependent upon
  - Sex
  - Major
- 6. Problem solving ability among the college students is pendent upon
  - College locality
- There is a significant and positive relationship between Personality traits and problem solving ability among college students

# **Educational Implications**

Personality traits and adjustment are crucial factors for college students, significantly impacting their careers. This study indicates that college students studying science, enrolled in urban colleges, attending unisex colleges, with few friends, and from families with up to four members, tend to have lower personality traits compared to their peers. The study also reveals that male students, those studying science, with fewer friends, and from smaller families (up to four members) exhibit lower problemsolving abilities than their counterparts. Therefore, it is essential to provide proper training to help develop their personality traits and problem-solving skills.

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