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## RESEARCH ARTICLE

# Exploring the Relationship Between Personality Traits and Learning Styles Among Higher Education Students

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## ABSTRACT

This study investigates two key factors that shape teaching practices and academic performance in the higher education context at the University of Technology and Applied Sciences (UTAS). The study is framed within the Big Five Model of personality, including five major dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The study used two methods, a questionnaire survey and classroom observation, to collect and quantitatively analyse the data. The findings demonstrate a moderate degree of variation in students' personality traits and reveal a meaningful relationship between personality traits and preferred learning strategies. The findings also found that the student sample in this context is characterized by higher levels of Openness, Conscientiousness, Extraversion, and Agreeableness, while lower levels of Neuroticism, and these are associated with more dynamic and engaging learning environments. The study offers important pedagogical and theoretical implications for educators, researchers, and stakeholders in higher education in Oman, particularly in designing learner-centered instructional strategies that align with students' personality profiles.

## KEYWORDS

personality traits, learning styles, teaching methodologies, student profile

## ARTICLE INFORMATION

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## 1. Introduction

In today's classrooms and in line with the 21st-century requirements, teachers are overwhelmed with preparing materials, activities, and teaching strategies that are supposed to be more effective and engaging. Undoubtedly, their goal is to provide an engaging classroom environment and ensure more meaningful learning. However, many teachers get disappointed to find their students demotivated, less engaged, and showing low academic performance. Such challenges are due to several interrelated factors. Hence, to ensure better learning, it is important for teachers to not only look for the range of factors causing the challenges, but also identify them.

In looking for factors, teachers, instructional designers, and stakeholders mostly take into account the most up-to-date and effective teaching materials and strategies. Besides, they take into account the individual differences among students in terms of cognitive skills, socio-cultural backgrounds, and their learning preferences. However, the factor of student personality traits is never taken into account. Students' personality traits mean that each student brings a unique set of characteristics, preferences, and ways of interacting with the learning environment. Different personality traits among students likely impact the teaching strategies and the interaction between instructional practices and students' personal characteristics. Previous research supports this perspective, showing that an awareness of personality traits can help educators design learning experiences that better match students' needs and preferences (Poropat, 2009).

Personality traits are viewed as important factors in determining student learning and performance (Chan & Drasgow, 2001; Judge et al., 2002; Saucier & Goldberg, 2003). From an educational perspective, identifying students' personality traits may offer considerable insights into enhancing their academic performance, addressing their cognitive and emotional challenges, and adjusting teaching practices. At the individual level, identifying students' personalities is also important to ensure informed decisions about their learning approaches and future careers.

From the perspective of the researcher, who is a teacher of English as a foreign language at higher education, it has been noticed that most teachers attempt to improve student engagement and performance by adopting various approaches in education and technology. Their focus is mainly on external factors, such as those previously mentioned. In contrast, less attention is given to internal factors, such as personality traits, which are the main focus of this study. Also, much of the existing literature focuses on the role of technology, artificial intelligence, and instructional approaches. However, less attention has been given to the influence of personality traits on student engagement and achievement, particularly within the Omani higher education context. Accordingly, this study aims to address this gap, which warrants further investigation.

In response to the gap in the literature, the present study aims to explore students' dominant personality traits alongside their preferred learning styles. By examining these two aspects together, the study seeks to better understand how they may influence the use of active learning strategies and the extent to which they contribute to student engagement and academic success.

### **Research Objectives**

This study is guided by the following objectives:

1. To identify the dominant personality traits among the post-foundation students at UTAS, Nizwa,
2. To identify students' preferred learning styles.
3. To examine the relationship between students' personality traits and their preferred learning styles.

### **Research Questions**

1. What are the dominant personality traits among the post-foundation students at UTAS, Nizwa?
2. Which language learning styles do UTAS students prefer?
3. To what extent are personality traits associated with students' learning style preferences?

The significance of this study lies in its examination of the relationship between personality traits and learners' preferred learning strategies. In addressing this relationship, the study contributes to the field of educational psychology within the context of EFL higher education in Oman, bridging a gap in the literature between individual personality characteristics and pedagogical practice. Beyond its theoretical contribution, the study carries practical significance for instructors and academic administrators. By generating empirical insight into students' personality profiles, the findings can inform the design of more effective, learner-centred teaching approaches and classroom environments responsive to the needs of a diverse student population.

## **2. Literature Review**

Generally, the term *personality* refers to the unique and enduring characteristics that distinguish one individual from another. Within the domain of psychology, Allport had a great contribution through his book on personality (1962). Allport defines personality as "the dynamic organization within the individual of those psychophysical systems that determine his or her unique adjustments to the environment" (p.48). In terms of psychology, personality involves both intrinsic and extrinsic characteristics that potentially contribute to shaping an individual's behavior. Similarly, McGeown et al. (2014) define personality as "a set of underlying traits that determine how an individual typically behaves, thinks, and feels" (p. 279).

In academic settings, personality is viewed as an influential factor alongside other cognitive factor (Furnham et al., 2009). Previous research has reported that personality affects academic achievement, learning styles, and assessment methods (Caspi et al., 2008). This implies that both intellectual skills and personality traits determine educational aspects such as learning methods, teaching practices, assessment methods, and the like. For example, students who score high on openness to experience tend to be more creative, adaptable, and capable of acquiring new knowledge effectively (Vermetten et al., 2001; Dörrenbächer & Perels, 2016).

According to Costa & McCrae (1997), personality refers to individual differences among people in terms of thinking, behaving, and feeling. Accounting for personality is essential to meeting the varied learning needs of students in today's educational settings.

Higher education requires attention to both internal factors — including motivation, personality, and self-regulation — and external factors, such as pedagogical strategies and institutional support. Moreover, attending to students' personality traits enables educators, instructors, and instructional designers to develop teaching methods and learning activities that foster engagement and improve academic outcomes.

## **2.1 Measuring Personality Traits through the Big Five Framework**

The important question that surfaces personality research is how can students' personality traits be accurately measured in an academic setting? It is well known that measuring personality traits of students may be a challenge for educators and also psychologists due to subjective and multidimensional nature of individuals' behaviour. Consequently, it is necessary for psychologists and educators to adopt a common framework that draws on foundational models and theories.

Allport (1961) conceptualized personality traits as neurophysiological systems that produce consistent patterns of behavior in response to internal or external stimuli. In the context of education, personality traits are considered non-intellectual variables that significantly influence students' academic performance, motivation, and learning outcomes (Major et al., 2006; Klehe & Anderson, 2007; De la Iglesia & Solano, 2019). Furthermore, Zhao et al. (2010) viewed personality traits as the psychological structures and behavioral tendencies that contribute to shaping individuals' responses to different situations.

Personality traits have been shown to play a critical role in determining academic success, learning preferences, and individual learning styles (Klehe & Anderson, 2007). The relevance of personality extends beyond academic settings to include subjective and objective life outcomes, such as interpersonal relationships, emotional well-being, and workplace performance (Kajonius & Carlander, 2017; Roberts et al., 2007).

Multiple models have been created to measure personality traits in academic settings, yet the Big Five Personality Model, also identified as the Five-Factor Model (FFM) or the OCEAN model, remains the most widely used model. This is due to its practicality and comprehensibility (Dennis & Onu, 2023, p. 1492). It is also known as the Five-Factor Model (FFM) or the OCEAN. It consists of dimensions or criteria for assessing personality: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Other personality models exist (Roccas et al., 2002; O'Connor & Paunonen, 2007; Buchanan & Hegarty, 2023).

The Big Five Inventory (BFI) is a widely used assessment tool designed to measure these five traits through a 44-item questionnaire. The instrument provides insights into how each personality dimension relates to learning behaviors, engagement, and academic achievement. The following sections provide an overview of the five personality dimensions and their educational implications.

**Openness to Experience-** This trait refers to the degree to which an individual shows creativity, imagination, and intellectual curiosity. Learners scoring high in openness are willing to come up with new ideas, think abstractly, and eager to learn with creativity and curiosity. In comparison, learners who score low in openness tend to be practical, traditional, and think concretely (Vermetten et al., 2001; Dörrenbächer & Perels, 2016)

**Conscientiousness-** This trait refers to goal orientation, organization, persistence, and self-discipline. Highly conscientious students are diligent, focused, and capable of sustained attention during learning activities (Sahinidis et al., 2020). In contrast, low conscientiousness is associated with impulsivity and distractibility. Numerous studies have identified conscientiousness as one of the strongest predictors of academic achievement (Dumfart & Neubauer, 2016; Mammadov, 2022; Meyer et al., 2023; Poropat, 2009; Schneider & Preckel, 2017; Tetzner et al., 2020; Zell & Lesick, 2022). For instance, Mammadov (2022) and Meyer et al. (2023, 2024) both found a significant positive correlation between conscientiousness and academic performance.

**Extraversion-** This trait measures sociability, energy, and the tendency to seek stimulation from the external environment. Extraverted students are typically outgoing, assertive, and enthusiastic about interacting with peers and instructors. They often engage actively in discussions and group activities to gain social connection, admiration, and recognition (Karim, et al., 2009). Moreover, extraverts' social orientation and motivation can enhance persistence in academic tasks (Komarraju, Karau, & Schmeck, 2009). In contrast, introverted learners are more reserved, prefer independent work, and conserve their social energy, which may affect their classroom engagement patterns.

**Agreeableness-** This personality trait reflects an individual's tendency toward cooperation, empathy, and social harmony. Highly agreeable individuals are compassionate, considerate, and motivated by positive social interactions (Karim et al., 2009). Within educational contexts, agreeableness has been positively associated with academic performance, likely due to students' cooperative

learning behaviors and prosocial attitudes (Zins, 2014; Poropat, 2014; Steel, 2017). Agreeable students contribute positively to classroom dynamics, fostering supportive learning environments that facilitate mutual understanding and engagement.

**Neuroticism-** Neuroticism represents the tendency to experience negative emotions such as anxiety, stress, or guilt. Individuals with high neuroticism scores are more reactive to stress and emotional instability, which can hinder learning processes and academic achievement (Komarraju, et al., 2011). In contrast, low neuroticism is associated with emotional stability, resilience, and the ability to manage academic pressure effectively. Neurotic students may suffer from self-doubt or anxiety, which can diminish concentration and motivation, leading to poorer learning outcomes (Zhou & Lu, 2011).

In summary, the Five-Factor Model of Personality provides a robust and empirically validated framework for understanding how individual differences influence learning and academic performance. Psychologists consider these five traits to be intrinsic psychological factors that interact with extrinsic educational factors—such as teaching methods, curriculum design, and learning environment—to shape student engagement and achievement. Understanding these dimensions can help educators design more personalized and effective learning strategies in higher education contexts.

## 2.2 Learning Style

Generally, the term learning style refers to how learners perceive, process, and retain information based on their preferences. According to Kolb (1984) learning style refers to “An individual’s preferred way of resolving the dialectics of learning, based on the dimensions of concrete experience, reflective observation, abstract conceptualization, and active experimentation.” A more comprehensive definition of learning style is provided by Coffield et al. (2004) pointing out that “A learning style is a broad, umbrella concept which includes cognitive style, personality type, and approaches to learning.”

The literature shows a number of theories concerned with learning styles such as Dunn and Dunn (1978), Kolb’s (1984) Experiential Learning Theory, Schmeck et al. (1977), The Inventory of Learning Processes (ILP), which identified four primary dimensions: deep processing, elaborative processing, fact retention, and methodical study. In addition, The Honey and Mumford Learning Style Model developed by Peter Honey and Alan Mumford (1982) is a practical framework that categorizes learners into four types, activists, reflectors, theorists, and pragmatics.

In the TESOL contexts, the most common learning style framework is Reid’s Perceptual Learning Style Preference Questionnaire (PLSPQ), which categorizes learners into six styles: visual, auditory, kinesthetic, tactile, group, and individual learners. Reid’s model (1987) was specifically designed for multilingual classrooms and remains frequently used in EFL research due to its contextual sensitivity.

Recent studies continue to employ Reid’s PLSPQ to examine learning preferences in diverse EFL contexts. For example, Alharbi and Alshumaimeri (2020) examined the learning style preferences by Saudi EFL students and found that the kinesthetic and group learning styles were the dominant preferences. They concluded that these learning styles are associated with the communicative teaching approach.

According to the relationship between students’ traits and learning style, unfortunately the literature doesn’t show sufficient research conducted for this purpose. Among the few studies that were conducted for this purpose is the one by Karimi and Sotoodeh (2021) who found that extraversion was positively associated with group learning preference, while introversion correlated with individual learning preference. However, no consistent relationships were found between personality traits and perceptual styles such as visual or tactile learning.

## 2.3 Review of Previous Studies

Research on personality traits in educational settings is both extensive and varied, reflecting a continued interest in understanding how personality shapes students’ academic performance and engagement. Across the literature, studies differ in their focus, scope, and research design. Some scholars approach personality as a broad framework influencing learning and achievement, while others examine the role of specific traits within this wider construct.

A considerable body of research (Xin Dong et al., 2022; Dennis & Onu, 2023; Fandos-Herrera et al., 2023; Tan et al., 2023; John & John, 2020; Mammadov, 2022; Poropat, 2009; Conard, 2006; Nofle & Robins, 2007; Mahama et al., 2022; Ongore, 2014; Qureshi et al., 2016; Bao et al., 2022) consistently shows that personality traits are important predictors of academic performance and

student engagement. These studies suggest that differences in personality are closely linked to key learning factors such as motivation, persistence, and study behaviours. On the other hand, several studies (Cheng & Ickes, 2009; O'Connor & Paunonen, 2007; Poropat, 2009; Vedel, 2014) examined the impact of specific traits, particularly conscientiousness, openness, and agreeableness, on learning performance and achievements. Komarraju et al. (2011), for example, suggested that conscientiousness is the most influential trait in academic performance. Similarly, Vedel's (2014) meta-analysis reported that conscientiousness is the strongest predictor of academic achievement in comparison to other traits such as agreeableness, openness, and extraversion.

Another type of research has examined how personality traits are associated with students' preferred learning or teaching approaches. For example, Opoku et al. (2023) conducted a comparative study involving students from the University of Ghana and Huzhou Normal University. Their results revealed that conscientiousness was the most common trait among participants, while cooperative learning emerged as the most preferred instructional approach. This suggests a meaningful connection between conscientiousness and a preference for collaborative learning environments.

In a similar context, Sherif (2018) examined the impact of personality traits on social loafing in group assignments. The findings indicated that students with lower levels of conscientiousness or extraversion were less likely to contribute actively, highlighting how personality can influence participation and responsibility within group work.

More recently, Souhila (2024) investigated the relationship between personality traits and students' engagement in communicative classroom tasks. The study found that extraversion and openness were positively associated with students' willingness to participate in interactive learning activities. This reinforces the view that certain personality traits play a key role in encouraging active engagement and classroom interaction.

Taken together, these studies highlight the significant role of personality traits in shaping academic performance, motivation, and engagement. They also point to the importance of examining how personality interacts with learning preferences and instructional strategies. This is particularly relevant in diverse educational contexts, such as higher education in Oman, where understanding student differences can support more effective and inclusive teaching practices.

### **3. Research Methodology**

This section outlines the methods and procedures used in this study. The research was guided by three research questions and their corresponding objectives. To address these, a mixed-method approach was adopted.

For Research Questions 1 and 2, a questionnaire survey was used to collect and analyse quantitative data. In relation to Research Question 3, a theoretical interpretation was applied to propose appropriate teaching strategies that align with students' personality profiles and learning preferences.

#### **3.1 Method of Data Collection**

Two measurement instruments were used to collect the data. The first instrument was the Big Five Inventory (BFI), which measures five personality domains: Agreeableness, Conscientiousness, Openness, Extraversion, and Neuroticism. The original BFI consists of 60 items distributed across these five domains. However, for the purposes of this study, the questionnaire was adapted to better suit the research objectives and sample. Instead of including 12 items for each domain, only five items per domain were selected. Previous studies have confirmed the reliability and validity of the BFI.

For each item, respondents indicated their level of agreement using a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The questionnaire was administered through Microsoft Forms, and the link was shared with the students. The collected responses were then used to calculate the mean scores for each of the five personality traits.

The second instrument used in this study was the Perceptual Learning Style Preference Questionnaire (PLSPQ), developed by Reid (1987). This instrument was used to assess students' learning preferences. The PLSPQ includes six learning style categories: visual, tactile, auditory, group, kinaesthetic, and individual. Each category consists of five items. Similar to the BFI, all items were rated using a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

#### **3.2 Data Analysis**

For analysing the data quantitatively, statistical techniques such as means (M), standard deviations (SD), and percentages were used (Table 1). The process of analysis started with collecting the responses through Microsoft Forms and transforming them to a separate Excel sheet for organization and checking accuracy purposes. For further analysis and to better understand the patterns, the data were transferred to SPSS. Mean scores and standard deviations were calculated for each personality trait as well as for each learning style category in line with Q.1 and Q.2. Percentages were also considered to give a clearer picture of how students responded to different items.

With respect to Research Question 3, the findings from both sets of results were brought together and interpreted holistically. Rather than relying solely on statistical comparisons, the results were examined against existing theories and prior research in the field. This approach enabled a deeper exploration of how personality traits may relate to learning style preferences, and provided a basis for recommending teaching strategies that are better aligned with students' diverse profiles. This interpretive approach is consistent with qualitative and mixed-methods traditions in educational research, where theoretical synthesis can offer meaningful insights in the absence of inferential statistical analysis

**Table 1: Data analysis and tools of measurement**

| Study | Research Question                                                                           | Tools of Measurement        |
|-------|---------------------------------------------------------------------------------------------|-----------------------------|
| RQ 1  | What are the dominant personality traits among post-foundation students at UTAS, Nizwa?     | Mean and Standard Deviation |
| RQ 2  | Which language learning styles do UTAS students prefer in language learning?                | Mean and Standard Deviation |
| RQ 3  | To what extent are personality traits associated with students' learning style preferences? |                             |

### 3.3 Sample

The study sample comprised approximately 70 undergraduate students enrolled in the Post Foundation Program at UTAS, Nizwa. The selection of this sample was intentional, as these students had prior exposure to various teaching methods and classroom practices. Additionally, the participants were selected based on their English proficiency level, which ensured that they were able to understand the questionnaire items and respond accurately to the survey.

Prior to completing the questionnaire, the researcher clearly explained the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Students were assured that their input would solely be used for academic research and to enhance future language teaching practices. This ethical consideration encouraged genuine and unbiased participation.

## 4. Findings of the Study

This section presents the findings obtained from the analysis of the collected data. The results are organised in line with the study objectives and the corresponding research questions as stated below.

To address each research question systematically, quantitative analyses were conducted. The focus of the analysis is on descriptive statistics related to students' personality traits and their learning style preferences. The findings are presented using mean and standard deviation values, and are supported by relevant tables and figures to enhance clarity and interpretation.

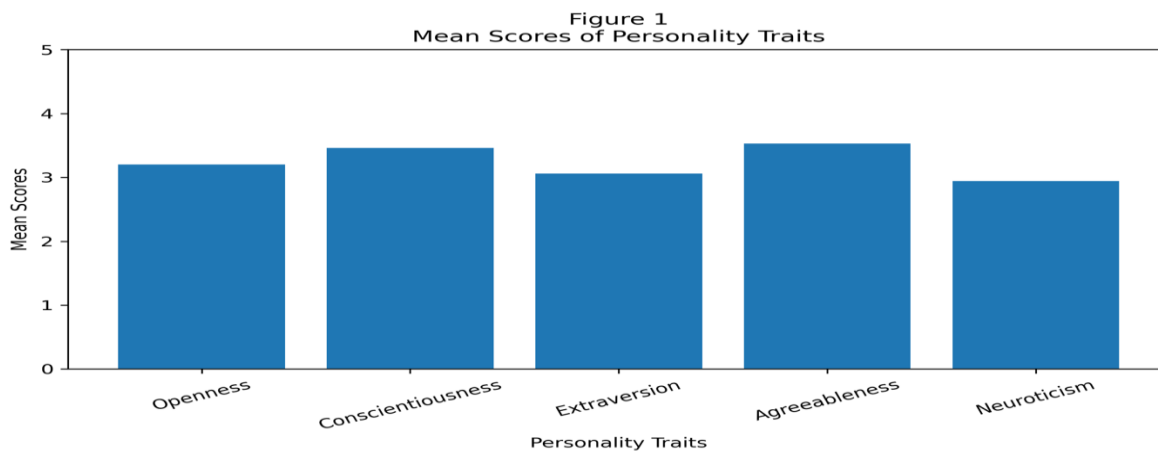
1. What are the dominant personality traits among post-foundation students at UTAS, Nizwa?
2. Which language learning styles do UTAS students prefer in language learning?
3. To what extent are personality traits associated with students' learning style preferences?

### 4.1 The Dominant Personality Traits Among Students

This section presents the descriptive analysis of the first set of the data in line with Q.1. The descriptive analysis is provided in terms of descriptive statistics, mean (M) and standard deviation (SD) as illustrated in Table 2 and Figure 1.

Table 2: Responses about the personality traits among students

| Personality       | Mean         | Standard Deviation |
|-------------------|--------------|--------------------|
| Openness          | 3.20         | 0.44               |
| Conscientiousness | 3.46         | 0.46               |
| Extraversion      | 3.06         | 0.38               |
| Agreeableness     | 3.53         | 0.55               |
| Neuroticism       | 2.94         | 0.42               |
| Total             | Total Mean = | Total=             |



**Figure 1: Mean Scores of Personality Traits**

Table 2 and Figure 1 above demonstrate that the employment of the Big Five Personality Trait to this sample shows varying levels across all OCEAN dimensions. Agreeableness received the highest score ( $M = 3.53$ ,  $SD = 0.55$ ) indicating a fairly strong inclination towards cooperation, support, and empathy among students. Conscientiousness, on the other hand scored the second rank ( $M = 3.46$ ,  $SD = 0.46$ ) indicating a high tendency among students to be organized, responsible, and goal oriented.

The third rank was given to Openness that scored a moderate level ( $M = 3.20$ ,  $SD = 0.44$ ) indicating students' interest in engaging with new experiences and ideas. Likewise, Extraversion demonstrated a moderate mean score ( $M = 3.06$ ,  $SD = 0.38$ ), reflecting balanced levels of sociability and interaction among the students.

Neuroticism, in comparison to other OCEAN traits, had the lowest mean score ( $M = 2.94$ ,  $SD = 0.42$ ), revealing that students in this context generally exhibit lower levels of emotional instability, anxiety, and stress.

Overall, the findings revealed that the sample is characterized by relatively higher levels of agreeableness and conscientiousness, while lower levels of neurotic tendencies.

## 4.2 Students' Preferred Learning Styles

Table 3: Students' Preferred Learning Styles

| Learning Style | Item                                                                    | M               |
|----------------|-------------------------------------------------------------------------|-----------------|
| Visual         | I learn better by reading what the teacher writes on the chalkboard.    | 3.13            |
|                | When I read instructions, I remember them better.                       | 3               |
|                | I understand better when I read instructions.                           | 3.18            |
|                | I learn better by reading than listening to someone.                    | 3.2             |
|                | I learn more by reading textbooks than listening to lectures.           | 3.05            |
|                |                                                                         | Total Mean=3.11 |
| Auditory       | When the teacher tells me the instructions, I understand better.        | 3.32            |
|                | I remember things I have heard in class better than things I have read. | 3.2             |
|                | I learn better in class when the teacher gives a lecture.               | 3.1             |
|                | I learn better in class when I listen to someone.                       | 3.05            |
|                | When someone tells me how to do something in class, I learn it better.  | 3.32            |
|                |                                                                         | Total Mean=3.20 |
| Kinaesthetic   | When I do things in class, I learn better.                              | 3.5             |
|                | I learn best in class when I can participate in related activities.     | 3.25            |
|                | I understand things better in class when I participate in role playing. | 3.05            |
|                | I enjoy learning in class by doing experiments.                         | 3.05            |
|                | I prefer to learn by doing something in class.                          | 3.2             |
|                |                                                                         | Mean=3.21       |
| Tactile        | I learn more when I make something for a class project.                 | 3.09            |
|                | I learn better when I make drawings as I study.                         | 3.14            |
|                | When I build something, I remember what I have learned.                 | 3.09            |

|            |                                                                |                 |
|------------|----------------------------------------------------------------|-----------------|
|            | I learn more when I make a model of something.                 | 3               |
|            | I enjoy making something for a class project.                  | 3.2             |
|            |                                                                | Total Mean=3.10 |
| Group      | I learn more when I study with a group.                        | 3.14            |
|            | I get more work done when I work with others.                  | 3               |
|            | I enjoy working on an assignment with two or three classmates. | 3.05            |
|            | In class, I learn best when I work with others.                | 3.05            |
|            | I prefer to study with others.                                 | 3.14            |
|            |                                                                | Total Mean=3.08 |
| Individual | When I study alone, I remember things better.                  | 3.18            |
|            | I prefer working on projects by myself.                        | 2.3             |
|            | In class, I work better than when I work alone.                | 2.3             |
|            | When I work alone, I remember better.                          | 2.3             |
|            | I prefer to work by myself.                                    | 2.3             |
|            |                                                                | Total Mean=2.48 |

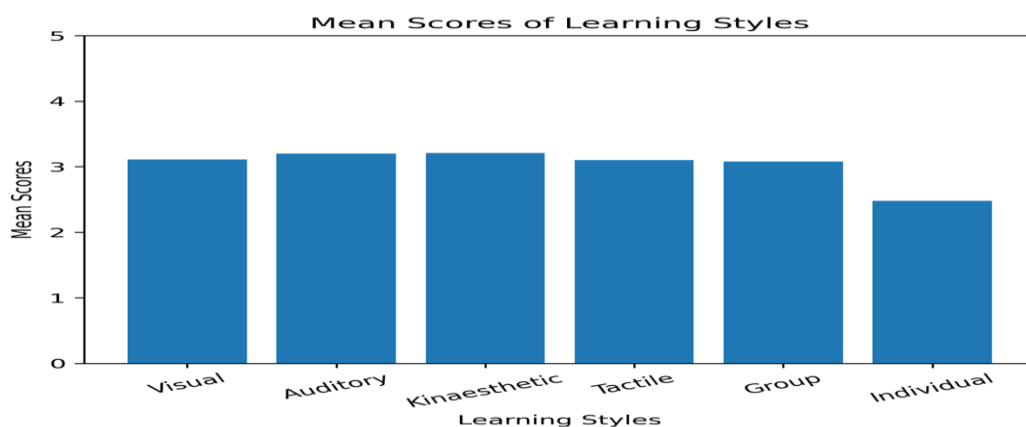


Figure 2: Mean Scores of Learning Styles

The study's second research question examined students' preferences across different learning styles. As shown in Table 3, participants' preferences varied to a noticeable, if moderate, degree. Kinaesthetic learning emerged as the most preferred style ( $M = 3.21$ ), with auditory learning close behind in second place ( $M = 3.20$ ).

Visual ( $M = 3.11$ ) and tactile ( $M = 3.10$ ) learning styles followed at similarly moderate levels, pointing to a fairly even preference for reading-based, observational, and hands-on materials. Group learning also registered a moderate mean ( $M = 3.08$ ), suggesting some, though not overwhelming, appetite for collaborative work.

Individual learning stood apart from the rest, scoring noticeably lower than every other style ( $M = 2.48$ ) — a sign that students are generally less drawn to studying on their own.

Taken together, these findings suggest a clear preference for interactive, participatory forms of learning, especially those involving physical activity and auditory engagement, over independent, solitary study.

### 4.3 Relationship Between Personality Traits and Learning Styles

This section presents the findings concerned with examining the relationship between students' personality traits and their preferred learning styles. According to Table 4 below, different personality traits are associated with distinct learning preferences.

The participants who showed higher levels of openness ( $M = 3.20$ ) indicated a preference for kinaesthetic ( $M = 3.21$ ) and visual ( $M = 3.11$ ) learning styles. This finding suggests that have a tendency for experiential, active, and visually engaging learning environments. Likewise, conscientiousness scoring ( $M = 3.46$ ) was connected to auditory ( $M = 3.20$ ) and visual ( $M = 3.11$ ) learning styles. This also indicates that learners who are organized and disciplined generally learn more effectively when instruction is well organised and explanations are clear.

Moreover, extraversion ( $M = 3.06$ ) revealed a relationship with group ( $M = 3.08$ ) and auditory ( $M = 3.20$ ) learning styles, suggesting a tendency among more socially oriented students to prefer interaction, discussion, and collaborative learning. It was noted that, agreeableness ( $M = 3.53$ ), which scored the highest mean among the personality traits, was associated with kinaesthetic ( $M = 3.21$ ) **and** group ( $M = 3.08$ ) learning styles, suggesting that cooperative learners favour interactive and participatory learning environments.

Finally, **neuroticism** ( $M = 2.94$ ), which had the lowest mean score, showed a weak association with individual learning style ( $M = 2.48$ ). This shows that students generally exhibit emotional stability and are less inclined toward solitary learning preferences.

Overall, the results demonstrate a clear pattern in which personality traits influence students' preferred learning styles, highlighting the importance of aligning instructional strategies with learners' psychological characteristics.

Table 4: Relationship Between Personality Traits and Learning Styles

| Personality Trait | Mean        | Dominant Learning Style(s)         | Interpretation                                                                                                                                       |
|-------------------|-------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Openness          | 3.20        | Kinaesthetic (3.21), Visual (3.11) | Learners high in openness tend to prefer experiential and visually stimulating learning environments that encourage exploration and creativity.      |
| Conscientiousness | 3.46        | Visual (3.11), Auditory (3.20)     | Conscientious learners favour structured, organized, and guided learning approaches, often benefiting from clear instructions and explanations.      |
| Extraversion      | <b>3.6</b>  | Group (3.08), Auditory (3.20)      | Extraverted learners are inclined toward interactive and discussion-based learning, benefiting from collaboration and verbal engagement.             |
| Agreeableness     | <b>3.53</b> | Kinaesthetic (3.21), Group (3.08)  | Highly agreeable learners prefer cooperative, supportive, and interactive learning environments that involve collaboration and active participation. |

|             |             |                         |                                                                                                                                                                             |
|-------------|-------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Neuroticism | <b>2.94</b> | Individual (2.48 - low) | Lower levels of neuroticism suggest emotional stability, indicating that students are generally comfortable engaging in both independent and interactive learning contexts. |
|-------------|-------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 5. Discussion of Findings

This section provides a reflective discussion of the findings presented in the previous section. The first part of the discussion is concerned with Q.1 of the research study (personality traits) while the second part is concerned with Q.2 (learning styles).

Overall, the results indicate that personality traits and learning styles are two influential factors in the context of TESOL in higher education. This finding was clearly confirmed through the various statistical features, mean, and standard deviation shown in Tables 2 and 3. Diverse statistics mean diverse characteristics and individual differences among students. Based on previous literature and theories of personality, such diversity has a considerable impact on shaping learning and teaching strategies and academic performance. This finding agrees with previous studies and literature emphasising the impact of personality traits and learning styles on classroom practices and academic performance (Chan & Drasgow, 2001; Judge et al., 2002; Saucier & Goldberg, 2003; Major et al., 2006; Klehe & Anderson, 2007; Furnham et al., 2009; De la Iglesia & Solano, 2019).

In terms of personality traits, one of the significant findings of this study is that the prominence of Agreeableness among the students is followed by Conscientiousness, Openness, and Extraversion. Although the statistical results did not reveal extremely high levels across the personality traits, the relatively moderate and high mean scores may still be considered positive indicators among the students within this context. This finding indicates that participants in this context possess positive characteristics that may support their academic performance and learning. This finding supports the numerous studies that highlighted the positive correlation between the high levels of these traits and academic achievement (Dumfart & Neubauer, 2016; Mammadov, 2022; Meyer et al., 2023; Poropat, 2009; Schneider & Preckel, 2017; Tetzner et al., 2020; Zell & Lesick, 2022).

Agreeableness was the highest trait among students, reflecting their tendency to be cooperative and considerate, which can contribute to a more collaborative and harmonious learning environment (Zins, 2014; Poropat, 2014; Steel, 2017). Similarly, the relatively high levels of Conscientiousness indicate that students are organised, responsible, and focused on achieving their goals. These qualities are widely recognised as important factors in academic success and align well with findings reported in previous studies (Dumfart & Neubauer, 2016; Mammadov, 2022; Meyer et al., 2023; Poropat, 2009; Schneider & Preckel, 2017; Tetzner et al., 2020; Zell & Lesick, 2022; Boonyapison et al., 2025; Rodrigues et al., 2024). At the same time, the presence of Openness to Experience suggests that students are willing to explore new ideas and approaches to learning. Meanwhile, the moderate level of Extraversion indicates that students are socially engaged, but not overly dependent on interaction.

An interesting finding is the relatively low level of Neuroticism, which implies that students are generally able to manage stress and maintain emotional stability. This may reflect a learning environment that supports student well-being and reduces academic pressure (Prince, 2018).

Another important result is that all personality traits were found at moderate levels. Rather than showing extreme tendencies, students appear to have balanced personality profiles. This is an important point, as it suggests that no single trait dominates student behaviour. Instead, personality works alongside other factors—such as motivation, teaching methods, and learning strategies—to influence academic outcomes. This interpretation is supported by recent research, which indicates that personality contributes to learning, but is only one part of a more complex picture (Chen, 2025; Tan, 2024).

Concerning measuring the factor of learning styles preferences, the results revealed that there was a noticeable variation among their preferences. kinaesthetic learning ranked highest in preference followed by auditory learning as the second rank. These results indicate that the students in this context are likely more interested in active and collaborative learning than passive and individual learning. Based on proponents of Communicative Approach and Student Centered Learning (such as Nunan, 2004; Richards, 2014), this is considered a positive indication since a meaningful EFL environment is characterised by communication, interaction, and engagement in tasks. This also means that students prefer interactive activities, rather than lectures. Also, this finding aligns with Kolb's experiential learning theory, which emphasises the importance of acquiring knowledge through direct, real-world experience.

Similarly, the second highest preference for auditory learning highlights that discussion, verbal explanation, and interactive communication continue to play a vital role in effective instruction. These outcomes are further consistent with the model introduced by Honey and Mumford (1982), which stresses the significance of reflection and interpersonal communication in the learning process.

Individual learning was the lowest ranked style indicating that the students are less interested in individual learning. This may be viewed a less positive indicator in an EFL context where students are expected to be more active, talkative, and engaging in communicative practice than being merely passive listeners.

Among the major findings is the one concerned with the correlation between personality traits (Openness, Agreeableness, Extraversion, and Neuroticism) and their learning style preferences (Visual, Auditory, Kinaesthetic, Tactile, Group, and Individual), as measured by the Big Five Inventory and the Perceptual Learning Style Preference Questionnaire (Reid, 1987) respectively. Table 4 above shows that overall, there is a meaningful relationship between the two variables. However, the level of relationship varies according to the type of personality traits. Agreeableness was the most dominant personality traits among the students that correlates with Kinaesthetic and group learning. This is considered a positive indicator that the students in this context are compassionate, considerate, and motivated by positive social interactions (Karim et al., 2009; Zins, 2014; Poropat, 2014; Steel, 2017). Conscientiousness, on the other hand was correlated with visual and auditory learning demonstrating their interest in more structured and organized learning style.

Students with high openness tend to prefer kinaesthetic and visual learning styles, and this reflects their interest in classroom engagement, creativity, and experiential learning. At the same time, the moderate level of Extraversion coincides with a moderate preference for group learning, suggesting that although students benefit from interaction, they do not rely on it exclusively. Neuroticism was negatively correlated with Kinaesthetic and group learning suggesting that students higher in emotional instability tend to avoid active, participatory, and collaborative learning environments. A modest positive relationship was observed between Neuroticism and Individual learning, which may reflect a preference for controlled, low-social-pressure study conditions among neurotic students.

## 6. Implications

This study provides a set of practical implications that are of value for teachers, instructional designers, and stakeholders, both locally and globally, within the educational psychology and TESOL at higher education. The implications draw on a synthesis analysis of theoretical and practical views addressed in this study. Additionally, its meaningful findings offer insights that may help teachers and instructional designers better understand how students' personality traits affect the teaching and learning process.

At the local level, the emerging findings are important for teachers and higher education stakeholders in Oman. In the TESOL context in Oman, where challenges stem from a lack of authenticity and the demands of the 21st century, teachers need to be aware that the use of technology and AI methods alone is not sufficient. They need to be aware of how personality traits affect learning. Examining or identifying students' personalities helps them design and adapt instructional methodologies and materials to students' needs. Consequently, classrooms can become more engaging, responsive, and supportive, potentially leading to improved student learning and overall satisfaction. In addition, understanding students' personality profiles allows teachers to select activities and materials that encourage active participation and sustained engagement.

It is worth mentioning that teachers are not merely concerned with adopting and adjusting the appropriate methods and approaches in the classroom. Teachers must go beyond that limitation to maximize their responsibilities. They have a role in fostering favourable personality traits such as Openness, Agreeableness, Conscientiousness, and Extraversion. At the same time, teachers must help students who experience high levels of Neuroticism. Overall, teachers' roles must extend beyond boosting academic achievement to encompass students' broader personal growth.

Another important implication is that educational institutions should encourage administrators and stakeholders to provide appropriate psychological and academic support services such as counselling programs and workshops. Such programs can assist students in developing confidence, emotional stability, and effective learning behaviors. They may also help students sustain their academic engagement and train them to handle academic challenges.

Overall, this study highlights the importance of taking into consideration the internal factors, such as understanding and identifying the various students' traits among students. It also highlights the value of employing a range of pedagogical methods rather than

relying on a single strategy. Taking all these considerations into account leads to the creation of a more effective and supportive learning environment.

## **7. Conclusion**

The present study explored the Big Five personality traits and learning style preferences of higher education students. It also examined the possible relationship between these two variables. A questionnaire-based survey was used to identify the most common personality traits and preferred learning styles among the participating students.

The findings revealed clear differences in students' personality traits and the ways in which they preferred to learn. They also provided insight into how certain personality characteristics may be associated with particular learning preferences. These findings underline the importance of acknowledging individual differences in academic settings, especially when responding to students' varied learning needs and challenges.

The study offers useful insights for teachers, instructional designers, and other educational stakeholders. A better understanding of individual differences can help educators create learning experiences that are more inclusive, effective, and responsive to the needs of diverse learners.

A limitation of the study relates to the method used to address Research Question 3. Because of the nature of the available data, it was not possible to conduct a direct statistical analysis of the relationship between personality traits and learning style preferences. Therefore, this research question was addressed by interpreting the findings in light of established theoretical frameworks and relevant empirical studies rather than through inferential statistical analysis. Although this approach supported a meaningful theoretical discussion, future studies should involve larger samples and apply appropriate statistical techniques, such as correlation or regression analysis, to test the relationship between the two variables more directly.

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