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## Research Article

**The Relationship Between Iranian EFL Students' Personality Traits, Gender and Use of Metacognitive Reading Strategies**Hamed Badpa\*<sup>1</sup>, Dr. Leila Alinouri <sup>2</sup><sup>1</sup>PhD. Candidate in TEFL, Department of English Language and Literature, Arak University, Arak, Iran<sup>2</sup> Assistant Professor, English Department, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran\*Corresponding Author: Hamed Badpa, Email: [hamedbadpa1377@gmail.com](mailto:hamedbadpa1377@gmail.com)Email: [lalinoori9@gmail.com](mailto:lalinoori9@gmail.com)**ABSTRACT**

This study examines the connection between Iranian EFL students' personality traits, gender, and their use of metacognitive reading strategies. A correlational research design incorporated two survey tools: the Neuroticism-Extraversion-Openness Five-Factor Inventory (NEO-FFI) and the Survey of Reading Strategies (SORS). The data were gathered from university students in Esfahan City. Descriptive analysis showed that students frequently used metacognitive reading strategies, with 18 strategies categorized as high-use, 12 as moderate-use, and none as low-use. While general and problem-solving strategies were commonly employed, support reading strategies were used moderately. The results indicated a significant negative correlation between Neuroticism and the use of problem-solving and global strategies. In contrast, Conscientiousness, Extraversion, Openness, and Agreeableness had strong positive correlations with problem-solving, global, and supportive strategies. However, overall metacognitive reading strategy use did not show a significant correlation with Neuroticism, whereas the other personality traits had a positive and meaningful association with the general use of these strategies. Gender differences were observed in the use of supportive and problem-solving reading strategies, with significant differences between male and female participants. These findings provide insights into how personality traits and gender influence metacognitive reading strategy use.

**Keywords:** Personality Traits, Metacognitive Reading Strategies, Support Strategies, Global Strategies, Problem-Solving Strategies

## 1. INTRODUCTION

English occupies an important position in educational programs. Because of this, the nation has incorporated the instruction of the English language at different degrees of learning. The English language has a significant importance in communication (Badpa, 2025). The process of learning a second language is influenced by more than just cognitive factors; affective, motivational, personality, and demographic characteristics also play a crucial role (Brown, 2000). Ackerman and Heggstad (1997) suggested that individual differences including personality traits, intelligence, and vocational interests help explain variations in academic performance and the underlying processes involved. Any language grammar is defined by its structure and system, which are expressed as syntax and morphology (Badpa, 2024). The English language has a significant importance in communication (badpa, 2023).

Ackerman's PPKI theory (1996) integrates intelligence with personality, knowledge, and interests to establish a framework for understanding how cognitive and non-cognitive differences interact. This theory suggests that personality traits shape knowledge acquisition by influencing an individual's choices and persistence in engaging with intellectually stimulating activities and environments. Research has emphasized that personality traits, often considered "non-intellectual" factors, impact academic performance (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003). In English linguistic instruction, a dispute exists about the suitability of various strategies and educational practices employed by grammar instructors and scholars (Badpa, 2025).

Language learning varies depending on personal characteristics (Skehan, 1989), and differences in learning outcomes have been linked to individual learner traits (Dörnyei, 2006). Some researchers have explored various learner attributes that contribute to success or challenges in acquiring a second language (L2). Hermosa (2002) supported this view and noted that reading involves multiple cognitive processes, including word comprehension, critical thinking, and information integration. Koda (2007) identified key factors that influence reading comprehension, such as vocabulary knowledge, prior knowledge, metacognitive awareness, and reading strategies. Trehearne and Doctorow (2005) highlighted additional elements affecting reading abilities. Anderson (2003) stressed the importance of reading strategies in improving comprehension during language learning. It is a kind of evaluation that enables instructors to involve students in critical thinking about special parts of their academic work through discussion (Badpa, 2023).

According to Anderson (2000), reading is a dynamic interaction between a learner's strategic interlanguage competence, personal traits (such as cognitive styles, learning preferences, gender, and educational background), and external influences (such as text characteristics, motivation, topic relevance, and time constraints). Sirin (2005) highlighted the impact of socioeconomic status on academic achievement, indicating that factors such as parental education could play a role in shaping students' Language Mindset and Grit.

Personality is broadly defined as a dynamic combination of psychophysical systems that shape an individual's unique patterns of behavior and emotional responses. Among the various factors influencing second language acquisition, personality traits are considered key, alongside linguistic, affective, motivational, and demographic aspects.

Extensive research has examined the connection between personality traits and language learning. While there is a substantial body of work on how different personality types relate to language learning, fewer studies have specifically focused on the relationship between the Big Five personality traits and the use of metacognitive reading strategies among Iranian learners. Furthermore, individuals' mindsets about language learning, particularly their beliefs about their ability to learn a new language, have been shown to influence their language learning outcomes (Dweck, 2006). In the Iranian context, Papi and Abdollahzadeh (2012) found that teacher motivational practices significantly influenced students' motivation and possible L2 selves. This suggests that the mindset and motivation of Iranian EFL learners are important factors to consider in understanding their English language learning experiences.

This study aims to provide insights by examining the links between personality traits, gender, and metacognitive reading strategies in an EFL context. Understanding how gender and personality traits influence the use of these strategies can benefit language learners, teachers and curriculum designers. This

study seeks to address the following research questions:

1. Which categories of metacognitive reading strategies do Iranian EFL students use most frequently?
2. What are the levels of personality traits of Iranian EFL university students?
3. Is there any significant relationship between the personality traits of Iranian EFL students and their reading strategies preferences?
4. Is there any significant gender difference in the use of metacognitive reading strategies among Iranian EFL students?

## **2. REVIEW OF LITERATURE**

### **Personality Traits Theory**

Personality trait theories suggest that personality is fundamentally rooted in biological factors, while state theories focus on the significance of environmental influences and upbringing. Research findings reveal that individuals possess a combination of various traits, rather than fitting into a single category. For example, a student may exhibit traits of being both plump and melancholic, or plump and cheerful. Similarly, a person may be slender yet exhibit traits of submissiveness or dominance, as well as being organized or disorganized, imaginative or practical. It is also possible for different individuals to share similar characteristics (Kamarulzaman, 2012).

According to Allport (1963), traits are enduring characteristics and predispositions that influence how individuals perceive, think, and act across various situations. Consequently, personality can be understood as a collection of attributes or characteristics that tend to remain stable over time. While certain traits, such as intelligence and linguistic ability, are prevalent among the general population, other traits may be distinctive to specific individuals. Allport's perspective (1963) suggests that the differences among people arise from the varying degrees of significance attributed to their cardinal and dominant traits within their overall personality structure.

### **Five-Factor Model of Personality**

The five-factor approach to personality dimensions was first proposed by Costa and McCrae (1992). This model presents a general framework of traits that has been constantly updated and extended over the past fifty years. Each of these factors can be further divided into clusters of interrelated personality traits that are usually referred to as facets.

Researchers concur that nearly all personality assessments can be classified within the framework of the five-factor model of personality, commonly known as the "big five" dimensions. These five dimensions appear to be applicable across various cultures and have been consistently identified in factor analyses of both peer and self-reported trait descriptors, regardless of differing conditions, samples, and methods of factor extraction and rotation. Additionally, studies indicate that these five personality factors possess a genetic foundation (Digman, 1989) and are likely to be inherited. The five dimensions outlined in the five-factor model, as evaluated by the Neo-five factor model (NEO-FFM), encompass Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness.

Extraversion encompasses traits such as sociability, assertiveness, dynamism, and a propensity for conversation. Individuals who are extraverted exhibit high energy levels and a positive outlook. They are often enthusiastic and action-driven, readily embracing opportunities for excitement with affirmations like "Yes!" or "Let's go!" In social settings, they tend to engage in conversation, assert their presence, and seek attention. Conversely, introverts are characterized by their reserved nature rather than being unfriendly, demonstrating independence instead of conformity, and maintaining a steady pace rather than appearing lethargic. Extraversion is marked by positive emotions and experiences, which contributes to its perception as a beneficial trait.

Openness to Experience encompasses traits such as vivid imagination, sensitivity to aesthetics, awareness of personal emotions, a desire for diversity, intellectual inquisitiveness, and independent thinking. Individuals with low scores in Openness typically exhibit conventional behaviors and hold conservative views. They favor familiar experiences over new ones, and their emotional expressions are often subdued. Conversely, those who score high in Openness are more likely to embrace unconventionality, challenge authority, and consider innovative ethical, social, and political concepts. These open individuals possess a curiosity about both their internal and external environments, leading to a more enriched experiential life. They are receptive to novel ideas and alternative values, and they tend to experience a wider range of emotions, both positive and negative, compared to those who are more closed-minded.

Neuroticism forms a part of a category of normal personality traits that show predispositions for experiencing unpleasant emotional states such as fear, sadness, embarrassment, anger, guilt, and disgust. Therefore, the person scoring high on this dimension is more likely to be at risk for developing some psychiatric problems. A high score on Neuroticism is promising of unhealthy and irrational thinking, poor impulse control, and an inadvertent skill in managing stress. On the other side, a low score on Neuroticism implies greater emotional stability. Such individuals generally have a calm nature and maintain relaxed poise, tolerability, and resiliency in highly stressful situations.

Conscientiousness is characterized by self-discipline and a proactive approach to planning, organizing, and executing tasks. A conscientious individual demonstrates purposefulness, willpower, and determination. This trait is evident in their achievement orientation, which includes being industrious and persistent; their dependability, which reflects responsibility and caution; and their orderliness, which indicates a methodical and organized nature. Conversely, elevated levels of conscientiousness can result in excessive meticulousness, compulsive tidiness, or a tendency towards workaholism. Individuals with lower scores in this trait may not necessarily lack ethical standards, but they tend to be less precise in their application of these principles.

An agreeable individual is inherently selfless, empathetic towards others, and willing to offer assistance, while simultaneously expecting that others will reciprocate with similar support. Conversely, a disagreeable individual tends to be self-centered, distrustful of the motives of others and prioritizes competition over collaboration.

### **Metacognitive Regulation**

The understanding of regulation, specifically metacognitive regulation or monitoring, encompasses the actions that oversee and assess an individual's learning. Regulatory control includes the processes of planning, monitoring, and evaluating reading strategies. For example, this may involve preparing for activities through reading (planning), assessing the learning process (monitoring), and reflecting on the effectiveness of the strategy (evaluating).

Monitoring strategies allow learners to enhance the efficiency of their language acquisition, provided they are aware of the strategies they should employ. Anderson (2008) identifies five key components that contribute to improved reading comprehension: (1) preparation and planning for learning, (2) selection and application of strategies, (3) monitoring of learning progress, (4) orchestration of strategies, and (5) evaluation of strategy effectiveness and learning outcomes. In the preparation and planning phase, learners systematically arrange their tasks to achieve their objectives more swiftly and in a more organized manner. This preparatory phase aids readers in comprehending challenging texts by taking deliberate steps toward their goals. By structuring their objectives, students can formulate plans that facilitate engagement with complex tasks. This approach can be particularly beneficial for intricate assignments, allowing them to be divided into smaller, more manageable segments.

Choosing and implementing effective reading strategies can assist in addressing challenges posed

by complex texts. Students identify the strategies that are most effective for their learning styles, and they need to manage these conditions to enhance their understanding. This process is a crucial component of problem-solving in any undertaking.

Monitoring serves as an effective approach for individuals to assess their reading capabilities and ensure they are progressing appropriately in their learning journey. Readers often reflect on whether the concepts they are contemplating lead to accurate conclusions, thereby enhancing their comprehension of the target language. When understanding falters, readers become aware and adjust their approach accordingly. Consequently, they can determine the most suitable path forward and identify the key information that warrants retention. Anderson (2008) emphasizes that the ability to coordinate multiple strategies is essential for effective problem-solving. Recognizing how to implement various strategies constitutes a significant metacognitive skill. This skill is crucial, as the capacity to direct, organize, analyze, and connect different strategies plays a pivotal role in distinguishing between effective and ineffective second language learners (Zhang, 2001).

In the concluding phase, learners assess their capabilities in specific tasks by identifying and categorizing their strengths and weaknesses. By reflecting on their strategies, they can enhance their performance in subsequent tasks. As readers advance in their reading abilities, they not only improve their comprehension but also develop into independent and confident learners. This awareness of their effective learning styles enables them to select the most suitable approaches for comprehending challenging texts. Consequently, this leads to an expedited reading process, yielding improved comprehension and higher achievement levels.

### **3. METHODOLOGY**

#### **Research Design**

This research utilized a correlational design, employing specific survey instruments to provide descriptive insights into certain populations. In this investigation, data were gathered through two pre-validated questionnaires; the first aimed to assess students' personality traits, including Neuroticism, Extraversion, Conscientiousness, Openness to Experience, and Agreeableness, while the second focused on evaluating the types and frequencies of the participants' preferred metacognitive reading strategies, such as Global Reading Strategies, Problem Solving Strategies, and Support Reading Strategies.

#### **Sample and Setting**

A total of 198 male students (31%) and 136 female students (68%) enrolled in English Literature and English Translation programs at the respective universities participated in the questionnaire. The participants, aged between 19 and 27, provided demographic information such as gender, age, academic year, and field of study. Out of the above data, 64 students (32.3%) were from Sheikh Bahaee University, 36 students (18.1%) were from Najaf Abad Payam Noor University, 57 (29.2%) from Esfahan Government University, and 41 students (20.7%) from Khorasgan Islamic Azad University. As regards academic classification, there were 36 students (18.2%) Freshmen, 47 students (23.7%) Sophomores, 82 students (41.4%) Juniors, and 33 students (16.7%) Seniors. Note that not all undergraduates from these universities participated in this study. Participation was fully voluntary. Green (1991) proposed the formula:  $N > 104 + m$  to ascertain the required sample size for this research, which utilized multiple correlation analysis. It defined  $N$  as the needed sample size and  $m$  as the number of independent variables. Hence, based on the three independent variables in the present study, a minimum sample size of 107 participants shall be needed for multiple correlation analysis.

#### **Data Collection Procedure**

Having obtained all the necessary permits from universities involved in the research, a preliminary

study was conducted on a cohort of students (N=30) for the verification of the reliability as well as the validity of the instruments used in the study. For the SORS, the overall reliability coefficient was 0.900, where the reliabilities of subscale were as follows reading: 0.863; problem-solving: 0.714; and support reading strategies: 0.713. The NEO-FFI has an overall reliability of 0.750 with the corresponding Cronbach's alpha of each personality trait-Neuroticism: 0.607; Extraversion: 0.731; Openness to Experience: 0.599; Agreeableness: 0.743; and Conscientiousness: 0.852. A few primary data analyses have already started being carried out after establishing their reliability and validity.

Initially, the researcher provided an overview of the project to various groups of students across different universities. The objectives of the current study were communicated to all participants involved in the main study. Additionally, before the administration of each instrument, the researcher outlined the instructions for completing the questionnaires. All explanations regarding the materials were delivered in Persian, the native language of the participants. To enhance the reliability of the responses, participants were encouraged to answer honestly and advised not to dwell excessively on any particular item. They were also invited to pose any questions they might have.

Then, each participant received the same packet containing the materials, including the Persian version of the NEO Five-Factor Inventory and the original Survey of Reading Strategies (SORS). Regarding the SORS, the researcher emphasized among students that the answers should be about the strategies that they employ for reading English academic texts and not for leisure reading, such as newspapers or magazines. The participants were supposed to fill in the questionnaires for 30-45 minutes, a duration determined based on the pilot study. The environment where the test was taken was to be comfortable, devoid of distractions, and well-lit so that the participants could effectively fill the inventory. They would also be told to read the instructions well before filling out both the NEO-FFI and the SORS.

The guidelines outlined in the Professional Manual were adhered to concerning the acceptable inclusion of completed questionnaires. Specifically, if ten or more items were unanswered, the test could not be scored, whereas if nine or fewer items were left blank, they would be treated as neutral responses. It is important to note that this procedure was completed in approximately six weeks. Ultimately, the data were input into an SPSS file for subsequent analysis.

### **Data Analysis Procedure**

Data regarding students' personality traits were gathered using the NEO Five-Factor Inventory (NEO-FFI). Additionally, a survey on reading strategies (SORS) was conducted to assess the metacognitive reading strategies employed by the students.

Data analysis was performed using SPSS version 20, which included descriptive and inferential statistics. The descriptive statistics are to summarize the demographic characteristics of the sample, such as gender, age, and academic class. Since all the demographic variables were nominal, it would facilitate calculating means, standard deviations, frequencies, and percentages.

With the first research questions, quantitative data analysis simply involved obtaining descriptive statistics, namely means, standard deviations, and frequency counts per strategy read. In comparing strategy use with students, the mean was a measure of how they applied metacognitive strategies. The mean values were used to classify possible strategies used into three different levels of application: a high score, meaning a score above 3.5; a medium usage score, 2.5-3.4; and a low which is 2.4 or below. Similar descriptive statistics- including means, standard deviations, and frequencies- for each personality trait constituted the second research question in the application of a similar quantitative data analysis. In addition, zero-order correlations (Linear Pearson correlation) were also worked out among the NEO-FFI dimensions to determine correlations in personality traits. T-tests were also employed in realizations of differences in personality traits across female and male students. The third and fourth research questions shall be analyzed

using bivariate correlations. Bivariate correlation is used to analyze the relationship between the personality traits of a student and his metacognitive reading strategies. Also, an independent sample T-test is used to compare the use of metacognitive reading strategies in male and female students.

#### 4. RESULTS AND DISCUSSIONS

A normality test is necessary to evaluate the normality of the distributions. The one-sample Kolmogorov-Smirnov test was performed to assess the normality of the data, which validated the normality of the distributions.

**Table 1**

*One-Sample Kolmogorov-Smirnov Test of Metacognitive Reading Strategies*

		Global Strategies	supportive Strategies	Problem-solving Strategies
N		198	198	198
Normal Parameters	Mean	3.56	3.34	3.90
	Std. Deviation	.48	.54	.45
Most Extreme Differences	Absolute	.08	.07	.08
	Positive	.07	.047	.07
	Negative	-.08	-.07	-.08
Kolmogorov-Smirnov Z		1.0	1.00	1.0
Asymp. Sig. (2-tailed)		.08	.074	.08

The findings demonstrated that the data for each variable conformed to a normal distribution, as the p-values (.08, .07, .08) exceeded the threshold of 0.05.

**Table 2**

*One-Sample Kolmogorov-Smirnov Test of Personality Trait*

		Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
N		198	198	198	198	198
Normal Parameters <sup>a</sup>	Mean	2.10	2.29	2.43	2.49	2.76
	Std. Deviation	.70	.60	.511	.57	.62
Most Extreme Differences	Absolute	.06	.076	.082	.06	.07
	Positive	.04	.069	.082	.06	.06
	Negative	.00	-.07	-.067	-.05	-.07
Kolmogorov-Smirnov Z		1.00	1.06	1.00	.00	1.08
Asymp. Sig. (2-tailed)		.05	.07	.085	.06	.07

a. Test distribution is Normal.

b. Calculated from data.

The findings demonstrated that the data for each variable conformed to a normal distribution, as the p-values (.05, .07, .08, .06, .07) exceeded the threshold of 0.05.

According to the three-tiered framework for interpreting reading strategy utilization established by Oxford and Burry-Stock (1995), the strategies can be categorized into three distinct groups: the high usage group (mean of 3.50 or higher), the medium usage group (mean ranging from 2.50 to 3.49), and the low usage group (mean below 2.50). Table 3 presented below outlines the thirty individual items from the Survey of Reading Strategies (SORS), detailing the frequency counts, means, standard deviations, and

interpretations utilized by Iranian EFL students.

**Table 3**

*Descriptive Statistics of Metacognitive Reading Strategies*

Metacognitive Reading Strategies	Mean	S. D	Meaning
<b>Global 17</b> - I use context clues to help me better understand what I am reading.	2.85	.80	Moderate
<b>Support 29</b> -When reading I translate from English into my native language.	2.85	.83	Moderate
<b>Support 26</b> - I ask myself questions I like to have answered in the text.	2.96	1.00	Moderate
<b>GLOB 23</b> . I critically analyze and evaluate the information presented in the text.	3.05	1.00	Moderate
<b>Support 30</b> When reading, I think about information in both English and my mother tongue.	3.05	1.15	Moderate
<b>Global 27</b> check to see if my guesses about the text are right or wrong.	3.14	1.05	Moderate
<b>Global 8</b> - I review the text first by noting its characteristics like length and organization.	3.17	1.03	Moderate
<b>Global 4</b> - I take an overall view of the text to see what it is about before reading it.	3.31	1.19	Moderate
<b>Support 13</b> -I uses reference materials (e.g., dictionary) to help me understand what I read.	3.35	.94	Moderate
<b>Support 5</b> When text becomes difficult, I read aloud to help me understand what I read.	3.40	1.07	Moderate
<b>Support 2</b> -I take notes while reading to help me understand what I read.	3.46	1.03	Moderate
<b>Problem-solving 16</b> I stop from time to time and think about what I am reading.	3.47	.88	Moderate
<b>Global 6</b> -I think about whether the content of the text fits my reading purpose.	3.54	1.04	High
<b>Global 15</b> I use tables, figures, and pictures in text to increase my understanding.	3.55	1.08	High
<b>Problem-solving 28</b> -When I read, I guess the meaning of unknown words or phrases.	3.56	.78	High
<b>Support 18</b> -I paraphrase (restate ideas in my own words) to better understand what read.	3.61	.93	High
<b>Support 22</b> -I go back and forth in the text to find relationships among ideas in it.	3.64	.94	High
<b>Problem solving 19</b> -I try to picture or visualize information to help remember what I read.	3.72	.88	High
<b>Global 24</b> -I try to guess what the content of the text is about when reading.	3.74	.91	High
<b>Global 12</b> When reading, I decide what to read closely and what to ignore.	3.72	.90	High
<b>Global 21</b> -I check my understanding when I come across new information.	3.78	.84	High
<b>Global 1</b> -I have a purpose in mind when I read.	3.81	.92	High
<b>Problem-solving 7</b> -I read slowly and carefully to make sure I understand what I am reading.	3.83	.78	High



<b>Problem solving 11</b> -I adjust my reading speed according to what I am reading.	3.91	.84	High
<b>Global 20</b> -I use typographical features like boldface and italics to identify key information.	3.92	.82	High
<b>Global 3</b> - I think about what I know to help me understand what I read.	4.14	.62	High
<b>Problem solving 14</b> -When text becomes difficult, I pay closer attention to what I am reading.	4.19	.76	High
<b>Problem solving 9</b> - I try to get back on track when I lose concentration.	4.25	.75	High
<b>Support 10</b> - I underline or circle information in the text to help me remember it.	4.28	.81	High
<b>Problem solving 25</b> -When text becomes difficult, I re-read it to increase my understanding.	4.29	.61	High
<b>Grand Total</b>	3.60	.40	High

The data presented in Table 3 indicates that the mean score for the overall application of metacognitive reading strategies among 198 EFL students was at a high level (Mean=3.60, S.D.=0.40). It was observed that eighteen strategies were utilized frequently, while twelve strategies were used at a moderate level. Notably, there were no strategies categorized as having low usage.

From the maximum of 4.29 to the minimum of 2.85, individual strategy items had different mean scores. Each reading strategy item on the SORS was reported to be used differently by participants. The most commonly reported strategy number 25, "When text becomes difficult, I reread it to enhance my understanding" (Mean= 4.29, S.D = 0.61). Closely, that highest mean strategy was followed by strategy number 10: "I underline or circle information in the text to aid my memory," with a mean of 4.28, SD= 0.81, and strategy number 9: "I try to regain focus when I lose concentration" (Mean= 4.25, S. D= 0.75). On the contrary, the least reported strategy was number 17: "I use context clues to improve my comprehension of the reading material" (Mean = 2.583, S. D= 0.75), followed closely by number 29: "When reading, I translate from English into my native language" (Mean = 2.85, S. D= 0.74) and number 26: "I pose questions to myself that I wish to have answered in the text" (Mean = 2.96, S. D= 1.00).

**Table 4**

*Mean and Standard Deviations of Subcategories of Metacognitive Reading Strategies.*

	Mean	Std. Deviation	Meaning
Problem-Solving	3.90	.45	High
Global	3.56	.48	High
Support	3.34	.54	Moderate

The data presented in Table 4 indicates that problem-solving reading strategies and global reading strategies were utilized at a high frequency, while support reading strategies were employed at a moderate frequency. The hierarchy of metacognitive reading strategies utilized by EFL students ranked from highest to lowest mean scores, shows that problem-solving reading strategies were the most frequently used (Mean=3.90, S.D.=0.45), followed by global reading strategies (Mean=3.56, S.D.=0.48), and support reading strategies, which were the least utilized (Mean=3.34, S.D.=0.54).

**Table 5**

*Mean Scores and Standard Deviations of Personality Traits between Males and Females*

	GENDER	N	Mean	Std. Deviation
Neuroticism	MALE	62	2.17	.76
	FEMALE	136	2.07	.68
Extraversion	MALE	62	2.01	.58
	FEMALE	136	2.42	.57
Openness	MALE	62	2.36	.48
	FEMALE	136	2.47	.52
Agreeableness	MALE	62	2.56	.59
	FEMALE	136	2.46	.56
Conscientiousness	MALE	62	2.61	.64
	FEMALE	136	2.83	.60

Table 5 depicts the descriptive statistics of personality traits.

**Table 6**

*Mean and Standard Deviations of Five Personality Traits*

	Mean	Std. Deviation
Conscientiousness	2.76	.62
Agreeableness	2.49	.57
Openness	2.43	.51
Extraversion	2.29	.60
Neuroticism	2.10	.70

Table 6 presents the average scores for the five personality traits. Of these domains, Conscientiousness exhibited the highest mean score, followed by Agreeableness, Openness, Extraversion, and Neuroticism.

**Table 7**

*Independent Samples Test for the Five Personality Domains of Male and Female Participants*

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Neuroticism	Equal variances assumed	1.95	.16	.96	196	.33
	Equal variances not assumed			.92	106.47	.35
Extraversion	Equal variances assumed	.46	.49	-4.65	196	.00
	Equal variances not assumed			-4.62	116.65	.00
Openness	Equal variances assumed	2.14	.14	-1.39	196	.16
	Equal variances not assumed			-1.43	126.95	.15
Agreeableness	Equal variances assumed	.01	.90	1.13	196	.25

Conscientiousness	Equal variances not assumed			1.11	111.77	.26
	Equal variances assumed	.34	.55	-2.31	196	.02
	Equal variances not assumed			-2.25	111.70	.02

A t-test was conducted to determine the significance of the differences in personality traits between female and male students. It was found as per Levene's Test for Equality of Variances that the significance values for all five personality domains were above .05. Thus, the variances may be treated as equal, meaning that the hypothesis may be evaluated according to the format of the t-test displayed in Table 7: Equal Variance Assumed. There were two results: for Extraversion, the significance (2-tailed) value was .00, and for Conscientiousness, the significance value was .02; both were below .05. In addition, the significance values for Neuroticism (.33), Openness (.15), and Agreeableness (.25) were above .05. In this case, about the variable under study, meaning the dependent variable, in comparing means for subjects in both groups, a 2-tailed significance of .05 or less indicates there is a statistically significant difference in mean scores between the two groups. This little bit above .05 indicates that there may not be a significant difference in the group means. This leads to the conclusion that the males and females are significantly different from one another about Extraversion and Conscientiousness, while there is no such difference noted in Openness, Neuroticism and Agreeableness.

A bivariate correlation analysis was conducted to assess the relationship between personality traits and the various subcategories of metacognitive reading strategies (SORS).

**Table 8**  
*Pearson Correlation Coefficients for the NEO-FFI and SORS*

		Global	Problem-Solving	Supportive
Neuroticism	Pearson Correlation	-.20**	-.17*	.03
	Sig. (2-tailed)	.00	.01	.66
	N	198	198	198
Extraversion	Pearson Correlation	.17*	.18**	.01
	Sig. (2-tailed)	.01	.00	.89
	N	198	198	198
Openness	Pearson Correlation	.35**	.18**	.24**
	Sig. (2-tailed)	.00	.00	.00
	N	198	198	198
Agreeableness	Pearson Correlation	.29**	.16*	.17*
	Sig. (2-tailed)	.00	.01	.01
	N	198	198	198
Conscientiousness	Pearson Correlation	.42**	.39**	.28**
	Sig. (2-tailed)	.00	.00	.00
	N	198	198	198

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).



Global strategies	Equal variances assumed	.38	.53	.58	196	.56	-.04	.07	-.19	.10
	Equal variances not assumed			.62	142.56	.53	-.04	.06	-.18	.09

According to Levene's Test for Equality of Variances, the significance value obtained was .53, exceeding the threshold of .05. Consequently, it can be inferred that the variances are equal. This allows for the hypothesis to be tested using the Equal Variances Assumed row of the t-test presented in Table 11. The results yielded a t-value of  $t=-0.58$ , with degrees of freedom (df) equal to 196, and a significance level (2-tailed) of .56, which is also greater than .05. Therefore, it can be concluded that there was no significant difference in the utilization of Global reading strategies between male and female participants.

An independent samples t-test was utilized to analyze the data set to identify potential differences in problem-solving reading strategies between genders.

**Table 12**

*Statistics of the Male and Female Participants for Problem-Solving Reading Strategies*

Problem-solving strategies	GENDER	N	Mean	S. D	Std. Error Mean
	MALE	62	3.78	.43	.05
	FEMALE	136	3.96	.44	.03

As indicated in Table 12, the mean score for males employing Problem-solving reading strategies was 3.78, whereas the mean score for females utilizing the same strategies was 3.96. This suggests a higher proficiency among females in this area.

An independent samples t-test was conducted to investigate the differences between males and females regarding the utilization of problem-solving reading strategies and to assess the significance level. The results of this analysis are displayed in Table 13 below.

**Table 13**

*Independent Samples T-test for the Male and Female Participants' Use of Problem-Solving Reading Strategies*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	f	Sig. (2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
Problem-solving strategies	Equal variances assumed	.10	.74	-2.6	6	.08	-.18	.06	-.31	.04
	Equal variances not assumed			-2.7	20.76	.08	-.18	.06	-.31	.04

The Levene's Test Equality of Variance results reflect a significance value of .74, above the .05 threshold. It follows that the variances can be taken as equal because the hypothesis will be tested on the Equal Variances Assumed row of t-tests as shown in Table 13. The t analysis denoted  $t = 2.67$ ,  $df = 196$ , and probability was .08, clearly less than the .05 level. A noticeable difference between males and females in the application of Problem-solving reading strategies is inscribed.

An independent samples t-test was utilized to analyze the data set to identify potential differences in reading strategies between genders.

**Table 14**

*Statistics of the Male and Female Participants for Supportive Reading Strategies*

supportive strategies	GENDER	N	Mean	Std.Deviation	Std. Error Mean
	MALE	62	3.24	.42	.05
	FEMALE	136	3.39	.58	.04

As indicated in Table 14, the mean score for males employing problem-solving reading strategies was 3.78, whereas females utilizing supportive strategies achieved an average of 3.96. This suggests a higher proficiency among females in this area.

An independent samples t-test was conducted to investigate the differences between males and females regarding the utilization of supportive reading strategies and to assess the significance level. The results of this analysis are displayed in Table 15 below.

**Table 15**

*Independent Samples T-test for the Male and Female Participants' Use of Supportive Reading Strategies.*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.(2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
supportive reading strategies	Equal variances assumed	7.46	.07	1.77	96	.07	-.14	.08	-.30	.01
	Equal variances not assumed			1.99	57.07	.04	-.14	.07	-.29	-.00

According to Levene's Test for Equality of Variances, the significance value obtained was .07, which is below the threshold of .05. This indicates that the variances are not equal. Consequently, the hypothesis can be evaluated using the Equal Variances Not Assumed section of the t-test presented in Table 15. This analysis yielded a t-value of 1.99, degrees of freedom of 157.07, and a two-tailed significance of .04, which is also below .05. Therefore, it can be concluded that the difference in the application of supportive reading strategies between males and females is statistically significant, suggesting that females (M=3.39) utilized more supportive reading strategies on average than males (M=3.4).

**Table 16**

*Mean and Standard Deviation for the Subcategories of SORS*



metacognitive reading strategies	Equal variances assumed	3.57	.06	-2.05	196	.04	-.12	.06	-.24	-.00
	Equal variances not assumed			-2.23	54.89	.02	-.12	.05	-.23	-.01

According to Levene's Test for Equality of Variances, the significance value recorded was .06, exceeding the threshold of .05. This indicates that the variances can be considered equal. Consequently, the hypothesis was tested utilizing the Equal Variances Assumed row of the t-test presented in Table 18. This analysis yielded a t-value of  $t = -2.005$  and degrees of freedom (df) equal to 196. The table further indicated that the significance (2-tailed) was .046, which is below the .05 level. Therefore, it can be concluded that there is a significant difference in the overall strategy used between males and females.

The initial research question posed was, "What metacognitive reading strategies do EFL students report when engaging with English academic texts?" The data collected reveal that the participants utilized a diverse array of strategies to plan, monitor, and enhance their reading comprehension of academic English texts. The mean score for the overall application of metacognitive reading strategies was 3.60 on a 5-point Likert scale. Based on the previously outlined criteria for strategy usage, this suggests that Iranian EFL students demonstrate a medium to high level of engagement with metacognitive reading strategies while reading academic English texts.

Among the five most utilized reading strategies, as demonstrated in Table 1, three fall under the category of problem-solving strategies, one is classified as a support strategy, and one is categorized as a global strategy. The strategy "When text becomes difficult, I re-read it to increase my understanding" is the most commonly used problem-solving approach ( $M=4.29$ ,  $S. D=.61$ ). This is followed closely by the support strategy "I underline or circle information in the text to help me remember it" ( $M=4.28$ ,  $S. D=.81$ ). The next in line is the problem-solving strategy "I try to get back on track when I lose concentration" ( $M=4.25$ ,  $S. D=.75$ ), followed by another problem-solving strategy, "When text becomes difficult, I pay closer attention to what I am reading" ( $M=4.19$ ,  $S. D=.76$ ). Finally, the global strategy "I think about what I know to help me understand what I read" ranks fifth ( $M=4.14$ ,  $S. D=.62$ ).

Two of the five strategies that are least frequently employed fall under the global strategies subcategory: "I use context clues to help me better understand what I am reading" ( $M=2.85$ ,  $S. D=.80$ ) and "I critically analyze and evaluate the information presented in the text" ( $M=3.05$ ,  $S. D=1.00$ ). The remaining three strategies, which are the least utilized, are categorized within the support strategies subcategory. These include "When reading, I translate from English into my native language" ( $M=2.85$ ,  $S. D=.83$ ), "I ask myself questions I would like answered in the text" ( $M=2.96$ ,  $S. D=1.0044$ ), and "When reading, I consider the information in both English and my mother tongue" ( $M=3.05$ ,  $S. D=1.15$ ). Educators need to focus more on these strategies, as equipping students with the skills to effectively use these aids can significantly improve their comprehension of the text.

The analysis of reading strategies shows that the leading categories were problem-solving reading strategies (PSRS) which had a mean of 3.90 and a standard deviation of 0.45, followed by global reading strategies (GRS), with a mean of 3.56 and a standard deviation of 0.48, and finally support reading strategies (SRS), mean of 3.34 and standard deviation 0.54. This is in line with the observation that subjects in this study preferred problem-solving strategies. Such characteristics can simply be related to the explanation given by Mokhtari and Sheorey (2002) that problem-solving strategies are the "actions and techniques readers use in dealing with reading. Thus, it can further be stated that Iranian EFL students mostly have a



problem-solving strategy because they solve English text problems in the same manner they do with normal problems. Moreover, this time, the students implicated in the research the least use of support reading strategies. They include mainly note-taking during reading, hard printing copies of texts, self-questioning, and reading aloud while difficult passages are encountered.

The findings of this study indicate that problem-solving strategies were the most commonly employed by the participants in the sample, with global strategies following in frequency, while support strategies were identified as the least preferred. This outcome, particularly the prominence of problem-solving strategies, corroborates earlier research conducted by Alsheikh (2002), Alsheikh and Mokhtari (2011), Mokhtari and Riechard (2002), Alami (2016), Magogwe (2013), and Abu-Snoubar (2017).

Another research question addressed was, "What personality traits characterize Iranian EFL learners as derived from NEO-FFI data?" The subjects tend to be characterized by the personality trait Conscientiousness, then by Agreeableness, Openness, Extraversion, and Neuroticism, as the results unfold. Thus, intercorrelation among these traits demonstrated that learners exhibiting a high level of Neuroticism had lower levels regarding all other personality traits. Also, those with a high degree of Extraversion had greater levels of both Agreeableness and Conscientiousness and learners with a high degree of Openness had higher relative levels of Agreeableness and Conscientiousness.

Female examinees scored much greater in terms of the dimensions of extraversion and conscientiousness in the present research than their male counterparts. However, differences that were observable between males and females concerning other personality traits assessed were insignificant. Results prove that female students taking part in this research could be characterized as systematic, meticulous, efficient, organized, reliable, responsible, hard-working, persevering, self-disciplined, sociable, gregarious, active, assertive, passionate, and talkative. This stands at an oppositional extreme to most of the previous studies on gender differences that suggested women were generally more prone to neuroticism, whilst men were found more conscientious (Feingold, 1994; Lynn & Martin, 1997; Nolen-Hoeksema, 1987).

Agreeableness refers to traits such as compassion, cooperativeness, and a general concern for social harmony. Individuals who score high in agreeableness are typically empathetic, warm, and friendly, often prioritizing the needs and feelings of others. They tend to be trusting and altruistic, making them effective team players and supportive friends. Conversely, those with low scores in agreeableness may be more competitive, critical, or skeptical, often placing their interests above those of others. This dimension reflects an individual's tendency to engage in prosocial behaviors and maintain positive relationships.

Conscientiousness involves traits such as organization, dependability, and a strong sense of duty. Highly conscientious individuals are disciplined, goal-oriented, and methodical in their approach to tasks. They are often seen as reliable and diligent, with a strong ability to plan and follow through on commitments. In contrast, those who score low on conscientiousness may be more spontaneous, disorganized, or impulsive, which can lead to challenges in achieving long-term goals or maintaining structure in their lives. This dimension is strongly correlated with academic and professional success due to its emphasis on self-discipline and responsibility.

Neuroticism captures emotional stability and the tendency to experience negative emotions such as anxiety, depression, and irritability. Individuals with high levels of neuroticism are more prone to stress and emotional instability, often reacting more intensely to perceived threats or challenges. They may struggle with self-doubt and experience difficulties in managing their emotions. On the other hand, those with low neuroticism tend to be more emotionally resilient and stable, displaying greater calmness and self-assurance in the face of adversity.

Together, these five dimensions—Extraversion, Openness to Experience, Agreeableness, Conscientiousness, and Neuroticism—provide a comprehensive framework for understanding personality. The interplay among these traits can shape an individual's behavior, relationships, and overall approach to life. Research has shown that these traits are not only relatively stable over time but also have significant implications for various life outcomes, including mental health, job performance, and interpersonal relationships.

In summary, personality trait theories highlight the complexity of human behavior by acknowledging both biological predispositions and environmental influences. The Five-Factor Model serves as a robust tool for categorizing personality traits across cultures and contexts, providing valuable insights into how these traits manifest in everyday life. Understanding these dimensions can enhance self-awareness and interpersonal dynamics, ultimately fostering personal growth and improved relationships.

## **5. CONCLUSION**

Participants from the study indicated that Iranian university students employed metacognitive reading. Engaged with English Structure texts, students also used such reading strategies as previewing the text before reading, 'highlighting key information within the text,' reading and evaluating the material read, navigating back and forth within the text, and rereading for heaven. 2) Participants' personality traits were as follows: Conscientiousness came as the most popular beyond Agreeableness, Openness, Extraversion, and Neuroticism. 3) The research revealed the following facts: the relation of the personality traits possibly of Iranian university students to their use of metacognitive reading strategies. For example, above all, it was found that more neurotic students were not inclined to use global and problem-solving reading strategies, while more extroverted students tended to use such strategies more.

In conclusion, the relationship between Iranian EFL students' personality traits, gender, and the use of metacognitive reading strategies reveals significant insights into the complexities of language learning. The findings suggest that personality traits, such as conscientiousness and openness to experience, play a pivotal role in how students approach reading tasks and employ metacognitive strategies. Additionally, gender differences may influence the utilization of these strategies, with male and female students exhibiting distinct patterns in their reading behaviors and preferences. Understanding these relationships not only enhances our comprehension of the factors that affect language acquisition but also underscores the importance of tailoring instructional approaches to accommodate diverse learner profiles. By recognizing the interplay between personality traits, gender, and metacognitive strategy use, educators can develop more effective teaching methods that foster improved reading comprehension and overall language proficiency among Iranian EFL students. Future research in this area could further explore these dynamics and contribute to the development of targeted interventions that support learners in maximizing their reading potential.

## **PEDAGOGICAL IMPLICATIONS**

1. **Personalized Instruction:** Educators should consider the individual personality traits of students when designing reading instruction. For instance, introverted students may benefit from more structured, independent reading tasks, while extroverted students might thrive in collaborative reading activities that encourage discussion.
2. **Gender-Sensitive Approaches:** Recognizing potential differences in reading strategy use between genders can help teachers tailor their instructional strategies. For example, if female students are found to use metacognitive strategies more effectively, educators could implement peer mentoring programs where these students help male peers develop similar skills.
3. **Metacognitive Strategy Training:** Incorporating explicit instruction on metacognitive reading strategies into the curriculum can enhance students' reading comprehension. Teachers should provide training sessions

that teach students how to plan, monitor, and evaluate their reading processes.

4. **Assessment of Personality Traits:** Implementing assessments to gauge students' personality traits can inform instructional practices. By understanding the personality profiles of their students, teachers can create a more engaging and supportive learning environment that caters to diverse needs.

5. **Encouraging Reflection:** Encourage students to reflect on their reading processes and strategies. Journals or group discussions can be effective tools for promoting metacognitive awareness and helping students understand their reading habits and preferences.

6. **Culturally Relevant Materials:** Selecting reading materials that resonate with the cultural backgrounds and interests of Iranian EFL students can increase engagement and motivation, making the use of metacognitive strategies more relevant and effective.

## **SUGGESTIONS FOR FURTHER STUDIES**

1. **Longitudinal Studies:** Conduct longitudinal research to track changes in personality traits, gender differences, and metacognitive strategy use over time. This could provide insights into how these relationships evolve as students progress through their education.

2. **Comparative Studies:** Explore the relationship between personality traits, gender, and metacognitive reading strategies in different cultural contexts or among different age groups to assess the generalizability of findings.

3. **Intervention Studies:** Design and implement intervention studies that focus on teaching specific metacognitive strategies to various personality types and genders to evaluate the effectiveness of tailored approaches.

4. **Qualitative Research:** Utilize qualitative methods such as interviews or focus groups to gain deeper insights into how personality traits and gender influence the use of metacognitive strategies in reading among EFL students.

5. **Exploring Other Variables:** Investigate other variables that may interact with personality traits and gender in influencing metacognitive strategy use, such as motivation, anxiety levels, or previous reading experiences.

6. **Technology Integration:** Examine the role of technology in supporting metacognitive strategy use among EFL learners, considering how digital tools can cater to different personality types and learning preferences.

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