THE COMPATIBILITY OF BIG FIVE PERSONALITY TRAITS AND REFLECTIVE TEACHING AMONG IRANIAN EFL TEACHERS

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Abstract: During the recent decade, the slogan of reflective teaching has been embraced by teachers, teachers' educators, and educational teachers worldwide. Drawing on John Dewey's ideas, there are three attitudes of reflective teachers, i.e., open-mindedness, wholeheartedness, and responsibility. This study aimed to examine the relationship between the teachers' personality types and their teaching reflection elements. To this end, we asked 100 (aged 20 to 40; M = 29.30; SD = 3.60; 46% women) Iranian EFL teachers to complete the Big Five Inventory Personality Test and the Reflective Teaching Instrument. The results confirmed the hypothesis that each personality type correlated with elements of the teaching reflection. For instance, teachers with elevated Extrovertion were found to draw on the affective element in their teaching practices. The pedagogical implications of the findings are discussed.

Keywords: Big Five, EFL teachers, Reflection, Teacher personality

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INTRODUCTION

Teachers play a critical role in the modern world. They could positively influence students' short- and long-term outcomes, including their grades, state assessment scores, health, extracurricular activities, college attendance, adult income, and retirement savings (Chamberlain, 2013; Chetty, Friedman, & Rockoff, 2014). Thus, information on teachers' personality styles is of utmost importance. Gordon Allport (1937) defined personality as "the dynamic organization within the individual of those psychophysical traits that determine his unique adjustments to his environment." Personality is one of the basic psychological mechanisms that manage individuals' cognitive systems and behaviors (Halder, Roy, & Chakraborty, 2010). It is reported that personality traits can reflect individuals' perceptions and beliefs (Terzis, Moridis, & Economides, 2012) and estimate their behaviors (Zweig & Webster, 2003). In the same vein, personality traits are tendencies that represent an individual's uniqueness that has a lasting and stable effect on an individual's behavior and thinking (Satchell et al., 2017). Research shows that personality traits do not exist in isolation within individuals but co-exist at different levels (Merz & Roesch, 2011). Therefore, a person-centered approach, permitting the identification of homogenous profiles of teachers presenting qualitatively and quantitatively distinct combinations of personality traits, may be required for a holistic understanding of the role of personality in teacher outcomes.

One question that has been at the core of understanding personality traits as a multidimensional concept is the attempt to determine the number of basic dimensions of personality in understanding personality differences among individuals. Cattell's (1957) seminal work on personality factors is still of utmost importance in current personality studies (e.g., Boag 2018, Messick 2021, Naseer, Mussarat & Malik 2022). He proposed 16 factors or dimensions of personality, including warmth, reasoning, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehension, Openness to change, self-reliance, perfectionism, and tension, which were operationalized in the Sixteen Personality Factor Questionnaire (16PF). The 16PF is broadly implemented in career development planning, counseling, and coaching, both within and outside organizations, to help clients understand their strengths and limitations, as well as a planning tool for self-development goals and effective career choices (Carson, 1998; Cattell et al., 1970; Cattell and Schuerger, & Sfiligoj 1998; Conn and Rieke, 1994; Krug and Johns, 1990; Lowman, 1991; Schuerger, 1995) The 16PF has been beneficial because of its long history of predicting the six Holland RIASEC occupational dimensions, in addition to employing the various 16PF occupational profiles to establish person–job match (Schuerger and Watterson, 1998; Schuerger and Sfiligoj, 1998). There are also associations between 16PF scores and crucial professional outcomes, including job satisfaction (Lounsbury et al., 2004) and job-training performance (Tango and Kolodinsky, 2004).

In recent decades, influenced by Cattell's seminal work, growing attention has been given to find study personality dimensions via hierarchical models that characterize the behavioral tendencies into higher-order clusters. Some empirical studies have supported this assumption across different occupational groups and argued that personality and cognitive and academic potentials are valid predictors of career success even in the long run (e.g., Richardson et al., 2012; Spengler et al., 2015; Stanek & Ones, 2018). One of the most prominent models in personality studies is the "Big Five" model of personality traits (e.g., Schleicher, 2016), which includes personality dimensions of Openness (i.e.,

a degree of intellectual curiosity, creativity, and preference for novelty and variety), Conscientiousness (i.e., a tendency to show self-discipline, planning, and organization), extraversion (i.e., positive emotions, activity, sociability, and the tendency to seek stimulation in the company of others), agreeableness (i.e., a tendency to be prosocial and cooperative toward others rather than antagonistic), and neuroticism (i.e., a vulnerability to unpleasant emotions such as anxiety, anger, and depression). These five personality domains are hypothesized to define and explain individual variations in behavior and experience (Herrmann, 1991; McCrae & Costa, 2008). The five-factor model of personality, which has become "the most widely accepted personality structure in our time" (Judge & Ilies, 2002, p. 799), has sparked interest in the link between personality and career choice. Indeed, the field of personnel evaluation focused on knowledge, skills, and abilities related to job has been broadened into personal characteristics such as personality traits (Levy, et al., 2011). The personality assessment can increase the likelihood of hiring individuals whose personality traits correspond to their professional needs and development and increase their chance of succeeding in their careers (Naemah, 2007).

With respect to teaching, effective language learning goes hand in hand with effective language teaching, which relies upon effective teachers (Alrefaee and Al-Ghamdi, 2019). According to Shishavan and Sadeghi (2009), the hallmark of an effective EFL teacher is their personality style. Also, Makovec (2018) indicated that with English language teaching worldwide, teachers' personality traits determine their professional identity and function, implying that personality traits are crucial in teachers' professional growth and identity. Also, teachers' personality affects their overall performance and judgments in the classroom. In other words, teachers'

personality types have a significant influence on how they reflect on their teaching techniques and strategies. This suggests that a teacher's personality type is important to their teaching reflections and may even determine their teaching reflections. As a result, it is suggested that each personality type of teacher favors different aspects of teaching reflections. Understanding and classifying personality types is crucial to many academic practices (Miller, 1991; Poropat, 2009). According to Jacobs, Vakalisa, and Gawe (2011), reflective teaching allows teachers to renew their practice and comprehend the effects of their teaching and provides information on how teachers meaningfully engage with learners, hence encouraging good teaching and learning practice. Likewise, Akbari (2007) indicated that reflective teaching leads teachers to challenge clichés they learned during their formative years while also allowing them to build better-informed practice.

Over the last decades, the measurement of work-related personality traits has increasingly become important in the field of human resources to assist processes such as function in the context of employee selection (Levy et al., 2011); however, there is little empirical evidence for the predictive validity of these characteristics for the quality of teaching (Klassen & Kim, (2019); Rimm- Kaufman & Hamre, 2010). For example, Rashtchi and Sanayi Mashhoor (2019) explored the relationship between reflective teaching and burnout among 100 EFL teachers from different language institutes in Tehran. The authors divided the participant into introverts and extroverts groups based on the Meyers-Briggs Traits Inventory (MBTI) at the onset of the study. The results revealed that, regardless of the personality of teachers, reflective teaching and burnout were negatively correlated. Further, the introverted teachers were significantly more reflective than those extroverts, while the former group of teachers was

less prone to burnout than the latter. In the same vein, Monabbati and Faravani (2020) investigated the interrelationship between professional identity, perfectionism, and reflective teaching practice with 159 English language teachers of several schools and institutes in Mashhad. The results showed a significant relationship between the three variables, suggesting that, for a perfectionist teacher to become a reflective teacher, one must recognize his/her professional identity. Similarly, Zohrabi and Yousefi (2016) examined reflective teaching, willingness to communicate (WTC), intrinsic motivation, and language proficiency among 20 teachers and 240 advanced EFL learners. Results revealed significant relationships between reflective teaching, willingness to communicate (WTC), and intrinsic motivation.

There are also similar studies with the "Big Five" model of personality traits. For instance, Fadaee, Marzban, and Najafi Karimi (2021) examined the association between autonomy and education style with personality traits measured by NEO Personality Inventory and found that four subcategories of teaching style and four subcategories of personality traits were significant predictors of autonomy. In another study, Ayyildiz and Yilmaz (2021) explored the effectiveness of personality traits on creative thinking dispositions by creative learning environments and teacher behavior that reinforces creativity. The results showed that the creative personality trait had a significant predictor power on the tendency toward creative thinking. Further, a creative learning environment and teacher support behavior had a positive impact in this regard. Similarly, Khalilzadeh and Khodi (2021) examined the relationship between teachers' personality traits and students' motivation. The results demonstrated associations between Big Five Personality traits and motivation subscales. In particular, the dignity of teachers had a positive effect on students'

basic motivational knowledge. Additionally, extroversion had a negative effect on student achievement and knowledge. Finally, Safarie and Tralani Aliabadi (2014) examined the correlation between personality types and teaching reflection among Iranian university professors. The findings revealed that each personality type was correlated with particular elements of the teaching reflection. For instance, extrovert teachers were found to draw on the affective element in their teaching practice.

With respect to teachers, reflection is core to sustaining effective professional development in teacher education and teaching practices (Dewey, 1909; Feucht, 2010; Schoen, 1987). Teachers will often reflect on their teaching practices, evidenced by how they communicate with peers about current and critical issues, mindful introspection, and systematic research methodologies. Reflective teaching is an active educational activity. Farrell (2012) reported that reflection and reflective practice "are so famous because they are almost necessary for language teacher education and development program" (p. 8). Reflectivity is considered either while or after teaching (Farrell, 2012). According to Schon (2017), reflection-in-action "is that teachers get involved in some problems in the classroom while teaching" (Akbari et al., 2010, p. 212). "In the reflection-on-action, teachers get involved in some issues after teaching "(Akbari et al., 2010, p. 212). However, reflection alone does not ensure transformative professional growth or practices. Reflexivity, the internal dialogue that directly impacts the transformative practices in the classroom, is arguably one rather effective method to support reflection for action (Archer, 2012). This internal dialogue transitions from reflection to reflexivity when it is intentional and understood leads to changes in one's beliefs, expectations, and educational practices. A deeper level of professional

learning and long-term change in education can be accomplished with reflexivity (Feucht, 2017).

Reflective teaching practice in second/foreign language teaching education has been attracting the attention of academics over the last three decades (Richards, 1991). However, despite this progress, there is still a lack of study on the attitudes of reflective instructors as indicated in their reflections in the English language teaching setting (Farrell, 2012). Meanwhile, it is believed that acknowledging the advantages of being reflective teachers might assist them in committing to their own professional development (Marzuki, 2013). Gordon et al. (2006) define teacher effectiveness as a measure of job performance in the teaching profession that can reflect a teacher's impact while completing their duties. Thus, echoing organizational and educational psychology studies, we can hypothesize the existence of relationships between the Big Five Personality domains (i.e., conscientiousness, emotional stability, extraversion, agreeableness, and Openness) and teachers' effectiveness.

The Big Five personality traits are essential in getting a better picture of a reflective teacher. In other words, teachers' personalities affect their teaching perspectives, and each instructor with a unique personality trait favors specific components of teaching reflections. Notwithstanding, there is a paucity of studies concerning the association between the Big Five personality traits and reflective teaching. Teachers are important drivers of student success in the immediate term, such as academic success (Hattie 2009), as well as in the future, such as college attendance and labor market earnings (Chetty et al. 2014). Additionally, it is important to retain teachers given that there is a shortage of teachers in many countries, such as the USA (Sutcher et al. 2016), Australia (Buchanan et al., 2013), the UK (White et al. 2006), India (Datta & Kingdon, 2021) and Iran (Tabatabaei et

al. 2012). However, two questions still remain among practitioners, policymakers, and researchers: what are the personal characteristics of effective teachers, and what are the personality characteristics of reflective teachers? In other words, what are the relationships between teachers' personality traits and their reflectivity in the classrooms? To our knowledge, the current study is the first to use Big Five Personality traits for examining the associations between teachers' personality traits and reflection. In this light, the current study aims to explore how each of the Big Five personality domains is associated with measures of teacher reflection.

METHODS
Participants and Procedure

We recruited 100 (aged 20 to 40; $M = 29.30$; SD: 3.60; 46% women) Iranian EFL teachers via convenience sampling method from six different language institutes in Tehran (i.e., Kian Language Academy, Mehrdad Language Academy, Iran Language Institute, Time Language School, Silver Line institute, and Payam Diplomat Language School) from May 2021 to September 2021. The participants provided a written informed consent form after being informed about the aims and the voluntary and confidential character of the study. Then, they were asked to complete the questionnaires. This study was approved by the ethics committee of the Islamic Azad University, North-Tehran Branch, Tehran, Iran.

Measures
Big Five Inventory Personality Test

This measure was developed and validated by John and Sirvastava (1999) and is used to measure Big Five Personality traits. The measure includes 44 items, which are based on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability of the final version of this questionnaire, as estimated through Cronbach Alpha, was 0.55.

Reflective Teaching Questionnaire

Reflective Teaching Questionnaire is a self-report measure and contains 29 items using rated on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*) (Akbari et al., 2010). The measure includes five subscales of Practical, Cognitive, Learner, Meta-Cognitive, and Critical reflection. Akbari et al. (2010) supported the psychometrics of this measure in Iran.

Data Analyses

Data analyses in this study were performed in two steps. First, using Mplus 7.4, we conducted exploratory and confirmatory factor analyses to ensure that the measures enjoy acceptable factorial structure based on model fit indices. Next, Pearson correlations coefficients were conducted to examine how the Big Five Personality Traits associated with reflectiveness scores. All analyses were conducted in SPSS 20 and with *p* < .05 as an indicator of statistical significance unless otherwise specified.
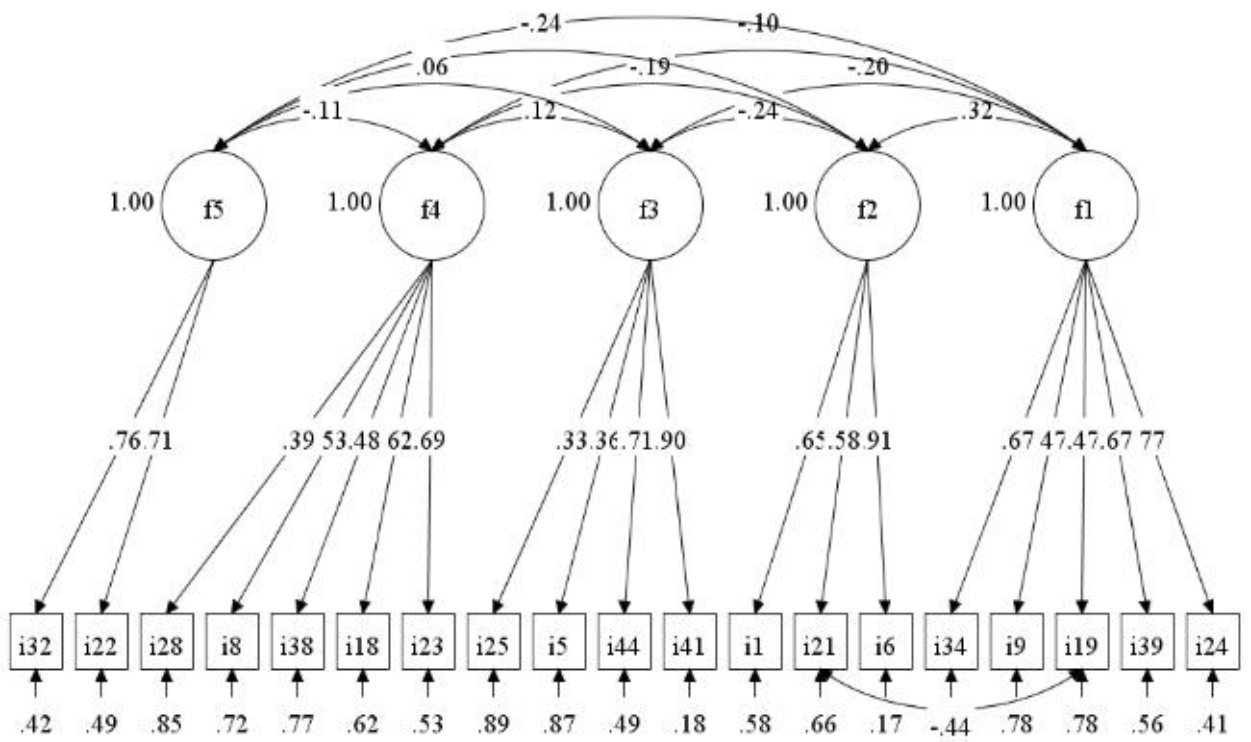
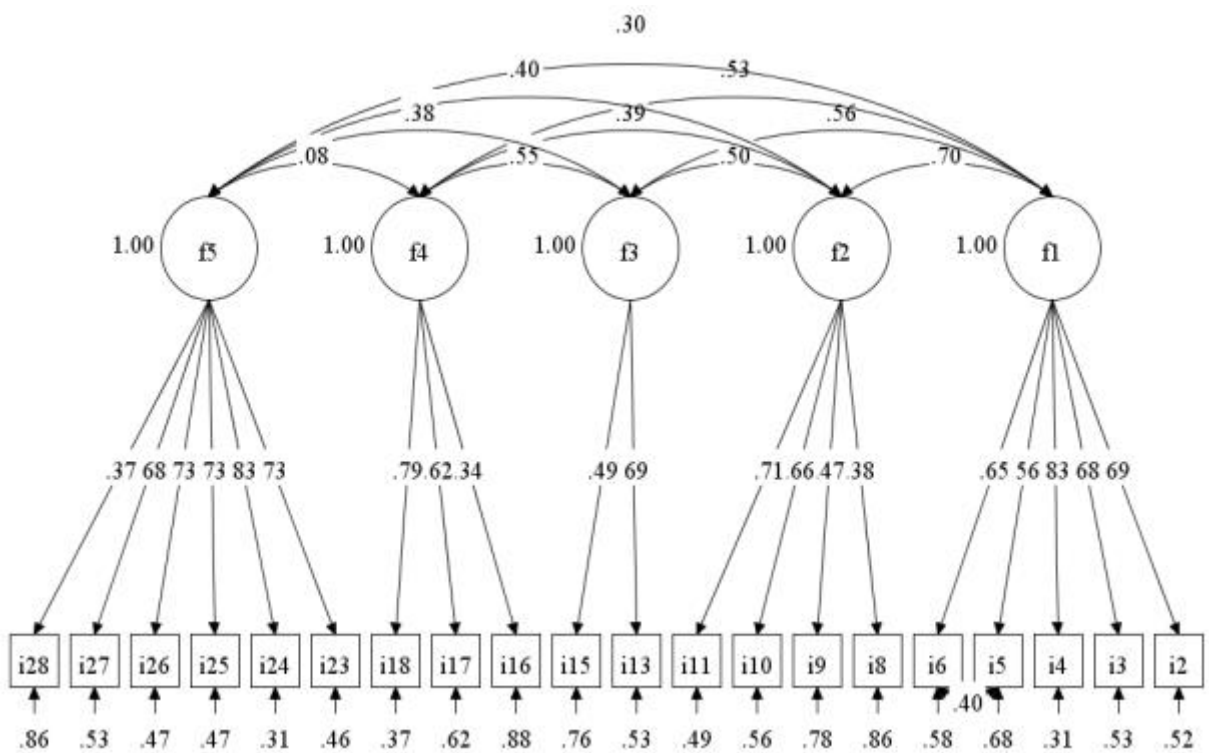Figure 1. *The CFA Model and the Standardized Loadings for BFI*

Figure 2. *The CFA Model and the Standardized Items Loadings for TRI*

Table 1. *BFI Rotated Factor Loadings.*

	Factors				
	1	2	3	4	5
Item 24	.682				
Item 39	.680				
Item 19	.653				
Item 9	.583				
Item 34	.559				
Item 6		.747			
Item 21		.669			
Item 1		.521			
Item 11		.464			
Item 36		.449			
Item 41			.883		
Item 44			.805		
Item 5			.366		
Item 25			.314		
Item 23				.831	
Item 18				.523	
Item 38				.489	
Item 8				.464	
Item 28				.410	
Item 22					.764
Item 32					.706
Item 27					.480

Table 2 *TRI Rotated Factor Loadings*

	Factor				
	1	2	3	4	5
Item23	.833				
Item24	.762				
Item27	.723				
Item26	.709				
Item25	.624				
Item28	.328				
Item6		.860			
Item5		.745			
Item4		.625			
Item2		.592			
Item3		.398			
Item10			.915		
Item11			.478		
Item8			.419		
Item9			.400		
Item13				.589	
Item15				.433	
Item17					.815
Item16					.540
Item18					.449

Table 3. *Pearson correlations among the BFI and TRI scores*

	Critical	Practical	Cognitive	Learner	Metacognitive	Reflectivity
Neuroticism	-.118	-.185	-.208*	-.218*	-.141	-.220*
Extraversion	-.108	-.125	-.173	-.083	-.098	-.166
Openness	-.027	.317**	.212*	.247*	.312**	.282**
Conscientiousness	.129	.274**	.353**	.019	.081	.168
Agreeableness	.109	.007	.039	-.113	.006	.038

Note. *p* < .05; ** *p* < .001

RESULTS
Psychometric Properties of the Questionnaires
The Big Five Inventory Personality Test

The inspection of the factor ability indices revealed that Bartlett's sphericity test was significant at $p < .001,$ and the KMO index was 0.65, supporting the suitability of the data for factor analysis. Principal axis factoring (PAF) analysis with the Promax rotation method resulted in a five-factor solution with 22 items with loadings higher than 0.30 (Pallant, 2020) (Table 1). According to the items' content and the original factor structure of the measure, the factors can be labeled as Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness, respectively. Further, a CFA was conducted to explore the fit of the EFA-derived five-factor solution, with the results indicating that the model reached acceptable fit (RMSEA = 0.058, CFI = 0.92, TLI = 90, SRMR = 0.07) after excluding three items because of low loading. The path diagram for the final model is presented in Figure 1.

Teacher Reflectivity Questionnaire

Evaluation of the suitability of the correlation matrix for the Teacher reflectivity questionnaire revealed that Bartlett's sphericity test was significant at $p < .001,$ and the KMO index was 0.76, indicating the factorability of the correlation matrix. Principal axis factoring (PAF) analysis with the Promax rotation method was conducted, and a five-factor solution was suggested, which explained 50% of the variance in the data (Table 2). Based on the pattern of factors and item loadings, the factors are labeled factor 1 (Critical), factor 2 (Practical), factor 3 (Cognitive), factor 4 (Learner), and factor 5 (Metacognitive). Consequently, CFA was conducted to examine the model fit of the EFA-derived five-factor solution. The five-factor solution yielded acceptable model fit (RMSEA = 0.06, CFI = 0.91, TLI = 90, SRMR = 0.07). The path diagram and the standardized loadings for this model are

represented in Figure 2. The reliability of the final version of the questionnaire, as estimated through Cronbach Alpha, was 0.85.

Correlations between Personality Traits and Reflective Teaching

Pearson correlations were conducted between the BFI and TRI scores to examine the association between the participants' personality traits and reflective teaching. As illustrated in Table 3, Neuroticism, Openness, and Conscientiousness were significantly correlated with elements of reflective teaching. More specifically, Neuroticism was positively correlated with TRI Cognitive ($r = .20, p < 0.05$), Learner ($r = .21, p < 0.05$) and Reflectivity ($r = .22, p < 0.05$) elements. Likewise, Openness was positively correlated with all elements of reflective teaching ($r = .212$ to $.317$) except the Critical element. In the same vein, Conscientiousness was significantly correlated only with Practical ($r =.27, p < 0.05$) and Critical ($r =.35, p < 0.05$) TRI subscales. Notwithstanding, the BFI Agreeableness and Extraversion did not demonstrate significant associations with TRI.

DISCUSSION

This study attempted to examine the relationship between personality traits and reflective teaching among Iranian EFL teachers. We first examined the factor structure of the measures we used in this study, and the results indicated adequate model fit for the measures. We then conducted Pearson correlations between personality traits and reflective teaching styles. The findings are discussed below, along with their pedagogical implications.

The findings suggested that Neuroticism, Openness, and Conscientiousness subscales of Big Five Personality Traits were significantly correlated with teacher reflectivity scores. More specifically, Openness was positively and significantly correlated with the Practical, Cognitive, Learner, Metacognitive, and Reflectivity elements

of reflectivity. These findings might be explained by the fact that the individuals open to experience have to engage in various intellectual activities and seek new experiences and ideas, which could strengthen their reflective abilities (Coan, 2019). In the same vein, Lee and Kemple (2014) found that prospective teachers with higher Openness are more likely to engage in creative experiences and nurture teaching styles to retain creativity, which in turn could improve teaching quality and make the teachers more reflexive in the learning process. Our results further indicated negative correlations between Neuroticism and Cognitive, Learner, and Reflectivity aspects of reflective teaching. In this concern, some characteristics are emblematic of people with high neuroticism, such as low levels of self-confidence, reflexivity, and relaxation and higher levels of anxiety, hostility, depression, self-consciousness, impulsiveness, insecurity, and vulnerability, which could negatively affect reflectivity (Zhao & Seibert, 2006; Patrick, 2011). Likewise, Renn et al. (2011) stated that individuals with elevated Neuroticism levels may dwell on their thoughts and become self-absorbed emotionally due to the lack of the ability to adjust their beliefs or thoughts. Considering all these attributes, it can be concluded that teachers with higher Neuroticism levels will not be able to achieve high-quality teaching and do not possess the qualities required for reflective teaching.

Finally, our findings showed significant positive correlations between Conscientiousness and Practical and Cognitive aspects of reflective teaching. This finding aligns with those of Monabbati and Faravani (2020) that perfectionist teachers are more likely to become reflective teachers. Additionally, individuals with elevated Conscientiousness levels are often described as competent, ordered, dutiful, achievement-oriented self-disciplined, and deliberate in their actions. They are

more commonly efficient, organized, determined and highly productive, efficient, thorough, and tidy (Ahmetoglu & Chamorro-Premuzic, 2013). These features might explain the significant correlations of Conscientiousness with elements of reflective teaching. In fact, those teachers can certainly be considered as qualified who do their best to adopt all possible strategies, employ all potential facilities, and take advantage of all teacher training opportunities to reinforce the quality of their teaching.

Our results should be interpreted considering the following limitations. First, our findings should be replicated by future studies to illuminate the role of personality traits in teacher reflectivity. Secondly, it is suggested that future studies examine teachers with different personality traits and teaching experiences. Third, future studies could take other personality factors, individual attributes, and language skills or components into account in examining associations of personality-related constructs with reflectivity. Finally, qualitative studies should also be employed in studies on teacher reflection and personality traits to provide deep information on the subject. For instance, teachers could be asked to think about their unique reactions to teaching stressors and the way they reflect on their teaching performance. Such information could be used to find out why teachers with different personalities are different in terms of reflectivity.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS
The current study showed that three of the Big Five personality traits (excluding Extraversion and Agreeableness) had significant associations with teachers' reflectivity. The study results inform the language teachers and trainers about the role of personality traits in teaching-related issues like reflectivity. Educational institutes could obtain data about the personality traits of new teachers by suitable screening tests to fit

best the teachers with the jobs they are capable of doing. Based on such information, teachers may seek ways to increase self-awareness and learn how they react to teaching issues to enhance their teaching performance. Our findings are also informative for administrators in language teaching and training courses in considering the effect of teachers' personality on decision-making processes. Finally, teachers need to be trained to become reflective teachers. Teaching reflection enhances teaching quality and can also help teachers better cope with teaching challenges. Reflective teachers may make better evaluations and find better solutions in teaching situations and enhance their teaching quality.

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