

## Comparing writing performance of introverted and extroverted Iranian EFL learners

Zahra Esmaeilpour<sup>1</sup>  
Azad University of Tabriz  
Amaneh Babae<sup>2</sup>  
Missouri University of  
Science and Technology

Received : 20.10.2024  
Accepted : 18.03.2025  
Published : 30.04.2025  
DOI: <https://doi.org/10.5281/zenodo.15332354>

### Abstract

Personality significantly influences how individuals learn. Understanding personality types can equip teachers with valuable information and techniques for interacting with each learner. This study compared introverted and extroverted students' writing performance in the Iranian EFL environment because different personality types play a significant impact in language learning in general and mastering L2 writing in particular. 50 writing samples from 50 extroverted and introverted students were gathered for this study, and they were assessed using an analytical scoring system. Descriptive statistics were used to compare the mean scores of introverts' and extroverts' writing performance, and an independent samples t-test was conducted to compare their mean scores. Analysis of the Results showed that introverts performed noticeably better than extroverts in the expository writing genre ( $t(48) = 2.38, p=0.021, d=0.67$ ). This superiority may be due to some personal characteristics of introverts that extroverts lack, such as greater carefulness, better concentration in solitude, and the ability to generate more ideas individually. The factors such as the use of different neural pathways for writing tasks, lower levels of anxiety during writing, and a preference for self-expression through writing may have contributed to this advantage. These findings have important implications for writing instruction and assessment in EFL classrooms, including the need for differentiated instruction and assessment strategies that consider the preferences of both personality groups. Suggestions for future research, including longitudinal studies and investigation of the impact of personality types on other language skills, are provided.

**Keywords** personality types, EFL, introversion-extroversion, language learning, expository writing

### 1. Introduction

Writing in English as a Second/Foreign Language (ESL/EFL) is one of the most critical issues that have been investigated by many specialists in the field of Foreign Language Teaching. One of the four fundamental communication skills that can help someone acquire a second language is writing. Writing improves language acquisition because students use words, phrases, and other writing components to express themselves clearly and to

---

<sup>1</sup> Zahra Esmaeilpour studied English Language Teaching at Azad University of Tabriz. Her research focuses on English language pedagogy and educational psychology.  
Corresponding author: [zahraesmaeilpour1@gmail.com](mailto:zahraesmaeilpour1@gmail.com)

<sup>2</sup> Amaneh Babae is currently a student at Missouri University of Science and Technology. Her research area covers personality types. She is specialized in the effect of personality types in different contexts.

reinforce the grammar and vocabulary they are learning in class, claims Waer (2023).

According to Cordeiro et al. (2020), writing is a type of activity that aids in the retention of information in long-term memory; in other words, writing makes it easier to learn grammar, vocabulary, and patterns. According to Teng and Zhang (2020), writing is without a doubt the hardest ability for second language learners to acquire. English writing instruction is thus assuming an increasing role in foreign language education (Tan, 2008).

The complexity of writing in a second language stems from various factors. Firstly, learners must grapple with the intricacies of the target language's grammar and syntax, which often differ significantly from their native language. Secondly, they need to develop an understanding of the cultural nuances and rhetorical conventions that shape effective writing in the target language. Lastly, learners must also cultivate higher-order thinking skills such as critical analysis, synthesis, and argumentation, which are essential for producing coherent and persuasive written texts (Biber et al., 2021).

In the Iranian EFL context, writing instruction faces unique challenges. The educational system has traditionally emphasized rote learning and grammar-translation methods, which may not adequately prepare students for the demands of communicative writing (Firoozjahantigh et al., 2021). The cultural and linguistic distance between Persian and English can pose additional obstacles for Iranian learners in developing proficiency in English writing.

Recent research has highlighted the importance of considering individual differences in language learning, including personality traits (Rozgonjuk et al., 2021; Chen, 2024). These differences can significantly impact how learners approach the writing process, from planning and drafting to revision and editing (Wang et al., 2021). Understanding the role of personality in writing performance can provide valuable insights for educators and curriculum designers, enabling them to tailor instruction to meet the diverse needs of learners (Deng et al., 2020).

However, despite the growing recognition of the importance of personality traits in language learning, there remains a significant gap in our understanding of their specific impact on writing performance in EFL contexts, particularly in Iran. Despite the growing body of research on individual differences in language learning, there remains a significant gap in our understanding of how personality traits, particularly introversion and extroversion, influence writing performance in specific EFL contexts. While studies have explored the impact of personality on various aspects of language acquisition, few have focused on the nuanced relationship between these traits and writing skills, especially within the Iranian EFL environment. The unique cultural and educational landscape of Iran, characterized by traditional teaching methods and recent shifts toward communicative approaches, presents a compelling backdrop for such investigation. The existing research has often yielded conflicting results, highlighting the need for context-specific studies. This gap in the literature underscores the importance of examining how introversion and extroversion shape writing performance among Iranian

EFL learners, potentially offering valuable insights for tailored instructional strategies and assessment practices in this distinct educational setting.

The purpose of this study is to investigate and compare writing performance of introverted and extroverted Iranian EFL students. Specifically, this research aims to:

1. Examine differences in writing quality between introverted and extroverted students in the Iranian EFL context.
2. Analyze potential factors contributing to these differences in writing performance.
3. Explore the implications of personality traits on writing instruction and assessment in Iranian EFL classrooms.

By addressing these objectives, this study seeks to contribute to the growing body of research on individual differences in language learning and to inform pedagogical practices in EFL writing instruction in Iran.

### *1.1. Background*

Although learners of English language have nearly the same objectives, their methods and learning strategies are remarkably different from each other (Xu et al., 2020). Individuals have a variety of traits that impact their lives; these traits even have an impact on how they learn. Individuals' personality types are one factor contributing to these distinct yet consistent traits. (Elbes & Oktaviani, 2022).

Extroversion (E) and introversion (I) are personality traits that deal with the way people prefer to attain energy and focus their attention. Extroverts prefer to get energy from outside sources or the outer world, while introverts prefer solitary activities and the inner world of ideas as the source of their energy (Rocklin & Revelle, 1981; Tao et al., 2020).

Personality has always played a big role in language instruction. Language is intimately linked to human behavior and psychology, according to some specialists like Boyd & Schwartz (2021). Ruini & Mortara (2022) emphasized the role of personality in writing, defining this skill as a "uniquely personal form of individual expression".

The introversion-extroversion dichotomy, first proposed by Carl Jung and later developed by Hans Eysenck, has been a subject of extensive research in psychology and education (Murphy, & Nance, 2003). In the context of language learning, these traits may influence various aspects of the learning process, including classroom participation, willingness to communicate, and preferences for certain types of learning activities (Simbolon, 2021). For instance, extroverted learners might thrive in collaborative writing tasks and peer review sessions, while introverted learners may excel in individual writing assignments that allow for deep reflection and solitary composition.

Research on the relationship between personality and writing performance has yielded mixed results. Some studies suggest that extroverted learners may have an advantage in certain aspects of language production, such as fluency and risk-taking in communication (Dittmann, 2018; Aksak et al., 2023). However, other research indicates that introverted learners may demonstrate strengths in areas such as accuracy, complexity, and depth of

thought in their writing (Kafryawan,2020). These findings underscore the need for a nuanced understanding of how personality traits interact with writing skills in different contexts and for various writing genres.

In the Iranian EFL context, the role of personality in writing performance takes on additional significance due to cultural and educational factors. Traditional Iranian educational practices often emphasize teacher-centered instruction and individual performance, which may align more closely with the preferences of introverted learners (Hemmati & Aziz Malayeri,2022). However, recent shifts towards more communicative language teaching approaches have introduced elements that may favor extroverted learners. Understanding how these personality traits influence writing performance in this specific context can provide valuable insights for improving writing instruction and assessment practices in Iranian EFL classrooms.

## 2. Methodology

The study employed a mixed-methods approach to investigate the relationship between personality traits (introversion/extroversion) and EFL writing performance among Iranian intermediate-level students. This methodology combined quantitative and qualitative data collection techniques, providing a comprehensive understanding of the phenomenon. It allowed for both statistical analysis of writing performance and in-depth exploration of students' experiences and beliefs.

The research was conducted over a 16-week semester at an educational institute in Tehran, Iran, specializing in English language instruction. A quasi-experimental design was utilized, with personality type (introvert/extrovert) as the independent variable and writing performance as the dependent variable.

To assess personality types, participants completed a Persian translation of 50-item questionnaire of Gauquelin et al., (2023), which distinguished between introverted and extroverted personality traits. The reliability of this instrument was verified using Cronbach's alpha analysis, yielding a coefficient of 0.82.

Writing performance was evaluated through two expository writing samples from each participant. The topics were "Effects of pollution on human health" and "Characteristics of a good teacher." These samples were written under controlled conditions in the classroom, with students given 60 minutes to complete each essay. Two trained raters scored the writing samples using Jacob et al.'s (1981) analytical scoring rubric, which assessed five aspects of writing: content, organization, vocabulary, language use, and mechanics. Each aspect was scored on a scale of 1-5, with a maximum total score of 25 points. Inter-rater reliability was established using Pearson's correlation coefficient, resulting in a strong positive correlation ( $r = 0.91$ ,  $p < 0.001$ ).

To gain deeper insights into students' experiences and beliefs about English writing, qualitative data collection methods were employed:

1. Reflective journal entries: Participants completed these throughout the study period. They were provided with prompts to guide their reflections, such as "Describe your feelings when writing in English" and "Explain any strategies you use to overcome writing challenges."

2. Focus group interviews: Four interviews were conducted, each consisting of 6-8 participants. These semi-structured interviews lasted approximately 60 minutes and were audio-recorded for later transcription and analysis.

This comprehensive research design allowed for a thorough investigation of the relationship between personality traits and EFL writing performance, incorporating both quantitative measures and qualitative insights.

### *1.1. Participants and setting*

The initial participant pool consisted of 60 intermediate-level EFL students from the educational institute, selected through convenience sampling. These students were enrolled in intermediate English courses and had been studying English for at least two years. After accounting for attrition and to ensure balanced groups, the final sample included 50 participants (25 introverts and 25 extroverts) aged 15-20 years old ( $M = 17.6$ ,  $SD = 1.8$ ). The gender distribution was 28 females and 22 males. All participants were native Persian speakers learning English as a foreign language. The educational institute where the study took place was equipped with modern language learning facilities, including computer labs and multimedia classrooms. Students attended English classes for 6 hours per week, with additional self-study time in the institute's resource center.

### *1.2. Data analysis*

The data analysis process involved both quantitative and qualitative methods. For the quantitative data, descriptive statistics were calculated to summarize the writing performance scores for both introverted and extroverted groups. This included measures of central tendency (mean, median) and dispersion (standard deviation, range). An independent samples t-test was conducted to compare the mean writing scores between the two personality groups to determine if there was a statistically significant difference. The alpha level was set at 0.05 for all statistical tests.

Qualitative data from the reflective journals and focus group interview transcripts underwent thematic analysis. This process involved six steps: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Two researchers independently coded the data and then met to discuss and resolve any discrepancies, ensuring inter-coder reliability. The emerging themes were organized into categories related to writing experiences, challenges, strategies, and perceived influences of personality on writing performance.

To enhance the validity of the findings, methodological triangulation was employed, comparing and integrating the results from the quantitative analysis with the qualitative insights. This process allowed for a more comprehensive understanding of the relationship between personality traits and EFL writing performance, as well as the factors influencing this relationship in the Iranian context.

### *1.3. Ethical considerations*

A discussion of ethical considerations is crucial to establish the credibility and integrity of this research. All participants provided informed consent prior to their involvement in the study, with clear explanations of the

research purpose, procedures, and potential risks and benefits. To protect participants' privacy and confidentiality, all data were anonymized and stored securely. The study design and protocols were reviewed and approved ensuring compliance with ethical standards for human subject's research. Particular attention was paid to the potential psychological impact of personality assessment, with participants given the option to receive their results and provided with resources for further understanding. Additionally, care was taken to avoid any discrimination or bias based on personality type in the classroom setting during and after the study. These ethical considerations demonstrate our commitment to conducting responsible and respectful research in the field of EFL education.

### 3. Findings

The Personality Questionnaire (PQ) was administered to 56 participants to categorize them as introverts or extroverts. The cut-off score for categorization was set at 25, representing the midpoint of the possible scores in the extroversion-introversion section of the PQ. Table 1 presents the frequency distribution of the PQ scores.

Table 1  
*Frequency of participants' PQ scores*

PQ	Frequency	Percentage
Higher than or equal to 25	30	54.58
Lower than 25	26	46.42
Total	56	100

Of the 56 participants, 30 were categorized as extroverts and 26 as introverts. To ensure equal group sizes for statistical analysis, 50 participants were selected (25 introverts and 25 extroverts) based on their extroversion-introversion personality trait scores. Table 2 displays descriptive statistics for the writing scores of the introverted participants.

Table 2  
*The results of the participants' writing scores in IG*

	N	Minimum	Maximum	Mean	Std. Deviation
Writing in IG Valid N (listwise)	25 25	51	87	67.40	9.802

The introverted participants achieved mean score of 67.40 with standard deviation of 9.80.

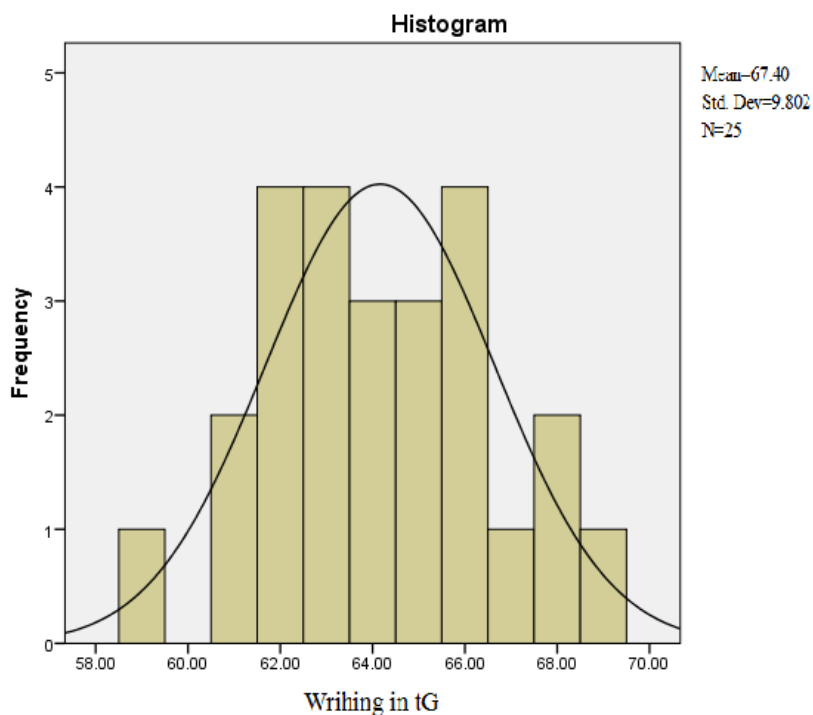


Figure 1. Histogram of writing test scores for introverted group

Table 3 presents descriptive statistics for writing scores of the extroverted participants.

Table 3

*The results of the participants' writing scores in EG*

	N	Minimum	Maximum	Mean	Std. Deviation
Writing in EG Valid N (listwise)	25 25	43	81	60.20	11.514

The extroverted participants obtained mean score of 60.20 with standard deviation of 11.51.

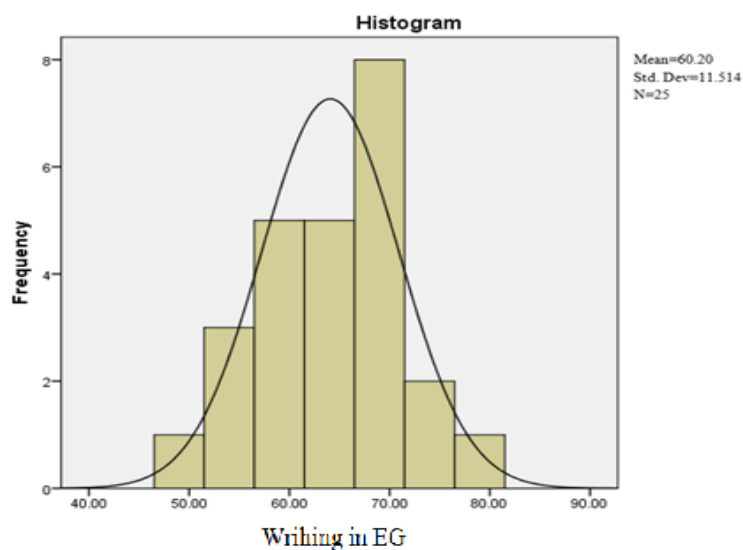


Figure 2. Distribution of writing scores for extroverted group

Before conducting the main statistical analysis, we verified the necessary assumptions for the independent samples t-test:

1. Continuous scale measurement: writing scores, our dependent variable, were measured on a continuous scale.
2. Categorical independent variable: independent variable (personality type) consisted of two distinct categories: introvert and extrovert.
3. Independence of observations: Each participant was assigned to only one group, ensuring no overlap between groups.
4. Normal distribution: The Shapiro-Wilk test was used to check normality of distribution for writing scores in both groups. Table 4.4 presents these results.

Table 4

*Shapiro-Wilk test to check normal distribution of writing scores*

	Statistic	df	sig
Writing in IG	.970	25	.633
Writing in EG	.939	25	.140

The Shapiro-Wilk test results showed significance levels higher than 0.05 for both groups, confirming that the writing scores were normally distributed.

5. Homogeneity of variances: Levene's test for equality of variances was conducted as part of the independent samples t-test.

To address the research hypothesis and examine whether there is a significant difference between introvert and extrovert students' writing performance, we conducted an independent samples t-test. Table 4.5 presents the results of this analysis.

Table 5  
 Comparison of the writing scores of the participants in the two groups

Levene's Test of Equality of Error Variances <sup>a</sup>			t-test for Equality of Means						
				95% Confidence Interval of the Difference					
	F	Sig	t	df	Sig (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	2.05	0.159	2.381	48	0.021	7.2	3.024	1.119	13.281
Equal variances not assumed			2.381	46.8	0.021	7.2	3.024	1.115	13.285

Levene's test for equality of variances yielded a p-value of 0.159, indicating that the assumption of homogeneity of variances was met. Therefore, we used the results from the "equal variances assumed" row of the t-test output.

The independent samples t-test revealed a statistically significant difference between the writing performance of introverted and extroverted students ( $t(48) = 2.38, p = 0.021, d = 0.67$ ). The introverted group ( $M = 67.40, SD = 9.80$ ) significantly outperformed the extroverted group ( $M = 60.20, SD = 11.51$ ) in writing performance. The effect size (Cohen's  $d = 0.67$ ) suggests a medium to large practical significance of this difference.

These results support the research hypothesis, indicating that there is indeed a significant difference in writing performance between introverted and extroverted Iranian EFL students, with introverted students demonstrating superior performance.

Our findings provide empirical evidence for relationship between personality traits (introversion/extroversion) and writing performance in the Iranian EFL context. These results have important implications for EFL instruction and assessment, which will be discussed in the subsequent section.

#### 4. Discussion

The primary aim of this study was to investigate whether there is a significant difference between introverted and extroverted students' writing

performance in the Iranian EFL context. The research question addressed whether personality traits have any significant impact on students' writing performance. Our findings revealed a significant difference between introverted and extroverted students' writing performance, favoring the introverted group based on their mean scores. This result supports our initial hypothesis and demonstrates that introverts are more successful than extroverts in writing performance. These findings align with several previous studies in both Iranian and international contexts. Alavinia & Sameei (2012) found that introverted learners significantly outperformed extroverted learners in cooperative writing tasks, despite the generally individualistic nature of Iranian learners. This suggests that certain cooperative learning methods can be beneficial and accepted by Iranian students, but contextual and personality factors should be considered in their implementation.

Mehr (2017) and Layeghi (2011) reported similar results in the Iranian context. Jahanbazi found that introverts were more successful in overall writing quality, while Layeghi noted that introverts significantly outperformed extroverts in both form and content of argumentative writing. The results of our study also corroborate the findings of Carrell et al., (1996), and Kezwer (1987), Naveh, et al., (2011) who noted that introverts tend to focus more on individual word meanings and grammatical differences. This attention to detail may contribute to their superior writing performance. In an international context, Revola (2016) found that introverted students outperformed both extroverted and ambiverted students in narrative writing achievement. This consistency across different cultural contexts strengthens the generalizability of our findings. The Iranian cultural context plays a significant role in shaping the relationship between personalities and writing performance observed in this study. Traditional Iranian educational practices often emphasize individual performance and rote learning, which may align more closely with introverted tendencies. The cultural value placed on modesty and introspection in Iranian society could potentially enhance introverts' capacity for self-reflection in writing tasks. Conversely, the collectivist aspects of Iranian culture might influence extroverts' writing processes, possibly leading to a greater focus on audience awareness. The recent shift towards more communicative language teaching approaches in Iran introduces an interesting dynamic, potentially creating tension between traditional educational values and newer pedagogical methods. Future research could explore how these cultural factors interact with personality traits to influence writing performance in the Iranian EFL context.

Several factors may contribute to the superior writing performance of introverted students. One explanation, as suggested by Rammsayer et al.,(1993) is that introverts may use different neural pathways for writing tasks. This could lead to more efficient processing of language when writing.

Another factor could be the lower levels of anxiety experienced by introverts during writing tasks. As proposed by Eysenck et al., (1985), this reduced anxiety might allow for better retrieval of information from long-term memory, leading to improved writing performance.

Callahan (2000) suggested that when given time to process information, introverts may retrieve it more efficiently than extroverts. This aligns with the nature of writing tasks, which typically allow for more reflection and

processing time compared to spontaneous speaking tasks. Hakim (2015) notes that introverts often express themselves better through writing rather than speaking. This preference for written expression may contribute to their stronger performance in writing tasks. Comparing our findings with studies conducted in non-EFL contexts could highlight unique aspects of the Iranian EFL environment. For instance, research in English as Second Language (ESL) contexts, where learners have more exposure to the target language outside the classroom, might reveal different patterns in the relationship between personality and writing performance. Studies in Western educational settings, which often emphasize collaborative learning and active class participation, could show a smaller performance gap between introverts and extroverts or even favor extroverted learners in certain aspects of writing. Research in other EFL contexts with different cultural and educational traditions, such as East Asian countries, might provide interesting points of comparison. By situating our findings within this broader international context, we can better understand which aspects of the introversion-extroversion effect on writing performance are universal and which are specific to the Iranian EFL environment.

These findings highlight the importance of considering personality traits in EFL writing instruction. Teachers should be aware of these differences to better understand and address the needs of both introverted and extroverted students in writing classes.

## **5. Conclusions**

This study aimed to determine if there is a significant difference between extroverted and introverted students' writing performance in an Iranian EFL context. The research involved 60 intermediate-level students at the MFT Educational Institute, who completed a personality questionnaire and submitted two writing samples.

Statistical analysis using independent samples t-test revealed significant difference between introverted and extroverted students' writing performance. Introverted students demonstrated better writing performance compared to their extroverted counterparts. These findings can be attributed to several factors associated with introverted learners, as proposed by Eysenck et al., (1985). These include enhanced long-term memory, greater concentration ability, and less susceptibility to mental inhibition. The introverted learners may have more rapid access to holistic and analytic thinking processes, allowing them to use more conceptual strategies in writing. This cognitive advantage could contribute to their superior performance in writing tasks.

The results of this study have important pedagogical implications for both teachers and learners in the EFL context. Teachers should be aware of the impact of personality traits on writing performance to better address students' needs and adjust their teaching strategies accordingly.

The findings of this study have several practical implications for EFL writing instruction. Teachers could implement differentiated instruction strategies that cater to both introverted and extroverted students. For introverts, providing ample time for individual brainstorming and drafting could capitalize on their strengths in solitary work. Conversely, extroverts might benefit from collaborative pre-writing activities that allow them to

verbalize their ideas before committing them to paper. Instructors could also vary assessment methods, incorporating both timed in-class writing tasks and take-home assignments to accommodate different personality preferences. The explicit instruction in metacognitive strategies could help students, particularly extroverts; develop the self-reflection skills that seem to benefit introverted writers. These practical applications could lead to more inclusive and effective writing instruction in EFL classrooms. Differentiated instruction based on students' personality types could be beneficial. For instance, teachers might provide additional motivation techniques, such as writing diaries, to help improve the writing skills of extroverted students. The choice of writing prompts is another area where teachers can cater to both introverted and extroverted students' preferences. As suggested by Callahan (2000), introverts would rather ponder about their inner ideas, whereas extroverts are interested in thinking about the outside world and their experiences.

Even while this study offers insightful information, it has limitations that should be noted. Even if 50 individuals is a suitable sample size for statistical analysis, the results may not be as broadly applicable to other populations. Additionally, the convenience sampling method employed could introduce potential selection bias. The study's focus on intermediate-level students excludes beginners and advanced learners, potentially overlooking proficiency-related variations in the relationship between personalities and writing performance. Furthermore, the cross-sectional nature of the research design precludes observations of how this relationship might evolve over time. These limitations should be considered when interpreting the results and could serve as starting points for future research in this area.

Incorporating discussion opportunities before writing tasks may help extroverted students generate ideas more effectively. This pre-writing activity could bridge the gap between extroverts' preference for verbal communication and the demands of written tasks. For further research, we suggest several directions. Future studies could focus on either male or female learners exclusively to explore any gender-specific patterns in the relationship between personality and writing performance. Conducting studies with a larger and more diverse range of Iranian EFL learners could provide more generalizable results. This could include learners from different regions, age groups, or educational backgrounds. Investigating the impact of personality traits on other language skills such as speaking, reading, and listening could offer a more comprehensive understanding of how personality influences overall language learning. Extending this research to other proficiency levels (e.g., beginner, advanced) could reveal how personality traits influence writing performance across different stages of language acquisition.

Finally, conducting longitudinal studies to track the development of writing skills in introverted and extroverted students over time could provide valuable insights into the stability of these differences and how they might evolve throughout the language learning process. Building on the findings of this study, several promising directions for future research emerge. Longitudinal studies tracking the development of writing skills in introverted and extroverted students over an extended period could reveal how the influence of personality traits on writing performance evolves throughout the language learning process. Investigating the impact of different instructional

approaches on introverted and extroverted learners' writing outcomes could inform the development of more effective, personalized teaching strategies. Examining how personality traits interact with other individual variations, such as motivation, language proficiency, and learning styles, may offer a more thorough knowledge of the variables affecting EFL writing performance. Additionally, examining how personality traits affect different genres of writing (e.g., argumentative, narrative, or creative writing) could offer insights into the specific cognitive and linguistic demands that favor introverted or extroverted learners. Finally, replicating this study with larger, more diverse samples and in different cultural contexts could enhance the generalizability and robustness of these findings.

In conclusion, this study contributes to our understanding of the relationship between personality traits and EFL writing performance in the Iranian context. The findings underscore the importance of considering individual differences in language instruction and assessment in writing tasks. By recognizing and addressing these differences, educators can create more effective and inclusive learning environments for all students, regardless of their personality type.

### References

- Aksak, K., Kuzu, E., Külekçi, G., & Cubukcu, F. (2023). The Interface Between Risk Taking and Foreign Language Speaking. *Uluslararası Güncel Eğitim Araştırmaları Dergisi*, 9(2), 141-152.
- Alavinia, P., & Sameei, A. (2012). Potential Bonds between Extroversion/Introversion and Iranian EFL Learners' Listening Comprehension Ability. *English Language Teaching*, 5(5), 19-30.
- Biber, D., Gray, B., Staples, S., & Egbert, J. (2021). Investigating Grammatical Complexity in L2 English Writing Research\*: Linguistic Description versus Predictive Measurement. In *The Register-Functional Approach to Grammatical Complexity* (pp. 432-457). Routledge.
- Boyd, R. L., & Schwartz, H. A. (2021). Natural language analysis and the psychology of verbal behavior: The past, present, and future states of the field. *Journal of Language and Social Psychology*, 40(1), 21-41.
- Carrell, P. L., Prince, M. S., & Astika, G. G. (1996). Personality types and language learning in an EFL context. *Language Learning*, 46(1), 75-99.
- Callahan, S. (2000). Responding to the invisible student. *Assessing Writing*, 7(1), 57-77.
- Chen, Y. C. (2024). Effects of technology-enhanced language learning on reducing EFL learners' public speaking anxiety. *Computer Assisted Language Learning*, 37(4), 789-813.
- Cordeiro, C., Limpo, T., Olive, T., & Castro, S. L. (2020). Do executive functions contribute to writing quality in beginning writers? A longitudinal study with second graders. *Reading and Writing*, 33(4), 813-833.

- Deng, Q., Zheng, B., & Chen, J. (2020). The relationship between personality traits, resilience, school support, and creative teaching in higher school physical education teachers. *Frontiers in Psychology*, 11, 568906.
- Dittmann, A. (2018). Correlation between tolerance of ambiguity, anxiety, and willingness to communicate with risk taking in the second language class. *Economics, Management And Marketing (MAC-EMM 2018)*, 291.
- Elbes, E. K., & Oktaviani, L. (2022). Character building in English for daily conversation class materials for English education freshmen students. *Journal of English Language Teaching and Learning*, 3(1), 36-45.
- Eysenck, S. B., Eysenck, H. J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Personality and individual differences*, 6(1), 21-29.
- Firoozjahantigh, M., Fakhri Alamdari, E., & Marzban, A. (2021). Investigating the effect of process-based instruction of writing on the IELTS writing task two performance of Iranian EFL learners: Focusing on hedging & boosting. *Cogent Education*, 8(1), 1881202.
- Gauquelin, M., Gauquelin, F., & Eysenck, S. B. (1979). Personality and position of the planets at birth: An empirical study. *British Journal of Social and Clinical Psychology*, 18(1), 71-75.
- Hakim, M. A. R. (2015). Experienced EFL teachers' challenges and strategies in teaching speaking for introvert students. *European Journal of Social Sciences*, 48(4), 437-446.
- Hemmati, M. R., & Aziz Malayeri, F. (2022). Iranian EFL teachers' perceptions of obstacles to implementing student-centered learning: a mixed-methods study. *International Journal of Foreign Language Teaching and Research*, 10(40), 133-152.
- Kafryawan, W. (2020). The Influence of Extroversion Personality towards EFL Learners' Writing Skills. *Utamax: Journal of Ultimate Research and Trends in Education*, 2(3), 94-100.
- Kezwer, P. (1987). The extroverted vs. the introverted personality and second language learning. *TESL Canada Journal*, 45-58.
- Layeghi, F. (2011). Form and Content in the Argumentative Writing of Extroverted and. *The Iranian EFL Journal*, 25(1), 166.
- Jacobs, H. L. (1981). *Testing ESL composition: A practical approach*. English composition program. Newbury House Publishers, Inc., Rowley, MA 01969.
- Mehr, H. S. (2017). The impact of product and process approach on Iranian EFL learners' writing ability and their attitudes toward writing skill. *International Journal of English Linguistics*, 7(2), 158-166.
- Murphy, J. B., & Nance, R. D. (2003). Do supercontinents introvert or extrovert?: Sm-Nd isotope evidence. *Geology*, 31(10), 873-876.
- Naveh, M. H., Kafipour, R., & Soltani, R. (2011). The relationship among extraversion tendency, vocabulary learning strategies, and reading comprehension of EFL undergraduates in Kerman province. *Studies in Literature and Language*, 3(2), 104-110.
- Revola, Y. (2016). An analysis of writing achievement among personality type at the third semester students of English department IAIN Bengkulu. *Linguists: Journal of Linguistics and Language Teaching*, 3(1).
- Rocklin, T., & Revelle, W. (1981). The measurement of extroversion: A comparison of the Eysenck Personality Inventory and the Eysenck

- Personality Questionnaire. *British journal of social psychology*, 20(4), 279-284.
- Rammsayer, T., Netter, P., & Vogel, W. H. (1993). A neurochemical model underlying differences in reaction times between introverts and extraverts. *Personality and Individual Differences*, 14(5), 701-712.
- Rozgonjuk, D., Sindermann, C., Elhai, J. D., & Montag, C. (2021). Individual differences in Fear of Missing Out (FoMO): Age, gender, and the Big Five personality trait domains, facets, and items. *Personality and Individual Differences*, 171, 110546.
- Ruini, C., & Mortara, C. C. (2022). Writing technique across psychotherapies—from traditional expressive writing to new positive psychology interventions: A narrative review. *Journal of Contemporary Psychotherapy*, 1-12.
- Simbolon, N. E. (2021). EFL students' perceptions of blended learning in English language course: learning experience and engagement. *Journal on English as a Foreign Language*, 11(1), 152-174.
- Tao, Y., Cai, Y., Rana, C., & Zhong, Y. (2020). The impact of the Extraversion-Introversion personality traits and emotions in a moral decision-making task. *Personality and Individual Differences*, 158, 109840.
- Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference?. *Journal of Second Language Writing*, 48, 100701.
- Waer, H. (2023). The effect of integrating automated writing evaluation on EFL writing apprehension and grammatical knowledge. *Innovation in Language Learning and Teaching*, 17(1), 47-71.
- Wang, Y., Derakhshan, A., & Zhang, L. J. (2021). Researching and practicing positive psychology in second/foreign language learning and teaching: the past, current status and future directions. *Frontiers in Psychology*, 12, 731721.
- Xu, Z., Chen, Z., Eutsler, L., Geng, Z., & Kogut, A. (2020). A scoping review of digital game-based technology on English language learning. *Educational Technology Research and Development*, 68(3), 877-904.