

An Investigation into the Relationship between Personality Traits and Iranian EFL Learners' Performance on C-Test

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Abstract

The purpose of the study was twofold: (a) to examine the relationship between Iranian English-as-a-foreign language (EFL) learners' performance on C-test and their personality traits measured by Myers Briggs Type Indicator, form M (MBTI-M) and (b) to find if any of the personality traits could predict language learners' performance on C-test. To achieve these two goals, 283 conveniently selected Iranian language learners took a C-test and a Michigan Test of English Language Proficiency (MTELP), and filled an MBTI-M questionnaire. The results of Pearson correlations showed that Introversion and Thinking were positively correlated with performance on C-test, but Extraversion and Feeling were negatively correlated with language learners' performance on this test. Moreover, the results from the standard multiple regression showed that the strongest personality trait for predicting language learners' performance on C-test was Introversion. The findings may carry implications for language learners, language teachers, and language testers.

Keywords: C-test, Personality Trait, Extraversion/Introversion, Thinking/Feeling

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1. Introduction

Because many researchers (e.g., Oller, 1979, 1983) regard cloze test as one of the best integrative methods, many others (e.g., Eckes & Grotjahan, 2006)

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claim that C-tests can provide an integrative assessment of general language proficiency. Some researchers have criticized cloze tests (Khodadady & Hashemi, 2011; Klein-Braley, 1983) and have attempted to modify its format in some ways (Read, 2000). Consequently, C-test was constructed as an alternative integrated approach which, according to Alderson (2000), is the deletion of "every second half of every second word and has to be restored by the reader" (p. 225).

In addition to language ability, Bachman (1990) emphasized cognitive characteristics as one of the important sources of bias in language tests. Therefore, the effect of test takers' characteristics needs to be identified, controlled, and minimized because it may affect the test takers' scores (Bachman, 1990). Although several studies have been conducted on the relationship between C-test and some cognitive characteristics like field-dependency (Heidari, 2012), tolerance of ambiguity (Babaii & Shahri, 2010; Zarei, 2012), willingness to communicate (Baghaei & Dourakhshan, 2012), and problem-solving tasks (Ghodrati, Rjaei, & Ebrahimpour, 2014) among Iranian EFL learners, studies on C-test have given us few accounts of the relationship between test takers' personality traits such as Extroversion/Introversion, Sensing/iNtuition, Thinking/Feeling, and Judging/Perceiving and their performance on C-test. This study attempts to bridge this gap by exploring the possible relationship between personality traits and performance on C-test. Additionally, the study aims at investigating which type of personality plays the most influential role contributing to language learners' better performance on C-test. To achieve these two goals, we formulated the following research questions to focus this study:

1. What is the relationship between personality traits and Iranian EFL learners' performance on C-test?
2. Which of personality traits best predicts language learners' test performance on C-test?

2. Literature Review

2.1 Personality Traits

Trait theory in psychology plays a pivotal role in personality (Quenk, 2009), which has a great deal to do with environments (Ryckman, 2007). According to Ashton (2013) and Harris (2014), in the theory of personality traits, people can be categorized into one of the following classes: Extraversion/Introversion, Sensing/Intuition, Judging/Perceiving, and Thinking/Feeling. However, DiTiberio (1996) noted that each personality trait has its own strengths and weaknesses in education and learning.

Over the last two decades, the importance of personality traits in learning process has been demonstrated in several studies. Indeed, personality variables have mediating and moderating roles in learning process (Sadeghi, 2012). More recent evidence (e.g., Ehrman, 2008; Leaver, Ehrman, & Shekhtman, 2005; Sharp, 2008) indicates that personality variables can effectively influence language learning process. Meeusen, Brown-Mahoney, Dam, Zundert, and Knape (2010) claimed that depending on their personality traits, "people create their own environment, and influence their job satisfaction through cognitive, affective, and behavioral processes" (p. 573). Ehrman and Oxford (1990) posited that personality types are one of the dimensions which are most definitely associated with second language (L2) learning. Bachman (1990) convincingly argued test takers' characteristics could be regarded as one of the critical factors that influence test performance. Therefore, the effect of various test takers' characteristics on test performance need to be considered in the interpretation of test scores and the design of language tests (Phakiti, 2006, 2008).

Although some researchers have failed to find any direct relationship between language proficiency and personality traits of learners (e.g., Carrell & Anderson, 1994; Ehrman & Oxford, 1995; Sharp, 2008), many teachers

and educators believe that test takers' performance is not only affected by the ability being measured but also by factors that affect language performance in any assessment situations. Among those factors, test takers' personal characteristics abound (Dewaele, 2007; Howard, 2010; Sharp, 2004; Wakamoto, 2009). In fact, test takers' characteristics determine how language ability is actualized in their language performance (Zhang, Goh, & Kunnan, 2014).

In this regard, Nofle and Robins (2007) showed that there could be a positive effect of personality traits on academic performance. In line with previous findings, Robinson, Gabriel, and Katchan (1994) concluded that language learners' performance in oral and written language assessments might differ, depending on their personality traits. Furthermore, in their study on 247 students of two British universities, Chamorro-Premuzic and Furnham (2003) concluded that personality traits seem to correlate with the students' scores in examinations and their academic achievement.

2.2 C-Test

Cloze procedures (CPs) have been proposed as integrative alternatives to test reading comprehension (Eckes & Grotjahan, 2006; Fotos, 1991). Because the ability to fill deleted words indicates power of comprehension, it has been recommended for assessment in L2 reading research (Alderson, 2000; Hughes, 2003; Koda, 2005). Global integrative testing (Spolsky, 1976), such as C-test, according to Oller (1979), provides a measure of the candidates' ability to apply language skills in the way they are combined and used for actual language use. McNamara (2000) also points out that these methods of language testing can assess the practical language skills of the foreign language learners in the way his/her "knowledge is used to achieve communication" (p. 14).

Klein-Braley (1981) modified cloze tests and coined a new cloze

procedure, C-test, to overcome the problems of standard cloze test. Indeed, the 'C' in 'C-test' was abbreviated from the word 'cloze' to conform to the relationship between cloze test and C-test (Klein-Braley, 1997). This test method, according to Read (2000), "tends to make a very *embedded* assessment of vocabulary, to the extent that it is difficult to unearth the distinctive contribution that vocabulary makes to test performance" (p. 115). Therefore, Lee (2008) regards C-test as a proper tool for measuring "previously targeted vocabulary" (p. 644). In C-test, "instead of the complete words, the second half of every second word is deleted" and "examinees get scores for only exact words" (Hughes, 2003, p. 71). Alderson (2000) asserts that deletions start in the second sentence of the text to provide a general perception of the topic and style of the materials. Hastings (1996) argues that applying the rule of two maximizes the representativeness of the text. In C-test, one-letter words are ignored, and "if the word has an odd number of letters, the larger half is deleted" (Babaii & Ansary, 2001, p. 211). This mutation process continues till its number reaches 100 (Khodadady, 2007, p. 3) which takes little space and time to complete (Hughes, 2003, p. 71). Examinees get credit for exact word restorations (Alderson, 2000; Hughes, 2003; Weir, 1990). The lower scores of native speakers on C-tests illustrate the necessity of a careful examination of the text for removing nonfunctioning items if needed (Klein-Braley, 1997). There are studies supporting the efficacy of C-test in measuring the same latent variable that most other test types measure (Eckes & Grotjahn, 2006; Klein-Braley, 1985; Lee & Ellis, 2009). Evidence on high practicality, reliability, and validity of C-test has turned it to a proper tool for reading comprehension (Lee-Ellis, 2009).

In recent years, C-test has been widely used as measurement of general proficiency (Eckes & Grotjahn, 2006) to assess the relationship between

language proficiency of Second Language Learners and Foreign Language Learners and their individual differences (Alderson, Clapham, & Steel, 1997), motivation (Dornyei & Kormos, 2000), cognitive styles (Grotjahn, 2010), and personality traits (Ghodrati, Bavarian, & Attaran, 2014). Very few studies have also been conducted to examine the relationship between language learners' personality traits and their performance on C-test. The major problem with these studies is they are methodologically flawed: they used very few participants, so the findings are by no means generalizable. The study fills this gap, using a relatively large number of participants.

3. Methodology

3.1 Participants

Initially, 362 Iranian EFL language learners participated in this study, 68 of whom were left out of the study, because they were beginners. Further, another 11 language learners were left out because they did not complete the tests and the MBTI questionnaire properly. Finally, 283 Iranian EFL language learners, ranging in age from 13 to 37, participated in this study. One hundred and sixty-seven language learners were female (59%) and 116 of them were male (41%). They were all native-Persian and Turkish speakers who were currently living in Karaj and studying English for variety of purposes in six most well-known institutes of this city. These language learners were conveniently selected (Dornyei, 2007).

3.2 Instruments

Materials for instrumentation comprised three measuring tools, a newly designed researcher-made C-test, the Michigan Test of English Language Proficiency (MTELP), and the Myers-Briggs Type Indicator, form M (MBTI-M).

A new C-test was developed for the purposes of this study. Thus, certain steps seemed necessary to be followed to construct C-test. The first step was

selecting the most suitable topic. Thus, a list of the first 20 popular topics selected from the most recent commercial English conversation textbooks currently taught in English language institutes was submitted to 38 intermediate and advanced English language learners who were selected randomly to survey the topic list and rank them. The results revealed that the first interesting topic that students preferred to read was 'sport'. Two texts enjoying similar characteristics were taken from an online website (wordville.com). The estimated Fog's readability for the texts turned out to be 7.3 and 7.1, respectively which indicates an average difficulty level (Farhady & Keramati, 1994). To construct the C-test, the guidelines given by Klein-Braley's (1997) were considered. The C-test was constructed, with every second half of every other word omitted. One-letter words were ignored. For the words with odd number of letters, the larger half was deleted (Babaii & Ansary, 2001). The newly developed C-test (See Appendix) comprising two short texts, with 23 and 17 mutilations, respectively, was piloted on 31 randomly selected students. The Cronbach's alpha showed that the C-test was reliable ($\alpha = .868$). To establish the validity of the test, the researchers asked six testing experts to comment on the clarity, wording, content, and appropriateness of the test. The finalized C-test was ready to be administered to language learners.

Distinguishing between the intermediate and advanced learners urged the necessity to make use of a standard language proficiency test. Participants' English proficiency was measured by the standardized Michigan Test of English Language Proficiency (MTELP) including 20 grammar, 20 vocabulary, and 10 reading comprehension items. The students who obtained 70% of total scores were classified as advanced language learners, those scoring between 46% and 69% as intermediate, and those whose scores were below 45% as beginners (Phakiti, 2003). Thus, 68 students were excluded

from this study since they could answer less than 45% of this proficiency assessment.

The fourth instrument in this investigation was the Myers-Briggs Type Indicator-form M (MBTI-M) questionnaire. This personality type indicator has been one of the most extensively used personality questionnaires in the world (Harris, 2014), including four pairs of dichotomies. These dichotomies are signified by their initial letters. The major difference between this instrument and others is the ability to measure personality types whereas other instruments tend to assess personality traits (Harris, 2014). The form that was utilized in this research was the MBTI-M which involved 93 items. The Persian version of the MBTI-M was administered to language learners (Hosseini, 2003). According to previous studies (see Abedin, Fathabadi, & Ahangi, 2010), reliability indices for the four strands of this inventory in the translated version include Extroversion/Introversion = .82, Sensing/Intuition = .65, Thinking/Feeling = .86 and Judging/Perceiving = .84. Furthermore, the construct validity of the Persian version of the MBTI-M is confirmed in many relevant studies (Marefat, 2006).

3.3 Procedure

The required data for this investigation were collected over a span of two months. The allocated time for the testing session was about 90 minutes. The language learners were presented with the three assessment tools of this study in the following order (with maximum time allowed in parentheses): the MTELP (50 minutes), C-test (20 minutes), and the MBTI-M (20 minutes). Language learners were informed about the goal of the study and ensured that the results would not influence their final scores. They were asked to write their age and gender, but not their names.

3.4 Scoring

The collected data needed to be scored. To this end, it was attempted to follow the original instructions proposed by the developers of the instruments

to score the collected data.

The first administered test to be scored was the MTELP which was given to language learners to divide them into two levels of proficiency. Based on the instructions, language learners got one point for answering any of the correctly answered items. Two hundred and eighteen language learners were grouped as intermediate, and the other 76 language learners as advanced. The purpose was to exclude beginners for two reasons. First, C-test is a measure of reading comprehension that beginners are not proficient enough to do well on. Second, the designed C-test for this study was developed based on the texts suitable for intermediate and advanced language learners. Therefore, those who could answer less than 45% of the proficiency test (Phakiti, 2003), were excluded from this study.

The second step was evaluating the language learners' performance on C-test. To score their responses on C-test, we followed the exact guidelines proposed by Klein-Braley (1997). In other words, only the complete and correct spelling of the mutilated words was considered correct. The words with incorrect spellings did not get any point. Besides spelling, only the words which closely corresponded to the original mutilated words were scored. Therefore, language learners got one credit for completing each blank (Alderson, 2000; Hughes, 2003; Weir, 1990). The blanks which were left unanswered did not get any credit either. In conclusion, language learners got one point for every correct and exact word restoration.

For MBTI-M, there were two options (A/B) for each question; thus language learners needed to choose and circle only one of them. Each option of the items indicates that language learners are more likely to be at one of the two extremes of each dichotomy (Harris, 2014). All responses were computed to determine the respondents' personality types.

3.5 Data Analysis

The data was analyzed utilizing the IBM SPSS (version 22). The Cronbach's

alpha was employed to determine the reliability of C-test. Then, descriptive statistics such as frequencies and percentages were calculated for analyzing language learners' demographic information such as age and gender. Next, the Pearson correlations were also utilized to determine any possible relationship between the variables of this study. Finally, the standard multiple regression was conducted on the variables to illustrate if any of the personality traits measured by MBTI-M could predict language learners' success in performing on C-test.

4. Results

4.1 Investigation of the First Research Question

Regarding MBTI-M, firstly, a summary of descriptive statistics is given. The eight personality traits of this questionnaire are shown in Table 1. As can be seen, tendencies are towards I, S, T, and P.

Table 1

Frequency of Personality Traits

Trait	E	I	N	S	T	F	J	P
Frequency	75	208	155	128	191	92	139	144

Note. E = Extravert; I = Introvert; N = iNtuitive; S = Sensing; T = Thinking; F = Feeling; J = Judging; P=Perceiving

In the study, all sixteen personality types were observed. However, language learners were not equally distributed into these sixteen personality types. The majority of them (17.7%) turned out to be ISTJ type; whereas very few language learners (0.7%) tended to be ESFJ type.

The first research question was aimed at establishing the relationship between the Iranian English language learners' performance on C-test and their personality traits. Pearson correlation was run to answer this research question. The results are presented at Table 2.

Table 2
Correlations between Traits and C-Test

Trait	C-Test	Sig.
Extravert	-0.316**	0.000
Introvert	0.316**	0.000
iNtutive	-0.026	0.660
Sensing	0.026	0.660
Thinking	0.168**	0.005
Feeling	-0.168**	0.005
Judging	0.109	0.066
Perceiving	-0.109	0.066

Note. ** $p < .01$.

Only four traits are correlated with language learners' performance on C-test ($p < .05$): Extravert, Introvert, Feeling, and Thinking. As Table 2 shows, there is a moderate, negative correlation between Extravert language learners and their performance on C-test ($r = -.316$, $n = 283$, $p = .000$, $R^2 = .09$) with a very small effect size. By contrast, there is a moderate, positive correlation between Introvert language learners and their performance on C-test ($r = .316$, $n = 283$, $p = .000$, $R^2 = .09$) with a very small effect size. There is a weak, negative correlation between Feeling language learners and their performance on C-test ($r = -.168$, $n = 283$, $p = .005$, $R^2 = .02$) with a very small effect size. By contrast, there is a weak, positive correlation between Thinking language learners and their performance on C-test ($r = .168$, $n = 283$, $p = .005$, $R^2 = .02$) with a very small effect size.

4.2 Investigation of the Second Research Question

After ensuring that the data of this study did not violate the assumptions of multiple regressions, a standard multiple regression was run to find the most effective personality traits in predicting the language learners' performance on C-test.

Based on the results shown in Table 3, R square value was .120. This

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means that our model explains 12% of language performance on C-test.

Table 3

Model Summary of Predictors

Model	R	R Square	Adjusted Square	R	Standard Error of Estimate
1	.347	.120	.108		7.882

The results of the ANOVA test (Table 4) show that the predictive power of the model is statistically significant ($F_{(4,278)} = 9.505, p < .000$).

Table 4

ANOVA Test for Predictors

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2361.985	4	590.496	9.505	.000
Residual	17270.015	278	62.122		
Total	19632.000	282			

In Table 5, the largest beta value belongs to Introversion, indicating that this personality trait makes the strongest contribution to explaining language learners' performance on C-test. After Introversion, Feeling makes significant contribution to explaining language learners' performance on C-test. The researchers checked the Sig. value for each independent variable. If it was less than 0.05, the variable was considered to make a significant unique contribution to the prediction of the dependent variable. Accordingly, Introversion and Feeling make statistically significant contributions to the prediction of language learners' performance on C-test. It can be concluded that Introversion and Feeling are significant predictors of language learners' performance on both C-test.

Table 5

Coefficient for Predictors

Model	Unstandardized Coefficient		Standardized Coefficient		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	20.599	1.628		12.651	.000
Total Introvert	.395	.075	.298	5.257	.000
Total Sensing	-.014	.047	-.018	-.307	.759
Total Feeling	-.148	.068	-.132	-2.170	.031
Total Perceiving	-.040	.060	-.040	-.672	.502

5. Discussion and Conclusions

The study set out to examine the relationship between language learners' performance on C-test and their personality traits. The study also aimed to identify which of personality traits could best predict language learners' performance on C-test.

The first finding of this study is that performance on C-test is correlated with Introversion, Extraversion, Feeling, and Thinking. Introversion and Thinking were positively correlated with performance on C-test; by contrast, Extroversion and Feeling were negatively correlated with performance on C-test. The findings of the study support that of Veisi (2007). She maintained that Introversion significantly correlates with the C-test performance; Introvert language learners were better performers on C-test in her study. Moreover, the findings of this study echo those of Sanchez-Marín et al. (2001), who found that Introverts are better language learners at performing on C-test.

However, the results of this study contradict those of some others. For example, the findings do not support Pfister's (2000) results which showed that Extravert college students can perform better at overcoming reading comprehension problems and obtain better scores on reading comprehension questions than Introvert ones. He concluded that there is a positive relationship between Extraversion and reading comprehension test scores. The result of the study is also in contrast with Ehrman and Oxford's (1995) findings. They found that there is no significant relationship between language learners' Extraversion and their performance on reading comprehension tasks. Moreover, in Ehrman and Oxford's study, no significant relationship was found between Introversion and language learners' performance on reading comprehension tests.

Thinking was the other personality trait which showed a statistically significant correlation with language learners' performance on C-test. This finding supports the findings of Ghodrati et al.'s (2014) study. They found that there was a high positive correlation (.838) between Thinking and their scores obtained on C-test. The results from the present study can also confirm their report which revealed that Feeling personality trait weakly and negatively correlates with language learners' performance on C-test. However, the finding of the present study diverges from Pfister's (2000) results. He showed that Feeling significantly correlates with college students' performance on reading comprehension multiple-choice questions. Also, the finding is in contrast with another study done by Ehrman and Oxford (1990). These researchers concluded that Feelers are better at performing on tests measuring reading comprehension

The other finding is that Introversion and Feeling can predict language learners' performance on C-test. However, Feeling, according to Pallant (2011), cannot make a unique contribution due to its low beta value ($B = 13\%$). The finding of this study echoes the study conducted by Veisi (2007). Her investigation showed that Introversion is the most effective contributor to language learners' performance on C-test; however, she also reported Feeling and iNtuition as other personality traits influencing language learners' performance on C-test. In another study, Boroujeni, Roohani, and Hasanimanesh (2015) investigated the effect of personality traits on 50 undergraduate Iranian university students' writing performance. In their study, the MTELP and the MBTI-M questionnaire were used to establish language learners' proficiency and personality traits, respectively. The findings of regression analysis revealed that Introversion is the most effective personality trait which can best predict language learners' success in essay writing. The findings of the study also support the previous findings by

Leaver et al. (2005) who demonstrated Introversion is the strongest predictor of language learning achievements. However, there are findings of other studies which are in contrast with the results of the present investigation. For example, MacIntyre and Charos (1996) maintained that Extraversion is the best predictor of language learners' learning achievements. These researchers reported Extraversion as the strongest affecting factor on the learners' performance. The result of this study is in contrast with Razmjoo and Shaban's (2008) findings. These researchers reported that Introversion cannot predict language learners' performance on English grammar tests, although language proficiency turned out to be the best predictor of language learners' performance on grammar tests in their study.

The first conclusion of the study is that the correlation between Introversion and Thinking and language learners' performance on C-test is positive. Introvert language learners are not active oral performers especially in EFL contexts. Moreover, in settings like Iran where making mistakes may be regarded as losing face, language learners with this personality trait are more reticent and reserved. Instead, when introverts perform on reading comprehension tests like C-test, they perform better. In Iranian settings, language learners' achievements are currently assessed by a series of typical test methods that are either subjective, like writing an essay, or objective, like multiple-choice questions. However, the nature of C-test necessitates language learners to analyze sentences grammatically as well as considering the main idea and the topic of the text in order to detect the mutilated words and complete them. Thus, thinking language learners who are able to link ideas together by making logical connections (Myers-Briggs & MacCaully, 1985) can perform better. In such situations that completing mutilated words needs high levels of concentration and longer stretches of time, as well as

analytical and critical thinking abilities, Introverts and Thinkers are at an advantage.

The second conclusion of this study is that Introversion is the best predictor for language learners' performance on C-test. Despite many EFL settings like Germany, in Iranian settings, stakeholders and authorities still follow the traditional test methods for measuring language learners' reading comprehension; thus, performing on new assessment tools such as C-test seems overwhelming and strange. When this occurs, the most influencing contributions are personality traits. In such situations, Introverts, who would not be worn out and confused by unfamiliarity, will make efforts and concentrate on the task patiently until it is successfully completed. In other words, Introverts make conscientious decisions and are more devoted to the task. They never sacrifice accuracy for speed which consequently results in better performance. Additionally, Introverts do not usually seek for social attention or others' compliments; instead, they have intrinsic motivation. As a result, when they participate in a study and perform a task, they do their best; even if they are not going to benefit from the result individually. In fact, Introverts can have an inner strength of trait that enables them to complete the task more accurately than their Extravert counterparts.

The findings may have some pedagogical implications for language teaching and language testing. Language teachers may consider the influence of personality traits on language learners' test performance to make more accurate decisions. Test developers may also benefit from the findings of this study to design more appropriate tests for language learners' with different personality traits. Therefore, language learners' level of proficiency can be measured more precisely by a test which correlates better with their personality traits. In other words, the effect of test bias on the test scores can be reduced. Hence, C-test seems to be a suitable measure to assess the

reading comprehension performance of Introvert and Thinking language learners while utilizing this test for Extravert and Feeling individuals should be done with caution since it may reduce the interpretability of test scores.

This study suffers from some limitations. One of the limitations is that it was focused on only one variant of cloze procedures, C-test. Another limitation of this research was that although the MBTI personality traits of the language learners were briefly reported in this study, an in-depth investigation of other individual differences of the language learners was not the focus of this study. Therefore, further studies should be done to make a relative comparison between language learners' personality traits in terms of some other variants of cloze procedures like multiple choice cloze tests, summary cloze tests, cloze-elide tests, and so on. Besides, further studies can make use of other forms of MBTI-M or even more recent personality inventories such as dominance, influence, steadiness, and consciences (DISC) (Turnasella, 2002).

References

- Abedin, A. R., Fathabadi, J., & Ahangi, A. (2010). Personality type and problem solving styles among university employees. *Journal of Applied Psychology*, 3(12), 40-61.
- Alderson, J. C. (2000). *Assessing reading*. Cambridge University Press.
- Alderson, J.C., Clapham, C., & Steel, D. (1997). Metalinguistic knowledge, language aptitude, and language proficiency. *Language Teaching Research*, 1(2), 93-121.
- Ashton, M. C. (2013). *Individual differences and personality (2nd ed.)*. San Diego, CA: Academic Press.
- Babaii, E., & Ansary, H. (2001). The C-test: A valid operationalization of reduced redundancy principle? *System*, 29(2), 209- 219.
- Babaii, E., & Shahri, S. (2010). Psychometric rivalry: The C-test and the cloze test interacting with test taker's characteristics. In R. Grotjahn (Ed.). *The C-test: current trends* (pp. 41-53). Frankfurt, Germany: Peter Lang.
- Bachman, L. F. (1990). *Fundamental considerations in language testing*. UK: Oxford University Press.

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- Baghaei, P., & Dourakhshan, A. (2012). The relationship between willingness to communicate and success in learning English as a foreign language. *Modern Journal of Applied Linguistics*, 4(2), 53-67.
- Boroujeni, A. A. J., Roohani, A., & Hasanimanesh, A. (2015). The impact of Extraversion and Introversion personality types on EFL learners' writing ability. *Theory and Practice in Language Studies*, 5(1), 212-218.
- Carrell, P. L., & Anderson, N. J. (1994). *Styles and strategies in second language acquisition*. Paper presented at the annual TESOL Convention, Baltimore, MD.
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality traits and academic examination performance. *European Journal of Personality*, 17(3), 237-250.
- Dewaele, J. M. (2007). Predicting language learners' grades in the L1, L2, L3, and L4: the effect of some psychological and socio-cognitive variables. *Multilingualism*, 4(3), 169-197.
- DiTiberio, J. K. (1996). Education, learning styles, and cognitive styles. In A. L. Hammer (Ed.), *MBTI applications: a decade of research on the Myers-Briggs Type Indicator* (pp. 123- 166). Palo Alto, CA: Consulting Psychologist Press.
- Dornyei, Z. (2007). *Research methods in applied linguistics: quantitative, qualitative and methodologies*. UK: Oxford University Press.
- Dornyei, Z., & Kormos, J. (2000). The role of individual and social variables in oral task performance. *Language Teaching Research*, 4(3), 275- 300.
- Eckes, T., & Grotjahn, R. (2006). A closer look at the construct validity of C-tests. *Language Testing*, 23(3), 290-325.
- Ehrman, M. E. (2008). Personality and good language users. In C. Griffiths (Ed.), *Lessons from good language learners* (pp. 61-72). Cambridge, UK: Cambridge University Press.
- Ehrman, M. E., & Oxford, R. (1990). Adult language learning styles and strategies in an intensive training setting. *The Modern Language Journal*, 74(3), 311-327.
- Ehrman, M. E., & Oxford, R. (1995). Cognition plus: correlates of language learning success. *The Modern Language Journal*, 79(1), 67-89.
- Fotos, S. S. (1991). The cloze test as an integrative measure of EFL proficiency: a substitute for essays on college entrance examination? *Language Learning*, 41(3), 313-336.
- Ghodrati, M., Bavarian, L., & Attaran, A. (2014). On the relationship between problem-solving trait and the performance on C-test. *Theory and Practice in Language Studies*, 4(5), 1093-1100.
- Ghodrati, M., Rajaei, K., & Ebrahimpour, R. (2014). The importance of visual features in generic vs. specialized object recognition: a computational study. *Frontiers in Computational Neuroscience*, 8(8), 1-15.
- Grotjahn, R. (2010). *The C-Test: Contributions from Current Research*. Frankfurt, am Main: Peter Lang.

- Harris, R. D. (2014). *Hispanic college students' learning styles, personality types, and gender differences: A collective case study of ten Hispanic college students exposed to the Myers-Briggs Type Indicator*. (Doctoral dissertation). Available from ProQuest Dissertation and Theses database. (UMI No. 3613006)
- Hastings, A. J. (1996). *Practical information about the focal skills English proficiency assessment instruments*. Shenandoah University: International Center for Focal Skills.
- Hosseini, K. (2003). *On the relationship between personality type and performance in the IELTS Test* (Unpublished Master's Thesis), Tarbiat Modarress University, Tehran, Iran.
- Howard, J. B. (2010). *Extraversion and oral proficiency*. Master's thesis, Louisiana: Louisiana State University.
- Hughes, A. (2003). *Testing for language teachers*. UK: Cambridge University Press.
- Khodadady, E. (2007). C-tests: method specific measures of language performance in the *Iranian Journal of Applied Linguistics*, 10(2), 1-26.
- Khodadady, E., & Hashemi, M. (2011). Validity and C-test: the role of text authenticity. *Iranian Journal of Language Testing*, 1(1), 30-41.
- Klein-Braley, C. (1981). *Empirical investigations of cloze tests* (Unpublished doctoral dissertation), University of Duisberg, Germany.
- Klein-Braley, C. (1983). A cloze is a cloze is a question. In J. W. Oller (Ed.). *Issues in language testing research* (pp. 218-228). Rowley, Mass.: Newbury House.
- Klein-Braley, C. (1985). A cloze-up on the C-test: a study in the construct validation of authentic tests. *Language Testing*, 2(1), 76-104.
- Klein-Braley, C. (1997). C-tests in the context of reduced redundancy testing: an appraisal. *Language Testing*, 14(1), 47-84.
- Koda, K. (2005). *Insights into second language reading*. UK: Cambridge University Press.
- Leaver, B. L., Ehrman, M. E., & Shekhtman, B. (2005). *Achieving success in second language Acquisition*. Cambridge, UK: Cambridge University Press.
- Lee, S. H. (2008). Beyond reading and proficiency assessment: The rational cloze procedure as stimulus for integrated reading, writing, and vocabulary instruction and teacher-student interaction in ESL. *System* 36(4), 642-660.
- Lee-Ellis, S. (2009). The development and validation of a Korean C-test using Rasch analysis. *Language Testing*, 26(2), 245-274.
- MacIntyre, P., & Charos, C. (1996). Personality, attitudes, and affect as predictors of second language communication. *Language and Social Psychology*, 15(1), 3-26.
- Marefat, F. (2006). Students writing, personality type of the student and the rater: any interrelationship? *The Reading Matrix*, 6(2), 116-124.

- McNamara, T. (2000). *Language testing*. Oxford, UK: Oxford University Press.
- Meeusen, V. C. H., Brown-Mahoney, C., Dam, K., A. A. J., Zundert, A. A. J., & Knape, J. T. A. (2010). Personality dimensions and their relationship with job satisfaction amongst Dutch nurse anesthetists. *Public Medline*, 18(5), 573-581.
- Myers-Briggs, I. B., & McCaulley, M. H. (1985). *Manual: A guide to the development and use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press.
- Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, 93(1), 116130.
- Oller, J. W., Jr. (1979). *Language tests at school*. London, England: Longman.
- Oller, J. W., Jr. (1983): A consensus for the eighties? In Oller, J.W., Jr. (Ed.). *Issues in language testing research* (pp. 351-56). Rowley, MA: Newbury House.
- Pallant, J. (2011). *SPSS survival Manual; A step by step guide to data analysis using SPSS (4th ed.)*. Crows Nest, NSW, Australia: Allen & Unwin.
- Pfister, A. A. (2000). *The effect of personality type of bilingual students on English reading performance in a computer-driven developmental reading laboratory: implications for educational leaders*. (Unpublished MA dissertation), University of Georgia, USA.
- Phakiti, A. (2003). A closer look at gender and strategy use in L2 reading. *Language Learning*, 53(4), 649-702.
- Phakiti, A. (2006). Modeling cognitive and metacognitive strategies and their relationship to EFL reading test performance. *Melbourne Papers in Language Testing*, 11(1), 533- 95.
- Phakiti, A. (2008). Construct validation of Bachman and Palmer's (1996) strategic competence model over time in EFL reading tests. *Language Testing*, 25(2), 237-272.
- Quenk, N. (2009). *Essentials of Myers-Briggs Type Indicator Assessment (2nd ed.)*. Hoboken, NJ: John Wiley & Sons.
- Razmjoo, S. A., & Shaban, M. (2008). On the relationship between Introversion/Extroversion and grammaticality judgment among the Iranian EFL learners. *The Iranian EFL Journal*, 2(7), 124-150.
- Read, J. (2000). *Assessing vocabulary*. UK: Cambridge University Press.
- Robinson, D., Gabriel, N., & Katchan, O. (1994). Personality and second language learning. *Personality and Individual Differences*, 16(1), 143-157.

- Sadeghi, K. (2012). Cloze validation against IELTS reading paper: doubts on correlational validation. *Journal of English Teaching and Learning*, 2(217), 131-154.
- Sanchez-Marin, M., Rejano-Infant, E. & Rodriguez-Troyano, Y. (2001). Personality and academic productivity in the university student. *Social Behaviour and Personality* 29(21), 299-305.
- Sharp, A. (2004). Language learning and awareness of personality type in Chinese settings. *Asian EFL Journal*, 6(2), 1-13.
- Sharp, A. (2008). Personality and second language learning. *Asian Social Science*, 4(11), 17- 25.
- Spolsky, B. (1976). Language Testing: Art of Science? Paper read at the 4th International Congress of Applied Linguistics. Stuttgart, Germany.
- Stemmer, B. 1991: *What's on a C-Test taker's mind: mental processes in C-Test taking*. Bochum: Brockmeyer.
- Turnasella, T. (2002). Pay and personality. *Compensation & Benefits Review*, 34(2), 49-59.
- Veisi, S. (2007). The effect of learning styles and lexical difficulty on the C-test. *Iranian EFL Journal*, 8(4), 74-93.
- Wakamoto, N. (2009). *Extraversion/introversion in foreign language learning: Interactions with learner strategy use*. Bern: Peter Lang.
- Weir, C. J. (1990). *Communicative language testing*, London, UK: University of Reading.
- Zarei, F. (2012). Can ambiguity tolerance/intolerance be a source of bias on C-tests? *US-China Foreign Language*, 10(3), 1010-1019.
- Zhang, L. M., Goh, C., & Kunnan, A. (2014). Analysis of test takers' metacognitive and cognitive strategy use and EFL reading test performance: A multi-sample SEM approach. *Language Assessment Quarterly*, 11(1), 76-102.

Appendix

The Newly-Developed C-Test

C-Test

Directions: The second half of every second word in the passages below has been removed. If there is an odd number of letters in the word, then the larger "half" is removed. Please, read the passages and do as follows:

- You have to restore the second deleted **half**.
- Your restored word should be only **one word**.
- You should pay attention to the tense and subject-verb agreement.
- Your spelling should be **correct**.
- You should use a pencil so that you can correct your mistakes.

How to Train Your Dog to Play Basketball

Do you want to teach your dog to play basketball? Try this! Start b_ (1) getting yo_ (2) dog t_ (3) fetch a ba_ (4) and br_ (5) it t_ (6)you. I_ (7) your d_ (8) can't d_ (9) that, y_ (10) should st_ (11) now. Yo_ (12) dog wi_ (13) probably n_ (14) make a

An Investigation into the...

great bask_ (15) player. Ins_ (16) of tak_ (17) the ba_ (18) directly fr_ (19) the d_ (20), hold a b_ (21) or cont_ (22) as gro_ (23) level.

No Girls Allowed!

Only men could take part in the ancient Olympic Games. Married wo_ (29) were n_ (30) even all_ (31) to wa_ (32) the eve_ (33). Women cau_ (34) sneaking i_ (35) were puni_! (36) In ev_ (37) Greek ci_ (38) there w_ (39) a gymn_ (40). That i_ (41) where bo_ (42) went t_ (43) school a_ (44) trained a_ (45) athletes. The boys who were to the gymnasium were mostly from rich families.