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LEARNERS' CHARACTERISTICS AND THEIR WRITINGS LINGUISTIC PROPERTIES: ACCURACY AND FLUENCY

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ABSTRACT
The purpose of this study was to search for the probable relationship between learners' characteristics and linguistic properties of their writings. Learners' characteristics were studied via three main Leaner variables: affective, cognitive and biological variables. Extroversion/ introversion (affective), reflectivity/ impulsivity (cognitive), and gender (biological) were selected as three variables via which the learners could be categorized into different groups. The linguistic properties of the learners' written performance were measured through accuracy and fluency. The participants were selected from a homogeneous group of university language learners who were asked to write a composition on a given Topic. The results showed that impulsive learners showed better results with respect to the linguistic properties of their writings than reflective ones. Cognitive and biological variables showed not such a difference with regard to the linguistic characteristics of learners' written performance in this study.

Keywords: *Extroversion/Introversion, Reflectivity/Impulsivity, Linguistic Characteristics, Accuracy, Fluency*

INTRODUCTION
Ancient Greek philosophers had a good advice for us-"know yourself"-this is a useful advice especially when we discuss about learning in higher education (Eysenck, 1978). Learning is acquiring new knowledge, behavior, skills, preferences or understanding and may involve synthesizing different types of information. People learn and process new information in different ways. It should be noted that every student has his/her own learning style. These differences of personality, perception, ability and intelligence affect students' motivation and attitude towards the lessons; therefore, affect effectiveness of the lesson. Besides, other factors like the student's gender, intelligence and personal characteristics influence the learning as well (Erden & Altun, 2006). In other words, people differ from one another depending on the way they perceive the world. In fact, our personality affects the way we learn. So, in recent decades, the affective factors and individual differences have received a considerable attention in language learning and educational psychology. Therefore, cognitive skills have been shifted to the whole person including the individuality of learners, their needs, feelings and personality. The need to create an effective learning environment has led educators to explore different dimensions of teaching, learning and assessment styles. There are many studies that investigate the variation among learners with different types of personality and also with different genders with respect to their performance in spoken or written modes of language (e.g. Mall-Amiri and Nakhaie, 2013; Morimoto, 2006; Souzandehfar & Farsi, 2014; Ali & Bano, 2012; Nikoopour & Amini Farsani, 2012). Although, the written mode, especially composition writing form, has been less well researched, due to the challenging issues that existsin evaluation of this mode of performance. As writing seems the most difficult skill to be learned and to be produced and maybe that is why in the order of four skills it is referred to as the last one.
In Iranian EFL learning context, although different learners experience the same writing classrooms and teaching methods, some write better than others and teachers admire students who use more interactional strategies in the classroom, without having knowledge of personality types. Consequently, teachers may have a positive view toward some personality traits and this positive view affects their judgments about the students' ability in EFL. There are papers that investigate texts from a text analysis point of view but there are few that search the relationship between their text analysis findings and the characteristics of

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their writers. So, based on findings of many researchers such as Brown (2000) and Chastain (1988), we expect a powerful relationship between characteristics of writers and characteristics of their productions. So, there is an opportunity to investigate the possibility of predicting the characteristics of a writer from the properties of his writing, to some degree of confidence.

Theoretical Background

Learner Variables

To study a second language, personality within learners is theorized as significant to influence their proficiency in acquiring all skills. This indicates individual difference may become one factor that determines students' performance in the classrooms. An individual's personality can have an effect on to what extent he is able to achieve information (Murray & Mount, 1996).

Ellis (2004) states that in general psychology; personality has been studied in terms of a number of personal traits, which are said to constitute the personality of an individual.

As cited by Vaezi (2012), Brown (2000) thought of learning styles as cognitive, affective and physiological traits that are relatively stable indicators of how learners perceive, interact with and respond to the learning environment. Learning styles seem to be relatively stable.

Affective factors are those that deal with the emotional reactions and motivation of the learners which have a direct effect on learning itself. In fact, a broad understanding of affect in language learning is very important because attention to affective aspects can lead to more effective language learning.

Among the affective factors, 'personality traits comprise a particular dimension called Extraversion/Introversion which has received the greatest attention in L2 learning. Hilgard (1963, as cited in Brown, 2005) believes that "purely cognitive theories of learning will be rejected unless a role is assigned to affectivity". Celce-Murcia (2001) quoted from Oxford that extroverts gain their greatest energy from the external world. They want interaction with people and have many friendships, some deep and some not. She also notes that introverts derive their energy from the internal world, seeking solitude and tending to have just a few friendships, which are often very deep.

Cognitive factors: A crucial concern of educational researchers is the investigation of the relationship and effect of different external and internal factors on learning process and outcome. Among the internal factors, cognitive styles take an important part of psychological variables in learning; because, they effect cognitive processing to a large extend, and also reveal the learners' performance (Kagan, 1966). As cited in Aliyari (2015) impulsivity (I) and reflectivity (R) are two characteristics of human beings in cognitive domain. The Oxford Advanced Learner's Dictionary (2006) defines impulsive people or their behavior as "marked by sudden action that is undertaken without careful thought" and gives the synonym of "thoughtful" for reflective. According to Gilpin and Larsen (1981), as well as, Kagan (1965), impulsive people in psychological literature are described as those easily carried away by new and exciting ideas, and by the prospects of immediate gratification. They tend to act quickly without thinking through the consequences of planning ahead.

Reflective people, on the other hand, like to stand back to ponder experiences and observe them from many different perspectives. They tend to postpone reaching definite conclusions for as long as possible. They are thoughtful people who like to consider all possible angles and implications before making a move. Moreover, they tend to adopt a low profile and have a slightly distant, tolerant unruffled air about them (as cited in Taghipour Bazargani, 2013).

Biological factors: "In addition to the learners, emotions, cognitive abilities, and social relationships, their sex and age also influence the development of second-language skills" (Chastain, 1988). One of the main factors that can affect learners' performance is their gender. Gender as a biological factor can also affect learners'performance.

The relationship between gender and the academic achievement of students has been discussed for decades (Eitle, 2005). Siebert (2003, as cited in Alibakhshi, 2011) reported that male students were more likely than female students to rate their abilities highly. For example, male students were twice as likely to agree that people from their country were good at learning foreign languages. Adeyemi's (2008) study revealed the significant differences between boys and girls in composition writing. Jones and Myhill

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(2007) investigated the effect of gender on linguistic competence in writing. They compared gender differences in linguistic characteristics of writing at text and sentence level. There were some significant differences according to gender at both text and sentence level. As you see, different genders with their different affective and cognitive styles and characteristics perform differently in their writings in terms of linguistic characteristics.

Linguistic Characteristics of Writing

Writing is a group of letters or symbols written or marked on a surface as a means of communication (Collins, 2003). There are some factors in assessing written performance of students. Linguistic features of writing can be considered as factors for assessing the quality of writing.

Writing needs practicing and internalizing a set of structures that can promote a balanced development of learners' fluency, accuracy, and complexity in the target language. So, Skehan (1998) distinguishes three aspects of linguistic performance: (a) fluency, (b) accuracy, (c) complexity. As Housen & Kuiken (2009) put it, the importance of three aspects of linguistic performance (accuracy, fluency, and complexity) is: (a) these constructs have been used not only to describe the goals of language acquisition, but also (b) to measure progress in language learning.

Fluency: Nunan (2001) defined fluency as "the ability of an individual to speak or write without undue hesitation". In a more delicate and measurable way, Fellner (2006) described fluency as the number of words produced in a specified amount of time.

According to Brand and Brand (2006), the general meaning of fluency is defined as completing an activity or a task effortlessly so that students complete activities or tasks "automatically, fluidly, rapidly, quickly and accurately". Fluency is described as the ease in which one produces language (Wolfe-Quintero *et al.,* 1998).

Accuracy: Housen and Kuiken (2009) define accuracy simply as "error-free" speech. Accuracy in writing can be defined as the capacity to be "free from errors while using language to communicate" (Wolfe-Quintero *et al.,* 1998). As a construct of writing ability, accuracy has been measured in multiple ways, the strongest of which is reported in this section.

METHODS AND MATERIALS
Research Questions and Hypothesis:
To achieve the purpose of this study,finding out whether there is any relationship between learners' characteristic (affective, cognitive, and biological) and properties of written performances (fluency and accuracy) in intermediate TEFL learners, the following questions and hypothesis were posed:

Q1: Is there any significant difference between extroverts vs. introverts in terms of accuracy, fluency?

Q2: Is there any significant difference between reflective vs. impulsive learners in terms of accuracy, fluency?

Q3: Is there any significant difference between male vs. female learners in terms of accuracy, fluency?

H01: There is not any significant difference between extroverts vs. introverts in terms of accuracy, fluency.

H02: There is not any significant difference between reflective vs. impulsive learners in terms of accuracy, fluency.

H03: There is not any significant difference between male vs. female learners in terms of accuracy, fluency.

Participants:
The sample for this study was chosen randomly to take the proficiency test and for the purpose of study 120 intermediate individuals were selected. A placement test of writing was run to select homogeneous students. 100 students whose scores were around the mean were selected as the study participants.

Instruments:
In order to have a homogenous sample and classify participants into different groups, three tests were used in this study, including proficiency test, Eysenck Personality Questionnaires and defined scales for assessing writing were used in the study that are going to be discussed in the following paragraphs.

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Proficiency Test
Proficiency test used in this study included the Nelson Test (intermediate 200B). The aim of this test was to ensure the homogeneity of the students regarding their English language proficiency.

Eysenck Personality Questionnaires
In order to estimate learner's personality type and cognitive style and assign them to different groups (extrovert, introvert, impulsive, and reflective groups), two personality questionnaires were administered. The first one was a questionnaire prepared by Eysenck and Eysenck (1975) to assess the subjects' degree of impulsivity /reflectivity. It included 30 items and in front of each item three options including *Yes, No* were presented. The subjects were instructed to answer each item by putting a circle around the *Yes* or *No* as quickly as possible. The second one was Eysenck's personality questionnaire for extroversion/ introversion personality type that comprised 24 *Yes/No* questions.

Scale for Assessing Writing
Accuracy measure:
The number of error-free T-units per T-units i.e., the percentages of T-units that don`t contain errors (Rahimpour, 2008; Errasti, 2003; Larsen-Freeman, 2006 and Salimi *et al.,* 2011).

Fluency measure:
The Fluency of the written production of the learners was measured by words per T-units (Ishikawa, 2006; Kuiken and Vedder, 2007; Salimi *et al.,* 2011).

Procedure:

First, the researcher attended eight randomly selected TEFL classes and asked the students to take part in her study and then distributed the placement test among students. Students were informed that their performance on the test will not affect their final test results and their scores will be used for the purpose of research.

The participants for this study were chosen based on non-random judgment sampling. The students whose scores were around the mean were selected as the study participants. In another session, the Eysenck impulsive/ reflective questionnaire was administered among all intermediate students to fill it out. The items of the inventory were explained by administer to make sure that the participants answer the whole items on the questionnaire as clearly and honestly as possible.

Moreover, the researcher presents while participants responding to the questionnaire to provide further explanations when required. Some sessions later the researcher asked the participants to write on an expository topic in the class and the students' writings rated by two raters in terms of linguistic properties. The inter-rater correlation coefficient across all papers calculated in order to be sure about the objectivity and reliability of scores.

The numerical data showed that the two sets of scores given by two raters enjoyed high degree of correlation.

In this study, the data was analyzed by using SPSS 18. The Pearson product-moment correlation coefficient was employed to determine whether there was any relationship among independent variables (affective, cognitive, and biological) and dependent variables (fluency and accuracy).

RESULTS AND DISCUSSION

Results

To answer the research questions and examine the significance of the difference among the mean scores of these three dichotomous groups, students' written production was analyzed through three independent samples T-test. The information provided by this analysis is presented in Tables 1 to 6.

To examine the first research question the linguistic scores of these two groups of learners were analyzed by an independent sample T-test and the result of this analysis is shown in Table 1 and 2.

The mean scores are 0.397 for introverts and 0.801 for extroverts so there is a significant difference between extrovert vs. introvert learners' writings in terms of accuracy because the significance level as shown in the following table is lower than 0.05. The extroverts' writings are more accurate than introvert learners'.

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The mean scores are 8.36 for introverts and 14.403 for extroverts and there is a significant difference between extrovert vs. introvert learners' writings in terms of fluency. So, the extroverts' writings are more fluent than introvert learners'.

Table 1: Independent Sample Test of Accuracy for Extroverts vs. Introverts

	Levene's Test for Equality of Variances		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	5.699	.019	-20.651	98	.000	-.404409	.019583	-.443270	-.365547
Equal Variances not Assumed			-21.768	97.987	.000	-.404409	.018578	-.441277	-.367541

Table 2: Independent Sample Test of Fluency for Extroverts vs. Introverts

	Levene's Test for Equality of Variances		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	.622	.432	-19.633	98	.000	-6.041650	.307725	-6.652320	-5.430980
Equal Variances not Assumed			-19.614	88.188	.000	-6.041650	.308022	-6.653761	-5.429539

To examine the second research question the linguistic indices of these two groups of learners were analyzed by another independent sample T-test and the result of this analysis is shown in Table 3 and 4. The mean scores are .416 for reflectives and .787 for impulsives. Also, there is a significant difference between reflective vs. impulsive learners' writings in terms of accuracy as shown in Table 3 is lower than 0.05.
So, reflectives' writings are more accurate than impulsive learners'. In the group statistics results, the mean scores are 8.969 for reflectives and 13.964 for impulsives. And there is a significant difference between reflective vs. impulsive learners' writings in terms of fluency. So, reflectives' writings are more fluent than impulsive learners'.

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Table 3: Independent Sample Test of Accuracy for Reflective vs. Impulsive

	Levene's Test for Equality of Variances		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	1.002	.319	-14.484	98	.000	-.370255	.025563	-.420984	-.319525
Equal Variances not Assumed			-14.463	88.023	.000	-.370255	.025601	-.421131	-.319378

Table 4: Independent Sample Test of Fluency for Reflectives vs. Impulsives

	Levene's Test for Equality of Variances		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	1.198	.276	-10.833	98	.000	-4.994852	.461066	-5.909824	-4.079881
Equal Variances not Assumed			-10.558	79.60	.000	-4.994852	.473073	-5.936371	-4.053334

To examine the third research question the linguistic scores of these two groups of learners were analyzed by another independent sample T-test and the result of this analysis is shown in Table 4 and 5.

The mean score of accuracy for males and females as shown in the table 5 is 0.6157 and 0.6556 respectively.

There is no significant difference between male vs. female learners in terms accuracy, because the significance level (0.382) as shown in the following table is higher than 0.05. The mean score of fluency for males and females as shown in the table 6 is 11.908 and 11.803 respectively and there is no significant difference between male vs. female learners in terms of fluency, because the significance level (0.879) as shown in the following table is higher than 0.05.

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Table 5: Independent Sample Test of Accuracy for Male vs. Female

	Levene's Test for Equality of Variances		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	.521	.472	.879	98	.382	.03996	.045462	-.050260	.130177
Equal Variances not Assumed			.870	80.639	.387	.03996	.045950	-.051474	.131391

Table 6: Independent Sample Test of Fluency for Male vs. Female

Levene's Test for Equality of Variances		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
3.688	.058	-.153	98	.879	-.105083	.688516	-1.471421	1.261254
		-.157	91.301	.876	-.105083	.669229	-1.434366	1.224199

Discussion

This study aimed to investigate the possible difference among different groups of learners in terms of linguistic characteristics of their writings. The linguistic characteristics specified for this study were accuracy and fluency.

The first research question asked whether there is any significant relationship between extroverts vs. introverts in terms of accuracy, fluency. As it is indicated in Tables 1and 2, extroverts tended to use more words in their sentences and so they wrote in longer sentences and this difference show the favorable level of significance, findings of this study corroborated the results of the earlier studies in this field (Gill and Oberlander, 2002).

As cited in Gill and Oberlander (2002), Carment *et al.,* (1965), proposed that extroverts can be described as individuals who think out loud, do most of the talking, are less self-focused, and tend to skip from topic to topic. This willingness to do most of the talking or in our case writing (expressing oneself in general) may have led our extroverts to write longer sentences.

As it is obvious, the measures are larger in extroverts. Since all of these differences are significant, the first hypothesis can be rejected in case of linguistic properties of writings. So, there is significant relationship between extroversion/ introversion personality type of learners and written performance in their compositions.

A considerable amount of literature has been published on extraversion-introversion. These studies report that this personality style is significantly correlated with second language learning skills. Some researchers found significant positive correlations, while others found significant negative correlations between extraversion-introversion and second language learning components. Lightbown and Spada

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(2006) stated that many classroom teachers believe that in second or foreign language learning, extraverts are more successful than introverts, particularly in their communicative ability. Hassan (2001) also found that extraversion and introversion are noticeably correlated with pronunciation accuracy, with extraverted students being more accurate in their English language performance than introverted students. Busch (1982) conducted a study on introversion-extraversion in relation to EFL proficiency. The study found a higher performance by introverted participants in reading and grammar components, extroverted participants were still found to have higher oral proficiency scores.

Some studies' results are in contrast with our findings. Hemmat Nezhad *et al.,* (2014) showed that being extravert vs. introvert has no significant impact on writing ability. Moreover, there was no significant effect of gender differences' extraverts/introverts on their writing proficiency. The results revealed that both extraverts and introverts have the capability to be proficient in writing skill. Nejad *et al.,* (2012), attempted to examine to what extent extraversion and introversion could foretell academic writing ability among 30 junior university students; male and female, studying English literature in junior at Ilam University, Iran. The result of study revealed that there is no significant relationship between extraversion /introversion and writing ability.

The second research question asked whether there is any significant relationship between reflectives vs. impulsives in terms of accuracy and fluency. As indicated in Tables 3 and 4, impulsive learners wrote longer sentences than reflective learners. Also, significantly, the amount of accuracy, fluency mean scores in impulsive learners' writings are larger than those of reflective learners. In all cases the impulsive subjects had larger measures of various linguistic features in their writings; and all of these differences were significant. So, we can reject the second hypothesis and claim that there is relationship between reflectivity/ impulsivity personality type of learners and linguistic characteristics of their written production. There are different studies in contrast and in line with the researcher's findings in this field.

The third research question asked whether there is any significant relationship between males vs. females in terms of accuracy, fluency. With regard to the third research question, none of differences between males and females was significant (Tables 5 and 6). So According to the mentioned numerical data, it can be concluded that there is not any relationship between males vs. females in terms of accuracy and fluency.

According to Jones and Myhill (2007), only limited evidence supported the argument that, in terms of the linguistic characteristics of the written outcomes, boys and girls are differently literate. This study, along with many other studies in this field, supported the notion of instability of statistically significant data in terms of gender and writing; those differences that have arisen in one study may not be replicable, and a further study in a different year with different writing tasks might furnish different results. As Vaezi (2012) showed females" written productions indicated larger measures of linguistic properties in all of its variables than males; however, none of the differences were significant.

Conclusion

We have searched for the effects of learner variables on linguistic characteristics of the written performance of learners. Among all of these variables, the affective factor extroversion/ introversion seems to play an important role in the most detailed aspects of persons performance. These findings are in line with the central notion of language psychology that the words people use reflect who they are. Other learner variables such as cognitive factors and biological factors did not reveal any significant difference in learners" writings in terms of linguistic properties.

In a nutshell, this study found learner variables to be influential factors in learning second language and consequently in learning outcomes. The findings showed that extroversion/ introversion type of personality of the learner is an important factor in determining how they use words in their compositions. The extroverts tended to use more various types of words in their writings. The research was carried out as a correlational research among intermediate TEFL students in Iran. The importance of personality types in education cannot be ignored.

Many studies were conducted to determine the effect and relationship of personality types with different areas of language. For example Hemmat Nezhad *et al.,* (2014) investigated the role of individual

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differences in terms of extraversion vs. introversion on writing ability of EFL. The main finding was extraversion vs. introversion has no significant impact on writing ability. Moreover, there was no significant effect of gender differences' extraverts/introverts on their writing proficiency. The results revealed that both extraverts and introverts have the capability to be proficient in writing skill.

Rahimpour (2011) in his study scrutinized the impact of planning and proficiency on 172 EFL learners' written task performance regarding concept load, fluency, complexity and accuracy. In this study, we attempted to identify the relationship between the learners' characteristics with the linguistic properties of their writings.

To answer the research questions, product-moment correlation coefficient was run and the findings revealed that Extrovert and Impulsive learners have complex, accurate and fluent writings but gender factor doesn't show any significance differences. These findings support the previous studies by Hemmat Nezhad *et al.,* (2014) and Rahimpour (2011). In this study we selected fluency and accuracy as two measures of linguistic characteristics of learners' writings butlexical and syntactic complexity are other linguistic properties that can be investigated through written performance of learners with different types of personalities. Our study searched for the various linguistic properties at sentence level. Further, more technically sophisticated analyses can be carried out. In order to have a more comprehensive understanding of the characteristics of second language writing, future investigation should also take into account discourse-level written features such as coherence, development of main ideas and organization.

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