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## **The Effect of Topic Bias on the Writing Proficiency of Extrovert/Introvert EFL Learners**

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### **Abstract**

This study was intended to find out any possible effect of topic bias on the writing proficiency of Iranian extrovert/introvert EFL learners at high/low writing proficiency levels. One hundred participants chosen from among 150 adult language learners on the basis of their personality type (extrovert/introvert) and writing proficiency (high/low) took part in this study. They were arranged into four groups according to their writing proficiency and personality type. They were asked to write on three different topics (one unbiased, one extroversion-biased, and one introversion-biased) and fill out Eysenck Personality Questionnaire for adults (EPQ, Eysenck & Eysenck, 1975). The writings were scored by two raters according to Bailey and Brown's (1984) composition grading scale. The data gathered was analyzed using two-way ANOVA. The final results of the analysis revealed the significant difference between the scores of different groups of participants on all topics – unbiased or biased toward either of the two personality types in favor of introverts but one.

**Keywords:** extrovert/introvert, topic bias, extrovert/introvert and writing proficiency, topic bias and writing proficiency

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## Introduction

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. Kim Dung (2004) declares that "writing or composition has been defined in a variety of ways which shows a lack of agreement as to what composition is, and reflects the complexity of the writing process" (p. 11). Whatever the definition, it is believed as the most significant and problematic area of language skills for EAP university students at different levels and majors of their study (Evans & Green, 2007). Also, Hayashi (2005) calls the L2 academic writing proficiency to be a very difficult skill for many EFL university students to master. Writing is also believed, by Heaton (1988), to be one of the "complex and sometimes difficult skills to teach requiring grammatical and rhetorical devices as well as conceptual and judgmental elements"(p. 135). Other factors, such as personality characteristics, the topic to be written on, and language proficiency level can add to the mentioned complexity.

Extroversion-introversion as "probably the most widely researched aspect of personality theory" (Burger, 1993, p. 319) is described by Hans Eysenck (1967) as the degree to which a person is outgoing and interactive with other people. These behavioral differences are presumed to be the result of underlying differences in brain physiology. Eysenck (1976) defines extroverts as people being "sociable, lively, impulsive, seeking novelty and change, carefree, and emotionally expressive" (cited in Venugopalan, 2000, p. 14). Later on Eysenck (1981) compares this trait to the four temperaments of ancient medicine, with choleric and sanguine temperaments equating to extroversion, and melancholic and phlegmatic temperaments equating to introversion. Wilson (1981) too enumerates more or less similar features for extroverts as that of Eysenck (1976), i.e. extroverts are "lively, outgoing, sociable, sporty and adventurous in their general social behavior and tend to develop cooperative skills" (p. 240).

At the same time, Lucas (2007) defines extroversion as a trait included in every comprehensive model of personality, reflecting, in its broadest sense, one's interest in social interaction, encompassing a number of more specific aspects such as impulsivity, assertiveness,

activity level, and the tendency to engage in excitement-seeking behaviors. Morrone-Strupinsky and Lane (2007, p.1267) declare that extroversion consists of "agentic and affiliative components", which are typified by "distinct positive emotional states of positive activation and warmth-affection," accordingly.

As for introverts, Eysenck (1976) defines them as people being "quiet, introspective, intellectual, well-ordered, emotionally unexpressive, value-oriented, as well as preferring small groups of intimate friends and planning well ahead" (cited in Venugopalan, 2000, p. 14). Wilson (1981), too, suggests that introverts, unlike extroverts, are "careful, controlled, quiet and withdrawn and function best when alone" (p. 240). In another case, Dimler, Goldstein, Kohlberger, and Kim-Prieto (2007) describe introversion as a stable and heritable personality dimension distinguished by an inclination to quiet settings and for being alone, standing at the opposite direction of extroversion, and emphasizes on the fact that introversion is different from shyness, because anxiety and fear of social situations as predictors of shyness, are absent in introversion. No matter how different might appear all definitions of extroversion or introversion provided by different scholars, there seems to be some agreement on a few points itemized by Eysenck (1999) as follows: "(a) the introvert has a more subjective, the extrovert a more objective outlook; (b) the extrovert shows a higher degree of behavioral activity"; and, "(c) the introvert shows a tendency to self-control (inhibition), the extrovert a tendency to lack of such control" (p. 58).

Providing learners with topics to write on is very important in the result they get from their writing. A few studies have focused on the significance of the topic to be written on. In one case, Kennedy (1994) worked on the issues dealing with topic selection and found out that the influence of topic on the acquisition of ESL composition skills and its influence on the cognitive task of demonstrating ESL writing proficiency are very significant. Witte (1988) reported that when native speakers were asked to write compositions in response to various prompts (topics), it became obvious that not all prompts produced similar results across groups, even though the prompts had been devised to be topics with which all students would be familiar (cited in Kennedy, 1994).

O'Donnell (1984) focused on the shift from indirect to direct measures of writing proficiency which heavily rely on the selection of appropriate topics for eliciting writing samples and found out that this aspect of writing is mostly neglected. Brossell and Ash (1984) found that students wrote "more organized, more sharply focused, and more fluent" essays on the topic of violence in the schools (cited in Kennedy, 1994, p. 246). Unfortunately, as Hoetker (1982, cited in O'Donnell, 1984) states, little is known about topic variables because research attention has been devoted almost entirely to issues of rater reliability, the issue of validity as well as sources of error in an essay examination, ignoring the topics and the writer.

Although the amount of attention paid to the selection of topic to write on seems to be low in our field researches, even less attention is paid to the matter of topic bias. As already mentioned, topic seems to play such an important role in the result of the writing, that if one changes the topic in order to make it personality-type-biased or if indeed they ignore topic being biased, then it may to some extent affect the result that language learners obtain. Hence the present study is specifically concerned with the role of biased and unbiased topics on the writing proficiency of Iranian adult EFL learners

Rosier (1976, cited in Strong, 1983) reported a positive relationship between extroversion and English oral proficiency, and Smart, Elton, and Burnett (1970, cited in Strong, 1983) reported achievements above the predicted grades for introverts. At the same time, there are a number of other studies indicating no correlation between extroversion and language sub-skills such as pronunciation (Suter, 1977), or indeed any of the language measures and five personality indices (Hamayan, 1980, cited in Strong, 1983). Strong (1983) in his study on the link between social styles and second language acquisition revealed that certain personal characteristics are consistently related to successful language learning. Chastain (1975) also found that outgoing students tended to have better grades in certain foreign languages. Ehrman and Oxford (1990) studied some differences in the strategy use of seventy-nine foreign language learners to check if they were related to one's personality and found that extroverts used social strategies more consistently and easily whereas introverts tended to reject them (cited in Brown, 2000). Lee, Kim, SeokSeo, and Chung (2007, p. 409) too

discussed language use as a marker of personality in the case of Korean undergraduate students. In fact they stated that "the higher a participant scored on extroversion, the more he or she used verbs in natural language".

In another case, Wang and Wang (2004) in their study on language learning of students majoring in physical training found out that "teachers need to help extroversion students to devote in reading for comprehension, understanding sentence structures and developing individual opinions in the reading materials," and concluded that "as extroverts are active, teachers may not make all the students keep silent or simply under their control to listen to their one-man shows, rather they should make an active discussion, smooth free talk, exciting play show, wonderful movie dialogues and so on" (p. 75).

As for the relationship between extroversion/introversion and the four language skills proficiency, Venugopalan (2000) conducted a study and the results favored extroverts in case of speaking and listening proficiency and introverts in EFL reading and writing proficiency when they come from Asian countries, and very interestingly, slightly more or less opposite results were obtained in the case of participants with non-Asian language backgrounds.

As far as studies conducted in Iran on the links between extroversion/introversion and language related measures are concerned, one can refer to Keivani (2001) on the relationship between extroversion/introversion and use of communication strategies in speaking which indicated that extroverts and introverts employed more achievement and reduction strategies accordingly, Validi (1997) on the relevancy of extroversion/introversion to EFL learners use of communication strategies in writing, yielding the same results as the previous study, Daryabary (2004) on the effect of personality on writing performance, which had nothing to do with any specific topic to be written on, in which the students were asked to write a free composition, and favoring female extroverts over the rest of the participants at the end, Jahanbazi (2007) on the same topic as the previous one, where the topics were not intended to be biased as he was looking for the effect of personality on writing performance while having control over gender, and not the topics, and Balaei (2004) on the effect of extroversion and language proficiency level on the use

of emotion words in the oral production of Iranian EFL learners which revealed that extroversion and language proficiency have a significant effect on the use of emotion lemmas and no significant interaction between extroversion and language proficiency was found. Moreover, the results of a study conducted by Marefat (2006) revealed that "extroversion-introversion, thinking-feeling, and judging-perceiving dichotomies seem to have no relationship with writing ability" (p. 122).

There are also a few other studies in the same area with regard to EFL reading, such as Pajuhesh (1994) and the effect of personality traits on EFL proficiency in general by Babaeekhu (1995) and Shahini (2006).

Daryabary (2004) in the case of writing proficiency came up with results in favor of extroverts and proved that they outperformed their introvert counterparts in language related matters. Just like Daryabary (2004), Rossier (1976), and Lee et al. (2007), came up with results in favor of extroverts and supported the idea that extroverts outperformed their introvert counterparts in language related matters while other researchers such as Smart et al. (1970) or Venugopalan (2000) in the case of writing and reading for Asian participants, favored introverts on language-related measures and Kiany (1998) reported a negative relationship between extroversion and language proficiency in TOEFL and IETLS. So there are conflicting results and it is still a matter of question that what personality group can perform better and higher than others when confronted with language learning and language skills. These motives on one hand and the lack of research on relationship between extroversion/introversion and writing proficiency when the topic is biased toward either extroversion or introversion inspired the researchers towards conducting this study. In fact this study is going to answer the following questions:

1. Is there any significant difference between the extrovert/introvert high/low writing proficient EFL learners when the topic is unbiased?
2. Is there any significant difference between the extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward extroversion/introversion?

The second question is further divided into two parts for the purpose of analysis as follows:

2.a. Is there any significant difference between the extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward extroversion?

2.b. Is there any significant difference between the extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward introversion?

According to the above mentioned questions, the related null hypotheses were formulated.

### **Definitions of Key Terms**

**Extroversion:** Eysenck (1976) defines extroverts as people being "sociable, lively, impulsive, seeking novelty and change, carefree, and emotionally expressive" (cited in Venugopalan, 2000, p. 14). In the present study, to obtain a score equal to or above sixteen out of twenty-one (based on the scoring rubrics of the test) in Eysenck Personality Questionnaire (EPQ, Eysenck&Eysenck, 1975) indicates extroversion of the participants.

**Introversion:** Eysenck (1976) defines introverts as people being "quiet, introspective, intellectual, well-ordered, emotionally unexpressive, value-oriented, as well as preferring small groups of intimate friends and planning well ahead" (cited in Venugopalan, 2000, p. 14). In the present study, to obtain a score equal to or below twelve out of twenty-one (based on the scoring rubrics of the test) in Eysenck Personality Questionnaire (EPQ, Eysenck&Eysenck, 1975) indicates introversion of the participants.

**Topic Bias:** In this study, it refers to the situation where the topics of writing are either biased toward extroversion or introversion, i.e. either extroverts/introverts are believed to like to write on them since the topic refers to one of their main characteristics as discussed in Eysenck (1976) classification (cited in Venugopalan, 2000). Operationally, the topic biased was decided upon after consulting with six PhD professors in TEFL and psychology. In fact they were provided with the definition of extroversion/introversion in the present study in written form, based on the definition provided by Eysenck in

1976 as cited in Venugopalan (2000), and if at least half plus one of them voted for topic biased toward extroversion or introversion, it was labeled as extroversion- or introversion-biased.

## **Method**

### **Participants**

From among around 300 Iranian adult male and female language learners from Apadana and Tohid Language Institutes in Karaj and Marefat and ZabanPajuhi Language Institutes in Tehran, one hundred participants were selected based on their writing proficiency levels to take part in the present study. Test takers with their TWE (Test of Written English taken from Longman Preparation Course for the TOEFL<sup>®</sup> Test, 1996) scores falling within 0.5 to 1.5 standard deviation above the mean were considered high proficient and the ones with their TWE scores falling within 0.5 to 1.5 standard deviation below the mean were considered low proficient writers. As far as their personality was concerned, those participants obtaining a score equal to or below twelve out of twenty-one (based on the scoring rubrics of the test) on Eysenck Personality Questionnaire (EPQ) were considered as introverts and extroversion was determined by obtaining a score equal to or above sixteen out of twenty-one, based on the scoring rubrics of Eysenck Personality Questionnaire (EPQ, Eysenck & Eysenck, 1975). It is worth mentioning that those obtaining scores ranging between twelve and sixteen have no specific tendency toward either introversion or extroversion. The researcher selected the participants in the aforementioned manner in order to make sure of the presence of twenty five qualified participants (25 high writing-proficient extroverts, 25 low writing-proficient extroverts, 25 high writing-proficient introverts, and 25 low writing-proficient introverts) in each of the four groups in terms of writing proficiency (high and low) and personality traits (extroversion/introversion).



## **Instrumentation**

Four different types of instruments were used in this study including: 1) topic biased questionnaire, 2) Eysenck Personality Questionnaire for adult (EPQ), 3) Test of Written English (TWE), and 4) two biased topics.

### **Topic biased questionnaire**

In order to find the biased as well as unbiased topics to write on, a questionnaire containing 10 different topics, selected from IELTS (2005) and TOEFL (1996) tests, was distributed among six experts in TEFL and psychology in total (all holding PhD in their respective majors) from psychology and English language faculty of the same university. They were provided with the definition of extroversion/introversion in the present study, based on the definition provided by Eysenck in 1976(cited in Venugopalan, 2000), and if at least four of them voted for the topics being biased toward extroversion or introversion, it was labeled as extroversion- or introversion-biased.

### **EPQ (Eysenck Personality Questionnaire)**

In order to differentiate between extrovert and introvert language learners, Eysenck Personality Questionnaire for adult (EPQ) was used in this study. This questionnaire consists of 90 yes/no question items and three personality factors are measured: Extraversion, neuroticism, and psychoticism. The questionnaire includes the following number of items: Psychoticism (25 items), Extraversion (21 items), Neuroticism (23 items), and the Lie scale for measuring dissimulation and response bias (21 items). According to the scoring key, the 21 items which were related to extraversion were thus isolated and given to the participants. EPQ is considered to be one of the most reliable and valid personality questionnaires of its kind (Dewaele & Furnham, 1999; Eysenck, 1986; Karanci, Dirik, & Yorulmaz, 2007). Using a Cronbach's $\alpha$  reliability, it showed a reliability of .783 for extroversion/ introversion part in the present study. Also a number of studies are conducted which have

reported satisfactory results regarding the validity of EPQ. For instance, Rothen et al. (2008), whose results were based on a sample of young adolescents, provided evidence for the satisfactory validity of the EPQ. Furthermore, Furnham (1981) reported EPQ to have construct validity; Eysenck and Eysenck (1985), using EPQ in their initial assessment of EPQ' spredictive validity, reported that it can be best applied in order to make predictions about one's behaviors as well as providing evidence regarding its acceptable level of concurrent validity (all cited in Abbott, 2001).

### **TWE (Test of Written English/unbiased topic)**

Once it was determined whether the participants were either extrovert or introvert, a Test of Written English (TWE), which is the written section of Test of English as a Foreign Language (TOEFL, 1996), was administered and analytically scored. The scoring was based on the Composition Grading Scale of Bailey and Brown (1984, cited in Farhady, Ja`farpur, & Birjandi, 2004), and determined the level of writing proficiency of the participants of the study in order to put them into two groups of high- and low-proficient language learners. This topic was judged by the six judges as an unbiased topic.

### **Writing on biased topics toward extroversion and introversion**

And finally the participants of the study were expected to write on two other biased topics, one biased toward extroversion and the other, biased toward introversion. The kind of the bias was judged as mentioned before.

### **Procedure**

In the first phase of the study, ten topics, selected from among various topics in IELTS (2005) and different TOEFL (1996) tests were selected to be judged for the topic biased towards either extroversion or introversion, according to the definition used in the present study, by 3 experts in TEFL and 3 in psychology (all holding PhD in their respective majors) from psychology and English language faculty of the same university. Table 1 indicates the result of the classification of the ten topics (see Appendix). Topics 3, 8, and 10 were decided as

unbiased, extroversion-biased and introversion-biased respectively (having at least four votes out of six), which were therefore used accordingly for the rest of the study.

**Table 1.** *The Result of the Questionnaire on the Topics Being Either Unbiased, Extroversion-Biased or Introversion-Biased*

Topics	Extroversion-biased	Introversion-biased	Unbiased	Undecided	Final result
1	0	4	2		Introversion-biased
2	0	4	2		Introversion-biased
3	0	0	6		Unbiased
4	1	0	5		Unbiased
5	2	---	3	1	---
6	0	3	3		---
7	1	---	4	1	Unbiased
8	4	0	2		Extroversion-biased
9	1	0	5		Unbiased
10	0	5	1		Introversion-biased

In the second phase of the study more than 300 Iranian adult male and female language learners studying in Marefat and ZabanPajuhi Language Institutes in Tehran, and Apadana and Tohid in Karaj were selected. Each participant was asked to complete an EPQ, i.e. Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) and write on three topics (unbiased, introversion-biased, extroversion biased). EPQ was first administered in order to determine the personality type (extroversion/introversion) of the participants. Later on the unbiased topic, which was a standardized Test of Written English (TWE, i.e. Test of Written English taken from Longman Preparation Course for the TOEFL<sup>®</sup> Test, 1996), was administered both to determine their level of writing proficiency and to answer the first research question.

Then the TWE essays and the two topic biased ones, for each of which they were asked to write five paragraphs, each taking at least one hour of their class time, were scored analytically based on the analytic composition grading scale of Bailey and Brown (1984, cited in Farhady et al., 2004), so that all minor and major aspects of writing could be taken care of. Based on Bailey and Brown's (1984) grading scale, each component of the composition, namely a) organization (introduction, body and conclusion); b) logical development of ideas (content); c) structure; d) punctuation, spelling and mechanics; e) style and quality of expression, has a separate score out of twenty (ranging from 0 to 20) and each writer's score is the average of the five scores he/she gains in the rating. One hundred and fifty participants answered and returned the EPQ and three writings to the researcher. In other words, since not all of participants could manage to complete all instruments, some of them were excluded from the rest of the study. In order to ensure the reliability of scoring, the writings given to each participant were checked by a second rater (a TEFL MA student) and the mean of the two scores given by the two raters were considered as the writing score. Finally, the results obtained from EPQ and TWE (considering the extroverts and introverts on one hand, and high and low ones, on the other hand) led the researcher to choose one hundred of the participants (41 males and 59 females) and put them into four groups of twenty five.

The first group of participants are high-proficient extroverts (the extroverts with their TWE scores falling within 0.5 to 1.5 standard deviation above the mean); the second group of participants are high-proficient introverts (the introverts with their TWE scores falling within 0.5 to 1.5 standard deviation above the mean); the third group are low-proficient extroverts( the extroverts with their TWE scores falling 0.5 to 1.5 standard deviation below the mean), and the last group of participants are low-proficient introverts(the introverts with their TWE scores falling -0.5 to -1.5 standard deviation below the mean). To sum up, each participant completed the EPQ (Eysenck Personality Questionnaire) and wrote on one TWE/unbiased (Test of Written English) topic, one extroversion-biased topic as well as one

introversion-biased, regardless of whether they were extroverts or introverts, which made a total of three writings for each participant.

Cronbach's alpha reliability statistics amounted to 0.824 for Test of Written English (TWE), 0.715 for Extroversion-Biased Topic (EBT) and 0.738 for Introversion-Biased Topic (IBT). It is worth mentioning that EPQ showed a reliability of .783 in the present study, using Cronbach's  $\alpha$  reliability statistic. The inter-reliability statistics for Test of Written English (TWE), Extroversion-Biased Topic (EBT) and Introversion-Biased Topic (IBT) also amounted to .893, .757 and .957 respectively.

## Results

A one sample Kolmogorov-Smirnov test was conducted to check the normality of distribution of the scores. Based on the results, the scores were normally distributed on the unbiased topic (TWE) ( $z = 2.504$ ,  $p = 064$ ), the extroversion-biased topic ( $z = 1.654$ ,  $p = 052$ ), and for the introversion- biased topic ( $z = 1.754$ ,  $p = 073$ ).

In order to test the first null hypothesis, i.e. there is statistically no significant difference between the extrovert/introvert high/low writing proficient EFL learners when the topic is not biased toward either extroversion or introversion, a two-way ANOVA was carried out. In this test the personality characteristic of introversion/extroversion as well as the level of writing proficiency of participants, either high or low, were considered as independent variables, and the scores obtained on the TWEs were counted as the dependent variable.

First, the descriptive statistics of the mean scores of different groups' writings for the unbiased topic is presented in Table 2.

**Table 2.** Descriptive Statistics for the Mean Scores on the Unbiased Topic (TWE)

Personality Factor	Proficiency	Mean	Std. Deviation	N
Introvert	Low	13.5294	.62426	25
	High	18.0645	.77182	25
	Total	16.4583	2.30594	50
Extrovert	Low	13.2727	.76128	25
	High	17.5263	.69669	25
	Total	14.8269	2.19376	50
Total	Low	13.3600	.72168	50
	High	17.8600	.78272	50
	Total	15.6100	2.38215	100

To see if this difference is significant, the result of the two-way ANOVA is also presented.

**Table 3.** Tests of Between-Subjects Effects for Scores of the Participants Writing on the Unbiased Topic (TWE)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Et
Personality factor	3.631	1	3.631	6.783	.011	.066	
Proficiency	443.873	1	443.873	829.208	.000	.896	
Personality factor * proficiency	.455	1	.455	.851	.359	.009	
Error	51.389	96	.535				
Total	24929.000	100					
Corrected Total	561.790	99					

a. R Squared = .909 (Adjusted R Squared = .906)

As table 3 indicates, the effect of personality factors of extroversion and introversion on the writing scores of the students was significant [ $F_{\text{personality}}(1, 96) = 6.783$ ;  $p = .011$ ]. The effect of writing proficiency levels of high and low on the writing scores of the students was significant, too [ $F_{\text{writing proficiency}}(1, 96) = 829.208$ ;  $p < .05$ ]. However the interaction effect of these two independent variables of writing proficiency and personality factors of introversion and extroversion was not significant [ $F_{\text{personality*writing proficiency}}(1, 96) = .851$ ;  $p = .359$ ]. It also shows that most of the variability is accounted for

by language proficiency (89%) and less by the personality or interaction of the two. Moreover these two factors of proficiency and personality altogether account for more than 90% of the variance in general which is very considerable.

In the case of the effects of writing proficiency and personality factors of introversion and extroversion, the amount obtained in the data analysis is below the  $\alpha$  level of .05 and the first null hypothesis is not confirmed. So, there is significant difference between writing proficiency of extrovert/introvert high/low writing proficient EFL learners in general.

In order to test the first subdivision of the second research question, its null hypothesis, i.e. there is no statistically significant difference between the writing proficiency of extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward extroversion, was checked. Table 4 illustrates the descriptive statistics of mean scores on the extroversion-biased topic.

**Table 4:** *Descriptive Statistics for the Mean Scores on the Extroversion-Biased Topic*

Personality Factor	Proficiency	Mean	Std. Deviation	N
Introvert	Low	14.0441	.74601	25
	High	18.3952	.87981	25
	Total	16.8542	2.25963	50
Extrovert	Low	13.6288	.89513	25
	High	18.0395	.82606	25
	Total	15.2404	2.31150	50
Total	Low	13.7700	.86284	50
	High	18.2600	.86891	50
	Total	16.0150	2.41518	100

A two-way ANOVA was carried out to answer the first part of the second research question. In this test the personality characteristic of introversion/extroversion as well as the level of writing proficiency of participants, either high or low, were considered as independent variables, and, the score obtained on the writings of the participants on

one of the biased topic of the study, i.e. biased toward extroversion, was considered as dependent variable.

**Table 5:** Tests of Between-Subjects Effects for Scores of the Participants Writing on the Extroversion-Biased Topic

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Personality	3.416	1	3.416	4.682	.033	.047
Writing Proficiency	441.154	1	441.154	604.586	.000	.863
Personality* writing proficiency	.020	1	.020	.028	.867	.000
Error	70.049	96	.730			
Total	26225.500	100				
Corrected Total	577.478	99				

a. R Squared = .879 (Adjusted R Squared = .875)

As observed in table 5., the effect of personality factors of extroversion and introversion on the writing scores of the students on the topic being biased toward extroversion was statistically significant [ $F_{\text{personality}}(1, 96) = 4.682$ ;  $p = .033$ ]. This table indicates that the effect of high and low writing proficiency levels on the writing scores of the students was significant, too [ $F_{\text{writing proficiency}}(1, 96) = 604.586$ ;  $p < .05$ ]. However the interaction effect of these two independent variables was not statistically significant [ $F_{\text{personality*writing proficiency}}(1, 96) = .028$ ;  $p = .867$ ].

In other words, in the case of the effects of writing proficiency and personality factors of introversion and extroversion, the amount obtained in the data analysis is below the  $\alpha$  level of .05 and the first subdivision of this part of the second null hypothesis is rejected. So, there is statistically significant difference between extrovert/introvert



high/low writing proficient EFL learners when the topic is biased toward extroversion.

In order to analyze the second part of the second null hypothesis, i.e. there is statistically no significant difference between writing proficiency of extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward introversion, a two-way ANOVA test was conducted. The descriptive statistics of the mean scores obtained from the writings on the introversion- biased topic are presented in table 6.

**Table 6:** *Descriptive Statistics for the Mean Scores on the Introversion Biased Topic*

Personality Factor	Proficiency	Mean	Std. Deviation	N
<b>Introvert</b>	Low	15.1176	2.50487	25
	High	18.4355	1.09728	25
	Total	17.2604	2.34008	50
<b>Extrovert</b>	Low	13.7576	.89374	25
	High	18.6053	.89875	25
	Total	15.5288	2.51839	50
<b>Total</b>	Low	14.2200	1.73031	50
	High	18.5000	1.02020	50
	Total	16.3600	2.57350	100

As the means reveal, the high learners outperform the low ones in both groups and low introverts outperform the extroverts. To see if this difference is significant or not, the result of the ANOVA is presented in Table 7.

**Table 7:** *Tests of Between-Subjects Effects for Scores of the Participants Writing on the Introversion-Biased Topic*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Personality	8.142	1	8.142	4.426	.038	.044
Proficiency	383.158	1	383.158	208.273	.000	.684
Personality* writing proficiency	13.450	1	13.450	7.311	.008	.071
Error	176.611	96	1.840			
Total	27420.625	100				
Corrected Total	655.665	99				

a. R Squared = .731 (Adjusted R Squared = .722)

As table 7 reveals, the effect of personality factors of extroversion and introversion on the writing scores of the students on the topic being biased toward introversion was statistically significant [ $F_{\text{personality}}(1, 96) = 4.426; p = .038$ ]. This table indicates that the effect of writing proficiency levels of high and low on the writing scores of the students was significant too, [ $F_{\text{writing proficiency}}(1, 96) = 208.273; p < .05$ ]. The interaction effect of these two independent variables of writing proficiency and personality factors of introversion and extroversion was also significant [ $F_{\text{personality*writing proficiency}}(1, 96) = 7.311; p = .008$ ]. In other words, in the case of the effects of writing proficiency and personality factors of introversion and extroversion, the amount obtained in the data analysis was below the  $\alpha$  level of .05 and the second subdivision of the second part of the second null hypothesis is not confirmed. So, there is statistically significant difference between writing proficiency of extrovert/introvert high/low writing proficient EFL learners when the topic is biased toward introversion.

## Discussion

The studies in the review of the literature, such as Chastain (1975), Thorne et al., (2007), and Lee et al. (2007), concerning the relationship between personality dimensions of extroversion and introversion and

foreign or second language related matters (language skills, proficiency, etc.), especially second/foreign language proficiency, generally support the idea that there exists a relationship between the two. However the nature of this relationship is still a matter of question and, since there are controversies over the direction of this relationship, i.e. whether extroverts outperform introverts in language related matters or vice versa, the area is still in need of further research and study. For example, Daryabary (2004) showed that extroverts outperform introverts in writing (only high writing proficient learner), and Smart et al. (1970) and Venugopalan (2000) favored introverts in the case of writing.

The rejection of the first null hypothesis, which was examining the relationship between personality dimensions of extroversion/introversion and EFL learners' writing proficiency based on the result of a TWE taken by the participants, suggests that such relationship exists, and is leaned toward introverts. In other words, no matter high or low writing proficient the participants were, the introverts outperformed extroverts when writing on an unbiased topic.

Considering the results of the second research question, too, it seems that introverts write better in general, no matter what the topic is, or even no matter what level of writing proficiency they have. In other words, if the topic is unbiased or even the topic is biased toward either extroversion or introversion, the introverts usually write better. On the other hand, no matter if they are low or high at writing proficiency; again this is mostly the introverts who write better. The only exception is related to high extroverts in writing on the introversion-biased topic where the amount of difference is negligible. The reason that introverts mostly outperform extroverts might be due to the point that introverts in general pay more attention to accuracy than fluency (Venugopalan, 2000), and specifically in writing it is more matched with introvert's characteristics while in oral aspects, extroverts are usually more fluent (Smart et al., 1970; Venugopalan, 2000). So, it does not seem surprising that introverts showed better results in writing. It is worth noting that writing was scored based on linguistic aspect and the aspects which were measured, i.e. mechanics, organization, structure, word choices, organization of ideas,... mostly dealt with accuracy rather than fluency. It is possible that if oral

aspects of language learning were checked and from fluency aspect not accuracy, extroverts could show more superiority.

The only surprising aspect is that, though little in quantity, high extroverts had better performance in comparison to high introverts in writing on the introversion-biased topic. Maybe one could justify that since high proficient learners are aware about their own personality characteristics, they have practiced so much that they can write better on a topic even mismatched with their personality.

On the other hand one could look at the same results from another perspective. In fact one could say that, considering the biased topics, each of the four groups of high introverts, high extroverts, low introverts, and low extroverts, has had a better performance in the opposite kind of topic except the low introvert ones. In other words, the high introvert participants have outperformed their high extrovert counterparts in extroversion-biased topic and the high-extrovert participants have outperformed the high-introvert counterparts in the case of introversion-biased topic. But this pattern of outperformance in the opposite kind of biased topic was not completely repeated in the case of low writing proficient participants. In other words, in both extroversion- and introversion-biased topics, the low introvert participants could gain better mean scores than low extrovert participants. This result could mean that each group, being aware of their personality characteristics, have tried to compensate for the deficiency they have felt and that they have managed to compensate for this deficiency to the extent that they have fallen at the other extreme, i.e. being more proficient in writing on the topic related more to the other personality characteristic. The only group who were an exception were the low introverts, who due to their low level of proficiency on the one hand, and being introvert on the other hand, have not managed to control their way of thinking and still write in line with what personality group they belong to. Of course this interpretation does not mean that the participants changed their personality type. It suggests that they could find out about the features of personality type of the other of group and match with features in their writings

Another justification could be the guess that psychologically, each personality characteristic is attracted more to the opposite side and

hence more capable in writing in the opposite topic, of course with the exception of low introvert ones. This is of course something which requires more research, specifically considering the factors involved in the field of psychology.

A more logical justification for the results obtained in this study could be related to the number of the TEFL and psychology PhD holders who judged about the topic bias. They were only six and they were two different groups. If a larger number of participants had judged and if they all were only psychology majors, the judgment about the kind of the topic, which was the basis of the study, might have been more accurate and the result would have been totally different.

To sum up, the result of the present study is mostly in line with that of Smart et al. (1970) and Venugopalan (2000) and those whose results favor introverts in the case of writing and in one case, i.e. the high proficient extroverts writing on an introvert- biased topic, is in line with Daryabary's (2004) in which extroverts outperformed introverts in writing.

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## Appendix

### Ten topics selected from IELTS (2005) and TOEFL (1996) tests

1. Do you agree or disagree with the following statement? Use specific reasons and details to support your answer: People should always be polite, no matter what the situation.

2. Some people believe it is important to be as careful as one can be with money and save every penny that one earns. Why is it so?

3. Some educators believe that to graduate from a university a student should study courses from a wide variety of subjects. Others believe it is better for university graduates to have a strong specialization. Discuss the advantages of each position. Then indicate which position you think is better and justify your response.

4. Some people prefer to spend their leisure time in individual sports and activities, while others prefer group sports or activities. Discuss the advantages of each. Then state which you prefer and why?

5. Happiness is considered to be very important in life. Why is it difficult to define and what factors are important in achieving this?

6. Some people believe that when you leave your country to live in another one, you must stick to your own values even if they are not in harmony with the values of the country you have chosen to live in. Elaborate on the advantages of sticking to your own values during your lifetime.

7. Do you agree with some people who believe that creative artists should always be given the freedom to express their own ideas in whichever way they wish, without any government restrictions? Why or why not?

8. Some people prefer to spend their leisure time in group sports or activities. Discuss the advantages of doing this.

9. Some people argue that vast sums of money should be spent to explore space. Others believe that it is better to solve Earth's problems before going out into the space. Tell which position you agree with and why?

10. Some people like to plan their activities well ahead and believe that it has advantages for them. Elaborate on the advantages of planning our activities well ahead.