**JOURNAL OF FOREIGN LANGUAGE RESEARCH**
**PRINT ISSN: 2588-4123 ONLINE ISSN: 2588-7521**
**ww.Jflr.ut.ac.ir**

# The Relationship between Extroversion/Introversion, Field Dependence/Field Independence, and EFL learners' Willingness to Communicate

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**ABSTRACT**
The main purpose of this study was to investigate the relationship between EFL learners' cognitive styles, their personality types and their willingness to communicate. To this end, 198 English language students (131 females and 67 males) participated in the study. First, the participants' personality traits (introversion/extroversion) were determined through the Eysenck Personality Type Questionnaire, Adult Form (EPQ). In the second stage, the cognitive styles of the participants (field dependence and field independence) were determined through Group Embedded Figure test. Having distributed the relevant questionnaires among all the participants in a step-wise fashion, the researchers divided them into introverted/extrovert learners and field dependent/independent field learners, and finally the WTC questionnaire was administered to determine students' willingness to communicate. Data were analyzed through two-point correlation and Pearson correlation. The obtained results showed a significant relationship between cognitive styles and the desire to communicate. Comparison of individuals with field dependence and field independence showed that the tendency to communicate was higher among field dependent language learners. Extroverted language learners enjoyed significantly higher field dependence and were more inclined to communicate than introverted language learners. The study points to the importance of informing language learners about their cognitive styles and personality types and the need to pay more attention to these variables to improve language skills in general and the possible relationship between these factors and the increased tendency to communicate in foreign languages in particular.

**DOI: 10.22059/JFLR.2021.329752.883**

**ARTICLE INFO**
Article history:
Received: September 2, 2021
Accepted: November 4, 2021
Available online: Spring2022

**Keywords:**
*Extroversion, Introversion, Field dependence, Field independence, Willingness to communicate*

Bagheri Nevisi, R., Farmoudi, S. (2022). The Relationship between Extroversion/Introversion, Field Dependence/Field Independence, and EFL learners' Willingness to Communicate. Foreign Language Research Journal, 12 (1), 31-48.

پژوهش‌های زبان‌شناختی در زبان‌های خارجی، دوره ۱۲، شماره ۱، بهار ۱۴۰۱، از صفحه ۳۱ تا ۴۸

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## Introduction

The motto of antique Greek poet Euripides simply explains that how a bad beginning makes a bad ending; this means an important part of an education system must deal with recognizing and highlighting educators characteristics to reveal the best outcomes. First and foremost, practitioners must consider the general issue of a curriculum in the light of practical working which paves the way for the disclosure of the objectives in a research. Second language acquisition deals with communication; also WTC can be characterized as "objective of second language instruction". (Macintyre & Legatto, 2011). Moreover, in second and foreign language learning individual differences are golden keys; such differences might control the acquisition of second/foreign language in general and might be differ from one another in their ability to another (Dörnyei, 2005). Relatively, few studies have been carried out such overlapping and intervening variables all at once. Dörnyei and Skehan (2003) just focused on individual differences like aptitude and motivation. Sawyer and Ranta (2001) accounted for aptitude, individual differences and instructional design.

There is power in the combination of classroom learning and teaching and its educator's characteristics. Here, in this environment or aim should be communicated. When recognizing these characteristics are followed in some order, the intended reader can track the gap that how far the education system is from the ideal system. Many experts have emphasized on language aptitude, language acquisition, and motivation to help pupils to achieve ultimate success in mastering second language (Breen, 2001; Cornwell & Robinson, 2000; Dornyei & Skehan, 2003; Ellis, 2004; McGroarty, 2001; Sawyer & Ranta, 2001). Otherwise, even a perfect study with systematized design may lose the chance of focusing on these characteristics.

## Literature Review

### Willingness to Communicate

In recent years, efforts have been made to recognize teaching behaviors that help to boost pupils' willingness to communicate (Yashima, 2016). Individuals' differences (ID) such as personality, aptitude, motivation, learning styles, and learning strategies could affect the teaching process. Moreover, the above-mentioned factors may either impede or facilitate communication process (Perrott, 2014). It would be interesting to consider how far material development, learners' need and differences reflect in teaching procedures and how far these items influence the learning process. For all manner of possible reasons, learners may be motivated in their subject lesson and the desire to communicate through recognizing their differences in terms of personality traits and cognitive styles. McIntyre et al. (2002) consider willingness to communicate as a state of readiness to enter into a conversation at a particular time with a particular person in a second language. The researchers contend that the willingness to communicate indicates a desire to speak freely and without fear. In addition, willingness to communicate demonstrates personality traits whether people choose to speak or avoid or shun conversation.

**Extraversion and Introversion**

Until the mid-to-late twentieth, Gordon Allport, Raymond Cattell and Hans Eysenck dominated the whole process of personality theories (Wilt & Revelle, 2016). However, early Eysenck contributions and studies were somehow apart from his PEN theory and models of intelligence, he is well known for his theories and his work on extraversion. We already can claim that by the late 1960s Eysenck had developed most of his work on extraversion. During these years, not only experts have found at least more than 106,000 citations to extraversion, 30,600 to extraversion and Eysenck and more than 8000 to 'introversion-extraversion', but also there are 9250 citations to 'Personality Theory' and Eysenck, with almost 1000 just in the past year (Wilt & Revelle, 2016). Introversion is defined by Eysenck and Eysenck (1985) as follows: The sense of wholeness, contentment, and satisfaction that one derives from contemplating and thinking about oneself. Extraversion, on the other hand, is a person's intense need to receive self-strengthening, self-esteem, and a sense of wholeness from others in return for receiving that feeling on their own.

**Field dependence and Field independence**

FDI can be known as an adaptively impartial style capacity, it might be obvious that the performance if various school tasks would differ in FDI continuum style. Studies in all areas of knowledge have noticed that the relationship between cognitive style and academic achievement even has been affected by FDI continuum; FI participants achieve better results than FD subjects. Additionally, their cognitive style participants seem to join to different part of their back ground: here in this continuum FD subjects prefer to pay attention to more general parts of their information, while FI subjects focus on more detailed aspects. Both in children and in adults have been affected by the above difference (Tsakanikos, 2006). On the other hand, influencial responses affect FDI responses through relevant stimuli, especially while using tricky stimuli in auditory and visual tasks.

**Some relevant studies**

Ever since, in the early 1990s, WTC was noticed by McCroskey and Richmond (1990) in Micronesia as the native language in various first languages context, Sweden, Puerto Rico, and Australia. They were curious about the relationship among WTC and all relevant contexts such as, communication anxiety, speaking anxiety, and introversion. They found out that the level of anxiety, WTC, introversion, and communication competence differently affected the people and also different among them. Additionally, the result showed that this relationship among these variables was even different among countries. An investigation of willingness to communicate (WTC) was set in Chinese English-as-a-foreign-language (EFL) classrooms by Peng and Woodrow (2010). A hypothesized model integrating WTC in English, communication confidence, motivation, learner beliefs, and classroom environment was tested through structural equation modeling. It showed that WTC, communication confidence, learner beliefs, and motivation are predicted by classroom environment. WTC is affected by



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motivation indirectly through confidence, here the study found the direct effect of learner beliefs on motivation and confidence was identified. In a research on individual differences which was conducted to delve into the influence of language learning and personality factors, especially extroversion and introversion, and language learning strategies by Wakamoto (2000). A descriptive study of 254 fresh English students in college was carried out. This study found a significant correlation of certain strategies with personality types as extroversion and introversion. Zafar, Khanand and Meenakshi (2017) studied the personality traits such as extraversion-introversion in English context as a second Language (ESL) proficiency. One hundred forty-five undergraduate Chinese students at VIT University were participated. They found that there was a significant relationship between extraversion/introversion and different language learning skills. Students who scored high on extraversion got better scores in speaking and reading skills, in contrast, introverts got better scores in listening skills. A study by Savignon (2005) was set in Puerto Rico, investigating communicative features in both Spanish and English curriculums. This investigation was a bout the relations among communicative features.

Recently, another investigation was conducted by Zarrinabadi and Abdi (2011), who studied the way how WTC in English oral production is affected by individuals' factors. The study also investigated the differences in individual backgrounds that affect individuals' WTC. The investigation was set in Thai, Chinese and Dutch speakers of English to recognize how WTC can be affected by personality traits and culture. Zhang (2004) found each person is characterized by extreme field dependence (FD) to extreme field independence (FI) which were placed on a continuum. Separating information from its environment was difficult for people situated in FD end of the continuum, and outside cues were likely to have an impact on them and their information. However, it was less difficult for FI individuals to separate information from its context, and they were more interested in internal clues. Some studies have clarified the relationship of extraversion and its positive affect on biological principles and motivation theory. (Corr, 2016; Corr and Cooper,2016). Based on a different study from Radic-Bojanic (2020), it can be concluded that introverts have more skills than extroverts, but considering how English language skills are assessed, this result should be taken with caution. Teachers should pay attention to the personality of their learners and evaluate them appropriately, taking into account their approaches to learning.

Rashidi et al. (2011) presented a causal model of predictors of understanding oral communication of foreign language learners and examined three variables including: learners' self-esteem, introversion and introversion. They also regarded extroversion as the strongest predictor of oral communication. Marashi and Moghadam (2014) probed into the differences between field dependent and field independent learners in critical thinking and the use of oral communication strategies and concluded that these learners act significantly differently in the use of oral communication strategies. But in terms of

critical thinking, not much of a difference existed between the two groups. In another study, Marashi and Nadim (2018) used various educational activities to improve the oral skills of introverted and extroverted learners. Bagheri Nevisi and Izadi (2018) also dealt with the effect of rhythmic teaching on the lexical knowledge of field dependent and field independent EFL learners. The results showed that there was no significant difference between these two groups with regard to vocabulary learning after receiving rhythmic training. The primary objective of this research was to explore Iranian EFL learners' willingness to communicate, the possible relationship among learners' cognitive style and personality traits. More specifically, this study was an attempt to find possible links between introversion/extraversion, field dependence/field independence, and EFL learners' willingness to communicate. The following questions were formulated:

1. Is there any significant relationship between introversion/extroversion personality types and EFL learners' willingness to communicate?
2. Is there any significant relationship between field dependence/field-independence cognitive styles and EFL learners' willingness to communicate?
3. Is there any significant relationship between EFL learners' introversion and extroversion as personality types and field dependence/field independence as cognitive styles?

## Method

### Participants

Ahundred and ninety-eight participants (131 female and 67 male EFL university students), aged between 20 to 30 years of age, took part in the study. The convenience or available sampling was utilized due to the administrative limitations and challenges inherent in the randomization process. Available classes from different universities in Tehran and Qom were taken advantage of.

### Instruments

### Willingness to Communicate Questionnaire

MacIntyre et al, (2001)'s questionnaire was used to determine the participants' rate of willingness to communicate. The questionnaire had some statements related to students' feelings about communication and the frequency of using English in different situations. Individuals were asked to choose the appropriate items from a scale ranged between1 to 5 (1=almost never willing, 2= sometimes willing, 3= willing half of the time, 4= usually willing, and 5= almost always willing). This questionnaire includes 35 items with regard to four language skills i.e. speaking (7 items), comprehension (5 items), reading, (6 items), and writing (7 items). The higher the score each participant got, the higher their willingness to communicate.

### Eysenck Personality Questionnaire for Adult (EPQ)

The EPQ was firstly designed by Eysenck (1985). It consisted of 57 yes/no type items to assess three different qualities of an individual's personality. Eysenck and Eysenck (1974) personality questionnaire for adult (EPQ) was used in this study. The questionnaire includes a number of items involving: Extraversion and introversion. Each participant could gain one, half, or



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zero points while answering a question. Introversion and extraversion is divided into 7 traits. Students who gained scores from 1 to 24 from Eysenck personality questionnaires were regarded as extroverts. Students who gained scores 25 to 48 were regarded as introverts.

### Group Embedded Figure Test

Group Embedded Figure Test was used to determine EFL learners' cognitive styles (field dependence and field independence). It includes 18 complex figures, each with an embedded simple figure. The participants were asked to find the hidden form or figure in the more difficult one. The scores on GEFT may range from 0 (the most FD) to 18 (the most FI) based on the numbers of correct answers provided by students. Those who scored above 11 were FI and those who scored below were FD learners.

### Data Collection Procedures

Data collection was done in three stages, either in the form of in-person distribution of questionnaires or by sending an email or via an already-made Google Doc link of the questionnaires. First, the participants' personality types (introversion/ extraversion) were determined through Eysenck Personality Questionnaire for adult (EPQ). Second, the participants' different cognitive styles (field dependence/field independence) were determined through a Group Embedded Figure Test. When the participants had filled out the related questionnaires, the researchers divided them into introverted and extraverted learners, field dependent and field independent learners, and then WTC questionnaire was administered to specify the EFL learners' willingness to communicate. Out of 264 people who were provided with the questionnaires and Group Embedded Figure Test, 198 people completed all three stages.

### Data Analysis

The research questions were explored through point-biserial and pearson correlations. The first two research questions were analyzed through point biserial correlation which can be used when one of the variables is continuous (WTC) and the second variable is dichotomous (extroversion/introversion). The last research question was probed through pearson correlation which assumes lack of univariate and multivariate outliers and normality.

### Results

The assumption of normality was checked through skewness and kurtosis indices (Table 1). Since the absolute value of skewness and kurtosis indices was lower than 2 (Bachman, 2005; Bae & Bachman, 2010), it was concluded that the assumption of normality was retained.

**Table1**

*Descriptive Statistics; Testing Normality of Data*

| Personality | Cognitive Style | | N | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|
| | | | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Introvert | Field Independent | Personality | 72 | -.183 | .283 | -.723 | .559 |
| | | Cognitive | 72 | -.468 | .283 | -.847 | .559 |
| | | WTC | 72 | .680 | .283 | 1.803 | .559 |
| | Field Dependent | Personality | 32 | .908 | .414 | .162 | .809 |
| | | Cognitive | 32 | .281 | .414 | -1.351 | .809 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | WTC | 32 | .330 | .414 | -1.080 | .809 |
| Extrovert | Field Independent | Personality | 11 | .343 | .661 | -1.131 | 1.279 |
| | | Cognitive | 11 | -.969 | .661 | -.065 | 1.279 |
| | | WTC | 11 | -1.508 | .661 | 1.110 | 1.279 |
| | Field Dependent | Personality | 83 | -.185 | .264 | -.606 | .523 |
| | | Cognitive | 83 | -.530 | .264 | -.849 | .523 |
| | | WTC | 83 | -.391 | .264 | -1.026 | .523 |

**KR-21 Reliability Indices**

Table 2 displays the KR-21 reliability indices for the instruments employed in this study. The results indicated that WTC, personality type and cognitive style enjoyed reliability indices of .89, .71 and .83 respectively.

**Table 2**

*Descriptive Statistics and KR-21 Reliability Indices*

| | N | Minimum | Maximum | Mean | Std. Deviation | Variance | KR-21 |
|---|---|---|---|---|---|---|---|
| Personality | 198 | 12 | 48 | 27.28 | 9.825 | 96.527 | .89 |
| Cognitive | 198 | 2 | 18 | 11.70 | 4.443 | 19.743 | .71 |
| WTC | 198 | 2 | 24 | 15.70 | 5.369 | 28.830 | .83 |

**Exploring the First Research Question**

The first research question investigated the relationship between extroversion and introversion of EFL learners and their willingness to communicate. A point-biserial correlation was run to probe any significant relationship between WTC and introversion/extroversion personality types. Based on the results displayed in Table 3; (rpb (162) = .648, p = .000) it can be said that there was a significant relationship between the personality types and willingness to communicate. The square of point-biserial correlation shows the percentages of prediction that can be made. Based on these results, it can be concluded that being extrovert or introvert can predict 41.99 percent of WTC; i.e. (.648*.648) * 100=41.99 %.

**Table 3**

*Point-Biserial Correlation between Personality Types and Willingness to Communicate*

| | | Personality Types |
|---|---|---|
| Willingness to Communicate | Point-biserial Correlation | .648** |
| | Sig. (2-tailed) | .000 |
| | N | 198 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | |

The significant correlation between personality type and WTC was followed by an independent-samples t-test to compare the extrovert and introvert EFL learners' means on WTC. Based on the results displayed in Table 4, it can be said that extrovert EFL learners (M = 19.34, SD = 3.50) had a higher mean on WTC than introvert group (M = 12.41, SD = 4.58).

**Table 4**

*Descriptive Statistics; Willingness to Communicate by Personality Types*

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| WTC | Extrovert | 94 | 19.34 | 3.509 | .362 |
| | Introvert | 104 | 12.41 | 4.585 | .450 |

The results of the independent t-test (t (196) = 11.84, p = .000, r = .646 representing a large effect size) (Table 5) indicated that the extrovert EFL learners had a significantly higher mean on WTC. It should also be noted that the assumption of homogeneity of variances was met (Levene's F = 2.94, p = .088). That was why the first row of Table 4.7, i.e. "Equal variances assumed" was reported.

**Table 5**

*Independent Samples t-test; Willingness to Communicate by Personality Types*

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| Equal variances assumed | 2.941 | .088 | 11.844 | 196 | .000 | 6.927 | .585 | 5.774 | 8.080 |
| Equal variances not assumed | | | 12.002 | 190.942 | .000 | 6.927 | .577 | 5.789 | 8.065 |

**Exploring the Second Research Question**

The second research question delved into the relationship between field dependence and field independence of EFL learners and their willingness to communicate. A point-biserial correlation was run to probe any significant relationship between WTC and field dependent/independent cognitive styles in order to probe the second research question. Based on the results displayed in Table 6; (rpb (162) = .606, p = .000) it can be concluded that there was a significant relationship between the cognitive styles and willingness to communicate. The square of point-biserial correlation; i.e. (.565*.565) * 100 = 36.72 %, indicated that being field dependent or field independent predicted 36.72 percent of WTC.

**Table 6**

*Point-Biserial Correlation between Cognitive Styles and Willingness to Communicate*

| | | Cognitive Styles |
|---|---|---|
| Willingness to Communicate | Point-biserial Correlation | .606** |
| | Sig. (2-tailed) | .000 |
| | N | 198 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | |

The significant correlation between cognitive styles and WTC was followed by an independent-samples t-test to compare the FD and ID learners' means on WTC. Based on the results displayed in Table 7 it can be said that FD learners (M = 18.46, SD = 4.30) had a higher mean on WTC than FI learners (M = 11.88, SD = 4.24).

**Table 7**

*Descriptive Statistics; Willingness to Communicate by Cognitive Tyles*

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| WTC | Field Dependent | 115 | 18.46 | 4.309 | .402 |
| | Field Independent | 83 | 11.88 | 4.241 | .466 |

The results of the independent t-test (t (196) = 10.67, p = .000, r = .606 representing a large effect size) (Table 8) indicated that the FD EFL learners had a significantly higher mean on WTC. It should also be noted that the assumption of homogeneity of variances was met (Levene's F = 1.24, p = .266). That was why the first row of Table 8, i.e. "Equal variances assumed" was reported.

**Table 8**

*Independent Samples t-test; Willingness to Communicate by Cognitive Tyles*

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| Equal variances assumed | 1.246 | .266 | 10.675 | 196 | .000 | 6.581 | .617 | 5.365 | 7.797 |
| Equal variances not assumed | | | 10.703 | 178.454 | .000 | 6.581 | .615 | 5.368 | 7.795 |

**Exploring the Third Research Question**

The last research question aimed to investigate any significant relations between EFL learners' introversion/extroversion as personality types and field dependence/ field independence as cognitive styles. Pearson correlation was run to probe any significant relationship between total scores on personality and cognitive in order to probe the third question. Based on the results displayed in Table 9; (r (162) = -.629, representing a large effect size, p = .000) indicated that there was a significant and negative relationship between the two variables.

**Table 9**

*Pearson Correlation between Total Scores on Personality and Cognitive*

| | | Personality |
|---|---|---|
| Cognitive | Pearson Correlation | -.629** |



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| | | |
|---|---|---|
| | Sig. (2-tailed) | .000 |
| | N | 198 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | |

Analysis of chi-square (crosstabs) was run to probe any significant relationship between personality types of extroversion/introversion; on one hand, and cognitive styles of being field dependent/independent. As displayed in Table 10, the extrovert learners were significantly more field dependent (n = 72, 69.2 %, Std. Residual = 4.3 > 1.96), while the introvert learners were significantly more field independent (n = 83, 88.3 %, Std. Residual = 3.8 > 1.96).

**Table 10**

*Frequencies, Percentages and Standardized Residuals Personality Type by Cognitive Styles*

| | | | Cognitive Styles | | Total |
|---|---|---|---|---|---|
| | | | Field Dependent | Field Independent | |
| Personality Types | Extrovert | Count | 72 | 32 | 104 |
| | | % | 69.2% | 30.8% | 100.0% |
| | | Std. Residual | 4.3 | -3.7 | |
| | Introvert | Count | 11 | 83 | 94 |
| | | % | 11.7% | 88.3% | 100.0% |
| | | Std. Residual | -4.5 | 3.8 | |
| Total | | Count | 83 | 115 | 198 |
| | | % | 41.9% | 58.1% | 100.0% |

The results of chi-square ($\chi 2$ (1) = 64.77, p = .000, Cramer's V = .582, p = .000 representing a large effect size) indicated that there was a significant relationship between personality types of extroversion/introversion, and cognitive styles of field dependence/independence.

**Table 1**

*Frequencies, Percentages and Standardized Residuals Personality Type by Cognitive Styles*

| | Value | Df | Asymptotic Significance (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 67.115[a] | 1 | .000 | | |
| Continuity Correction[b] | 64.773 | 1 | .000 | | |
| Likelihood Ratio | 73.047 | 1 | .000 | | |
| Fisher's Exact Test | | | | .000 | .000 |
| Linear-by-Linear Association | 66.776 | 1 | .000 | | |
| N of Valid Cases | 198 | | | | |
| Cramer's V | .582 | | .000 | | |
| 0 cells (0.0%) have expected count less than 5. The minimum expected count is 39.40. | | | | | |

**Discussion**

The research was set to examine whether there was any significant relation between



پژوهش‌های زبان‌شناختی در زبان‌های خارجی، دوره ۱۲، شماره ۱، بهار ۱۴۰۱، از صفحه ۳۱ تا ۴۸

introversion/extroversion personality types and EFL learners' willingness to communicate (WTC). The findings revealed that extrovert EFL learners tended to communicate more as opposed to their introvert counterparts. The findings of the present study are consistent with the results of Wen and Clement 's (2003). They presented an explanation of the linguistic, communicative, and social psychological components that may influence learners' willingness to communicate in a Chinese context. According to Zarfsaz and Takkac (2014), the higher level of extroversion in EFL students is equal to the higher level of WTC. Extroverts are more sociable and their conscious interaction is directed towards other individuals and phenomena. Brown (2000) noted that extroverts are sociable and have many friends and tend to talk to people.

Concerning WTC in the first question of the current study and its relationship with introversion/extroversion personality types among EFL learners, it is argued that a student might possess a high level of WTC, but when placed in a context in which they can apply their newly-gained or learned linguistic elements, they might not display enough enthusiasm to communicate because of some contextual factors. It is clear that learners' degree of WTC is correlated with external pressure.

Recently, a more detailed vantage point on the correlation between extraversion and SLA has appeared. While looking upon the literature on the impacts of extraversion on second language acquisition, Ellis (1994) proposed two primary stances. The first supports that extroverted learners perform better in learning fundamental interpersonal communication skills. The second contended that introverted learners perform better at promoting cognitive academic language ability. Although extraverts enjoy a less efficacious long-term memory, they have a larger working memory capacity. Extraverts might accordingly underachieve in explicit (academic) learning, but outdo the introverted counterparts on more communicative oral skills, where retrieval from long-term memory via short-term memory and parallel processing play a vital part. Comparing the FD and FI revealed that the FD EFL learners had a significantly higher level of WTC. One possible reason might be the fact that FD learners may rely on memory strategy since such a strategy works better for the task at hand, and similarly they may make use of various cognitive, compensatory and affective strategies with different task orientations and purposes. Therefore, it may not be possible to provide a proper explanation for why a FD person has better memory, cognitive, compensation, and affective strategy user out of context (without considering task types and learning goals). Furthermore, cognitive style is related to a particular aspect of mind but it should not be forgotten. For instance, cognitive processing of information may not be achievable without relying on memory or vice versa.

Studies have not always been straightforward in showing differences in learning due to the cognitive styles (Price, 2004). For instance, Price (2004) found that field dependence and field independence cannot predict the qualitative and quantitative performance of learners.

Similarly, Richardson (1998) reported that these items cannot assess how the autonomous learners are or how they perform in a learning context. Moreover, it can be concluded that the effect of cognitive styles on language learning strategy use is not clear. Various reasons such as measurement errors and learning habits of learners might have moderated the effect of cognitive styles. For instance, when deciding how to choose their strategies to conform to their evaluation of task performances (metacognition), leaners may simply choose the strategies and techniques that they have been instructed to use. In addition to such explanations, there are also studies that do not readily support the differential effects of cognitive styles on language learning.

Another justification is based on Junxia (2011)'s study which reported that FD students are prone to interact with surroundings, they have great interest in communicating with others, and they are keen on social information and like to be frank. All these factors enable them to acquire an L2 better in natural situations. Therefore, it is natural that FD students purposely seek more opportunities to create more intimate relationship with L2 teachers and their classmates, and that they are absorbed in activities which can give them the chance to exhibit their talent in verbal expressions. On the other hand, FI learners outperform in pedagogic tasks which entail analysis, attention to details, and having a mastery over drills and other focused activities while their FD counterparts seem to achieve a higher degree of success in everyday language situations (Wyss, 2002); hence, it is not surprising that they take advantage of cognitive abilities when engaged in communication. Finally, the present research investigated whether there was any significant relationship between EFL learners' introversion/extroversion as personality types and field dependence/ field independence as cognitive styles. The results indicated that there was a significant and negative relationship between personality types of extroversion/introversion, and cognitive styles of being field dependent/independent.

The question of whether introversion or extroversion facilitate or hinder learning a second language has been controversial for psychologists and linguists for many years. Many psychologists, including Kiany (1998), Matthews and Deary (1998) and Cook (2002), maintained that extroversion is a flaw acquiring a language. This belief is founded upon a biological basis (Skehan, 1989). According to this assumption, extroverts possess a lower level of cortical arousal and are more easily inhibited. They also have a limited long-term memory compared with introverts who benefit from possessing long-term memory. These biological differences cause both groups to have different behavioral tendencies. Zafar and Meenakshi (2012) suggested that an extrovert with an outgoing personality and higher tolerance for risk would be a better language learner than the more introverted personality who is more conservative and more self-conscious. Furthermore, Richards and Schmidt (2002, p. 195) define an extrovert as one whose "conscious interaction is more often directed towards other people and events than towards the person themselves" while an introvert as one "who tends to avoid social contact with

others and is often preoccupied with his/her feelings, thoughts, and experience". Extroversion and introversion personality types can also be viewed from a physiological angle. It is not clear, however, whether extroversion or introversion "helps or hinders the process of second language acquisition" (Brown, 2000, p. 155) albeit there is a commonly-held belief among language teachers pointing to the issue that extroverts outperform the introverts in L2 learning, especially in terms of being superior in communicative abilities (Spada & Tomita, 2010). As Dornyei (2005) puts it, "Both extroversion and introversion may have positive features, depending on the particular task in question" (p. 27).

**Conclusion**

The present research examined whether there existed any significant relationship between field dependence/field independence cognitive styles and EFL learners' WTC. The results revealed that there was a significant relationship between the cognitive styles and WTC. Comparing the FD and FI represented that the FD EFL learners had a significantly higher level of WTC. Foreign and second language learnings' dominant objectives are to increase and raise the insight and awareness about students' personal differences and the learners' learning styles' effects on the learning process and subsequently, on learning outcomes. Furthermore, due to many learners' variables that appear to influence the teaching process (Blair, 1982), personality differences among learners has indeed become more crucial in current language teaching and learning curriculum. Not only are cognitive factors the important cause of success in second language learning, but also there are also affective, motivational, personality, and demographic factors of the learners to be taken into account (Brown, 2000, Abedi, et al., 2020). Personality traits should be given an important role in the development of knowledge to draw a conceptual framework to grasp the association between non-cognitive and cognitive individual differences and also in that way they lead an individual's choice and level of persistence to engage in intellectually stimulating activities and settings. Thus, it can be concluded that individual differences in personality may influence academic performance. Moreover, "non-intellectual" factors such as personality traits and learning styles are significantly involved in academic performance (Busato, Crutchfield, & Woodworth, 2000; Chamorro-Premuzic, 2007). Different kinds of factors influence human learning. As Burton and Nelson (2005) mentioned, nowadays students are challenged regarding their educational background and curriculum. Students' learning styles are affected by all these educational and emotional factors in one way or another. Duff, Boyle, and Dunleavy (2004) also stated students' learning has been affected by individual differences and personality types. Fallen (2006) indicated that ignoring a students' personality type can cause difficulties and challenges in the educational learning process, since an individuals' personality type and learning style are closely related to each other. Nowadays, it is known that cognitive styles and cognitive domain are interwoven in various facets, in which other individual's



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features such as personality factors play a pivotal role. The implications of the current stucy are as follows: First, EFL teachers can inform learners and raise their consciousness about their cognitive styles and personality types to enable them make more proper and effective communications and be more creative in leaning activities. On the other hand, this study might enhance teachers and practitioners' knowledge and awareness about the above-mentioned factors and their possible impacts on willingness to communicate. Learners might not know what kind of cognitive styles they possess while they are learning. Exploring characteristics of FD/FI and extrovert/ introvert learners and their WTC may help students to enhance their awareness.

For future research, the sample could be larger and a more representative sample of the population can be included and relative randomization can be sought for as well. It is also suggested that for further studies measures could be improved by including a semi-structured interview. Furthermore, experimental studies can be conducted within classroom settings with fewer numbers of participants to further delve into teaching and learning aspects of learners enjoying different cognitive styles and personality types with varying degrees of WTCs. Considering how other constructs interrelate with introversion, extrovert, FD/FI, and WTC could improve internal validity by eliminating the possibility of confounding variables or to help clarify how these constructs contribute to such relationships. Moreover, qualitative studies including instruments such as interviews or observations or triangulation of both qualitative and quantitative measures can be adopted for further future in-depth analysis. Similarly, it is suggested that the effect of cognitive styles on language skills and skill-specific strategies be investigated. For instance, it can be studied how learners' cognitive styles might affect their vocabulary learning strategies or, how cognitive styles could affect the listening strategies of the learners. Introversion, extrovert, FD/FI, and WTC variables may be utilized more in ELT in Iranian educational settings, especially in with regard to the improvement and enhancement of language skills. Iranian educational establishments are suggested to include and properly pay due attention to introversion, extrovert, FD/FI, and WTC variables in their educational programs. ELT teachers in Iranian educational settings should be trained to cater students' characteristics and individual differences as a regular part of their educational work. Language learners should be promoted to consider their individual characteristics as a regular part of their learning instruction rather than something extraordinary. Moreover, other variables including age and gender could be explored.

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