# *A Comparative Study on the Effectiveness of Cognitive, Affective, and Personality Traits on English Foreign Language Learners' Lexical Knowledge*

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## *Abstract*

The most effective variables in the process of language learning are related to learners' emotions, attitudes, and personality; hence, the present correlational study aimed at investigating the possible relationship between emotional intelligence, field dependence/independence cognitive styles, motivation, and lexical knowledge among learners of English as a Foreign Language. Since learners' affective, cognitive, and personality traits may influence how they receive, perceive, and store vocabulary items in English, investigating such traits to know how they are pertained to the composite and breadth of learners' vocabulary would be very useful in dealing with teaching vocabulary in a foreign or second language. 82 student majoring in English teaching at Shiraz Azad University were selected as the participants. They were selected based on convenience sampling. Three tests and one questionnaire were employed in this study. Data analysis involved the use of Pearson product-moment correlation and multiple-regression. The results of the data analysis revealed that there was a positive and significant relationship between emotional intelligence, motivation, field dependence/independence cognitive styles and vocabulary breadth. Additionally, the results indicated that the three independent variables were effective in predicting learners' vocabulary breadth. Since the outcomes of the present study showed a credible and meaningful relationship between EFL university learners' emotional intelligence, field dependence/independence cognitive styles, motivation and their vocabulary breadth, language teachers can take personal factors into a more serious consideration in their students' language learning process.

***Key Words:*** Emotional Intelligence, Field Dependence/Independence Cognitive Styles, Motivation, Vocabulary Breadth, Lexical Knowledge

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## *Introduction*

In the past decade or so, there has been a substantial amount of interest in cognitive, affective factors, and emotional intelligence in foreign or second language learning. Through the centuries, many educational scientists acknowledged useful information about mental processes in learning, understanding, and producing language. Hence, in this study, the researchers investigate the importance of cognitive, affective, and personality traits in L2 acquisition.

## *Emotional Intelligence and Foreign/Second Language Learning*

Emotional Intelligence (EI) is emerging as an important factor in high performance at academic settings even though it was commonly assumed that learning implies intellectual and cognitive processes. Therefore, engaging in any activity is directly concerned with the emotional state of the learner, i.e. how he feels about himself, and his motivation, or how he feels about the subject. Following Salovey and Mayer's continuing research, the initial definition of EI was amended to "the ability to perceive emotion, integrate emotion to facilitate thought, understand emotions and to regulate emotions to promote personal growth" (Salovey & Mayer, 1990, p. 187). Moreover, they proposed a revised model of emotional intelligence and made a distinction between four components of emotional intelligence, i.e., perceiving emotions (the ability to detect and interpret emotions in faces, pictures, voices, and cultural artifacts); using emotions (the ability to control emotions to facilitate various cognitive activities such as thinking and problem solving); understanding emotions (the ability to comprehend emotion language and solve emotional problems and understand the similarities and differences between emotions); and managing emotions (the ability to regulate emotions in both ourselves and in others).

Likewise, Bar-on (2005) defined emotional intelligence as "an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures" (p. 33). He suggested a model in which interrelated emotional and social competencies, skills and facilitators have an impact on intelligent behavior. His model of emotional intelligence consists of five broad areas of skills including intrapersonal, interpersonal, adaptability, stress management, and general mood. Bar-on (2005) believes that emotionally intelligent people are more aware of what other people want; so, they are able to establish cooperative relationship with others.

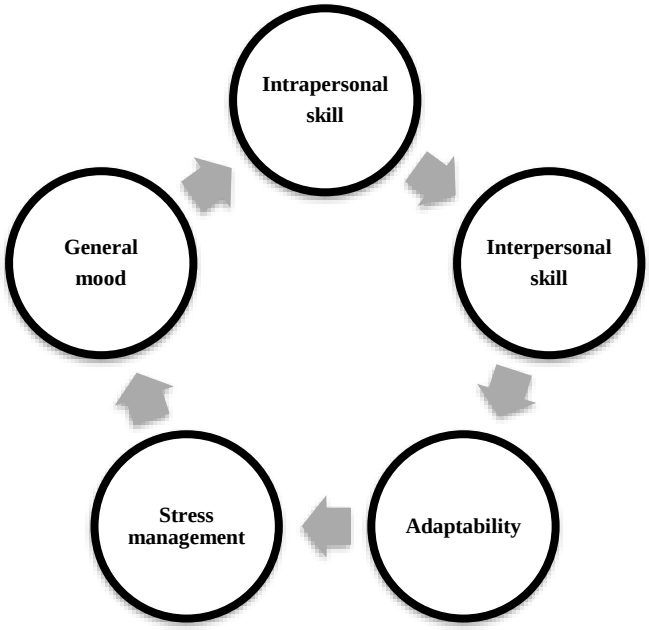


**Figure 1- Five Main Emotional Intelligence Types of Bar-On's Model**

In terms of emotional intelligence, Razmjoo, Sahragard, and Sadri (2009) investigated the relationship between emotional intelligence, vocabulary learning knowledge and vocabulary learning strategies among Iranian EFL learners. The results of the study revealed that multiple intelligences were related to vocabulary learning knowledge. Moreover, they concluded that among different domains of intelligence, linguistic and natural intelligences made significant contribution to the prediction of vocabulary learning knowledge, and that among five categories of strategies, determination, social and memory strategies have a meaningful relationship with several domains of multiple intelligences. In one study, Shakiba and Barani (2011) indicated that there was a significant relationship between language proficiency and emotional intelligence. Besides, the relationship between students' emotional quotient level and their level of language proficiency was more powerful and stronger in females than males. In another research, Asadollahfam, Salimi and Mahmood Pashazadeh (2012) investigated the relationship between emotional intelligence and vocabulary knowledge of language learners. The results indicated that English language learners with high levels of emotional intelligence possessed a high level of vocabulary knowledge. In order to determine whether emotional intelligence strategy had any effect on EFL learners' writing performance ability, Abdolrezapour (2013) conducted an experimental research. The results indicated that the experimental group made some improvement in their writing performance. However, the control group showed no improvement in their post-tests. Moreover, the

results revealed that introducing emotional intelligence strategy had a considerable effect on the learners' writing performance. Rostampour and Niroomand (2013), in their study, found that there was a positive and significant relationship between emotional intelligence, motivation and vocabulary knowledge. Furthermore, they explored that all subscales of emotional intelligence had positive and meaningful correlation with all components of motivation in high, mid and low groups of vocabulary knowledge. Most recently, Skourdi, Rahimi and Bagheri (2014) compared two models of emotional intelligence based upon the ideas proposed by Salovey and Mayer (1990), and Saklofske, Austin, and Minski (2003). The results of the study showed that there was a positive relationship between emotional intelligence and vocabulary knowledge. Moreover, based on the findings, among all dimensions of emotional intelligence, only Utilization could predict the variances in vocabulary knowledge.

### *The Genesis of Motivation and Language Learning Process*

Motivation is a unique phenomenon (Ryan & Deci, 2000). That is, there are individuals with different amount and kinds of motivation. In other words, they vary not only in level of motivation (how much motivation), but also in the orientation of that motivation (what type of motivation). Orientation of motivation is related to the underlying attitudes and goals that give rise to action, that is, it concerns the why of actions. By the same token, students' willingness toward learning determines the amount they learn. If they do not want to learn, they will learn very little, or they will not perform to their maximum capacity. So, motivation is commonly thought of as "an inner drive, impulse, emotion, or desire that moves one to a particular action" (Brown, 1994, p. 152). This view of motivation may refer to the intrinsic motivation. Ryan and Deci (2000) classified motivation in two types of intrinsic and extrinsic motivation referred to as internal and external incentive to do things for one's satisfaction respectively. Intrinsic motivation refers to doing something because it is inherently interesting or enjoyable. In other words, intrinsic motivation is developed based on innate needs for competence and self-determination. When individuals are free to choose to perform an activity, they look for the situations which are interesting to face with the challenges of that activity. It can help learners develop a sense of competence in their abilities. Extrinsic motivation refers to doing something because it leads to a separable outcome. Several studies were conducted to reveal that intrinsically motivating activities lead to better learning. Maslow (1970) claimed that intrinsic motivation is clearly superior to extrinsic one. In addition, Ausubel (1968), a cognitive psychologist, identified six needs undergirding the construct of motivation, including

the need for *exploration*, *manipulation*, *activity* or *exercise*, *stimulation*, *knowledge*, and *ego enhancement*. Also, according to Maslow's hierarchy of needs, individuals are ultimately motivated to achieve *self-actualization* while the basic physical, safety, and community needs are met.


**Figure 2- Maslow's Hierarchy of Needs**

Since motivation is considered as one of the influential factors in language learning, it can directly affect educational achievement. A number of studies have been carried out by some researchers such as Schmidt and Watanabe, 2001; Masgoret and Gardner, 2003; Csizér and Dörnyei, 2005; Bernaus and Gardner, 2008 on the role of motivation and foreign language learning showed that there is a positive relationship between motivation and foreign language learning among learners of different age, gender and levels of language proficiency. In a research, Hazrati-Viari, Tayarani Rad, and Torabi (2012) studied the effect of personality on academic motivation and academic performance. The data analysis showed that consciousness predicted both of intrinsic and extrinsic motivation, but openness to experience predicted only intrinsic motivation. Besides, they found that academic motivation mediated the relationship between openness to experience and consciousness with academic performance. Humaida (2012) conducted a research to examine motivation to learn English language as a foreign language among Sudanese learners. The results of his study indicated that there was no significant difference between motivation and learners' level of language proficiency and their age. Sadeghi (2013) investigated the effect of motivation on Iranian EFL learners' vocabulary learning. The

results revealed the fact that there were significant differences between high and less-motivated students and their vocabulary knowledge and the highly-motivated students outperformed in this regard. Most recently, Fernández Fontecha (2014) conducted an experimental research to examine the relationship between receptive vocabulary knowledge and motivation in Content and Language Integrated Learning (CLIL) and English as a Foreign Language (EFL). With regard to the findings, no relationship was identified between the receptive vocabulary knowledge and the general motivation for the secondary graders but a positive significant relationship was found for the primary CLIL graders.

### *The Impact of Field Dependence/ Independence Cognitive Styles on Language Learners' Performance*

From among students' personal attributes, cognitive (learning) style has been found to be one of the important factors that can influence learning processes and learners' performance. Cognitive styles are the attributes that exist within learners, affecting the way they function intellectually. Richards, Platt, and Platt (1992) defined cognitive style as "the particular way in which a learner tries to learn something" (p. 61). In addition, Anastasi and Urbina (2005) considered cognitive styles as "broad stylistic behavioral characteristics that cut across abilities and personality and are manifested in many activities and media" (p. 236). Also, among the various dimensions of cognitive style, field dependence/ independence has been one of the most widely studied with regard to its educational implications. Messick (1976) stated that field dependence/independence cognitive styles refer to a consistent mode of approaching the environment in analytical as opposed to global items. The FI person tends to articulate figures as discrete items from their backgrounds and to differentiate easily objects from embedded contexts, whereas the FD or field-sensitive person tends to experience events globally in an indifferent fashion. Richards, Platt, and Platt (1992) defined field dependence as "a learning style in which a learner tends to look at the whole of a learning task which contains many items. The learner has difficulty in studying a particular item when it occurs within a 'field' of other items" (p. 138). Furthermore, field-dependent individuals tend to be more gregarious or people-oriented. In other words, in interpersonal situations they tend to have certain virtues compared with their field-independent counterparts in getting along with others. Also, they tend to be attentive to social cues (Anastasi & Urbina, 2005). Hence, Cruickshank, Jenkins, and Metcalf (2006) cited that they are better at learning material with the social content such as social sciences, social studies, and literature. On the other hand, the field-independent individuals have more difficulty in learning social content

and working with others. Compared with their field-dependent counterparts, they are less affected by the teacher's appraisal or criticism. In addition, they are more inclined towards task-oriented activities, and they work better with unstructured tasks such as problem-solving activities (Witkin & Goodenough, 1981).

Field-Independent Learner

Field-Dependent Learner

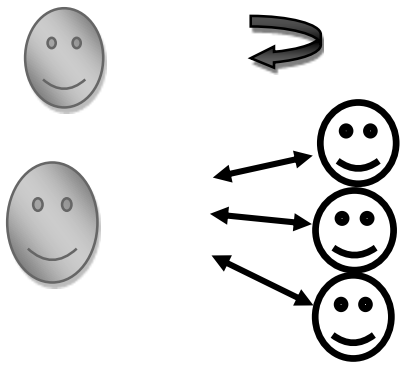

**Figure 3- Field Dependent vs. Field Independent Learner**

In terms of the effectiveness of different types of rewards and punishment, field dependent and independent individuals are also different. Witkin, et.al. (1977) reported that FI students learn better with intrinsic motivation. Goodenough (cited in Clark & Roof, 1988) said that extrinsic rewards work equally for both FD and FI students but negative reinforcement tends to affect FD people more than FI ones. He also confirmed that FI people improve in language abilities more than FD ones when there is intrinsic motivation. The findings of Fitz (1970) also supported this hypothesis. Fitz (as cited in Witkin et al., 1977) conducted a study and found that FI people learn a language more than FD ones under intrinsic motivational conditions. Furthermore, Lu and Suen (as cited in Cruickshank, Jenkins & Metcalf, 2006) compared the outcomes of multiple-choice tests and performance-based assessments on field-dependent and field-independent learners. The results of the study suggested that field-independent students could perform better dealing with performance-based assessments which demand greater active contribution on the part of the student. In addition, there are some research studies in the literature on the relationship between field

dependence/independence and second language acquisition. Chapelle and Roberts (1986) investigated the relation between learners' cognitive styles and adult learners' acquisition of English as a second language in the United States. The results of the study revealed an evidence for the hypothesis that FI is related to successful L2 study in an L2 environment, and they concluded that a good language learner should be one who is field independent and ambiguity tolerant. In her study, Rahnama (2008) aimed at examining the effects of the two cognitive styles of field dependence/independence and ambiguity tolerance/intolerance on reading comprehension with special attention to global and local questions. The results showed that field independent students performed much better in reading comprehension test, global as well as local questions than their field-dependent counterparts. However, the difference between the performances of ambiguity tolerant and intolerant groups was not significant. In the other empirical research, Dabaghi and Goharimehr (2011) figured out the possible differences in students' learning of grammar by two teaching methods of discrete-point and integrative teaching. Hence, they investigated the relationship between learning styles of field dependence/independence and these methods. The results indicated evidence that integrative grammar-teaching led to a better learning of grammar in comparison with the discrete-point method. They also reported that field dependent learners took more advantage of an integrative method while the field independents benefited better from the discrete-point approach. In the same vein, Rostampour and Niroomand (2014) aimed at determining if field dependence/independence cognitive styles were significant at different levels of vocabulary knowledge. They found that there was a meaningful relationship between FD/FI and total vocabulary knowledge. Furthermore, the results showed that there was a credible and significant relationship between field dependence/independence cognitive styles and lexical knowledge in the high and mid groups of the learners.

### *The Nature of Vocabulary Knowledge and Language Acquisition*

Learning vocabulary is central to language acquisition, and it is one of the first steps of learning a second language. Vocabulary knowledge usually grows and evolves with age, and serves as a useful and fundamental tool for communication and acquiring knowledge. According to Seal (as cited in Celce-Murcia, 1991, p. 296), "words are perceived as the building blocks upon which knowledge of the second language can be built". Also, Nation (2001) stated that the breadth of vocabulary knowledge is referred to as the quantity or number of words learners know at a particular level of language proficiency. Schmitt, Schmitt, and Claphan

(2001) mentioned that "the Vocabulary Levels Test (VLT) provides a profile of a learner's vocabulary, rather than a single figure estimate of overall vocabulary size" (p. 58). Regarding vocabulary knowledge, Laufer and Paribakht (1998) stated that:

> *The relationship between an L2 learner's passive and active vocabularies remains interesting but unexplored; statements about this relationship have been vague and unsubstantiated. Most writers have assumed that passive vocabulary is larger than active (e.g., Aitchison, 1989; Channel, 1988). However, no one has conclusively demonstrated how much larger it is, or whether growth in passive vocabulary automatically results in growth in active vocabulary, or whether the gap between the two remains stable or changes over time (p.369).*

Many researchers that have emphasized the role of vocabulary knowledge as a significant component of language proficiency include Laufer (1998), Henriksen (1999), Hulstijn and Laufer (2001), Cameron (2002), Nation (2001), Qian (2002), Nassaji (2001), Alderson (2000), and Zhang and Annual (2008). They all provide some discussions expatiating upon the importance of vocabulary knowledge. By the same token, over two decades, researchers have suggested that breadth test of vocabulary knowledge can very well predict success in general proficiency, reading, writing, and academic achievement (Saville-Troike, 1984; Nation & Meara, 2002; Laufer & Goldstein, 2004).

Since EFL learners' cognitive, affective, and personality traits may affect how they receive, perceive, and store vocabulary items in English, investigating such traits and how they are related to the composite and breadth of learners' vocabulary will be very useful in dealing with teaching vocabulary in a foreign language. Furthermore, a substantial body of research focused on vocabulary rather than the grammar, and there is a scarcity of such research on the relationship between the psychometric parameters and the vocabulary knowledge of EFL university learners. In other words, numerous studies have been done on emotional intelligence, field dependence/independence cognitive styles, motivation, and vocabulary knowledge, each in isolation, but to the best of our knowledge and investigation, no research has been done to explore the possible relationship between these four areas in the same group of participants when they come together in an educational setting.

In line with the idea which needs to be taken into account regarding emotional intelligence, field dependence/independence cognitive styles and motivation and their roles on EFL learners' vocabulary breadth, the following null hypotheses are formulated:

**H01.** There is no meaningful relationship between emotional intelligence and vocabulary

breadth of Iranian EFL university students.

**H02.** There is not any profound relationship between motivation and vocabulary breadth among EFL university learners.

**H03.** There is no credible and meaningful relationship between field dependence/independence cognitive styles and vocabulary breadth of university learners.

**H04.** None of the independent variables is an adequate predictor of learners' vocabulary breadth.

## *Method*

### *Participants*

The participants of the present study were 82 student majoring in English teaching at Shiraz Azad University. Out all of 82 tests and questionnaires distributed, 78 were returned. After being screened for usability, 59 responses (44 females, 15 males) were found to be complete and proper for analysis purposes. The respondents (students majoring in English teaching at Shiraz Azad University, Fars, Iran) were aged between 21 and 29. Learners who had passed all reading comprehension courses were selected for this study as it was assumed that they should enjoy some vocabulary knowledge.

### *Instruments*

The present study is correlational research which studies the relationships between the variables. Three tests and one questionnaire were employed in this research. The first test was the Vocabulary Size Test (VST) (Nation, 2007); the second one was the Schutte Self-report Emotional Intelligence Test (SSEIT) (Schutte et al., 1998); the third one was the Group Embedded Figures Test (GEFT) (Witkin, Raskin, Oltman & Karp, 1971), and the last one was Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia & Mckeachie, 1991).

### *Vocabulary Size Test*

To determine the students' vocabulary levels, the Vocabulary Size Test (VST) developed by Nation (2007) was used. This test is to gauge students' receptive vocabulary size from the first 1000 to the fourteenth 1000-words families of English words. It was written in the form of multiple-choice items and all four options are substitutable in the context sentence, and the context sentences reflect the most frequent environments for the target item. Also, test-takers are required to have a fairly well-developed idea of the meaning of the words to correctly answer the items because the correct answer and the distractors frequently share elements of meaning. The present study found a reliability index of 0.78 for the Vocabulary Size Test.

### *Schutte Self-report Emotional Intelligence Test*

To measure the participants' emotional intelligence, the Schutte Self-report Emotional Intelligence Test (SSEIT) by Schutte et al. (1998) was used. The self-report test includes 33 items with a five-point Likert scale, and each item has a value in the range of 1 to 5. It

takes only 10 minutes to complete. In other words, the items in the SSEIT are prepared on a five-level Likert Scale ranging from strongly disagree (1) to strongly agree (5). The SSEIT has been designed to map on to the Salovey and Mayer (1990) model of emotional intelligence. The items of the test are related to six factors of emotional intelligence including Emotional Regulation of the Self (ERS), Emotional Expression (EE), Emotional Regulation of Others (ERO), Appraisal of Emotions in Others (AEO), Appraisal of Emotions in Self (AES), and Utilization of Emotions for Problem Solving (UEPS). It should be mentioned that in this study, the researchers do not pay attention to the components of emotional intelligence and consider it in general. Also, the Cronbach's alpha was calculated for SSEI Test, and it was 0.91.

### *Group Embedded Figures Test*

To identify the learners' cognitive styles of field dependence/independence, the Group Embedded Figures Test (GEFT) developed by Witkin, et al. (1971) was used. The GEFT instrument consists of complex figures within which simple geometric figures are embedded. The subjects are supported to figure out the simple shapes and to trace them in pencil directly over the lines of the complex figures. Hence, field-independent participants can easily locate a large number of simple geometric figures while field-dependent participants are able to locate just a small number of them. Witkin, et al. (1971) reported a Spearman-Brown reliability coefficient of 0.82 for their instrument.

### *Motivated Strategies for Learning Questionnaire*

The Motivated Strategies for Learning Questionnaire (MSLQ) is a questionnaire including 81 Likert-type items developed by Pintrich et al. in 1991. This questionnaire is divided into two parts. The first is the motivation section and the second one is the learning strategies section. In this study, according to MSLQ manual, only the motivation section which consists of 31 Likert-type self-report items was utilized, which "assess participants' goals and value beliefs for a course, their beliefs about their skill to succeed in a course, and their anxiety about tests in a course" (Artino, 2005, p. 4). In other words, a student's score would be calculated by summing the scores of items of six motivation subscales, including Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control of Learning Beliefs, Self-Efficacy for Learning and Performance, and Test Anxiety. In this case, Artino (2005, p. 3) concluded that:

> *The MSLQ was designed to measure college undergraduates' motivation and self-regulated learning as they relate to a specific course. That is, the course is seen as the unit of measure, with the idea that the course is ideally situated between the very general level of "all*

*learning situations" (Duncan & Mckeachie, 2005, p. 118), and the very specific and unworkable level of "every specific situation within one course" (Duncan & Mckeachie, 2005, p. 118).*

Furthermore, the present study found a reliability index of 0.75 for MSLQ.

## *Procedure*

First, Nation's Vocabulary size Test (2007) was given to participants to determine their vocabulary size, and the level of their vocabulary knowledge. Second, the Schutte Self- report Emotional Intelligence Test was administered. They were asked to show the extent to which they agreed with the statements by checking one of the five responses in the answer sheet. The responses to this questionnaire ranged from strongly agree to strongly disagree. In the third session, the Group Embedded Figures Test was given to the participants. They were required to do GEFT, in which they were to find the simple figures within the complex ones. Finally, the Motivation Strategies for Learning Questionnaire was used. In order to complete the SSEIT, MSLQ, and VST, there was no time restriction, but in the GEFT the participants asked to find 18 simple figures just within 10 minutes.

## *Results and Discussion*

Since the most influential variables in the language learning process are related to learners' emotions, attitudes, and personality, the study investigated whether there was a credible and significant relationship between emotional intelligence, field dependence/independence cognitive style, motivation and vocabulary breadth. In other words, the null hypotheses stated that there was no significant relationship between emotional intelligence and vocabulary breadth, between field dependence/independence cognitive style and vocabulary breadth, between motivation and vocabulary breadth as well. Furthermore, it was assumed that none of the independent variables was an adequate predictor of learners' vocabulary breadth.

To answer the research questions of the study, at first the data normalization was considered to increase cohesion in all records and fields. the students' scores of the Vocabulary Size Test, the Motivated Strategies for Learning Questionnaire, the Group Embedded Figures Test and the Schutte Self-report Emotional Intelligence Test were calculated and analyzed to find out their level of emotional intelligence, motivation, field dependence/ independence cognitive styles and vocabulary breadth. Table 1 demonstrates the descriptive results of the variables.

**Table 1- Descriptive Statistics on Emotional Intelligence, Field**

**Dependence/Independence Cognitive Styles, Motivation and Vocabulary Breadth**

| | N | Min | Max | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Emotional Intelligence | 59 | 8.98 | 19.83 | 13.969 | 2.632 |
| Motivation | 59 | 14.75 | 28.45 | 20.849 | 3.204 |
| FD/FI | 59 | 1 | 16 | 6.49 | 3.818 |
| Vocabulary Breadth | 59 | 23 | 91 | 49.71 | 15.246 |

As Table 1 illustrates, the mean of students' emotional intelligence scores is 13.96 and the standard deviation is 2.63. Moreover, their mean scores of motivation and field dependence/independence tests are 20.84 and 6.49, respectively. Also, the students' scores of vocabulary size test are from 23 to 91 with a mean of 49.71 and standard deviation of 15.24. To check the correlation between the emotional intelligence, field dependence/independence cognitive styles, motivation and vocabulary scores, Pearson product-moment correlation was run. The results are shown in Table 2.

**Table 2- Correlation between EI, FD/FI, Motivation and Vocabulary Breadth**

| | | Vocabulary Breadth |
|---|---|---|
| Emotional Intelligence | Pearson Correlation | .317** |
| | Sig. (2-tailed) | .000 |
| | N | 59 |
| Motivation | Pearson Correlation | .461** |
| | Sig. (2-tailed) | .000 |
| | N | 59 |
| FD/FI | Pearson Correlation | .702** |
| | Sig. (2-tailed) | .000 |
| | N | 59 |

**. Correlation is significant at the 0.01 level (2-tailed)

As it is shown in Table 2, the outcomes of correlational analyses showed that there was a significant correlation coefficient between total scores on vocabulary knowledge test and scores of emotional intelligence (r= 0.31, P < 0.1). It means that if one of the variables increases, the other one increases, too. In other words, with an increase in the learners' vocabulary knowledge, one can expect a higher emotional intelligence, or vice versa. Accordingly, based on the result of the table of 2, the first null hypothesis of the study which assumed that there was no meaningful relationship between emotional intelligence and vocabulary breadth of Iranian EFL university students was refuted.

The second null hypothesis of the study stated that there was not any profound relationship between motivation and vocabulary breadth among the Iranian EFL university learners. Learners' scores were

calculated based on their responses to motivation and vocabulary tests. To see if there was any relationship between the students' motivation and vocabulary scores, another Pearson-product correlation was run. In this regard, the investigation of the relationship between the EFL students' motivation and vocabulary mean scores was the second objective of this study. As can be seen, the table shows that the correlation between vocabulary breadth and motivation is statistically significant. Therefore, a significant correlation can be seen between vocabulary breadth and motivation ($r= 0.46$, $P < 0.1$). It means that the students' vocabulary breadth is related to their motivation. In other words, having more motivation results in higher vocabulary breadth. By the same token, believing that they are capable to do well in academic studies, learners manifest more persistence in expanding their vocabulary knowledge. Therefore, the second null hypothesis, assuming that there was no meaningful relationship between motivation and vocabulary breadth for Iranian EFL learners, was rejected.

Based on the third null hypothesis of the study which claimed that there was no credible and meaningful relationship between field dependence/independence cognitive styles and vocabulary breadth of university learners, the scores of Group Embedded Figures Test, which measures field dependence/independence, were analyzed in the computer and the grading scale ranged from 0 to 18. According to Table 2, the outcome of the correlational analysis showed that there was a significant correlation coefficient between total scores on vocabulary knowledge test and field dependence/independence cognitive style ($r= 0.70$, $P < 0.1$). In other words, the students' FD/I cognitive styles and their vocabulary knowledge are positively correlated. Therefore, the results rejected the third null hypothesis of the study that there was no meaningful relationship between field dependence/independence cognitive style and vocabulary breadth of Iranian EFL learners.

In order to answer the question which variables could be the best predictor for vocabulary breadth, R Square was calculated. In other words, multiple regression analysis showing the joint effect of emotional intelligence, motivation and field dependence/independence cognitive styles on the vocabulary breadth of the participants was presented in Table 3.

**Table 3 - R Square Table for Emotional Intelligence, Motivation, Field Dependence/Independence as the Predictors of Learners' Vocabulary Breadth**

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .702[a] | .492 | .488 | 10.910 |
| 2 | .725[b] | .526 | .517 | 10.592 |
| 3 | .747[c] | .559 | .547 | 10.261 |

a. Predictors: (Constant), FD/FI

b. Predictors: (Constant), FD/FI, Motivation

c. Predictors: (Constant), FD/FI, Motivation, EI

To investigate which independent variables (EI, Motivation, FD/I) might have more predictive power in predicting learners' vocabulary breadth and how these variables contribute in this study, a stepwise regression analysis was employed. As shown in Table 3, it can be implied that there is a significant and strong correlation (R= 0.74) between the emotional intelligence, motivation, field dependence/independence cognitive styles and the vocabulary breadth. Its square value was 0.55 and its adjusted square was 0.54. This means that 54% of the total variance in learners' vocabulary breadth could be explained by the combination of emotional intelligence, motivation and field dependence/independence cognitive styles. As this is an overall result of the strength of relationship, a more specific analysis must follow.

**Table 4- The ANOVA Table of Regression**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 13389.739 | 1 | 13389.739 | 112.499 | .000[a] |
| | Residual | 13806.464 | 116 | 119.021 | | |
| | Total | 27196.203 | 117 | | | |
| 2 | Regression | 14295.424 | 2 | 7147.712 | 63.716 | .000[b] |
| | Residual | 12900.779 | 115 | 112.181 | | |
| | Total | 27196.203 | 117 | | | |
| 3 | Regression | 15194.463 | 3 | 5064.821 | 48.109 | .000[c] |
| | Residual | 12001.741 | 114 | 105.278 | | |
| | Total | 27196.203 | 117 | | | |

a. Predictors: (Constant), FD/FI
b. Predictors: (Constant), FD/FI, Motivation
c. Predictors: (Constant), FD/FI, Motivation, EI
d. Dependent Variable: Vocabulary Breadth

By considering Table 4, it was found that the linear combination of emotional intelligence, motivation and field dependence/independence cognitive styles had significant effect on the learners' vocabulary breadth. Specifically speaking, the p-value (sig.) less than 0.1 indicates that the finding is statistically significant. This signifies that the predictors predict the dependent variable ($F = 48.109$, $df = 3$, and $P < 0.1$). It could be implied that the predictive power of the learners' emotional intelligence, motivation and field dependence/independence over their vocabulary breadth was significant.

**Table 5- Relative Contributions of the Independent Variables on Vocabulary Breadth**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 31.523 | 1.987 | | 15.862 | .000 |
| | FD/FI | 2.802 | .264 | .702 | 10.607 | .000 |
| 2 | (Constant) | 13.761 | 6.542 | | 2.103 | .038 |
| | FD/FI | 2.464 | .283 | .617 | 8.718 | .000 |
| | Motivation | .957 | .337 | .201 | 2.841 | .005 |
| 3 | (Constant) | 16.614 | 6.413 | | 2.591 | .011 |
| | FD/FI | 2.669 | .283 | .668 | 9.442 | .000 |
| | Motivation | 1.843 | .445 | .387 | 4.138 | .000 |
| | EI | -1.622 | .555 | -.280 | -2.922 | .004 |

a. Dependent Variable: Vocabulary Breadth

The data in Table 5 provide us with a better picture of how well the independent variables (EI, Motivation, FD/I) could predict the dependent variable (Vocabulary Breadth). Statistically, Table 5 indicates for each independent variable the unstandardized regression weight (ß), the standard error of estimate (SEß), the standardized coefficient, the t-ratio and level at which the T-ratio is significant. Field dependence/independence cognitive styles made the highest contribution (ß = .702, T = 10.607, $P < 0.05$). That is, the value of Beta (ß) in standardized coefficients = 0.70 shows that an increase of one standard deviation in the predictor (FD/I) will result in a change of 0.70 standard deviations in the vocabulary

breadth. This is followed by motivation which contributed (ß = .201, T = 2.841, P = 0.05) and then emotional intelligence (ß = -.280, T = -2.922, P < 0.05). Therefore, the results rejected the fourth null hypothesis of the study which assumed that none of the independent variables was an adequate predictor of learners' vocabulary breadth.

As such, having reported and presented the findings of the study, the researchers discussed the results and compared the findings of the present study with those of the previous research in the literature. The yielded result corroborates the findings of the studies by Rostampour and Niroomand (2013, 2014). These studies demonstrated positive correlation between EFL learners' emotional intelligence, motivation and vocabulary knowledge, and also between learners' field dependence/independence cognitive styles and vocabulary knowledge. Additionally, regarding emotional intelligence and language learning in general, the findings of this study are in line with those of Aki (2006), who found that language learning is a concept that depends upon both the learner and the instructor when it comes to human psychology and interpersonal communication. According to Aki (2006), "what is important in language learning is not high intelligence values; rather, it is being emotionally intelligent or at best, having the ability to recognize, employ, comprehend and manage emotions" (p. 66). On the other hand, these results are in conflict with what was reported by Vali-Mohammadi and Bagheri (2011) in the case of emotional intelligence, motivation and vocabulary size among the EFL university learners. They reported that there was no significant relationship between emotional intelligence, motivation and vocabulary size. In case of field dependence/ independence cognitive styles, this study supported what was asserted by Wyss (2002). He put it that cognitive tunnel vision limits second or foreign language learners with a strong field independence tendency and prevents them from seeing the big picture. While they get stuck in unfamiliar vocabulary or ambiguous grammar structures, their field dependence counterparts will have already understood the gist of a written or spoken discourse, without, however, having caught the precise meaning of every word.

Though every learner comes to the classroom with different motivation, psychological trait and personality, it is worthwhile to consider the universal human traits in pedagogical processes. Based on the results obtained in this study, it can be predicted that students who inherit a greater emotional intelligence, motivation and field dependence cognitive style perform better on expanding their vocabulary knowledge. Furthermore, the findings of this piece of research could be interpreted as being supportive of the idea that the field dependence/independence

cognitive styles could be considered as the most effective factor among the other variables influencing the learners' vocabulary knowledge in the field of foreign language learning. Therefore, both educators and teachers should be aware of the importance of developing a curriculum and instructional materials that respond to the needs of different students. Teachers, also, should take their students' individual differences into consideration so that they could adopt and apply teaching methods in line with learners' various cognitive styles. In other words, teachers ought to be aware of the fact that students come to class with different cognitive styles and should be treated regarding their own styles. Therefore, it is beneficial to monitor students for their motivation, attitudes, emotions, and cognitive styles at the beginning of a language program and provide them with the teaching strategies and methods that help them most. It is worth mentioning that the findings of this study can certainly have some implications on parental training. Parents can aim at developing certain personalities in their children to guarantee their future success in particular careers which call for better language skills. Therefore, it is hoped the findings of the study will contribute to the better understanding of possible effects of emotional intelligence, field dependence/independence cognitive styles, and motivation on the language learners' vocabulary breadth.

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