

## Relationship between Cognitive Styles in Online Courses and Personality Traits among Iranian Male and Female EAP Students

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### Abstract

In today's world, online education and digital learning are increasingly evolving and are on the agenda of many organizations. The study aimed to uncover the relationship between holistic/analytic cognitive style in online courses and big five personality traits among Iranian male and female English for Academic Purposes students. In this correlational research, the participants were selected via convenience sampling, and there were 100 students (50 male and 50 female) whose ages ranged between 20 and 26. They were senior students of executive management. For obtaining the essential data about students' personality type and learning style, the researcher used the Myers Briggs Type Indicator (MBTI: Form M) and the Learning Style Inventory-version 3 (LSI3). These instruments are designed to identify the individual characteristics of students. The MBTI and the LSI3 were distributed at the end of the semester, and the data were analyzed by SPSS using the related statistical tests. Findings showed a statistically significant relationship among the variables under the study, specifically the extroversion factor, which was an influential personality type in online learning. Thus, it is necessary to pay full attention to each student's characteristics, style, and personality traits to find the best teaching method.

**Keywords:** Learning style, Online courses, Personality traits, EAP students

### 1. Background

English for Academic Purposes (EAP) teachers are concerned with methodologies that enhance student learning outcomes (Allen & Seaman, 2017). Since students have different learning styles, teachers have to accommodate their teaching method to those differences and find ways for discovering and considering these differences is an online learning program in foreign language education (Tait, 2003).

The understanding of individual cognitive differences will help to know about what type of learners might be more likely to perform better in online courses. In fact, little is known about the individual differences of students who have attended and accomplished well in online learning setting (Alzamanan, 2018; Ambridge, 2014). Based on a study, the most important relationship between learning style and type can be observed in the essential activity of mental processes in personality. A dominant relationship is between sense, logic, analytic, and well-organized learning styles. Therefore, people with powerful feelings prefer to learn in a face-to-face setting with the dominant collaboration (Myers, 1962).

Implementing distance education programs needs some information and knowledge to cope with the unpredictable problems, and it is also important to determine student's expectations of

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credit courses. There is not enough data about the distance education field regarding individual differences and performance (Bagriacik & Ayse, 2019). It is crystal clear that the design of a good EFL learning context could not be well implemented without good and enough knowledge of the type of student for whom these contexts are designed. Understanding personality traits and learning styles and their application in EFL learning outcomes will help program developers provide better learning conditions that serve learners' needs.

Kolb's (2005) learning style inventory (LSI), general characteristics and learning styles with Myers-Briggs type indicator (MBTI) formulated the following relationships. They observed the following relationships of the main characteristics: (a) abstract related to thinking, (b) concrete related to feeling, (c) reactive related to introverts, (d) active related to extroverts, (e) abstract conceptualization related to judgment, and (f) concrete experience related to perception. Myers (1962) stated that among the mentioned learning styles, (a) divergent were associated with introversion and feeling, (b) accommodators were associated with extroverted sensing, and assimilative with introversion and intuitive, and (c) convergent were associated with extroversion and thinking (Ary, Jacobs, Sorensen, & Walker, 2019). The following four research questions were posed for this study:

**Research Question One:** Is there a statistically significant relationship between university students' personality type and learning style in online courses?

**Research Question Two:** Is there a statistically significant relationship between university students' personality type and learning style with regard to the participants' gender in online courses?

**Research Question Three:** Which component of personality type can strongly predict learning style in online courses among university students?

**Research Question Four:** What aspects of learning style are best predicted by personality type in online courses among university students?

## 2. Literature Review

### 2.1. Personality Trait

All the related consistent and detailed type of behavior is defined as personality, emotional reaction, feeling, and thoughts representing a person's ability to cope with the situations. A statement of Carl Jung's theory of personality type was used in this study. Jung proposed that behaviors were static and a response to different action that individuals use them in their reactions and preferences (Myers, 1962).

Some of these main definitions of personality include:

- **Type theories** are the early perspectives on personality. These theories state that there are a limited number of "personality types" which are related to biological effects.
- **Trait theories** tend to view personality as the result of genetically based internal characteristics.
- **Psychodynamic theories** of personality are mostly affected by the study of Sigmund Freud and focus on the impact of the unconscious mind on personality. Psychodynamic theories include Sigmund Freud's psychosexual stage theory and Erik Erikson's stages of psychosocial development.
- **Behavioral theories** suggest that personality is the result of interaction between the individual and the environment or between humans and society. Behavioral theorists study touchable, observable, and measurable actions, often ignoring the role of internal thoughts and feelings.
- **Humanist** theories focus on the influence of free will and individual experience in developing a personality (Allen & Seaman, 2017).

## 2.2. Learning Styles

How people maintain and process information is considered as learning styles. The focus in this subject is on designing and accommodating the methods of learning. Learning styles in Kolb's (2017) theory are the methods each person obtains, manages, maintains, and imports the information into a feasible knowledge. Learning styles are a learners' static and consistent way of reacting, responding, and using impulse in learning (Allen & Seaman, 2017).

Learning styles also refer to a category of contested and competing claims that aim to find differences in individuals' learning. These theories state that all humans can be categorized base on their style of learning. However, the different theories suggest various views on how the styles should be explained and categorized. A common definition is that individuals vary in how they learn (Dynarski, 2017).

The concept of learning individually became known in the 1970s and has affected education despite the criticism that the idea has received from some researchers. Advocators claim that teachers have access to the learning styles of their students so they can adapt their classroom procedures to find each student's learning style. Although evidence suggests that individuals express preferences and their likelihood of receiving information, few studies have found any validity in using learning styles in education. Some critical points of view say there is no fixed document or evidence that explaining an individual student's learning style and teaching for specific learning styles will result in improved student outcomes. There is evidence of experimental and pedagogical barriers related to forcing learning duties to correspond to differences in a one-to-one style. Well-performed research studies contrasted to the extended "meshing hypothesis" that a student will learn best if taught in a method in a given suitable way for the student's learning style. They also show that teachers cannot assess the learning style of their students accurately (Dwan & Ownsworth, 2017).

## 2.3. Analytic Style

Analytic style is the main type of knowledge required for academic work. However, it is also required outside of academic area, any time a person must repair a physical or natural system (Heredia, Carvalho, & Vieira, 2019). For example, a repairman must be able to analyze the difficulties of a car brought in for service. This requires an explicit understanding of how the elements of the system function and work together (Ambridge, 2014).

There is, however, another type of intelligence. Some people go for the overall idea or the "big picture" and seem less attentive to details. Holistic styles of learning are said to be used for art, music, intuition, religion, and so many other similar activities. A holistic person does not decompose things mentally to understand them (Alzamanan, 2018).

## 2.4. Online Courses

Literally, the term online courses have been used to refer to every form of interactive in video or computer-assisted and computer-mediated instruction (Choi, Choi, & Koo, 2018). Choi et al. (2018) defined online courses as happening when a learner and instructional situation are not placed in one setting temporally or physically; therefore, a combination of data, voice, video, and online technology is used to facilitate the learning process.

Online learning is increasingly used around the world. Nowadays, there are more than 4,700 colleges and universities that provide online courses to their students. In 2015, more than six million educators were taking at least one course online, and this number increased by 3.9% from the previous year. Also, 29.7% of all higher education students are taking at least one virtual online course. The whole number of learners attending on-campus exclusively dropped by 931,317 people between the years 2012 and 2015. Scholars say that because the number of learners enrolling at the college level is growing, there will also be an improvement in the number of learners who attend virtual learning courses (Friedman & Schustack, 2018).

Research on the learning styles of academic students has also been reported in previous studies. Some researchers reported significant differences among groups of students participated in various field in college settings. They also examined learning styles within the business area and found that the styles of those who majored in accounting and economics/finance differ from those who majored in marketing and management. They also stated that the accomplishment of college students could be developed by providing instruction in a way compatible with each student's learning style (Dynarski, 2017).

It is important that online education considers the learning styles of students to present better online courses. Program developers need to know more about varieties in learning style and how to find and understand the variety of learning styles found in their learners. Teachers who know about differences in learning styles can identify their teaching strategies and methods in online education. This would help to understand whether their methods, materials, and resources match their students' needs or not (Nguyen, 2015).

Unfortunately, the mentioned studies (e.g., Dynarski, 2017; Nguyen, 2015) did not present any systematic theoretical framework to analyze learners' needs based on the important existing learning style theories. Thus, this study aimed to examine the relationship between learning style in EAP online courses and personality traits among male and female Iranian EAP students.

The educational system's policy for learning is group learning due to educational costs, while learners' individual difference is not considered in group learning. Personality traits of learners and their learning styles are recently concerned in educational setting, but by emergence of virtual learning it is important to perform studies examining the educational conditions of real classroom setting versus that of virtual learning. More studies are required to discern the two learning environments and provide features of the virtual environment as a new learning condition. Therefore, the researchers can theorize the losses and gains of the virtual and online learning with regard to personality traits and learning styles. In the present study, we try to find out a better way for learning based on individual differences by examining the relationship between personality traits and learning style within an EAP virtual online courses environment.

### **3. Methodology**

#### *3.1. Design of the Study*

This correlational study attempted to identify variables that affect the online setting and evaluate the relationship between the predictor variables and the criterion. In this predictive design, data were collected, a statistical model was used, predictions were made, and the model was validated (or revised) as additional data became available. Nearly all statistical models can be used for prediction purposes. For this study, the relationship between (a) personality type and (b) learning style and the criterion variable, gender, was investigated in online courses.

#### *3.2. Participants*

The participants were students of Elmo-San'at University who enroll in a distant language learning program. The course was offered in both spring and fall semesters and was taught by the same teacher each semester. It was also offered in a face-to-face manner during the same semester, giving students the opportunity to choose the desired course format. The participants were chosen merely based on their availability to enroll in the program. The participants (50 males and 50 females) whose ages ranged between 20 and 26 were senior students of executive management who were selected via convenience sampling.

#### *3.3. Instruments*

The Myers Briggs Type Indicator (MBTI: Form M) and the Learning Style Inventory-version 3 (LSI3) were used for data collection. In this study, we used the Myers Briggs Type Indicator questionnaire previously used by Poursaberi (2016). Construct validity was measured by EFA which was 0.71, while the reliability coefficient was .84.

### 3.4. Procedure and Data Analysis

As the first step, to aid in obtaining the largest sample size, the instructor offered the students extra credit for their participation. That is, the additional points were added to the students' final grades at the end of the semester if they participated in data collection.

Second, after informing the instructor of the course regarding the purpose of the study, the instruments, namely Myers Briggs Type Indicator (MBTI) for personality type and Learning Style Inventory-version 3 (LSI3), were distributed among the learners. Each person's personality type was specified by 16 personality types that contain four subcategories. For learning styles, two purposes were sought: the learning style was explored as an educational tool to provide individual approaches for learning, and then it incorporated investigating experiential learning theory.

Third, the data collection was done when drop/add was ended, and students were settled into their study routines and had a thorough understanding of the course design. When instruments of MBTI and the LSI3 at the end of the semester were distributed and data were collected, the obtained data were analyzed using related statistical tests. The linear regression analysis was run to find out about the relationship between variables. Functional model for statistical entities was performed to connect students' type of personality to their most common learning style.

## 4. Results

The following tables show descriptive statistics for LSI and MBTI. In these tables, the mean, standard deviation, the minimum value, the maximum value, and the frequency of the learning styles can be seen by gender.

Table1: Descriptive Statistics of Learning Styles (LSI)

LSI	M	SD	Min	Max	Male	Female
Objective experience	26.27	5.58	16	45	18	10
Reactive observation	27.81	5.80	17	48	12	19
Abstract Conceptualization	32.31	5.70	16	47	11	11
Active testing	31.26	5.68	17	44	9	10

According to Table 1, the most frequent learning style in the objective experience section is for male students, and among the 28 students who prefer the objective experience, 18 are boys. Regarding the observation of 31 students, 19 are girls. In abstract conceptualization, the number of students is equal, and in the active experimental section, the number of girls to boys is 10 to 9. This suggests that male students are more likely to learn better by direct observation, and female students are more likely to memorize concepts and are more interested in memorizing content.

Table 2: Descriptive Statistics of Personality Styles (MBTI-M)

Sign	Personality style	Male	Female
ESTP	Extroverted, Sensitive, Thinker, Perceptual	4	2
ESFJ	Extroverted, Sensitive, Feeling, Judgment	4	6
ESTJ	Extroverted, Sensitive, Thinker, Judgment	6	4
ESFP	Extroverted, Sensitive, Feeling, Perceptual	1	1
ENFP	Extroverted, Intuition, Feeling, Perceptual	2	4
ENTP	Extroverted, Intuition, Thinker, Perceptual	4	3
ENTJ	Extroverted, Intuition, Thinker, Judgment	2	5
ENFJ	Extroverted, Intuition, Feeling, Judgment	2	2
ISTJ	Introverted, Sensitive, Thinker, Judgment	1	3
ISTP	Introverted, Sensitive, Thinker, Perceptual	4	2
ISFP	Introverted, Sensitive, Feeling, Perceptual	1	4
ISFJ	Introverted, Sensitive, Feeling, Judgment	5	4
INFP	Introverted, Intuition, Feeling, Perceptual	4	2
INFJ	Introverted, Intuition, Feeling, Judgment	1	3
INTJ	Introverted, Intuition, Thinker, Judgment	5	3
INTP	Introverted, Intuition, Thinker, Perceptual	4	2

ESFJ factor was observed more in male students. This means that they are extroverted and prefer to have a closer verbal communication with the teacher and often feel better in front of the classroom to communicate. Of course, this is often the case for students who are more inclined to learn. The frequency of ESTJ style was observed in female students more than in males. The only difference with boys in the field of thoughtful learning is the greater desire to memorize. Girls are more likely to sit in front of the class and want to memorize the teacher's materials.

Table 3 shows the validity of the model using the R-Square survey. In this table, R is a multivariate correlation coefficient and R Square is a coefficient of determination. The coefficient of determination of an important indicator in regression and if we multiply it by 100, it shows which percent of the changes in the variable depend on the changes in the independent variable in this study.

The closer R<sup>2</sup> is to 1, the stronger the model and the closer to zero, the weaker the model. The acceptable limit is usually considered to be 50% and above. Adjusted R Square is influenced by independent variables and sample size, and is a more accurate value of the coefficient of determination that the researcher can and should probably report.

Table 3: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimated	Durbin Watson
0.75	0.72	0.7	15.55	2.07

According to Table 3 and the value of R-square, it can be seen that the research model is valid, because the value is higher than 0.5.

In this section, the two-way relationship between research variables is examined. First, the KS test was used to check the normality of the data to determine what test should be used. In this regard, the value of Sig. should be considered. If this value is less than 0.05, the Pearson test is used. Otherwise, the Spearman test will be used.

Table 4: KS-Test

	Sig.
One-sample Kolmogorov-Smirnov test	0.00

According to Sig, this value is less than 0.05 and the research data are abnormal. This means that a Pearson test should be used to measure the interaction of the two variables. In Table 5, the path coefficients and correlation are introduced.

Table 5: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	22.02	11.66		2.21	0.01		
LSI	.44	.23	.75	2.23	0.03	.70	1.22
MBTI	.65	.52	.64	2.14	0.01	.70	1.22

The tolerance is between zero and one. The closer it is to one, the more the variables are not aligned. The closer it is to zero, the more the variables are aligned. According to 0.7 value, it is closer to one, then there will be no linear problem.

The standard path coefficient shows the effect of two variables relative to each other. The closer the path coefficient is to the sequence, the greater the correlation between the two variables. On the other hand, if the T statistic is higher than 1.96 or Sig is less than 0.05, the effect of the variables on each other is confirmed. According to the Table 5, the interaction between the two variables is significant because the t-statistic in both cases is greater than 1.96 and Sig is less than 0.05.

The effect of LSI dimensions on MBTI is examined below. In this test, the most effective LSI dimension on MBTI is to be determined. Table 6 shows this effect.

Table 6: LSI→MBTI

Path	R-square	Original Sample	Path-coefficient	t-value	Factor Loading
LSI→MBTI	0.71	0.84	0.84	22.38	1.07

A general study of the effect of LSI on MBTI has shown that it has a positive and significant effect. The t-statistic is greater than 1.96 and is equal to 22.38, and the LSI effect on MBTI is very high. The following figure will show which LSI dimensions have the greatest impact on MBTI. Also, the R-square rate is more than 0.5, and the reliability of the model is 0.84, which shows the strength and credibility of the model.

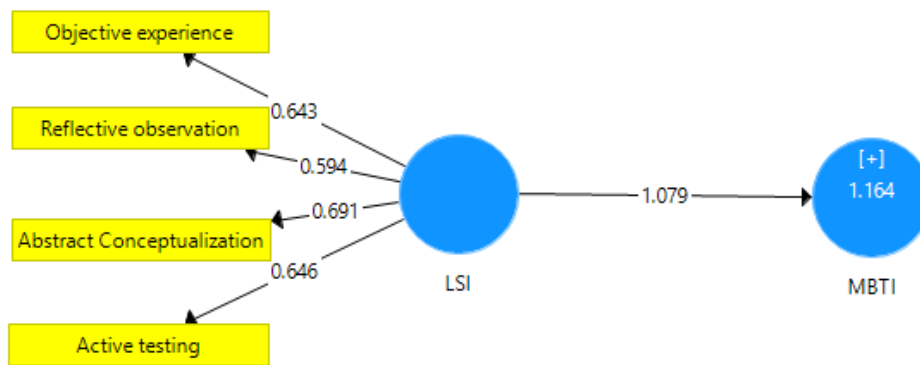


Figure 1: Factor Loading (LSI→MBTI)

This figure shows that abstract conceptualization has the greatest impact on MBTI, as it is more functional than other dimensions. This means that students who adopt this learning style show the learner’s characteristics in their personality. According to the following figures, this effect is positive and significant.

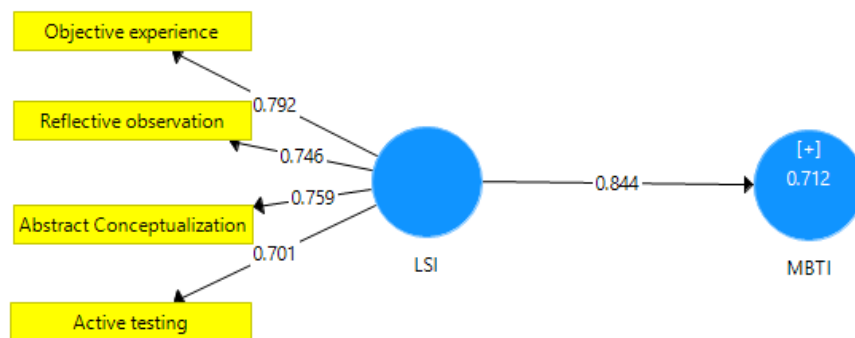


Figure 2: Path Coefficient (LSI→MBTI)

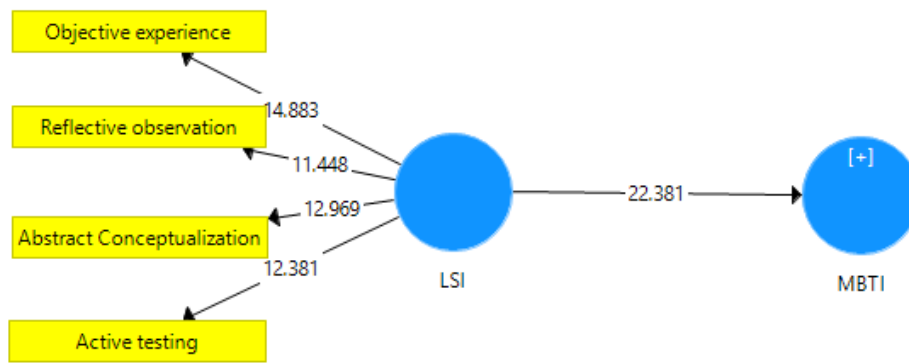


Figure 3: t-value (LSI→MBTI)

Figures 2 and 3 show that all dimensions have a significant and positive effect because the t-statistic is greater than 1.96, and at the 95% confidence level, this effect is significant. In general, according to the figures above, abstract conceptualization has the strongest effect on MBTI. The table below summarizes this effect.

Table 7: LSI Dimensions → MBTI

Path	t-value	Variable power	Validity
OE→MBTI	14.88	0.64	Confirmed
RO→MBTI	11.44	0.59	Confirmed
AC→MBTI	12.96	0.69	Confirmed
AT→MBTI	12.38	0.64	Confirmed

The most influential dimensions of MBTI on LSI are presented in Table 8.

Table 8: MBTI → LSI

Path	R-square	Original Sample	Path-coefficient	t-value	Factor Loading
MBTI→LSI	0.7	0.84	0.84	24.52	1.02

A general study of the impact of MBTI on LSI has shown that it has a positive and significant effect. The t-statistic is greater than 1.96 and is equal to 24.52, and the MBTI effect on LSI is very high. Figure 4 shows which of the MBTI dimensions has the greatest impact on the LSI. Also, the R-square rate is higher than 0.5, and the reliability of the model is 0.84, which shows the strength and credibility of the model.

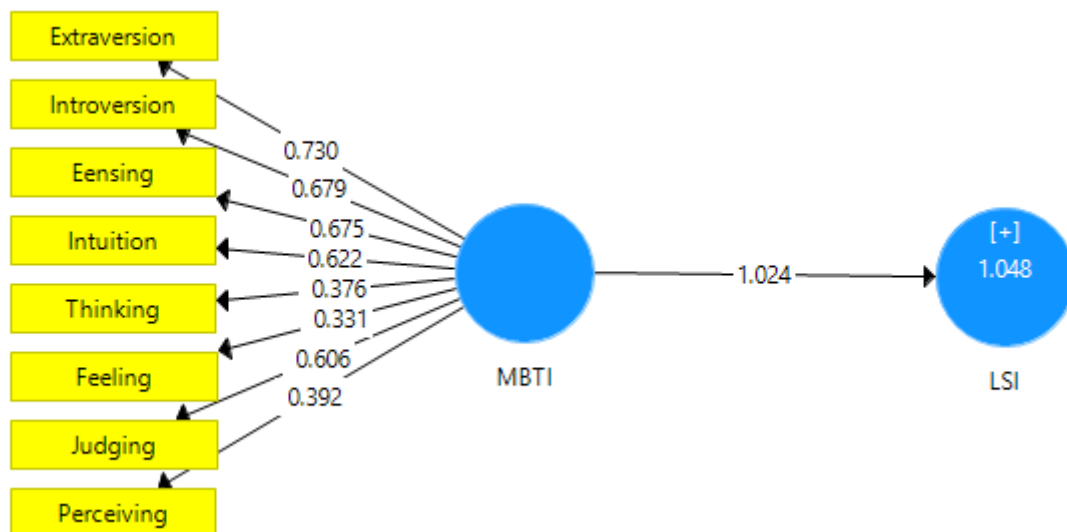


Figure 4: Factor Loading (MBTI → LSI)



Figure 4 shows that extroversion has the greatest impact on the LSI, as it is more functional than other dimensions. This means that students who are extroverted have more learning ability and are better able to communicate with their teacher and solve their problems.

According to Figures 5 and 6, this effect is positive and significant.

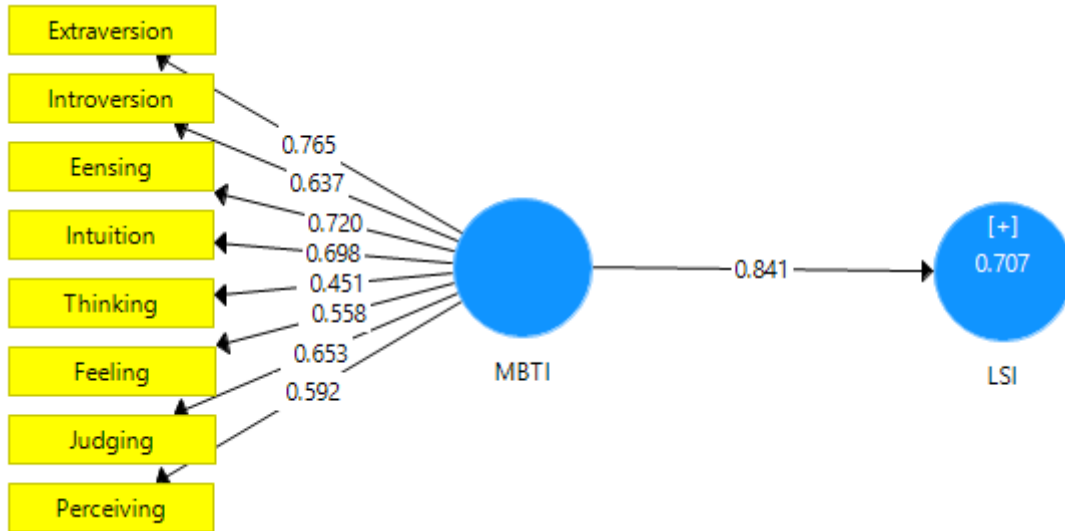


Figure 5: Path Coefficient (MBTI → LSI)

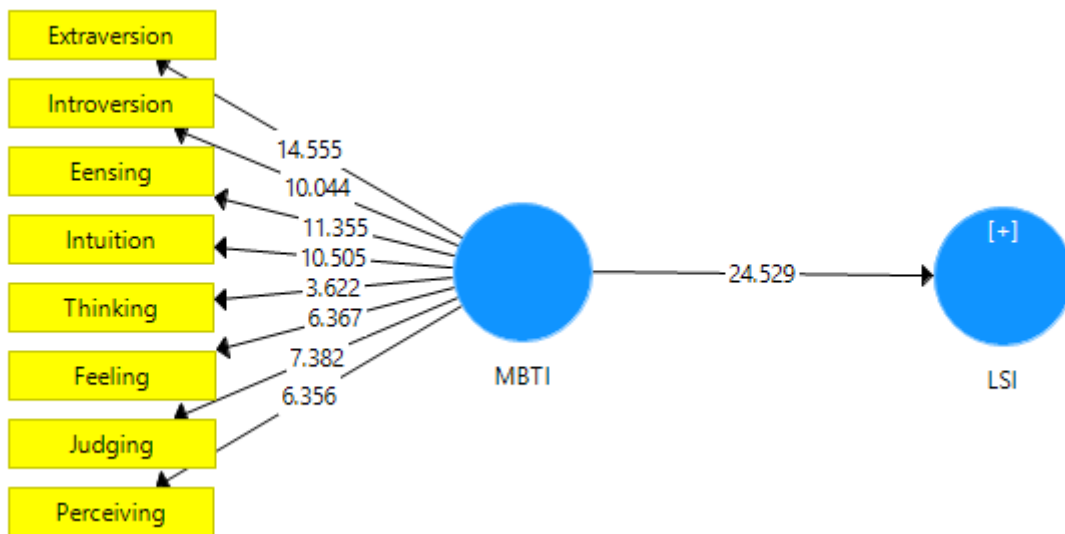


Figure 6: t-value (MBTI → LSI)

Figures 5 and 6 show that all dimensions have a significant and positive effect because the t statistic is more than 1.96, and at the 95% confidence level, this effect is significant. In general, according to the above, extroversion has the strongest effect on LSI. Table 9 summarizes this effect.

Table 9: MBTI dimensions → LSI

Path	t-value	Variable power	Validity
Extraversion → LSI	14.55	0.73	Confirmed
Introversion → LSI	10.04	0.67	Confirmed
Sensing → LSI	11.35	0.67	Confirmed
Intuition → LSI	10.50	0.62	Confirmed
Thinking → LSI	3.62	0.37	Confirmed
Feeling → LSI	6.36	0.33	Confirmed
Judging → LSI	7.38	0.60	Confirmed

Perceiving → LSI

6.35

0.39

Confirmed

## 5. Discussion

In the following sections, each research question is examined in detail based on the data analyzed before, and possible reasons for the findings are discussed.

**Research Question One:** Is there a significant relationship between university students' personality type and learning style in EAP online environment?

Based on the findings, it was concluded that there was a positive and significant relationship between students' personality type and their learning styles; therefore, people with different personality types have different learning styles than each other.

De Raad and Schouwenburg's (2015) findings were in line with those of the current study. Their study was based on Myers–Briggs type indicator (MBTI) and Kolb's learning style inventory (LSI). De Raad and Schouwenburg found that: (a) concrete conceptualization is related to perception feeling, (b) abstract conceptualization is related to thinking, (c) active testing is related to being extroverted, (d) reactive observation is related to being introverted, and (e) abstract conceptualization is related to judging behavior. Myers (1962) states that (a) accommodating sense is associated with extroverted sensing, and assimilative sensing is accommodated with introversion and intuitive feeling; (b) diverging style of learning is associated with introversion sense and feeling, and (c) converging style of learning is associated with extroversion feeling and thinking.

Grasha (2016) also showed that significant relationships exist between learning style as measured by the Felder-Silverman Index of Learning Styles (FSILS) and personality traits as defined through the MBTI. He also found that reactive learners scored higher on exams in first-semester college calculus courses than those categorized as sensing preceptors on the MBTI.

The result of the current study is also similar to Taskaya and Temizel (2018), who examined the relationship between learning style and personality traits in the class society of students studying in online universities. They found a positive and significant relationship between personality traits and learning styles.

This finding is also similar to Mohammadzadeh (2017), who conducted a study on 180 male and female students majoring in basic sciences and humanities at Payame Noor University in Ilam. They reported a positive and significant relationship between personality traits and learning styles.

**Research Question Two:** Is there a statistically significant relationship between university students' personality type and learning style with regard to the participants' gender in EAP online environment?

Based on the findings, a positive and significant relationship was found between students' personality traits and their learning styles, taking into account their gender. Essentially the ELT indicates that people have their special styles by which they take an approach to the word. This theory describes how different styles contribute to learning. The theory contains details about the learning styles and making decisions considering gender differences.

The result of the current study is similar to that of Ghahremani, Amini, Aghvamy, and Roohani (2016), who examined the relationship between personality traits, learning styles, and academic achievement among students of nursing and midwifery. They reported a relationship between personality traits and learning styles according to gender, which confirms the compatibility of the results with our study.

**Research Question Three:** Which component of personality type can strongly predict learning style in an EAP online environment among university students?

Based on the findings, we concluded that extraversion has the greatest impact on the differences in learning styles between male and female students among the underlying factors of personality traits. Being extroverted allows people to present their opinion freely; having this

characteristic helps the learner to improve self-assurance, by strengthening this typicality the learners are more able to talk, work, cooperate, and being active in learning so they learn more.

The result of the study is quite similar to the work of Abdollahzade and Jafari (2018), who conducted a study on 300 students at the University of Qazvin on the relationship between personality traits and motivation for achievement with learning styles found that extraversion personality traits have the greatest impact on learning styles.

The current study results are similar to the study done by Azizzadeh et al. (2017), who evaluated the multiple relationships between students' personality traits and learning styles, and the results of logistic regression suggested a negative relation between extraversion and learning style.

**Research Question Four:** What aspects of learning style are best predicted by personality type in an EAP online environment among university students?

Based on the findings, we concluded that abstract conceptualization had a greater impact on the personality traits of male and female students among the underlying factors of learning styles.

Duman (2010) found a significant difference between learning styles and academic performance in his study. Using post hoc tests, Duman found that individuals with abstract conceptualization learning styles have the highest scores in personality type. The results are in line with the findings of our study.

Naeem (2015) studied the relationship between personality traits, achievement motivation, and learning styles in students. Based on the results, she concluded that the learning style of abstract conceptualization plays an important role in personality traits. The results of the present study are also consistent with the findings of Naeem's study.

## 6. Conclusion

According to the findings, it was observed that there is a direct and significant relationship between personality traits and learning styles. Among the different personality traits, the trait of extraversion has a significant effect on determining learning styles, so it is suggested that experts in this field pay special attention to this type of characteristic. In this way, extroverted students can predict the degree of their trait of extroversion quite accurately. Extroverted students display their inner behaviors and feelings quite easily, and this has a huge impact on the type of learning style they have. Therefore, it is suggested that special attention be paid to the selection of learning styles appropriate to the personality of each individual and to the selection of teaching and learning styles appropriate to the extroverted students.

Given that among the underlying factors of learning styles, abstract conceptualization is the most affective factor in personality traits, it is suggested that in determining the appropriate learning skills, people who are accustomed to abstract conceptualizing styles in learning be learned about this characteristic in order to be prepared for a suitable way of learning.

In explaining these findings, it can be stated that another factor in the discussion of learners' individual differences is their personality traits. Identifying their personality structure and adopting appropriate educational models for the promotion and development of educational goals is of great importance in educational planning. Also, one of the effective factors in academic performance is paying attention to the individual differences of learners. Given that students are different in terms of personality traits and observing that each of the personality traits is associated with a particular learning style, it can be concluded that students with different personality traits can have different styles. Learning is different, which in itself can be a reason for the relationship between personality traits and learning styles. The findings of this study show that each of the learning styles is associated with a specific personality trait and this relationship and fit between personality traits and learning styles makes learners learn better and feel satisfied with themselves and their learning. And this in itself leads to the formation of a positive self-concept in learners. The style and personality traits of each student should be known in order to find the best method for training the students. In this regard, teams should be formed consisting of professionals and experts in this field, and with

careful planning, when each student enters, they should know his personality traits and details. After doing these things, students should be categorized, and people with the same personality traits should be placed in each category in order to use appropriate learning styles to teach them so that their efficiency and learning can be increased.

Finally, it is suggested to create workshops for teaching and recognizing students' learning styles at the school level so that students can choose the appropriate learning style according to their personality traits and organize study methods based on it. In order to increase the level of academic performance of learners, it is suggested that professors, teachers, and educators should take an effective step in this field by adapting their teaching styles and methods to students' learning styles.

There are always some limitations associated with the proper implementation of the studies, and this research was no exception. For one thing, the lack of rich literature in dealing with the same issue was one of the major shortcomings in this field. Another limitation in conducting this research was the number of students on whom we were able to conduct research, and if this limitation did not exist, we would have researched more to make the result of the research more complete and comprehensive. The other confinement the researcher encountered was obtaining the consent of institute officials to allow the researcher to take the class time and administer the questionnaires and tests in the classes. Since they had a pre-specified tight schedule, it was big trouble to convince them to obtain the essential permission.

This study was a preliminary step in investigating the relationship between learning style in EAP online courses and personality traits among male and female Iranian EAP learners. It is absolutely obvious that more relevant studies are required to explore and verify other aspects of using two methods of MBTI and LSI. Therefore, major methods could be used in future studies.

The current study was done on online courses. It is suggested that other research studies be done on face to face setting. This method allows for a live interaction between a learner and an instructor. It is the most traditional type of learning. Other researchers can also ignore the big five personality traits and focus on other variables. Each holistic and analytic cognitive style can also be studied separately to find their relation with the current variables.

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