

Cultural Intelligence, Cultural Identity, Autonomy, Self-Efficacy and Second Language Achievement of Iranian EFL Learners: A Path Analysis

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Abstract: This study was designed to explore the relation pattern of cultural intelligence, cultural identity, autonomy, and self-efficacy and second language achievement of Iranian EFL learners. The participants were 247 undergraduate students. Data were collected nationwide, from different parts of Iran; that is, from Kerman, south of Iran; Hamadan, west of Iran; Mashhad, east of Iran; and Gorgan, north of Iran. The participants' ages ranged from 18 to 26 and they were mostly juniors and seniors. They completed the following questionnaires: Cultural Intelligence Questionnaire (Ang, et al., 2007), Cultural Identity Clarity Scale (Usborne & Taylor, 2010), Learner Autonomy Questionnaire (Cotterall, 1995, 1999) and Self-Efficacy Questionnaire (Pinitrich, Smith, Garcia & McKeachie, 1991). The participants' GPA of three general English courses were considered as their second language achievement. Responses from questionnaires were collected through convenience sampling. The design of the study is based on path analysis. After data collection, the hypothesized model was tested by AMOSE program. The results demonstrated that the variables under study could strongly predict EFL learners' L2 achievement. L2 achievement may largely depend on students' cultural intelligence, cultural identity, autonomy and self-efficacy. Also, it was reported that autonomy was the strongest predictor of EFL learners' L2 achievement.

Keywords: Cultural Intelligence, Cultural Identity, Autonomy, Self-Efficacy, L2 Achievement.

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Introduction

The importance of L2 learning has always motivated teachers and researchers to utilize different approaches to determine the factors that influence language learning. Recent theorization regarding L2 learning has started to examine the language learning through cognitive, affective, and social factors (De Bot, Lowie, & Verspoor, 2007). Consequently, due to various reasons, learning a second language could be an unpleasant experience that may prevent the desired learning outcome (Liu & Liu, 2015). Therefore, it is necessary to explore the factors that contribute to students' learning and facilitate their second language learning process.

In the field of L2 learning, learners' personality traits often restrict their progress, because these factors can be influenced by various temporal and situational factors (Larsen-Freeman, 2015; van Lier, 2004). Based on this fact, considering crucial individual differences that prepare learners to achieve success and achievement in the process of second language learning is a noticeable theme in current language learning studies (Zatorre, 2013). McCrae and Costa (1999) define personality traits as relatively unconditional behavior that testify to individual's potentials in wide domains of functioning. Pervin and John (2001, p. 3) also state, "personality is the part of the field of psychology that considers people in their entirety as individuals and as complex beings".

In this study, the researchers build on recent research showing the factors (individual differences) that could facilitate or impede the second language learning process. As Dörnyei and Ryan (2015) state, some particular characteristics may affect language achievement. These personality traits may be completely ignored by language teachers. Therefore, their effects need to be studied and explored. Based on the previous research findings, a hypothetical model was constructed, including L2 achievement as the dependent variable and four factors (i.e. cultural intelligence, cultural identity, autonomy, and self-efficacy) as the independent variables. In this study, the hypothesized model was then tested through structural equation modeling, and a final model of L2 achievement was developed.

Background to the Study

Being familiar with the target language culture could significantly facilitate the language learning progress. Therefore, culture is considered as an important concept that Byram (1989, p. 18) referred to it as "hidden curriculum". Cultural intelligence is defined as individuals' ability to function properly in various cultures in order to promote perception,

communication, and coordination (Adair, Hideg & Spence, 2013). Earley and Ang (2003) also define cultural intelligence as individual's capability to act appropriately in different cultural settings. Cavanaugh (2007) believes that training can enhance cultural intelligence. Cavanaugh also maintained that more exposure to different cultural training would lead to the enhancement of individuals' capability.

There are four cultural intelligence (CQ) factors including: a) cognitive CQ, b) metacognitive CQ, c) motivational CQ, and d) behavioral CQ (Earley & Ang, 2003). According to Ang and Van Dyne (2008), cognitive CQ factor is individuals' knowledge of cultural environment and state that this factor may exert an influence over individual's beliefs and manners. Metacognitive CQ factor is defined as higher-order mental process to obtain cultural knowledge for better information processing (Ang & Van Dyne, 2008). Motivational CQ refers to individual's interest and self-confidence in various cultural settings (Livermore, 2011). Ang and Van Dyne (2008) state that despite challenges in different cultures, this factor leads to learning and functioning appropriately and interacting within individuals. Ang, Van Dyne and Koh (2006, p, 101) define behavioral CQ as "the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultures". As it has been mentioned, behavioral CQ plays an important role in social interaction.

There have been some studies concerning cultural intelligence. For instance, Ang, Van Dyne and Koh (2006) carried out a study to investigate the correlation between personality and cultural intelligence by the Big Five Trait Model (openness to experience, conscientiousness, extraversion, agreeability, and neuroticism). The participants' age, gender, and years of interacting with people from various cultures were controlled. The participants were 338 business undergraduate students. The result of hierarchical regression showed that there was a positive correlation between conscientiousness and meta-cognitive CQ, agreeability and behavioral CQ, but neuroticism negatively correlated with the cognitive, motivational, and behavioral CQ, and openness to experience was the only factor that positively correlated with all of these four factors.

Another study was conducted by Peivandi (2011) in order to explore the correlation between cultural intelligence and writing ability of 159 Iranian adult EFL learners. In this study, the participants were at upper-intermediate to advanced levels. To this end, the *Cultural Intelligence Questionnaire* was utilized to measure participants' cultural intelligence. The result demonstrated that cultural intelligence is a moderator predictor of writing. In addition, it was revealed that cognitive and motivational CQ were the best

predictors of writing. The findings also showed that there was a significant positive relationship between cognitive and motivational CQ with writing.

Similarly, Ghonsooli and Shalchy (2013) carried out a study in order to investigate the correlation between cultural intelligence and writing ability. The purpose of the study was to explore the impacts of CQ on L2 learners' writing in terms of fluency, complexity, and accuracy. A sample of 104 subjects participated in their study. The result of confirmatory factor analysis showed that CQ and cognitive CQ are stronger predictors of writing ability and writing fluency.

Moreover, cultural identity is thought to be a crucial factor in language learning. Usborne and Taylor (2010) define it as “the perceived clarity of the actual information or knowledge arising from one’s cultural identity or identities” (p. 885). In fact, cultural identity superficially seems to be similar with Benet-Martinez’s concept of bicultural identity integration (BII). BII is defined as the degree to which “biculturals perceive their mainstream and ethnic cultural identities as compatible and integrated vs. oppositional and difficult to integrate” (Benet-Martínez, Leu, Lee, & Morris, 2002, p. 9).

According to Okazaki, David, and Abelmann (2008), a concept of cultural identity rather than being static, ahistorical, and decontextualized is dynamic, it is historically imbedded and contextualized. It is also said that personal identity is constructed through having a clear cultural identity (Schwartz, Zamboanga, & Weisskirch, 2008). Usborne and Taylor (2010) state that having clear cultural identity is essential for personal identity, self-esteem, and well-being.

According to Taylor (2002), clear cultural identity refers to having a clear definition of the values, ideological positions and experiences, which leads to psychological adjustment and confident beliefs. Unclear cultural identity would not provide the individual with a guiding template for how to act and function in the world; therefore, it could lead to academic under-achievement and lack of self-esteem (Chandler, Lalonde, Sokol, & Hallet, 2003). In general, cultural identity can be regarded as a guiding template to deal with occupational and educational challenges (Taylor, 2002).

For instance, Eleuterio (1997) and Hoelscher (1999) observed that in classrooms where teachers and students have the same culture, the students benefited from higher engagement, motivation and excitement in language learning. Furthermore, in a qualitative study, Altugan (2015) described the correlation between learning and cultural identity. The findings

demonstrated that cultural identity plays a significant role in language learning and teachers should consider its role in the process of language learning.

Another important concept in facilitating students' academic achievement is autonomy. Learners are encouraged to become autonomous by learning how to learn a foreign language because autonomy "provides the primary impetus to initiate learning the second language and later the driving force to sustain the long and often tedious learning process" (Dörnyei, 1998, p.117). Moreover, learner autonomy was found to be associated with a fundamental construct such as responsibility (Bocanegra & Haidl, 1999). Bocanegra and Haidl (1999) believe that learners are responsible for making decisions, overcoming their challenges, and managing their life. Consequently, autonomy is considered as "feeling that one performs an activity due to one's own will or personal desire, with no external pressure" (Zhou, 2016, p. 90).

Extensively, autonomy is also discussed in the self-determination theory. Deci and Ryan (1985) define self-determination as "the quality of human functioning that involves the experience of choice ... [and] an internal perceived locus of control" (p. 38). In Deci and Ryan's definition, this experience of choice refers to autonomy. In this theory, a continuum was outlined regarding learners' different levels of autonomy. At one end of the continuum is the intrinsic motivation that students willingly perform a task with no expectation; that is, these students have the greatest amount of autonomy to learn. At the other end, students with extrinsic motivation do not enjoy high level of autonomy (Deci & Ryan, 1985). A large amount of research studies indicates that self-determination (i.e., autonomy) plays a key role in promoting learning (Black & Deci, 2000; Zhou, 2016).

It is believed that autonomy has effective consequences on language learning. As it is stated in research studies, it has emotional, cognitive, and behavioral effects in order to promote learners' learning and self-regulation (Nget et al., 2012; Radel, Pelletier, Baxter, Fournier & Sarrazin, 2014). In several studies, multiple consequences of teacher-student relationships have been found to be due to autonomy support which includes higher level of learning, positive affect, and achievement (Buff, Reusser, Rakoczy & Pauli, 2011; Reeve, 2009).

A number of studies have been conducted on autonomy. Hashemian and Soureshjani (2011) ran a study to explore the correlation among autonomy, motivation, and academic performance. A sample of 60 Persian L2 learners participated in the study. The findings showed that there was a significant positive correlation between autonomy and academic performance, and between motivation and academic performance. Additionally, no

significant correlation was found between motivation and autonomy. Also, Negari and Solaymani (2013) explored the correlation among attitudes to autonomous learning, thinking styles, and language learning strategy use of 92 Iranian EFL students. The results of the study indicated a significant association of self-attitude to autonomy with all the subcategories of strategy use. Additionally, a significant relationship between self-attitude to autonomy and most of the subcategories of thinking styles was reported.

Regarding the importance of factors influencing the process of language learning, León, Núñez and Liewe (2015) designed a hypothesized model to examine factors, contributing to math achievement. A sample of 1412 high-school students completed Autonomy, Autonomous Motivation, Effort Regulation, and Deep-Processing questionnaires. Structural equation modeling indicated that math achievement was predicted by autonomy, autonomous motivation, effort regulation except deep-processing.

In another study, a hypothesized model was designed by Zhou (2016) to investigate the effect of autonomy, social anxiety, and collaborative learning orientation on L2 learning. In total, the sample was composed of 303 primary school students. The path analysis revealed that students with social anxiety had weaker sense of autonomy that results in less learning orientation. It was also found that autonomy directly and indirectly influenced language learning.

It is thought that self-efficacy is another important factor in language learning. Self-efficacy has been defined as the individual's belief regarding their abilities to successfully perform particular academic tasks (Bandura, 1997). Self-efficacy is concerned with cognitive judgments of personal abilities (Zimmerman & Cleary, 2006). In other words, self-efficacy is considered as a fundamental element of social cognitive theory which appears to be a significantly important factor, because it leads to both individual's motivation and learning (Pajares, 1996, 2006; Schunk, 1995, 2003). According to the social cognitive theory, four factors play important roles in increasing an individual's self-efficacy; namely, successful experiences, observing others' success, encouragement, and physiological factors (Bandura, 1977). In a meta-analysis which was carried out by Richardson, Abraham and Bond (2012), self-efficacy was found to be the stronger predictor of academic performance.

Successful experiences refer to the individuals' personal experience which is considered as an important source of self-efficacy. The second one, observing others' success, could lead to increase or decrease of self-efficacy in individuals. Encouragement refers to giving verbal encouragement to individuals to do the given task. And, physiological

factors indicate the individuals' psychological states that can influence individuals' self-efficacy (Bandura, 1977).

Bandura (1986) assumed that self-efficacy has effect on people's selections, functions, perseverance and elasticity. As it is argued, when individuals feel stronger self-efficacy, their function, perseverance and elasticity are greater; in contrast, individuals with weaker sense of self-efficacy tend to think that tasks appear to be much more difficult than what they really are (Bandura, 1986). Pajares and Urdan (2006) also state it is not possible to explain aspects of human functioning such as self-regulation, learning, and achievement without discussing the role of self-efficacy.

Several studies were also carried out to explore the effect of self-efficacy on learning outcome. In an investigation, Walker, Greene, and Mansell (2006) studied the association of motivation variables (academic identification, intrinsic/ extrinsic motivation, and self-efficacy) with cognitive engagement of 191 college students. To carry out the study, the researchers made a path analysis. As a result, the study showed that cognitive engagement was correlated with self-efficacy, intrinsic motivation, and academic identification. Also, Tilfarlioglu and Cinkara (2009) conducted a study to investigate students' level of self-efficacy and its contribution to academic success on a sample of 175 students. The results of the study indicated that EFL learners' level of self-efficacy had a highly significant role in students' success.

In another study, Giunta et al., (2013) investigated the relationship among personality traits, self-esteem, self-efficacy beliefs and academic achievement on a sample of 426 high school students. The results of structural equation modeling indicated that conscientiousness, openness, and self-esteem were interrelated. The analyses also showed that both traits and self-esteem contributed to the students' perceived academic self-efficacy, which in turn led to higher school grades.

In the Iranian context, Ghorbandordinejad and Afshar (2017) focused on determining the association among self-efficacy, perfectionism, and English language achievement. A sample of 400 Iranian English foreign language learners participated in this study. Two main related questionnaires were distributed among the participants and data were analyzed by means of SPSS version 19. In conclusion, the findings of the study demonstrated that English achievement was positively associated with learners' self-efficacy, and negatively with perfectionism. The findings also showed that perfectionism did not mediate between self-efficacy and achievement.

A model was designed by Ardasheva, Carbonneau, Karin Roo, and Wang (2018) in order to explore the correlation among background characteristics, science anxiety, self-efficacy, and science vocabulary learning of 252 Grade 8 students. The findings of the study revealed that the variables under study had strong correlation with language learning.

As the review of the literature revealed, there was positive association between the studied variables and L2 achievement, but, to the best of the researchers' knowledge, much remains unknown about the simultaneously structural pattern of correlation among cultural intelligence, cultural identity, autonomy, self-efficacy and L2 achievement. Moreover, the extent L2 achievement is depended on the independent variable (i.e. cultural intelligence, cultural identity, autonomy and self-efficacy) is unknown. Consequently, this gap encouraged the researchers to design a hypothesized model based on review of the literature to explore the structural pattern of correlation among these variables through structural equation modeling.

In general, the purpose of the present study was to examine the correlation among EFL learners' cultural intelligence, cultural identity, autonomy, self-efficacy, and L2 achievement. In this study, undergraduate students' GPA of three general English courses were considered as students' second language achievement. Generally, university students should pass three general English courses, namely, two four-credit conversation courses (Conversation 1 and Conversation 2); two four-credit grammar courses (Grammar 1 and Grammar 2); three four-credit reading comprehension courses (Reading comprehension 1, Reading comprehension 2, and Reading comprehension 3). The average of the related courses was collected as L2 achievement. To conduct the study, the following questions were raised to examine the model:

1. Does Iranian EFL learners' cultural intelligence strongly predict their L2 achievement?
2. Does Iranian EFL learners' cultural identity strongly predict their L2 achievement?
3. Does Iranian EFL learners' autonomy strongly predict their L2 achievement?
4. Does Iranian EFL learners' self-efficacy strongly predict their L2 achievement?
5. What is a valid model of interrelationship among the studied variables in Iranian foreign language learning context?

Method

Design of the Study

The main purpose of the present study was to investigate the probable correlation among cultural intelligence, cultural identity, autonomy, self-efficacy and L2 achievement. The

design of this study is based on path analysis. Therefore, the hypothesized model was made based on previous research findings, as it is shown in Figure 1.

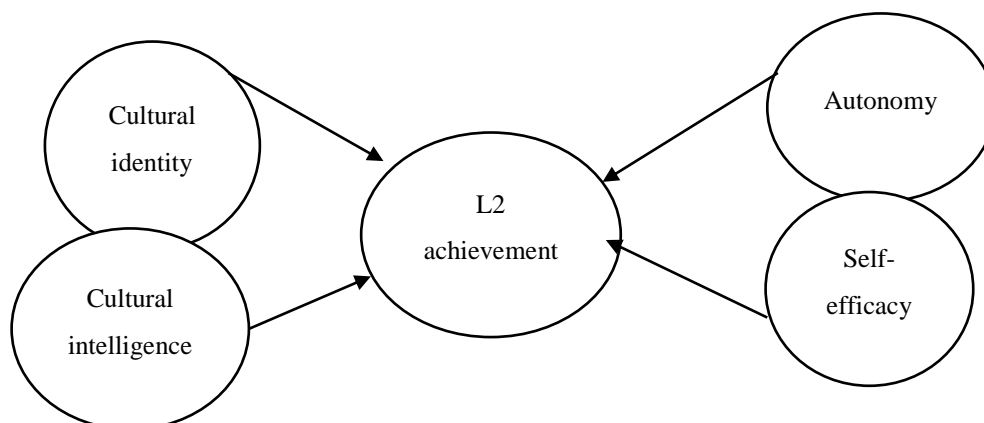


Figure 1. *The hypothesized model*

Participants

The participants of the study were 247 undergraduate students. In this study, data were collected nationwide, from different parts of Iran; that is from Kerman which is in south of Iran; Hamadan which is in west of Iran; Mashhad which is in east of Iran; and Gorgan which is in north of Iran. Participants were all undergraduate students and their ages ranged from 18 to 26 and mostly juniors and seniors. The selection of participants was through convenience sampling. Gender was not considered as a moderator variable in this study. The demographic information of the participants is provided in Table 1.

Table 1. *The profile of participants in the study*

City	Frequency	Percent
Hamedan	65	26/31
Gorgan	55	22/26
Kerman	66	26/72
Mashhad	61	24/69
Total	247	100.0

Instruments

The participants were requested to complete the following questionnaires.

Cultural Intelligence Questionnaire

In this study, cultural intelligence was measured by Cultural Intelligence Scale developed by Ang et al., (2007). The original questionnaire included 20 items: 4 meta-cognitive items CQ (items 1, 2, 3, and 4), 6 cognitive items CQ (items 5, 6, 7, 8, 9, and 10), 5 motivational items

CQ (items 11, 12, 13, 14, and 15), and 5 behavioral items CQ (items 16, 17, 18, 19, and 20). A response to each item ranged from *strongly disagree* (5) to *strongly agree* (1). Ghonsooli and Shalchy (2013) pilot tested this questionnaire and reduced it to 18 items, to suit the context of Iran. Due to low factor loadings, question 4 from the meta-cognitive CQ and question 5 from cognitive CQ were omitted. Cronbach's alpha for the CQ questionnaire is (.87), indicating high reliability.

Cultural Identity Clarity Scale

In this study, Cultural Identity Clarity Scale developed by Usborne and Taylor (2010) was used. It is originally based on the Self-Concept Clarity Scale (Campbell et al., 1996). Cultural Identity Clarity Scale is designed to measure clarity at the level of the participant's cultural group and comprises 8 items. The participants should indicate their agreement with each item by circling the appropriate number (0-10). Cronbach's alpha for the Cultural Identity Clarity Scale is .86, indicating good reliability.

Learner Autonomy Questionnaire

The Learner Autonomy Questionnaire was originally developed by Cotterall (1995, 1999) which includes 40 items. This instrument is based on Likert scale, each section comprises four or five options to select from based on the participants' perspectives. The first section (1-22) is measured on five-point Likert scale ranging from 1 *strongly disagree* to 5 *strongly agree*. The second section (23- 26) is measured on three-point Likert scale ranging from 1 *often* to 3 *never*. The third part consists of five questions (27-31) that participants should determine their priorities. The last part (32-40) is measured on five-point Likert scale ranging from 1 *always* to 5 *never*. The reliability and internal consistency of the questionnaire is 0.75 and the construct validity was examined by running factor analysis. The questionnaire also has acceptable validity.

Self-Efficacy Questionnaire

In this study, self-efficacy was measured by Self-efficacy questionnaire adapted from Motivated Strategies for Learning Questionnaire (MSLQ) originally developed by Pinitrich, Smith, Garcia and Mckeachie (1991). The self-efficacy questionnaire comprises 8 items. A response to each item ranged from 1 *not at all true of me* to 7 *very true of me*. The reliability of this questionnaire turned out to be .93, it also has an acceptable validity (Pinitrich., et al., 1991 & Pinitrich, Smith, Garcia & Mckeachie, 1993).

Procedure

In this study, data were collected nationwide, from different parts of Iran including: Kerman, Hamadan, Mashhad, and Gorgan. The participants were selected based on convenience sampling procedure. The second researcher faced an arduous task of travelling to many universities to distribute the questionnaires. After the distribution of the questionnaires, the procedures for completing the questionnaires were explained to them.

The students' average was also collected from the universities and was regarded as their L2 achievement. Undergraduate students' GPA of three general English courses including: two four-credit conversation courses (conversation 1 and conversation 2); two four-credit grammar courses (grammar 1 and grammar 2); three four-credit reading comprehension courses (reading comprehension 1, reading comprehension 2, and reading comprehension 3) was collected as L2 achievement. After data collection procedure, the hypothesized model was tested by the AMOS 24 statistical package program.

Results

Preliminary Analysis

Descriptive Statistics

As seen in Table 2, the non-violation of the assumption of normality of data distribution is reported. Thus, to check the normality of the data distribution, One Sample-Kolmogorov-Smirnov Test was run, whose results are reported in Table 2.

Table 2. *The Results of One-Sample Kolmogorov-Smirnov Test Showing the Normal Distribution of the Data*

One-Sample Kolmogorov-Smirnov Test						
		Cultural intelligence	Cultural identity	Autonomy	Self-efficacy	L2 achievement
N		247	247	247	247	247
Normal Parameters ^{a,b}	Mean	49.39	34.33	164.15	50.03	23.96
	Std. Deviation	18.520	14.248	33.379	21.31	5.804
	Kolmogorov-Smirnov Z	1.161	1.237	1.999	1.275	.799
	Asymp. Sig. (2-tailed)	.302	.117	.122	.023	.241

As shown in Table 2, the descriptive statistics for cultural intelligence, cultural identity, autonomy, self-efficacy, and L2 achievement are summarized. The mean and SD for EFL learners' cultural intelligence respectively enjoyed 49.39 and 18.52, for cultural identity M= 34.33 and SD= 14.24, for autonomy 164.15 and 33.37, for self-efficacy 50.03 and 21.31,

and for L2 achievement 23.96 and 5.80. Thus, the table shows the score of EFL learners respectively on cultural intelligence ($p=.30$, $p>.05$), cultural identity ($p=.11$, $p>.05$), autonomy ($p=.12$, $p>.05$), self-efficacy ($p=.023$, $p>.05$), and L2 achievement ($p=.24$, $p>.05$) were normally distributed.

Correlation Analyses

In order to check any significant correlation among Iranian EFL learners' cultural intelligence, cultural identity, autonomy, self-efficacy and their L2 achievement, four Pearson Product-Moment Correlations were run. The result of the Pearson product moment indicated that cultural intelligence correlated positively with Iranian EFL learners' L2 achievement ($r=.26$, $p<.05$). Furthermore, the pattern of correlation between cultural identity and Iranian EFL learners' L2 achievement were in the expected direction ($r=.21$, $p<.05$). Additionally, the pattern of correlation between autonomy and L2 achievement was significant ($r=.36$, $p<.05$). Also, the association of self-efficacy with Iranian EFL learners' L2 achievement was reported to be $r=.27$, $p<.05$.

Main Analysis

Having examined bivariate associations among cultural intelligence, cultural identity, autonomy, self-efficacy and L2 achievement, the researchers now considered all of the variables in one single analytic model using SEM. For the exploratory analysis part, a series of multiple hierarchical regression analyses were run, the results of which are presented in Table 3.

Table 3. Summary of Regression Results for the personality Characteristics

Factors	Beta	T
Cultural intelligence	.25	4.12
Cultural identity	.19	3.12
Autonomy	.39	5.34
Self-efficacy	.30	4.22

As indicated in Table 3, results from the first set of regression analyses support the hypothesized relationships among Iranian EFL learners' cultural intelligence, cultural identity, autonomy, self-efficacy and L2 achievement. These significant parameters respectively comprised those from cultural intelligence to L2 achievement ($B = .025$, $T = 4.12$), from cultural identity to L2 achievement ($B = .19$, $T = 3.12$), from autonomy to L2 achievement ($B = .39$, $T = 5.34$), and from self-efficacy to L2 achievement ($B = .30$,

$T = 4.22$). In general, L2 achievement was predicted by cultural intelligence, cultural identity, autonomy and self-efficacy. As the results show, autonomy is the most significant determinant of EFL learners L2 achievement in comparison with the other variables under study and cultural identity is the weaker predictor of L2 achievement.

In assessing the fit of the data in SEM, a range of goodness-of-fit indices were evaluated. the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), the Root Mean Square Error of Approximation (RMSEA), the χ^2 test statistic, and an evaluation of parameter estimates were utilized in the present study to assess model fit (Marsh, Hau, & Wen, 2004). The results indicated that Comparative Fit Index (CFI) = 0.91, Normed Fit Index (NFI) = 0.91, Bollen's Incremental Fit Index (IFI) = 0.91, Root Mean Square Error of Approximation (RMSEA) = 0.077, and $\chi^2/df = 3.0$, showing an acceptable fit for the initial model (Table 4).

The main analyses comprised of Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). These were run using AMOSE Program. Typically, the researchers tested the hypothesized model to see whether the parameter estimates are in harmony with the present theories and previous research findings and report a final model accordingly (McDonald & Marsh, 1990). The final model is represented in Fig 2.

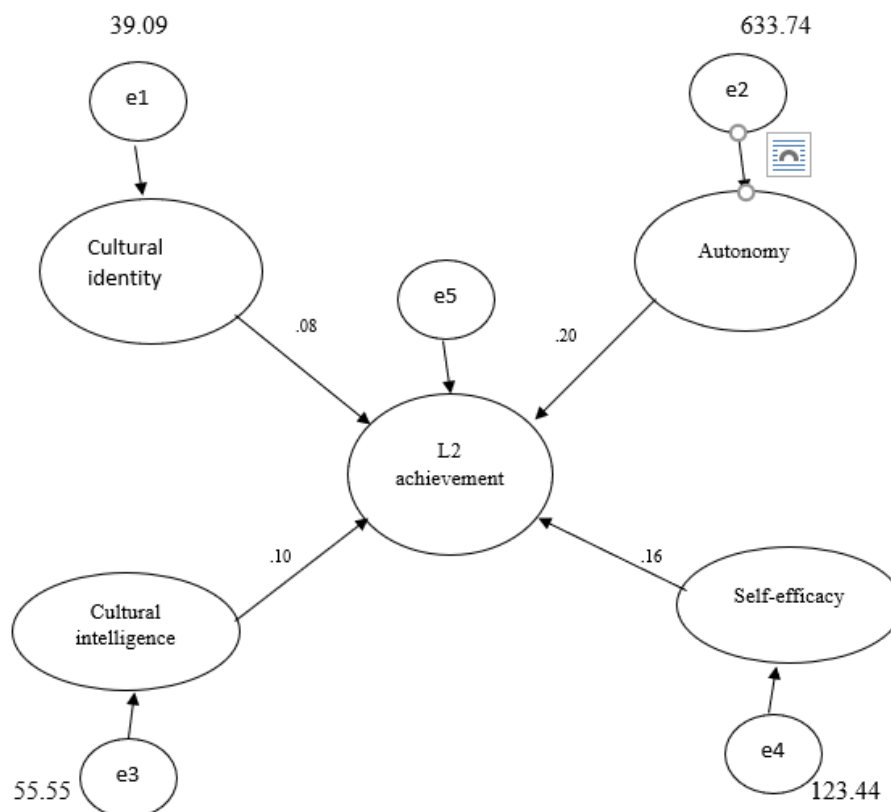


Figure 2. Results of testing hypothesized Model

As seen in figure 2, for the whole model, cultural intelligence, cultural identity, autonomy and self-efficacy were found to be correlated with L2 achievement ($r^2 = .20$, $r^2 = .16$, $r^2 = .10$, and $r^2 = .08$, respectively). In this analysis, autonomy was found to be the stronger predictor ($r^2 = .20$) of L2 achievement. As Table 3 showed, autonomy was the best predictor ($t = 5.34$, $p < 0.05$) of L2 achievement. Thus, this finding appears to be in harmony with correlation matrixes.

To exhibit a valid model of interrelationship among the studied variables in Iranian foreign language learning context, no significant path was removed. The results of these analyses are represented in Table 4.

Table 4. Modification Process of the Structural Model

Fit index	χ^2/df	IFI	NFI	CFI	RMSEA
Base Model	3.00	0.91	0.911	0.91	0.077
Revised model	1.16	0.91	0.989	0.99	0.017
Acceptable range	< 3	>.90			<0.08

As seen in Table 4, the final model indicated a very good fit. The modified model and the fit indices generated slightly better model than the first model: the comparative fit index (CFI) = 0.99, Bentler-Bonett Normed Fit Index (NFI) = .0.98, Bollen’s Incremental Fit Index (IFI) = 0.91, root mean square error of approximation (RMSEA) = 0.017, and $\chi^2/df = 1.16$. The index of IFI is within the acceptable range (>0.90) which indicates the final model is a better model than the initial model (Hair, Black, Babin & Anderson, 2010). The final standardized model is represented in Figure 3.

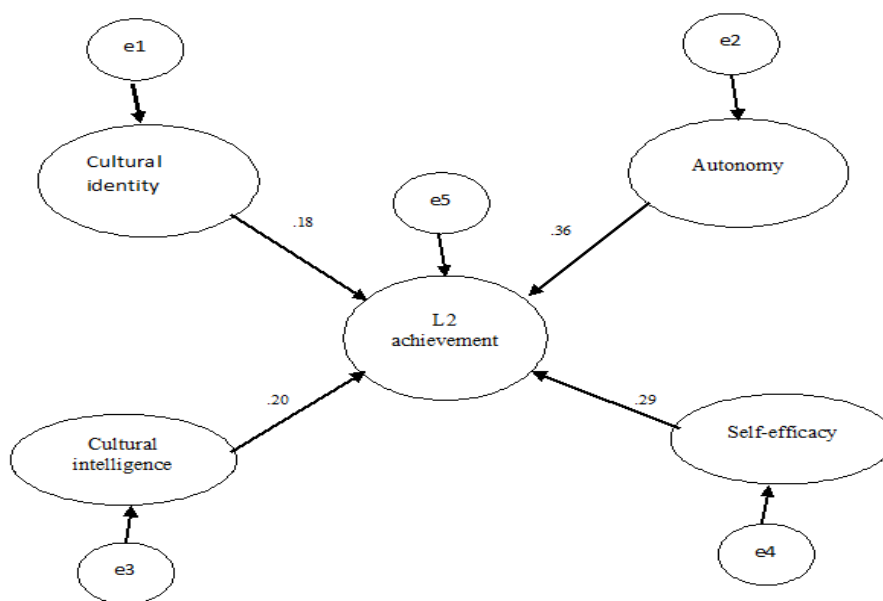


Figure 3. The Final Standardized Model

Discussion

The researchers in this study set out to investigate the possible predictive power of each independent variable (i.e. cultural intelligence, cultural identity, autonomy, self-efficacy) on the dependent variable (L2 achievement). In terms of the associations between cultural intelligence and L2 achievement, our data indicated that achievement was positively associated with cultural intelligence. It was found that Iranian EFL learners' who received high scores in cultural intelligence achieve higher success. According to Cavanaugh (2007), more exposure to different cultural training can contribute to the promotion of individuals' capability. Ang and Van Dyne (2008) state that cultural intelligence leads to learning and proper functioning and interaction within individuals. The findings of the study in this regard are in line with those of Ghonsooli and Shalchy (2013) who found a significant correlation between cultural intelligence and writing ability. Additionally, they found that cultural intelligence and cognitive cultural intelligence are stronger predictors of writing ability and writing fluency. Therefore, knowing the ideas, values, and cultural perceptions of other countries can facilitate and accelerate the process of language learning. As a result, being familiar with different cultures can be inspiring and empowering.

Regarding the role of cultural identity in L2 achievement, the findings indicated that Iranian EFL learners' cultural identity were associated with their L2 achievement. The findings demonstrated that learners who get higher scores in cultural identity achieve higher success. Cushner, McClelland and Safford (1992) discussed some programs such as multicultural educations one type of which is "teaching the culturally different" which shows that cultural identity is crucial in both learning and teaching. Examination of how learners' cultural identity correlates with their L2 achievement are rare. The findings of this study are in harmonious with Eleuterio (1997) and Hoelscher (1999) who observed that in classrooms where teachers and students have the same culture, the students benefited from higher engagement, motivation and excitement in language learning. Similarly, the results are consistent with Altugan (2015) who described the correlation between learning and cultural identity. Their results demonstrated that cultural identity plays a significant role in language learning and teachers should consider its role in the process of language learning. Therefore, it is necessary for students to know different cultural identities and to be familiar with different cultures, values, perceptions, and ideas. It can be facilitative in learning different languages.

The third goal of the present study was to explore whether L2 achievement was predicted by autonomy. In agreement with previous studies, our results revealed significant links between autonomy and L2 achievement. As the results showed, autonomy is the most significant determinant of EFL learners' L2 achievement in comparison with the other variables under study. As expected, students who are autonomous, achieve higher success. It was reported that autonomy has emotional, cognitive, and behavioral impacts and contribute to promote learners' learning and self-regulation (Nget et al, 2012; Radel et al, 2014). Also, multiple consequences of teacher-student correlations have been found to be attributed to autonomy support which includes higher level of learning, positive affect, and achievement (Buff et al, 2011; Reeve, 2009). The findings of the study are consistent with those Hashemian and Soureshjani (2011) who found a significant positive correlation between autonomy and academic performance, and between motivation and academic performance. Students with autonomy can believe themselves more and organize and implement the necessary steps to succeed.

The last research question examined self-efficacy as the predictor of L2 achievement. As expected, self-efficacy associated with L2 achievement. Thus, it could be assumed that the higher level of Iranian EFL learners' self-efficacy, the higher their L2 achievement. As it is discussed, when individuals feel stronger self-efficacy, their performance, perseverance and flexibility are much more; in contrast, individuals who feel weaker sense of self-efficacy tend to feel that tasks seem to be much more difficult than what they really are (Bandura, 1986). The results of the study are consistent with the findings of Tilfarlioglu and Cinkara (2009) who found that EFL learners' level of self-efficacy had a highly significant role in students' success. Also, the findings are in harmony with those of Ardasheva et al (2018) who found that background characteristics, science anxiety, self-efficacy, and science vocabulary learning associated with language learning. Students with strong notion of self-efficacy often have more in-depth motivation and experience positive thrill and motivation and show more persistence in learning and performance; hence, it can help students learn more.

Conclusion and Implications

The present study was designed to investigate correlation pattern of Iranian EFL learners' cultural intelligence, cultural identity, autonomy, self-efficacy and their L2 achievement. Results from the present study are likely to identify predictors of L2 achievement and

demonstrate the relative strength of individual characteristics in achieving success. Therefore, the findings demonstrated that the independent variables could strongly predict EFL learners' L2 achievement. As was shown, L2 achievement may largely depend on students' cultural intelligence, cultural identity, autonomy and self-efficacy. Also, it was reported that autonomy was the strongest predictor of EFL learners' L2 achievement. These findings show that it is impossible to ignore the influence of EFL learners' individual attributes on L2 achievement. As a result, the ignorance of these factors may not lead to success.

As was stated, the present study supported the hypotheses that cultural intelligence and cultural identity have positive influence on L2 achievement. Consequently, textbook designers and teachers should take into consideration the effect of these factors while designing activities and practices to make students aware of different cultures among various countries. Furthermore, the positive influence of autonomy demonstrated its possible constructive and significant role. Teachers should provide educational environment supporting autonomy in order to enhance students' autonomy in the classroom. Moreover, this study provides information regarding the effect of self-efficacy on L2 achievement. Teachers can play significant roles in increasing students' efficacy by giving various responsibilities to their students.

In general, the findings promise some principal implications. The researchers expect that the findings of the study could help EFL learners especially in employing autonomy as an important individual characteristic in L2 achievement. Educators and teachers could address these individual characteristics to guide their students to achieve success so that students feel more comfortable in strengthening these characteristics in themselves. The findings may provide clues for the authorities in delivering curriculum for educational purposes. Textbook designers should also put emphasis on these individual characteristics in book development.

Moreover, these results may contribute to the enhancement of the teachers' training in schools and universities by taking into consideration individuals' differences besides academic issues. Therefore, university teachers should consider training in both social and emotional skills (Oriol-Granadoa, Mendoza-Lirab, Covarrubias-Apablazac & Molina-Lópezb, 2017). To sum up, the main implication of this study is how to improve students' learning and achievement by considering the role of the studied variables into teaching, instruction, curriculum and assessment methods that may impede students' L2 achievement. In addition, the present study promises several implications for future researchers. The

hypothesized model can be extended by taking into consideration other cognitive and psychological variables including multiple intelligence, emotional intelligence, and motivation that may be correlated with L2 achievement. Also, future research is needed to examine the relation pattern of the studies variables and each subcomponent of L2 achievement.

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