Individual Psychological Factors:
Facilitators of PSL Learners' Reading Comprehension Ability?
a mixed methods study

Reza Taherkhani (Corresponding Author)
Department of English, Bu-Ali Sina University, Iran.
r.taherkhani@basu.ac.ir

Reza Moradi
Department of Linguistics, Bu-Ali Sina University, Iran.
r.moradi@ltr.basu.ac.ir

Abstract

This mixed methods nationwide research aimed to examine the relationships between three variables; namely, self-efficacy (S-E), emotional intelligence (EI), autonomy (A), their sub-constructs and reading comprehension ability of Persian second language (PSL) students. Participants were 141 PSL students from 28 different countries studying at 12 universities across Iran. Data were collected through S-E, EI, A scales, and a reading comprehension test and were analyzed using Pearson correlation. The results revealed that there were significant links between the variables and their sub-constructs and reading comprehension ability. Also, structured interviews were administrated with 45 participants, the results of which confirmed those obtained from quantitative instruments. Moreover, structural equation modeling (SEM) was used to access more in-depth perception of the variables and explore the strengths of the causal relationships. The three independent variables strongly predicted reading comprehension, with S-E being the strongest predictor. Also, three out of four sub-constructs of EI, and two out of three sub-constructs of A were powerful predictors of reading comprehension. In terms of the increasing number of PSL learners, the findings of the present study could be helpful for L2 (particularly PSL) teachers, learners, and academic policymakers.

1. Introduction

Individual psychological factors have become crucial and pivotal elements within language learning and are increasingly taking up a central position in SLA research (Ariyanti, 2016; Dörnyei, 2019). The academic discipline of psychology at both general and individual levels in language education involves numerous areas and variables, including learning styles, age, gender, personality types, intelligence, aptitude, self-belief, creativity, self-esteem, autonomy, culture, affective and demographic variables (Brown, 2014). Exploring all these variables in this brief space is impractical; therefore, the current study selected the three psychological factors at individual level; that is, self-efficacy, emotional intelligence, and autonomy. The individual psychological factors whose main goal is to study human mind, are also known as individual differences (IDs) in research (Dörnyei & Ryan, 2015; Bursali & Oz, 2017).

It is worth considering questions like: why among all these areas and variables pertinent to the domain of individual psychology, self-efficacy, emotional intelligence, and autonomy were selected in this study? Why, among other skills in the field of SLA, reading comprehension was selected? Or even, why, among many languages around the world, Persian language was selected? The most straightforward answer to such questions is the lack of a scientific study investigating such variables, skill, and language in Persian second language (PSL) context. Reading comprehension is not merely a simple act of responding to the written text, but it includes many factors and processes, like properties of the text, the task demands, learner's knowledge and experiences, also cultural and situational context in which text is utilized to get meaning (Klingner et al., 2015). Moreover, this ability is always regarded as a parameter for successful language learning and has been a major concern for learners where they need to fight hardly to master it (Özdemir & Akyol, 2019).

The reason for choosing these variables pertinent to individual differences, among others, is their salient impact in SLA field, more specifically on reading comprehension skill (Aryanto, 2020; Habibian et al., 2015; Zafarian & Nemati, 2016). Self-efficacy (S-E) beliefs possess a prominent place in the process of L2 learning. According to Bandura (1977), self-efficacy is people's judgement on their own abilities to organize and implement practical courses needed to achieve the specified types of performance. Given that the path of learning a new language is not straightforward, learners with strong self-efficacy beliefs work harder to achieve the required activities, feel confident, and show perseverance when face obstacles and problems (Wang et al., 2017). Wang et al. (2017) have observed some students with higher self-efficacy but lower skills perform and even get grades better than students with lower self-efficacy but better skills. In short, self-efficacy as a motivational element has a crucial role in the growth and development of language learners, especially in reading comprehension skill (Fitri et al., 2019).

Emotional intelligence (EI) as other psychological characteristics is an important facilitator of being successful in language learning. Emotional intelligence reflects the following capabilities and skills: the ability to recognize, understand and express one's feelings, the ability to recognize and communicate with others, the ability to deal with and control one's emotions, and the ability to adjust and resolve one's social problems, the ability to strengthen oneself and

continue regardless to obstacles, coping with pressure and dissatisfaction, managing one's mindset, thinking, empathy and optimism (Mattingly & Kraiger, 2019). For a long time, scholars and psychologists viewed cognitive intelligence as the main reason for being successful in educational environments; however, researchers have recently asserted that the great predictor of individual's success in life, work, education, or even success in learning a second language (more than 80%) is emotional intelligence (Goleman, 1998).

Autonomy (A) is also a psychological variable which differentiates individuals from each other, and plays a great role in advancing language learning. Autonomy is considered as one's capability to take charge of his/her own learning (Benson & Voller, 2014). According to Little (2015), taking responsibility for learning by oneself is a prerequisite for learning, otherwise learning is not possible. Moreover, by a glance into the stream of inventing educational methods in recent decades in the SLA field whose main goals are to focus on the learner instead of being teacher-centered, and to emphasize the salient role of learners in the process of learning (Brown, 2014), the necessity of fostering autonomous learners has become more apparent.

But, why Persian or Farsi as a second language in this study, and not English or French? About Persian, it is interesting to know that a total number of over 120 million Persian speakers are estimated in Iran, Tajikistan, Afghanistan, Uzbekistan, India, etc. Persian script has several features which are not seen in most languages around the world: 1. It has a magic feature called dot, that every moment in everywhere of the letters gives a different meaning to words. 2. Persian script is written and read from right to left (this feature is found in few languages in the world). 3. It is continuous, that is, the letters stick together. 4. It does not show short vowels (a, e, o), which is a problem for Persian second language learners. Nonetheless, what prompted the present study was the increasing number of Persian second language learners and their various goals and reasons for learning this language. The most important reasons may be as follows: learning Persian for religious purposes (because Persian, after Arabic, is the second language of the Islamic world), business in Iran or with Iran, tourism, therapeutic and medicine purposes, military, political goals, and above all for educational intentions.

Since Iran has many top-ranked universities in Asia and even in the world, many international students with educational goals study in Iranian universities. The language of study at Iranian universities is Persian; therefore, prerequisite for admission to these universities is learning this language. It is noteworthy that according to the report by United Nations Educational, Scientific and Cultural Organization (UNESCO), the society of PSL learners is day by day increasing, and the number of international students who have enrolled at the universities in Iran has risen by at least 330 percent between 2011 and 2016 (YJC, 2019). It is necessary to mention that despite the global crisis caused by corona virus pandemic in recent years, not only has the number of PSL learners not decreased, but also the number is dramatically increasing.

The significance shared by the above-mentioned statements and also the existence of a tangible gap in the literature pertinent to teaching and learning Persian as a second language indicate that conducting such research in PSL context seems necessary.

2. Research Questions

Aiming to fill these tangible gaps, the present study was launched to explore the impact of the three individual psychological variables, and also their sub-constructs on reading comprehension ability. To achieve this purpose, the following questions were posed:

Q 1. Is there any significant relationship between PSL learners' self-efficacy and their reading comprehension ability?

Q 2. Is there any significant relationship between PSL learners' overall autonomy and their reading comprehension ability?

Q 3. Is there any significant relationship between PSL learners' self-control, as a sub-construct of autonomy, and their reading comprehension ability?

Q 4. Is there any significant relationship between PSL learners' desire for learning, as a sub-construct of autonomy, and their reading comprehension ability?

Q 5. Is there any significant relationship between PSL learners' self-management, as a sub-construct of autonomy, and their reading comprehension ability?

Q 6. Is there any significant relationship between PSL learners' overall emotional intelligence and their reading comprehension ability?

Q 7. Is there any significant relationship between PSL learners' self-emotion appraisal, as a sub-construct of emotional intelligence, and their reading comprehension ability?

Q 8. Is there any significant relationship between PSL learners' others' emotion appraisal, as a sub-construct of emotional intelligence, and their reading comprehension ability?

Q 9. Is there any significant relationship between PSL learners' use of emotion, as a sub-construct of emotional intelligence, and their reading comprehension ability?

Q 10. Is there any significant relationship between PSL learners' regulation of emotion, as a sub-construct of emotional intelligence, and their reading comprehension ability?

Q 11. What is a valid model of interrelationships among overall autonomy, emotional intelligence, self-efficacy and reading comprehension of PSL learners?

Q 12. What is a valid model of interrelationships among sub-constructs of autonomy, sub-constructs of emotional intelligence, self-efficacy and reading comprehension of PSL learners?

3. Methodology

3.1 Participants

A total of 141 male and female students forms the following 28 countries around the world studying at 12 Iranian universities took part in this study: Azerbaijan, Bahrain, Bangladesh, Burundi, China, India, Indonesia, Iraq, Kuwait, Kyrgyzstan, Lebanon, Libya, Malaysia, Mali, Nigeria, Oman, Pakistan, Philippines, Russia, South Korea, Sri Lanka, Sudan, Syria, Tajikistan, Turkey, Uzbekistan, Yemen, Zimbabwe. The participants were from the following universities and cities in Iran: Allame Tabataba'i University in Tehran, Bu-Ali Sina University in Hamedan, Ferdowsi University of Mashhad in Mashhad, Imam Khomeini International University in Qazvin, Malayer University in Malayer, Shahid Beheshti University in Tehran, Shiraz University in Shiraz, University of Isfahan in Isfahan, University of Mazandaran in Babolsar, University of Tehran in Tehran, Yasouj University in Yasouj, Yazd University in Yazd.

3.2 Instruments
3.2.1 Reading Comprehension Test

The International Center of teaching Persian to non-Persian speakers located at Ferdowsi University of Mashhad developed a standardized exam in 2018. Although this exam has been utilized several times in Iranian environment and is a valid instrument, the authors asked three specialists to verify its content validity. Using Cronbach's Alpha, the reliability of the test was found to be .87 in this study.

In this study, the reading comprehension test used to assess Persian reading comprehension ability of the participants was taken from the above-mentioned comprehensive Persian language exam. This test comprises 3 reading comprehension texts and 22 questions with each item worth 1 point. The texts and questions were provided in Persian to the participants.

3.2.2 Self-Efficacy Questionnaire (S-E Q)

The S-E Questionnaire (S-E Q) was developed by Riggs and Knight (1994) in America and includes 10 items, and each item has 5 points. The purpose is to study the variable of individual self-efficacy beliefs. This instrument is developed based on five-point Likert grading: (strongly disagree: 1, disagree: 2, I have no opinion: 3, agree: 4, strongly agree: 5). The researchers asked three experts in the field for content validation of the Persian version of the questionnaire. The results of Cronbach's Alpha revealed reliability index of .74 in the present study.

3.2.3 Emotional Intelligence Questionnaire (EI Q)

The scale of EI was designed by Wong and Low (2002) in Hong Kong and has 16 items, a scale of 5 points per item with a total of 80 points, with the following four sub-constructs: 'self-emotion appraisal', 'others' emotion appraisal', 'use of emotion', and 'regulation of emotion'. The questionnaire has been formulated based on five-point Likert grading: (strongly disagree: 1, disagree: 2, I have no opinion: 3, agree: 4, strongly agree: 5). In the Iranian context, Sarmad et al. (2011) validated the translated Persian version of the instrument by employing content validity. Using Cronbach's Alpha, the reliability of the questionnaire was estimated to be .74 in this study.

3.2.4 Self-Directed Questionnaire (S-D Q)

In recent scientific literature, the term self-directed learning has been used along with the concept of learner autonomy in educational contexts. Both concepts relate to teaching students how to think, how to learn, and how to control their learning. The scale of S-D Q was designed by Fisher et al. (2001) in Australia and consists of 40 items on a 5-points scale for a total possible of 200 points which are divided into the following three sub-constructs: 'self-control', 'desire for learning', and 'self-management'. This questionnaire is based on five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Nadi and Saadian (2011) translated and validated the instrument in the Iranian context. The results of the Cronbach's Alpha showed a reliability index of .80 in this study.

3.3 Structured Interviews

From among the participants, 45 were selected to take part in the structured interviews. The interviewees gave their full assent to take part in the study. They were asked to answer 12 questions which were obtained from the items in the questionnaires. The purpose was to triangulate the data and find out whether the results gained from the qualitative instruments

would confirm or contradict those obtained from the quantitative data. The interview questions were given to three experts in the field to provide the necessary feedback. Because the interviewees had different L1s, and also to remove any biases, we conducted the interviews in Persian. Later, we translated the interview transcripts into English.

3.4 Procedure

The procedure for collecting data for the study started from November 2019 and ended in February 2020. Since data were collected before the outbreak of Covid-19 in Iran, the second researcher was able to travel to many universities across the country to distribute the instruments. Data were collected in three phases. First, the three questionnaires were distributed. After two days, the participants were given the reading comprehension test. The third phase included the structured interviews. The interviews took from 19 to 40 minutes with an average of 27 minutes.

3.5 Data Analysis

In order to answer the quantitative parts of the first 10 research questions, Pearson correlations were conducted using SPSS. Moreover, for answering research questions 11 and 12, SEM was utilized using AMOS 24. Lastly, in order to analyze the data collected via the interviews and extract the overarching themes and sub-themes within the data, we followed the six stages of thematic analysis proposed by Braun and Clarke (2006). Finally, some of the themes were quantized (Dörnyei, 2007) and written in percentages.

4. Results

4.1 Correlation Analysis

Table 1 shows the results of Pearson correlation between overall self-efficacy, emotional intelligence, autonomy, and reading comprehension.

Table 1. *Results of Pearson correlation between overall S-E, EI, A, and reading comprehension*

		Self-efficacy	Emotional Intelligence	Autonomy	Reading comprehension
Self-efficacy	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	141			
Emotional Intelligence	Pearson Correlation	.61**	1		
	Sig. (2-tailed)	.000			
	N	141	141		
Autonomy	Pearson Correlation	.52**	.48**	1	
	Sig. (2-tailed)	.000	.000		
	N	141	141	141	
Reading comprehension	Pearson Correlation	.43**	.77**	.70**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	141	141	141	141

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

As can be seen in Table 1, there are positive significant relationships between the three variables and reading comprehension: overall S-E, EI, and A. Table 2 demonstrates the results of Pearson correlation between all sub-constructs of emotional intelligence and reading comprehension.

Table 2. *Results of Pearson correlation between all sub-constructs of emotional intelligence and reading comprehension*

	Self-emotion appraisal	Others' emotion appraisal	Use of emotion	Regulation of emotion
Reading comprehension	.65*	.64**	.67**	.71**

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

As Table 2 demonstrates, there are positive significant relationships between all sub-constructs of students' emotional intelligence and reading comprehension. Table 3 reveals the results of Pearson correlation between all sub-constructs of autonomy and reading comprehension.

Table 3. *Results of Pearson correlation between all sub-constructs of autonomy and reading comprehension*

	Self-control	Self-management	Desire for learning
Reading comprehension	.70**	.68**	.54**

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

As Table 3 demonstrates, there are positive significant relationships between all sub-constructs of students' autonomy and reading comprehension.

4.2 Structured Interviews

Generally, 12 questions, which were extracted from the items of the questionnaires, were asked from the interviewees with the aim of examining each of the sub-constructs in the questionnaires.

4.2.1 S-E

The analysis of the structured interviews affirmed the result of S-E questionnaire to a large portion. The themes extracted from each of the interview questions are shown in table 4.

Table 4. *Extracted themes about the overall S-E*

Q1 (Self-assessment) (Predictability)	Q2 (Self-belief)	Q3 (Self-confidence)	Q4
Theme 1: Most of the learners acknowledge their high abilities, because of possessing enough skills and experiences. **Theme 2:** Inadequate skills lead to poor self-esteem and subsequent distrust of oneself and one's abilities.	**Theme 1:** Approximately 70% of the interviewees are aware of their own places and statuses **Theme 2:** Trained and skilled learners have high self-confidence	**Theme 1:** Conscious choice based on interest leads to success, and success builds self-confidence **Theme 2:** Majority of learners have the choices based on awareness, interest, and wisdom.	**Theme 1:** Few interviewees are able to change themselves as the environment changes. **Theme 2:** Most interviewees believe that the world and the environment around them determine their destiny and future.

4.2.2 EI

The results gained from the structured interviews were in line with the findings of the EI questionnaire. The extracted themes and sub-themes are shown in Table 5.

Table 5. *Extracted themes and sub-themes about EI*

Q1 (Self-emotion appraisal)	Q2 (Others' emotion appraisal)	Q3 (Use of emotion/Regulation of emotion)
Theme 1: Most of the learners think they are aware of their emotions, to some extent; nonetheless, they do not consciously think about their emotions. **Theme 2:** Most of the learners are not completely aware of their emotions, and also do not know about the benefits of their feelings. **Theme 3:** Some of the interviewees consciously deliberate about their personal emotions.	**Theme 1:** Most of the learners respect the emotions of others. **Theme 2:** Almost 40% of the students are aware of others' emotions. **Sub-theme 1:** Some of the participants do not really care about how others feel. **Sub-theme 2:** Some students think they have no responsibility to ponder about how other people feel.	**Theme 1:** Majority of the learners think they have control over their emotions. **Sub-theme:** They use different strategies including: remaining silent, or may leave the location. **Theme 2:** Almost 20% of the learners believe they are able to use their emotions and achieve their goals. **Theme 3:** Only few of the students think they are not capable of controlling their emotions.

4.2.3 A

The findings of the structured interviews attested the results of each of the sub-constructs of learner autonomy in the questionnaire. The extracted themes and sub-themes from each interview question can be seen in Table 6.

Table 6. *Extracted themes and sub-themes about A*

| Q1 (Self-management)	Q2 (Self-management)	Q3 (Desire for learning)	Q4 (Desire for learning)	Q5 (Self-control)
Theme 1: Less than 20% of individuals have discipline in all fields of their routine life. **Sub-theme 1:** Past failures in the action phase have led them to be irregular. **Theme 2:** More than 70% of individuals are just regular enough to do very little.	**Theme 1:** Most learners have a specific plan and discipline in academic matters. **Theme 2:** Learners are organized only to do works which are of importance in their minds.	**Theme 1:** Few learners are willing to think and act differently to achieve goals and desires. **Theme 2:** Few individuals know their goals clearly and are willing to deal with any problem to achieve them.	**Theme 1:** interviewees who are aware of the value and importance of issues (academic and work) are willing to seek help from others **Theme 2:** Most learners are less inclined to learn new things.	**Theme1**: Most of the participants find themselves independent in their affairs. **Theme 2:** Majority of the learners consider themselves responsible for all aspects of learning such as planning, decision making, and so on.

4.3 Structural equation modeling (SEM)

Aiming to attain deeper understanding of the variables and find the powers of the causal relationships among independent and dependent variables, SEM was employed through AMOS version 24. The authors, first, made two hypothesized models of overall variables and their sub-constructs based on the review of the literature from self-efficacy, emotional intelligence, and autonomy to reading comprehension, as presented in Figures 1 and 2.
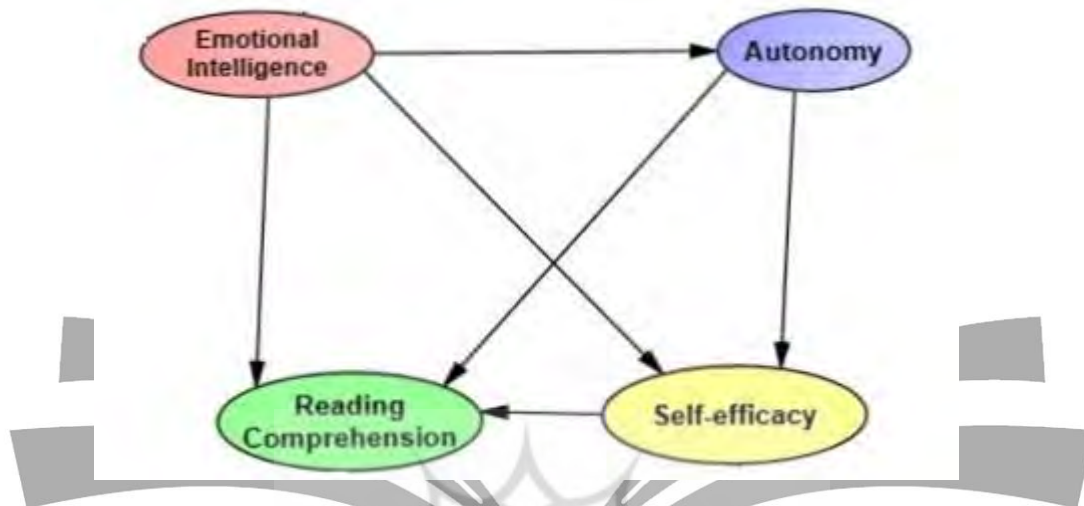

Figure 1. *The hypothetical model of the interlinks among overall S-E, EI, A and reading comprehension.*
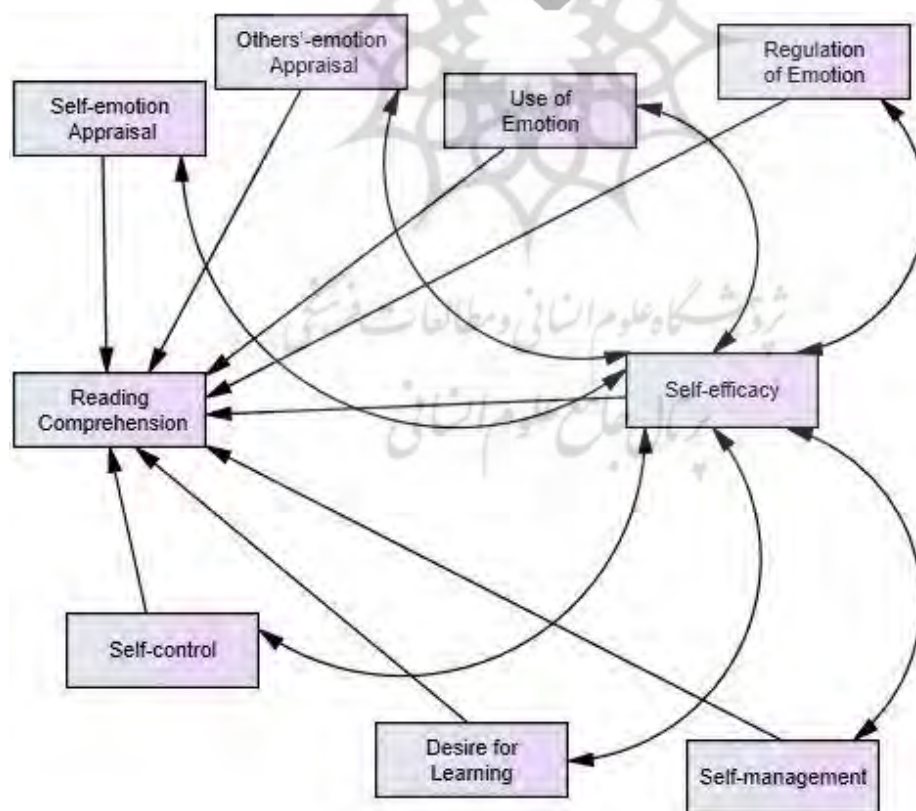
Figure 2. *The hypothetical model of the interlinks among S-E and sub-constructs of EI, A and reading comprehension*

Then, according to McDonald & Marsh (1990), the authors tested the hypothesized model in order to survey the congruence of the parameter estimates with the results of previous research and also to introduce the final model. The standardized estimates were examined to discover the powers of the causal links among the components. Figure 3 displays the interlinks among the overall variables.
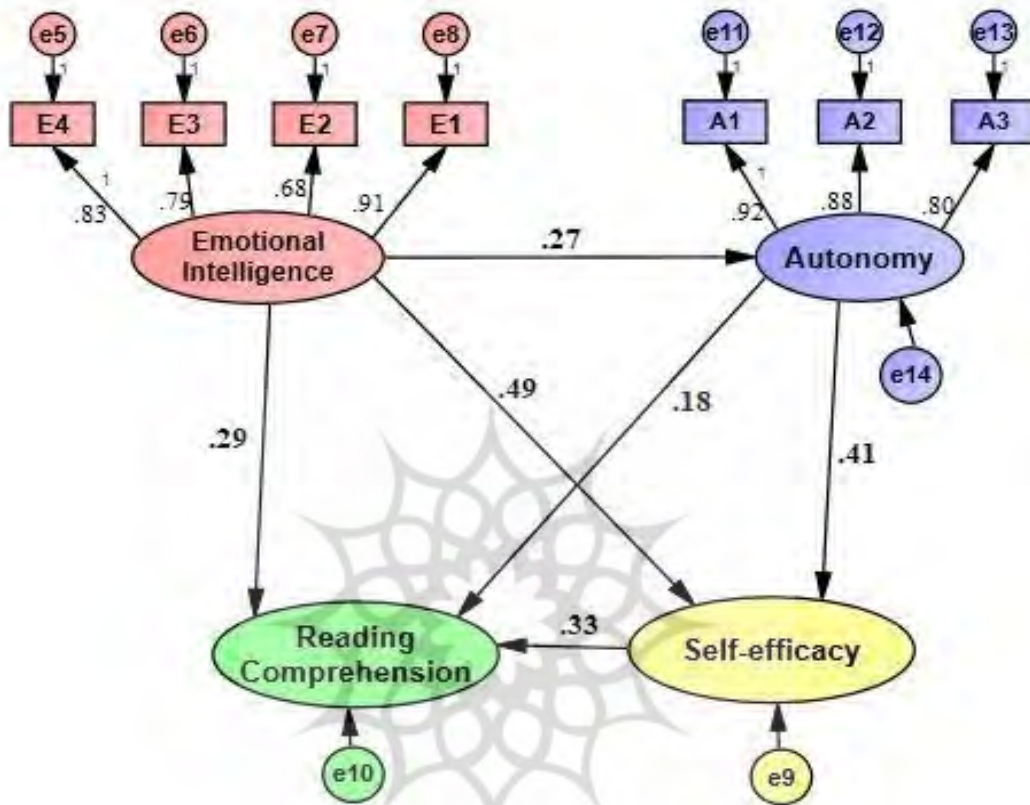
Figure 3. *The model of the interlinks among S-E, EI, A and reading comprehension.*

As shown in figure 3, three overall independent variables are powerful predictors of reading comprehension. As the figure indicates, self-efficacy is the strongest predictor of reading comprehension.

Goodness of fit indices was employed in order to examine the model fit. Table 7 presents the goodness of fit indices. X2/df, GFI, CFI and RMSEA were utilized in the present study. In order to have a fit model, the values of X2/df and RMSEA should be less than 3 and less than .08, respectively; this figure for GFI, CFI, and NFI should be above .90 (Schreiber et al., 2006).

Table 7. *Goodness of Fit Indices*

	X2/df	GFI	CFI	NFI	RMSEA
Acceptable fit	<3	>.90	>.90	>.90	<.08
Model	2.99	.91	.90	.92	.08

According to Table 7, the model has an acceptable validity as all the indices of the goodness of fit are within the acceptable range. Moreover, figure 4 presents the structural model of interrelationships among the sub-constructs of the variables.
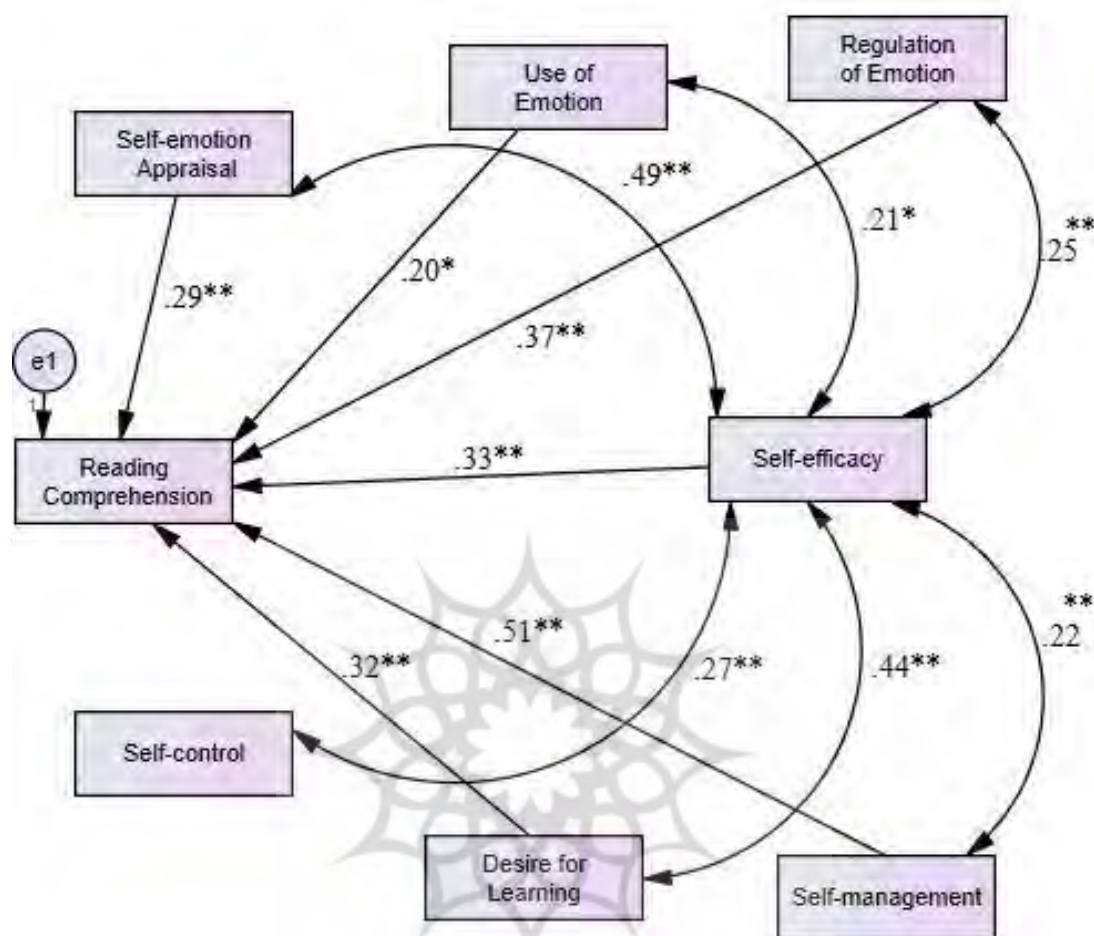
Figure 4. *The model of the interlinks among S-e and sub-constructs of EI, A and reading comprehension after modifications*

The model was modified by the researchers due to the inadequacy of some measurement models discerned in the data. These modifications included removal of three non-significant paths: a direct path from 'others' feeling assessment' to reading comprehension (β= .03, p>0.05), a direct path from 'self-control' to reading comprehension (β= .05, p>0.05), and a correlation path between 'others' feeling assessment' and self-efficacy (β= .09, p>0.05).

As indicated in Figure 4, among the four sub-constructs of emotional intelligence, three sub-constructs are strong predictors of reading comprehension: 'self-emotion appraisal' (β= 0.29, p<0.05), 'use of emotion' (β= 0.20, p<0.05), and 'regulation of emotion' (β= 0.37, p<0.05). In addition, among the three sub-constructs of autonomy, two sub-constructs are powerful predictors of reading comprehension: 'self-management' (β= 0.51, p<0.05), and 'desire for learning' (β= 0.32, p<0.05).

Besides, Goodness of fit indices were utilized in order to examine the model fit. Goodness of fit indices before and after modification can be seen in Table 8. In the present study, the researchers used X2/df, RMSEA, and GFI, CFI, and NFI. The value of the first two indices should be less than 3 and less than .08, respectively. As for GFI, CFI, and NFI the figure should be above .90 (Schreiber et. al, 2006).

Table 8. *Goodness of Fit Indices*

	X2/df	GFI	CFI	NFI	RMSEA
Acceptable fit	<3	>.90	>.90	>.90	<.08
Model before modification	3.02	.89	.90	.87	.07
Model after modification	2.97	.92	.93	.90	.07

As Table 8 demonstrates, all the goodness of fit indices is within the standard range. Then, the validity of the model is acceptable after modification.

5. Discussion

The purposes of these mixed methods and nationwide study were to (1) explore potential relationships between Persian second language (PSL) students' overall S-E, EI, A, and their sub-constructs, and reading comprehension, as well as (2) achieve valid models of interlinks between the overall variables, and the sub-constructs of variables, with reading comprehension ability. The results revealed positive and meaningful links between PSL students' overall S-E, EI, A and their reading comprehension, and also between the sub-constructs of EI, A and reading comprehension of PSL students.

Based on the results, there was a positive, significant relationship between PSL learners' S-E and reading comprehension. The finding is in parallel with those of some previous studies administrated in EFL environments. For instance, the findings of the research conducted by Fitri et al. (2019) in Indonesia showed that reading self-efficacy of EFL learners had an effect on the reading comprehension skill. Also, the result of this study seems to accord with that of Jiang (2021) in China who reported that using metacognitive strategies in reading had a meaningful positive relation with English reading self-efficacy, and self-efficacy was an influential element that impacted EFL learners' use of metacognitive reading strategies. Given that the current study was conducted in a nationwide scale and data were gathered from different regions of the country, the results of the current study can be regarded as more reliable.

Moreover, the results showed a positive and meaningful link between PSL learners' EI and reading comprehension. This finding supports those of Bagheri (2015) who demonstrated that there was a positive and significant relationship between EI and reading and writing skills of PSL students. These findings are also consistent with those of Ates's (2019) study in Turkey, in which the results revealed a significant positive relationship between Turkish as a Foreign Language (TFL) learners' EI and reading comprehension. In terms of being nationwide and also triangulating the data, the finding of the current study yields an in-depth description of the impact of EI and reading comprehension.

The findings also showed that there were significant relationships among the four sub-constructs of EI and reading comprehension of PSL learners. The results of the present study in PSL context are in line and also in contrast with those of Saud (2019) which revealed that

two of the four sub-constructs of Saudi EFL learners' EI, 'use of emotion' and 'others' emotion appraisal' had significant relations with their English proficiency level. While the finding of the present study unveiled that all four sub-constructs of PSL learners' EI had significant relationships with their reading comprehension skill, no further research was found with the aim of investigating the relationship or impact of the sub-constructs of EI on foreign language learning. It is noteworthy to mention that despite Saud's study which was small in scale and data were quantitatively gathered from only one English department in a university, the scope of the current study is from different parts of Iran and the data were triangulated; therefore, the findings of the current study can be generalized more confidently.

In addition, this study revealed that there was a meaningful relationship between PSL learners' A and reading comprehension. The results obtained from PSL learners in this study match those of Lee (2019) which showed the effect of EFL Korean learner autonomy on their academic achievement, comprehending of tasks and class participation. It should be noted that the present study was large in scale and data were quantitatively and qualitatively collected from various part of the country. Therefore, the findings can be generalized more reliability.

This study also disclosed that there were positive and meaningful relationships among the three sub-constructs of A and reading comprehension of PSL learners. No scientific research was found with the purpose of exploring the relationships or impacts of learner autonomy' sub-constructs in the field of L2 learning.

Also, the findings of the qualitative instrument complemented those revealed by quantitative instruments for research questions 1 to 10. Based on the overall model, S-E possesses the most powerful effect on reading comprehension ability of non-Persian language learners. The present model exhibits a more eloquent image of the grand impact of S-E on PSL learners' reading comprehension. In fact, this model expressed that thoughts and beliefs of learners about their abilities are very influential and vital in the procedure of reading and comprehension.

Also, the results of the model unveiled that EI had high effect on reading comprehension ability of non-Persian language learners. The model expressed that PSL learners had a strong tool called emotions or feelings which are very useful in the process of language learning, especially in their reading comprehension ability. This model introduced autonomy as a great facilitator in the complex and multidimensional path of learning reading comprehension.

Besides, the results obtained from the model disclosed that from the four sub-constructs of EI, the three sub-constructs called 'self-emotion appraisal', 'use of emotion', and 'regulation of emotion' impacted on reading comprehension ability of PSL learners. From these findings, it can be said that the more the learner tries to appraise, use, and regulate his/her emotions and feelings in the complicated route of learning language, particularly reading comprehension, the result that awaits him/her is success. In addition, based on this model, out of the three sub-constructs of A, the two sub-constructs of 'self-management' and 'desire for learning' had high effects on reading comprehension skill of PSL learners.

6. Conclusion & Implications

Individual psychological factors as the most stable predicators of success, take up a prominent position in the field of foreign language acquisition, and also in recent research, they have been

regarded as the major facilitators of language learning, particularly in the process of reading comprehension (Dörnyei, 2005 & 2019; Habibian et. al, 2015; Yelgeç & Dağyar, 2020). In this regard, the present study disclosed that not only there are relationships between S-E, EI, A and their sub-constructs, and reading comprehension of PSL learners, but also PSL learners' S-E, EI, A and most sub-constructs were strong predictors of their reading comprehension, and S-E had the most powerful effect on their reading comprehension.

According to the findings of the present study, some theoretical and practical suggestions are proposed for different stakeholders in L2 education. Learners must be cognizant of thoughts, beliefs, images and judgements that they have in their minds about themselves and their own abilities. If these beliefs are positive and motivating, they are helpful for learners in the process of learning, especially in reading skill.

If learners are looking to speed up their language learning process and at the same time enjoy the path, they should perceive, use and regulate their feelings, and also motivate themselves in the complex procedure of learning a new language. Possessing top and excellent materials, methods, teachers do not guarantee learners' learning if they do not have any tendency and desire to learn.

In order to help learners develop reading comprehension skill, teachers can skillfully handle efficacy beliefs that learners have about reading. Teachers can employ a various array of methods and activities to improve learners' self-efficacy beliefs. For promoting the levels of learners' EI, teachers can instigate the emotions of learners to take risks in language learning, or design suitable classroom techniques and activities.

To conclude, due to the growing population of PSL learners, Persian as a second language requires further researches. Drawing on some limitations in the present study, such as not considering age, gender and the native languages of the subjects, more studies on this topic are recommended.

References

Ariyanti, A. (2016). Psychological factors affecting EFL students' speaking performance. *ASIAN TEFL Journal of Language Teaching and Applied Linguistics*, 1(1), 77-88. https://doi.org/10.21462/asiantefl.v1i1.14

Aryanto, I. (2020). Correlational study between students' emotional intelligence and reading comprehension in the English Department at UNISMA. *Journal Penelitian, Pendidikan, dan Pembelajaran*, 15(17), 1-11.

Ates, A. (2019). The impact of the emotional intelligence of learners of Turkish as a foreign language on reading comprehension skills and reading anxiety. *Universal Journal of Educational Research*, 7(2), 571-579. https://doi.org/10.13189/ujer.2019.070230

Bagheri, M. (2015). *Relationship between emotional intelligence and academic success in Persian foreign language learners* (Master's thesis). Allameh Tabataba'i University, Iran.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological review, 84(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Benson, P. & Voller, P. (2014*). Introduction: Autonomy and independence in language learning*. In P. Benson & P. Voller (Eds.), Autonomy and independence in language learning, (pp. 1-12). Longman.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brown, H. D. (2014*). Principles of language learning and teaching: A course in second language acquisition,* (6th ed). Pearson Education.

Bursali, N. & Öz, H. (2017). The Relationship between Ideal L2 Self and Willingness to Communicate inside the Classroom. International Journal of Higher *Education*, 6(4), 229-239. https://doi.org/10.5330/ijhe. v6n4p229

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Rutledge.

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Dörnyei, Z. (2019). Psychology and language learning: The past, the present and the future. *Journal for the Psychology of Language Learning*, 1(1), 27-41. https://doi.org/10.52598/jpll/1/13

Dörnyei, Z. & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge.

Fisher, M.; King, J. & Tague, G. (2001). Development of a self-directed learning readiness scale for nursing education. *Nurse Education Today*, 21(7), 516-525. https://doi.org/10.1054/nedt.2001.0589

Fitri, E. D. R.; Sofyan, D. & Jayanti, F. G. (2019). The correlation between reading self-efficacy and reading comprehension. *Journal of English Education and Teaching*, 3(1), 1-13. https://doi.org/10.33369/jeet.3.1.1-13

Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books.

Habibian, M.; Roslan, S.; Idris, K. & Othman, J. (2015). The role of psychological factors in the process of reading. *Journal of Education and Practice*, 6(29), 114-123.

Jiang, Y. (2021). *The relationship between Chinese EFL learners' reading self-efficacy and use of metacognitive reading strategies* (Master's thesis, Brock University, Canada). Retrieved from https://dr.library.brocku.ca/bitstream/handle/10464/15140/Brock_Jiang_Ying_2021.pdf?sequence=1&isAllowed=y

Klingner, J. K.; Vaughn, S. & Boardman, A. (2015). *Teaching reading comprehension to students with learning difficulties* (2nd ed). The Guilford Press.

Lee, G. (2019). Effects of learner autonomy on performance and learner perceptions in EFL college classes. *Foreign Language Education*, 26(4), 1-21. https://doi.org/10.15334/FLE.2019.26.4.1

Little, D. (2015). University language centres, self-access learning and learner autonomy. *Recherche et pratiques pédagogiques en langues de spécialité. Cahiers de l'Apliut*, 34(1), 13-26. https://doi.org/10.4000/apliut.5008

Mattingly, V. & Kraiger, K. (2019). Can emotional intelligence be trained? A meta-analytical investigation. *Human Resource Management Review*, 29(2), 140-155. https://doi.org/10.1016/j.hrmr.2018.03.002

McDonald, R. P. & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. *Psychological Bulletin, 107,* 247-255. https://doi.org/10.1037/0033-2909.107.2.247

Nadi, M. A. & Sajadian, I. (2011). Validation of a self-directed learning readiness scale for medical and dentistry students. *Iranian Journal of Medical Education,* 11(2), 174-182.

Özdemir, E. Ç. & Akyol, H. (2019). The development of a reading comprehension test. *Universal Journal of* Educational Research, 7(2), 563-570. https://doi.org/10.13189/ujer.2019.070229

Riggs, M. L. & Knight, P. A. (1994). The impact of perceived group success-failure on motivational beliefs and attitudes: *A causal model. Journal of Applied Psychology,* 79(5), 755-766. https://doi.org/10.1037/0021-9010.79.5.755

Sarmad, Z.; Bazargan, A. & Hejazi, E. (2011). *Research methods in behavioral sciences.* Agah Publications.

Saud, W. I. (2019). Emotional intelligence and its relationship to academic performance among Saudi EFL undergraduates. *International Journal of Higher Education,* 8(6), 222-230. https://doi.org/10.5430/ijhe.v8n6p222

Schreiber, J. B.; Nora, A.; Stage, F. K.; Barlow, E. A. & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323-338. https://doi.org/10.3200/JOER.99.6.323-338

Wang, C. H.; Harrison, J.; Cardullo, V. & Xi, L. (2017). Exploring the relationship among international students' English self-efficacy, using English to learn self-efficacy, and academic self-efficacy. *Journal of International Students*, *8*(1), 233-250. https://doi.org/10.5281/zenodo.1134299

Wong, C. S. & Low, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, *13*(3), 243-274. https://doi.org/10.1016/S1048-9843(02)00099-1

Yelgeç, N., & Dağyar, M. (2020). A structural equation modelling of middle school students' metacognitive awareness, self-efficacy beliefs and foreign language learning anxiety. *International Journal of Contemporary Educational Research*, 7(1), 127-148. https://doi.org/10.33200/ijcer.657172

YJC. (2019). Over 50,000 foreigners studying in Iranian universities: Minister. Retrieved from https://www.yjc.ir/en/news/42541/over-50000-*foreigners-studying-in-iranian-universities-ministe*r

Zafarian, S. E., & Nemati, A. (2016). The effect of learners' autonomy on EFL learners reading comprehension. *Journal of Administrative Management, Education and Training*, 12(3), 526-533