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Sociological and Psychological Model of Foreign Language Achievement: Examining Social/Cultural Capital and Cognitive/Metacognitive Aspects

Reza Pishghadam [a]
Associate Professor, Ferdowsi University of Mashhad, Iran

Gholam Hassan Khajavy [b]
Ph.D. Candidate of TEFL, Ferdowsi University of Mashhad, Iran

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Abstract

The major aim of the study was to determine the roles of psychological and sociological factors in general and social/cultural capital and cognitive/metacognitive aspects in particular in English language learning. To this end, 143 English as a Foreign Language (EFL) learners were asked to take an IQ test, a metacognitive questionnaire along with a social and cultural capital scale. Structure Equation Modeling (SEM) was utilized to analyze the data. The results demonstrated that both psychological and sociological factors contribute to foreign language achievement, however social and cultural capital was found to be more influential in English language learning. In the end, the results were discussed in the context of English language learning and some suggestions were made.

Keywords: Social and cultural capital; Intelligence; Metacognition; Language learning

[a] *Email address*: pishghadam@um.ac.ir
Corresponding address: English Language Department, Ferdowsi University of Mashhad, Mashhad, Iran
[b] *Email address*: hkhajavy@yahoo.com

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Introduction

Second/foreign language (L2) learning is a complex process which is influenced by many factors. Researchers have been interested in examining the factors that predict second/foreign language learning. Learners achieve different levels of L2 learning due to different psychological and socio-cultural factors. Many studies have been done to explore the role of psychological factors such as intelligence (Ekstrand, 1977; Fahim & Pishghadam, 2007), motivation (Gardner, 1985; Ghapanchi, Khajavy, & Asadpour, 2011; Noels, Pelletier, Clement, & Vallerand, 2000), anxiety (Horwitz, 2001), and metacognition (Chamot & O'Malley, 1994; Oxford, 1989) in L2 learning.

Moreover, socio-cultural factors have been widely researched in L2 (Pishghadam, Noghani, & Zabihi, 2011; Pishghadam & Zabihi, 2011). One of these factors which have recently attracted the attention of L2 researchers is cultural and social capital. These concepts which roughly refer to cultural goods and social networking have been used increasingly to explain the achievement of learners in different countries (Eng, 2009; Israel & Beaulieu, 2004; Merenluoto, 2009; Sandefur, Meier, & Hernandez, 1999).

As the hefty literature of L2 research exhibits, a bunch of research has been conducted to pinpoint the factors influencing English language learning (e.g. Dornyei, 2005). Some of these factors can be considered as distal or proximal predictors of L2 learning. Delving and digging into the nature of these studies, one may wonder which factors can be distal and which ones can be proximal: psychological or sociological. To narrow down our research in finding answers to the aforementioned question, from psychology we focused on IQ and metacognition and from sociology we selected social and cultural capital. Although many studies (e.g. Pishghadam & Zabihi, 2011) have examined the role of social-cultural capital and psychological factors separately in foreign language achievement, to our best knowledge, no study has explored the role of these two factors in L2 achievement simultaneously. Therefore, results of this study will show which of these two important variables can be a stronger predictor of L2 achievement.

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Theoretical Background

Intelligence and Metacognition

Among different predictors of L2 learning, psychological factors have gained much significance in the area of L2 learning (see Dorneyi, 2005). Many studies have been done on psychological factors. In the present study, intelligence and metacognition have been considered as two psychological factors.

One of the earliest individual differences examined in the psychological field is intelligence (Ellis, 2008). Research has shown that intelligence is a strong predictor of learning in general (Chamorro-Premuzic, 2007). In the same vein, some studies have examined the relationship between intelligence and language learning (cf. Dorneyi, 2005; Ellis, 2008), revealing the fact that the relationship between language learning and intelligence is controversial. There are language learners who have a high IQ, but are very weak in learning a language (Ganschow & Sparks, 2001) or students who have a low IQ, but are good language learners (Sparks & Artzer, 2000).

Another hypothesis explains that intelligence is a more relevant factor in context-reduced communication for academic studies than in face to face communication and oral proficiency (Cummins, 1983). This hypothesis has been supported in some studies. Genesee (1976) found that intelligence is correlated with L2 French reading and usage skills, but it was not related to productive and interpersonal communication scores. Ekstrand (1977) also found a weak correlation between intelligence and tests of listening and speaking, but a stronger correlation with reading and writing tests. Also, in a more recent study, (Fahim & Pishghadam, 2007) found a low-level correlation between IQ and overall foreign language achievement.

Another important factor in language learning is metacognition. Metacognition has been identified as a strong predictor of learning (Coutinho, 2007, Flavell, 1976, 1979; Veenman & Elshout, 1995). It is defined as "the ability to reflect upon, understand, and control one's learning" (Schraw & Dennison, 1994, p.460) or simply thinking about thinking (Flavel, 1979). Flavel (1979, 1987) divided metacognition into two parts, namely metacognitive knowledge and metacognitive experiences, or regulation of cognition. Metacognitive knowledge refers to knowledge about cognitive processes used to control them (Livingston, 1997). It is further divided into three types: declarative knowledge (knowledge about self and strategies), procedural knowledge (knowing how to use strategies), and conditional

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knowledge (knowing when and why use strategies) (Schraw & Dennison, 1994). Regulation of cognition involves processes that facilitate controlled aspect of learning. It includes five subcomponents: planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation (Artzt & Armour-Thomas, 1992; Schraw & Dennison, 1994). Research has shown that learners with higher levels of metacognition perform better than those with lower levels of metacognition (Garner & Alexander, 1989; Kruger & Dunning, 1999).

In the early 1990s, three books were published applying metacognition theory in L2 learning (O'Malley & Chamot, 1990; Oxford, 1990), in which they introduced language learning strategies. They refer to "behaviors or actions which learners use to make language more successful, self-directed, and enjoyable" (Oxford, 1989, p. 235). According to Chamot and O'Malley (1994), metacognition "may be the major factor in determining the effectiveness of individuals' attempts to learn another language" (p. 372). It highlights the importance of teaching metacognition in L2 classes. Like many other subjects, metacognition can be taught to the learners. Therefore, teachers play an important role to help learners develop understanding and controlling over cognitive processes (Anderson, 2002).

Social and Cultural Capitals

Bourdieu (1986) has introduced two types of capital, namely social capital and cultural capital. Bourdieu (1986) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 248). According to Bourdieu, social capital is used as a tool for producing or reproducing inequality through connections with people in powerful positions. Later, Coleman (1988) applied this concept into the family context, with emphasis on the relationship between parents and children, and the consequences of this relationship on the educational achievement of the children. Following them, research studies have been done to examine the relationship between social capital and academic achievement. Results of these studies indicated that social capital is an important predictor of academic success (e.g., Eng, 2009; Israel & Beaulieu, 2004; Israel, Beaulieu, & Hartless, 2001). Also, networks which bring social capital within children's families, peer groups, and the community positively affect their educational achievement. This shows itself in low dropout rates and higher graduation rates (Israel et al., 2001), higher college enrollment (Yan, 1999), higher

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achievement on tests (Sun, 1998, 1999), and greater participation in school and community organizations (Sun, 1998, 1999).

Similarly, cultural capital has been characterized as a relevant factor when examining success in education (De Graaf, De Graaf, & Kraaykamp, 2000). It refers to cultural resources, such as certain linguistic and verbal knowledge and capability that are the characteristics of the upper classes (Merenluoto, 2009). It exists in three forms: embodied state; objectified state; institutionalized state (Bourdieu, 1986). The embodied state refers to long-lasting dispositions of the individual's mind and body (Bourdieu, 1986). The objectified state refers to cultural goods such as paintings, writings, dictionaries, and monuments (Bourdieu, 1986). The institutionalized state refers educational degrees and formal qualifications. Many studies (e.g, Dumais, 2002; Lareau & Weininger, 2003; Merenluoto, 2009; Nakhaie & Curtis, 1998; Sandefur, Meier, & Hernandez, 1999; Tramonte & Willams, 2010; Wells; 2008) have examined the relationship between cultural capital and educational achievement. All of them indicated that cultural capital is positively and significantly related to success in educational settings.

Recently, role of social and cultural capitals in foreign language learning has attracted the attention of researchers (Pishghadam & Zabihi, 2011). In line with previous studies that examined the relationship between social and cultural capitals and learning in general, researchers in the field of L2 learning also found a positive relationship between social and cultural capitals and foreign language learning.

Purpose of the Study

Researchers have frequently indicated that sociological factors more than psychological factors contribute to learning and literacy (Scribner & Cole, 2007). Since social factors determine the way individuals act, scholars believe that sociology outweighs psychology in educational success (Bourdieu, 1986). The literature of research in general education and language learning does not show any empirical study taking the issue into account. Moreover, the reason we have focused on IQ, metacognition, and social/cultural capital is their pivotal roles in education. Therefore, in this study we are to determine the probable role of psychological (IQ/Metacognition) and sociological (Social/Cultural capital) factors in foreign language achievement.

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Method

Participants

A total number of 143 EFL learners (84 females, 57 males, 2 unknown) from different private language institutes in two cities from North East of Iran participated in this study. Their ages ranged between 17 and 40 (M = 24.35, SD = 4.24). Convenience sampling was used for selecting the participants. Based on the institutes' categorization of the learners, all of the learners were at the intermediate and upper-intermediate levels of English proficiency.

Materials

Intelligence

In order to assess the learners' intelligence, Raven's (1958) Advanced Progressive Matrices (APM) set II was used. It includes 36 matrix figures in which each matrix figure has three rows and three columns. Participants should choose among eight possible alternatives the one completing the 3×3 matrix figure. A sample figure was given in Appendix A.

Metacognition

Metacognitive Awareness Inventory (MAI, Schraw & Dennison, 1994) was used to measure different subscales of metacognition. It includes 52 items accompanied by a 5-point scale ranging from strongly disagree to strongly agree (see Appendix B). It has shown a good reliability and validity for metacognition assessment (Coutinho, 2007). Total Cronbach's α for this study was .94. Schraw and Dennison (1994) also reported a Cronbach's α of .95 for the entire scale in the original study.

This scale was translated by the researchers into Persian to increase the return rate. Then, it was piloted with several EFL learners and was back-translated into Persian by an expert in translation. Back translation, which is translating the original instrument into Persian and translating it back into English, was employed to ensure the accuracy of the translation. Then the English back-translation and the original English items were carefully examined, and the Persian translations of some items were revised. Finally, it was double-checked again by another expert for translation accuracy.

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Social and cultural capital

The Social and Cultural Capital Questionnaire (SCCQ) developed and validated (using factor anlaysis) by Pishghadam, Noghani, and Zabihi (2011) was used to assess social and cultural capital. It includes 42 items on a 5-point scale ranging from strongly disagree to strongly agree (see Appendix C). Thirteen items were used to assess cultural capital (Cronbach's α= .92), and 29 items for social capital (Cronbach's α=.86). Total Cronbach's α for this study was .87.

Foreign language achievement

To assess the foreign language achievement, learners were asked to write their names in the questionnaires in order that we can have access to their final grades at the end of the semester. Foreign language achievement test included listening, speaking, reading, and writing grades. The maximum possible grade in these foreign language institutes is 100.

Procedure

After getting the permission from the teachers, researchers distributed the two scales in the classrooms in December 2011. Participants completed Raven's APM set II in 30 minutes. Then they were given MAI and SCCQ to complete them at home and take them back next session.

In order to examine the predictability of foreign language achievement by psychological and socio-cultural factors, Structural Equation Modeling (SEM) was used using AMOS 20. SEM is used to take a confirmatory hypothesis-testing approach for the proposed structural theory. SEM is consisted of two parts, the measurement model and the structural model. The measurement model examines the relationships between the observed variables and latent variables, and tests the validity of latent variables and observed variables relationships. In fact, the structural model is concerned with the relationships among the latent variables (Hatch & Lazarton, 1991).

Results

Descriptive Statistics and Correlations

Descriptive statistics and correlations between all variables are presented in Table1.

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Table 1
Descriptive statistics and correlations

	Mean (SD)	1	2	3	4	5
1-Metacognition	205.04 (35.32)	1.0				
2-Intelligence	21.60 (5.11)	.15	1.0			
3-Social capital	91.40 (18.40)	.20*	-.01	1.0		
4-Cultural capital	40.90 (10.38)	.13	.07	.61**	1.0	
5-FLA	82.40 (5.83)	.41**	.26*	.47**	.45**	1.0

FLA=Foreign language achievement
*$p < .05$. **$p < .01$.

As can be seen in Table1, foreign language achievement is positively and significantly related to metacognition (r =.41, $p < .01$), intelligence (r=.26, p<.05), social capital (r=.47, p<.01), and cultural capital (r =.45, $p < .01$). Also, the correlation coefficients show that foreign language achievement is more related to socio-cultural factors than psychological factors.

SEM

Here, a model of foreign language achievement based on psychological and socio-cultural factors was proposed (Figure1). To check whether the hypothesized model fitted the data well, goodness of fit measures in AMOS was used. In this study, chi-square/degree of freedom (χ^2/df), Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), and Root Mean-Square Error of Approximation (RMSEA) were used. According to Hu and Bentler (1999), to have a good fit to data, χ^2/df should be less than 2, GFI and CFI should be equal or more than .95, and RMSEA should be equal or less than .06. Here, the results of the study showed good fit to the data (χ^2=4.62, χ^2/df =1.54) (see Table 2).

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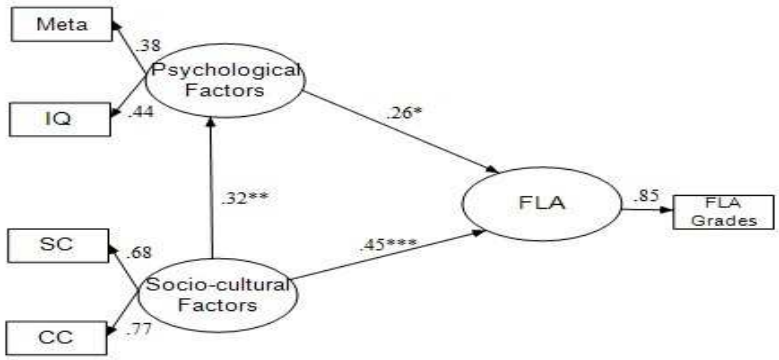

Figure 1: Final model of foreign language achievement
Note: Meta=Metacognition; SC=Social capital; CC=Cultural capital; FLA=Foreign Language Achievement

Results showed that both socio-cultural (β=.45, p<.001) and psychological factors (β=.26, p<0.5) affected foreign language achievement. Socio-cultural factor also affected foreign language achievement indirectly through psychological factor (.32 × .26).

Table 2
Goodness of fit indices

	$\chi 2$	df	χ^2/df	GFI	TLI	CFI	RMSEA
Model	4.62	3	1.54	.96	.98	.99	.05

Discussion

The purpose of the present study was to examine the role of psychological and social-cultural factors in foreign language achievement, and to determine their predictive power in learning another language.

Results of the study showed that psychological and social-cultural factors contributed significantly to foreign language learning. Therefore, both factors are predictors of foreign language achievement. However, social-cultural capital (β=.45, p<.001) was a stronger predictor of foreign language achievement than psychological factors (β=.26, p<.05). Also, the results of the SEM showed that social-cultural capital affects foreign language achievement indirectly through psychological factors (.32 × .26). In other words, language learners who have

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access to a richer social-cultural capital have a higher level of intelligence and metacognition, and will have a better performance in learning another language. This conclusion can be justified when we look at the proposed model (Figure 1) in which the direction of arrow is from socio-cultural capital to the psychological factors. Since SEM is considered to be a causal model based on which you can have causal claims (Hatch & Lazarton, 1991), this finding implies that socio-cultural factors can impact the psychological constructs and not vice versa.

In the same vein, the causal claim of our study is in line with Ricento's (2005) understanding of identity. He claims that if the leaner identifies himself/herself (Sociological factor) with another culture, he or she will be more motivated (Psychological factor) to learn the target language. For instance, if the learner has a radical religious identity (Islamic identity), he or she may not be much motivated to learn the English language. In fact, this is the sociological factors which shape the trajectory of psychological constructs.

Findings of this study also confirm Bourdieu's conceptualization of psychological and social-cultural factors in educational achievement, in that the social-cultural capital underlies the psychological factors and explain them. Furthermore, the results of this study are in agreement with Bourdieu's (1986) idea that social-cultural capital is a stronger predictor of learning than psychological factors such as intelligence.

The outcomes of this study also corroborate Vygotsky's (1978) claims that tools can shape cognition. It means that when individuals use computers or the internet to learn, their cognition will be more full-fledged. In fact, this study reveals the fact that extended cognition is the result of environmental factors and in reality *mind is in society*. Moreover, as Vygotsky (1978) and Bakhtin (1981) indicated, learning is more inter-mental than intra-mental, meaning that sociological elements provide the solid foundation and the infrastructure of learning. Therefore, based on the results of this study, it is fair to say that the social environment of learners teaches them how to manage, monitor, and plan (Metacognitive abilities), or how to use their analytical thinking (Intelligence) in coping with different problems in life, education, and more specifically foreign language learning.

Furthermore, in the context of language education generally psychological factors are given more primacy than sociological issues. For instance, teachers frequently care more about learners` motivation, attitude, intelligence, or aptitude

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than family background, having access to cultural goods, or social networking. A cursory look at the articles and books published in the domain of language education can be considered as a proof to this claim, indicating that sociological factors have been given short shrift, and only recently educators have turned their attention to these issues. However, the outcomes of this study can provide a firm foundation for primacy of social issues over psychological and individual factors.

These findings shed light on the nature of psychological and social-cultural capital in language learning. Policy makers in education should consider that students who are different in access to social and cultural capital perform differently in academic achievement. They should also consider that students' situation at home and their access to cultural goods not only have a higher effect on foreign language achievement than psychological factors, but also explain psychological factors. For example, literacy as an important subcomponent of social capital should be taken into account by teachers in foreign language classrooms, because foreign language learners may come from different cultural backgrounds (Pishghadam & Zabihi, 2011). Therefore, they should be aware of the different levels of literacies by different social classes. This implies that teachers are expected to find the learning problems of students outside schools.

Social/cultural capital is also an important factor in educational achievement. It is usually provided by family for the children. Family is the main factor in determining the extent to which a child has acquired a particular cultural competence (Bourdieu & Johnson, 1993). Based on this, parental education plays a significant role in their children's language learning achievement. Parents who are educated provide their children with a learning environment at home that can act as an example for the children (DeGraff et al., 2000).

All in all, since in this study we examined the whole influence of social-cultural capital and psychological factors on foreign language achievement, and the subcomponents of these two variables were not examined separately, another study can take this issue into account, exploring the relationship of these subcomponents and foreign language achievement. Moreover, future research can use actual proficiency tests to have a more reliable evaluation of the learners' performance. This study is very limited in scope owing to the fact that it has narrowed its focus only on IQ, metacognition, and social/cultural capital; other studies can be done to take other key issues from psychology and sociology into account.

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***Notes on Contributors**:*

***Reza Pishghadam** has a Ph.D. in Teaching English as a Foreign Language (TEFL). He is currently associate professor of TEFL in Ferdowsi University of Mashhad, Iran. Over the last five years, he has published more than 120 articles and books in different domains of English language education, and has participated in more than 20 national and international conferences. In 2007, he was selected to become a member of the National Association of Elites of Iran. In 2010, he was classified as the distinguished researcher in humanities in Iran.*

***Gholam Hassan Khajavy** is a Ph.D. candidate in Ferdowsi University of Mashhad. He has published several articles in ISI and ISC journals. His major interests are psychology of language teaching and teaching methodologies.*

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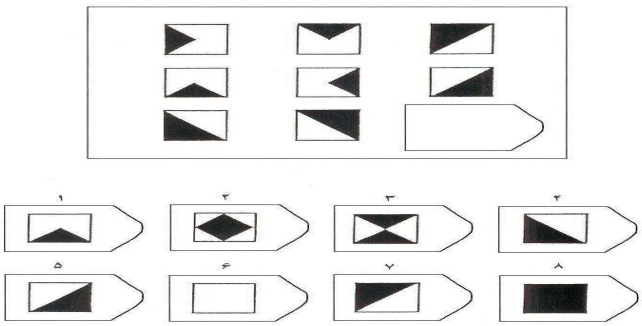
Appendices

A. Sample Raven's APM figure



B. Sample MAI items

I ask myself periodically if I am meeting my goals.
I consider several alternatives to a problem before I answer.
I draw pictures or diagrams to help me understand while learning.
I try to translate new information into my own words.

C. Sample SCCQ items

I enjoy listening to classical music.
I enjoy reading literature.
I had an excellent school with high quality.
I see my friends weekly.

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