

# Predictors of Language Proficiency among Medical and Paramedical Students: Vygotskian Sociocultural Theory

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## ABSTRACT

**Background:** There are many factors in determining language proficiency among university students. Identifying these factors can help the teaching and learning process to move forward more quickly and effectively.

**Purpose:** This study aimed to explore the relationship between social, cultural, and linguistic factors and the language proficiency of 221 medical and paramedical students at Shiraz University of Medical Sciences to identify if these factors contribute to language proficiency as an effective variable in students' communication, academic performance, and quality patient care.

**Method:** The authors administered a questionnaire on these factors' role and a proficiency test. Then, they ran Pearson's correlation coefficient and multiple regression analyses to determine the relationship and effects of such factors concerning language proficiency.

**Results:** The t-test revealed a statistically meaningful difference between medical and paramedical students concerning both mean scores of proficiency and cultural factors. The results indicated only social and cultural factors statistically correlated with paramedical students' proficiency. Furthermore, none of these factors built any relationship or exerted any effects on the proficiency of medical students.

**Conclusion:** The results implied that educational policymakers should consider the existing differences between university students of different fields since they come from different sociocultural and linguistic backgrounds that have affected the academic stance in which they are studying. Moreover, the findings necessitate encouraging the policymakers and university lecturers to enhance their sociocultural competencies to adapt and fulfill the needs of such students and highlighting the roles of the family's socioeconomic positions through some workshops since the role of the family is an important variable in determining the extent to which a learner has acquired a specific cultural competence.

## KEYWORDS

cultural factors, language proficiency, linguistic factors, medical students, paramedical students, social factors

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## INTRODUCTION

Proficiency in English has become a crucial skill for individuals engaged in diverse fields of study within an international context. Numerous studies have delved into the constituent constructs and determining factors of English proficiency. Oller (1983, as cited in David, 2014) emphasizes that language proficiency is not a singular ability but encompasses dis-

tinct yet interconnected constructs, constituting a general language proficiency construct. Various factors influence the level of English proficiency among learners. House (2002) notes that students' traits, lifestyles, learning contexts, and activities contribute to their proficiency. Credé and Kuncel (2008) reveal a correlation between students' study skills, habits, attitudes, motivation, and academic performance. Additionally, language

proficiency intertwines with expatriate adjustment and job performance (Bhatti & Alnehabi, 2023).

In parallel, second language acquisition theories and models, evolving since the early 1970s, increasingly consider social and cultural factors. Munro<sup>1</sup> (1999) posits that the culture in which learning occurs, and the social interactions engaged in by the learner significantly influence what and how a person learns. Lantolf and Poehner (2014) highlight Vygotsky's sociocultural theory as a cognitive theory rooted in Marx's materialist philosophy. This theory emphasizes the emergence of consciousness and development through the dialectical interaction between the biologically endowed brain and social activities shaped by cultural institutions, artifacts, and concepts. This study aims to integrate Vygotsky's sociocultural theory, combining cognitive linguistics and sociocultural perspectives as its framework. Specifically, the study seeks to explore the relationships and effects of social, cultural, and linguistic factors on the English proficiency of medical and paramedical students at Shiraz University of Medical Sciences.

This research addresses a gap in the literature, as the relationship and effects of these factors on the English proficiency of medical and paramedical science students in an English as a Foreign Language (EFL) context like Iran has yet to receive adequate attention. Notably, in medical sciences, students' proficiency in English is crucial for their future success in professional, social, cultural, and economic realms. The study focuses on two groups, medical and paramedical students, to uncover the underlying predictors of their English language proficiency. Recognizing language proficiency as a valuable asset, the research anticipates contributing insights that will aid students in excelling in their studies, understanding complex scientific concepts, engaging in lectures, discussions, and research, participating in clinical rotations, establishing effective patient communication, preparing for licensing examinations, improving employment prospects, and fostering global collaboration in the field of medicine.

## Theoretical Framework

Sociocultural Theory is derived from the earlier work of Vygotsky (1987), a Russian psychologist. According to the Sociocultural Theory, an individual's mental ability is an integral part of their social environment, and their cognitive abilities develop through social interaction, which shows the impact of social factors on mental abilities (Daniels, 2001; Vygotsky, 1987).

In this theory, the person's performance occurs in cultural settings mediated by language; knowledge construction occurs in their cultural environment (Wertsch & Hickmann,

1987). Torne (2000) also mentioned that language is socially constructed in this theory, not intrinsic. From the Sociocultural Theory perspective, language is an important tool and mediator of goals during social and cultural communication, forming the basis for knowledge construction. This theory highlights the role of meaningful interaction in language learning, especially in L2 development (Alkhudiry, 2022).

## LITERATURE REVIEW

In the current era of global integration, language proficiency plays a crucial role in assisting students in adapting to life and work conditions. Literature reveals that many studies emphasize various socio-cultural and linguistic factors contributing to English language proficiency and its components. For example, Alfayez, Strand, and Carline (1990) highlighted academic, social, and cultural factors influencing the academic achievement of university students. Oh and Kit-fong Au (2005) explored the effects of socio-cultural variables on language learning, while Verhoeven and Vermeer (2006) and Lori and Al-Ansari (2001) investigated the role of motivational and sociocultural factors on language and literacy achievement. Credé and Kuncel (2008) emphasized the impact of students' study habits, skills, and attitudes on their academic achievement and proficiency, and Khalifa (2012) examined the effects of age factors on learning English.

Learning a language goes beyond mastering grammar and lexicon; it involves cognitive and social skills. This study aims to explore how sociocultural factors, along with linguistic aspects, influence language learning. In Iran, where this study is conducted, several studies have focused on socio-cultural factors in language learning. For instance, Razmjoo and Movahed (2009) emphasized the place of sociocultural factors in language learning, Gholami (2012) pinpointed the effects of social facets, Sadeghi (2013) highlighted the contribution of learning strategies and starting age of learning the language, and Amirabadi and Razmjoo (2017) worked on the role of social, cultural, and linguistic determinants of EFL learners' language proficiency.

However, none of the aforementioned studies presented a comprehensive model of these relationships, and they were not conducted in an EFL context of medical and paramedical sciences. The literature is scarce concerning the perception of medical and paramedical students towards factors contributing to English language proficiency and communication skills. English is evolving as an international communication and educational language in medicine. Language proficiency and communication skills are crucial for effective doctor-patient communication to provide quality care (Bennett & Lyons, 2011).

<sup>1</sup> Munro, J. (1999). Social-cultural influences on learning. *Culture and Learning*. <https://students.education.unimelb.edu.au/selage/pub/readings/psyexlearn/PELculturaleffects.pdf>

Poonam et al. (2023) systematically reviewed the relationship between culture and English language learning, drawing on relevant theories and frameworks such as language acquisition, sociocultural theories, and intercultural communication. They found that culture is a determining factor in English language learning. In another study, Razmjoo and Movahed (2009) investigated the relationship between Iranian MA students' language proficiency at Shiraz University in 2008 and social and cultural factors. The results showed no significant difference between males' and females' language proficiency; however, the student's language proficiency significantly differed considering age, major, and social classes. Additionally, the mother's literacy and use of films/CDs, two cultural factors, considerably predicted the students' language proficiency.

However, studies are coming up with the effects of social or socioeconomic predictors of language proficiency, including the qualitative study by Amir Abadi and Razmjoo (2022), who addressed the most influential factors in the development of language proficiency using SEM procedures. The study was analyzed adopting the grounded theory, which showed the role of social, cultural, and linguistic factors, with social aspects surpassing the others. Another study by House (2002) asserts that socioeconomic status influences language learning; he has concluded that students from above-average or average-income families learn language more effectively. Another piece of research was performed by Amirabadi and Razmjoo (2017), who investigated the relationship between EFL learners' language proficiency and the social, cultural, and linguistic factors. A researcher-made questionnaire and a proficiency test were used to identify these factors. Structural Equation Modeling and factor analysis significantly associated social factors and language proficiency. However, cultural factors and English proficiency showed the weakest relationship. Finally, quantitative and path analysis showed the degree of relationship between each factor and language proficiency.

Besides cultural and social determinants of language proficiency, some studies were devoted to probing into the academic abilities, linguistic factors, and the learners' attitudes toward language learning. The studies done by Alfayez, Strand, and Carline (1990) and Credé and Kuncel (2008) presented academic ability and English language proficiency as the most important predictors of performance in medical schools. Another study by Bagheri and Andi (2015) found a slight positive correlation between medical students' attitudes toward English language learning and proficiency. In contrast, male and female students did not significantly differ in their attitudes toward English language proficiency and learning.

As the literature unveils, considering the impacts of cultural, social, and linguistic predictors of language proficiency, the research in the medical and paramedical EFL contexts is scant, and more studies must be conducted. Moreover, to

the researcher's knowledge, no model has been developed on the relationship between the abovementioned factors and English language proficiency for medical and paramedical students. This finding, in turn, signifies the pursuit of such research in light of a sociolinguistic framework to better fulfill the learners' learning objectives in these fields.

The present study investigated differences between medical and paramedical students regarding language proficiencies and social, cultural, and linguistic factors. The second and third objectives were to see whether social, cultural, and linguistic factors are related and affect the medical and paramedical students' language proficiency.

Accordingly, the following questions were raised under the five aforementioned general categories of the objectives:

- Q1: Are there any significant differences between medical and paramedical majors regarding their proficiencies?
- Q2: Are there any significant differences between medical and paramedical majors regarding social, cultural, and linguistic factors?
- Q3: Is there any significant relationship between social, cultural, and linguistic factors and the language proficiency of both medical and paramedical students in the total sample?
- Q4: Is there any significant relationship between social, cultural, and linguistic factors and the language proficiency of medical students?
- Q5: Do social, cultural, and linguistic factors affect the language proficiency of medical students?
- Q6: Is there any significant relationship between social, cultural, and linguistic factors and the language proficiency of paramedical students?
- Q7: Do social, cultural, and linguistic factors affect the language proficiency of paramedical students?

## METHOD

### Design

This study has a quantitative survey design in which the data were collected through questionnaires and were analyzed through descriptive and inferential statistics.

### Participants

The participants of this study were medical and paramedical students at Shiraz University of Medical Sciences, Shiraz, Iran. They were male and female students (Table 1) aged 18 to 22. 101 male and 119 female participants comprised 45.9 and 54.1 percent of the sample, respectively. Only one questionnaire was missing regarding gender.

The participants were selected based on criterion sampling. These students had either passed the pre-university

course as a prerequisite and criterion to the General English 1 course or scored above fifty percent in the national university entrance exam. This criterion was set by the faculty members of the English department at Shiraz University of Medical Sciences to put the students with almost the same level of proficiency in the same classes. At the time of the study, the participants were studying General English 1 and had to take part in two subsequent exams, namely, one midterm and one final exam. The following table (Table 2) demonstrates the features of the participants.

## Instruments

The authors administered a questionnaire developed by Amirabadi and Razmjoo (2017). Before administering the questionnaire, they confirmed the reliability and validity of this 5-Likert scale questionnaire. To examine the construct validity of the questionnaire, the authors ran a Confirmatory Factor Analysis, which showed that all the goodness of fit indices are within the acceptable range. That is,  $\chi^2/df = 1.71$  was less than 3, GFI= 0.96 and NFI= 0.95, CFI= 0.98, and AGFI= 0.94 were all above .90, and RMSEA= 0.04 was less than .08. Moreover, to examine the reliability of the questionnaire, Cronbach's alpha was employed. The reliability coefficient was .714 for this scale, which shows that the scale enjoys acceptable reliability. Table 3 shows the results.

The questionnaire utilized in this study comprises the following sections:

- Demographic data
- Social factors (items 1-28)
- Cultural factors (items 29-38)
- Linguistic factors (items 39-50)

**Table 1**

*Frequency and Percentage of Males and Females in the Total Sample*

	Frequency	Valid Percent
Male	101	45.9
Female	119	54.1
Total	220	100.0
Missing	1	
<b>Total</b>	<b>221</b>	

**Table 2**

*Participants' Features*

Major	Frequency	Percent	Age	Gender
Medical students of medicine, Dentistry & Pharmacy	126	57.0	18-22	Both females and males
Paramedical students of nursing, Radiology, physiotherapy, Rehabilitation & occupational therapy	95	43.0	18-22	Both females and males
<b>Total</b>	<b>221</b>	<b>100.0</b>	---	---

The following tables depict demographic data.

Table 3 displays the number of years the participants have studied English. The results showed that most participants had more than seven years of experience. Although this variable had not been included in the questionnaire as an independent variable, it is effective, potentially altering proficiency as a dependent variable. The ANOVA test calculates its effect in the following table (Table 5).

Table 4 shows p-value= 0.00 < 0.05, demonstrating that the number of years one has studied English has an influential role in determining the students' English proficiency, i.e., more years of studying English develop the student's proficiency in medical and para-medical fields.

Table 5 indicates the participants' parents' literacy. As can be grossly seen, most of the participants' parents are literate (96.3%). This finding shows that most of the participants come from educated families. There are, of course, five missing pieces of the required data reported on literacy.

Table 6 is indicative of the participants' mother tongue. As can be seen, most of the students have Persian (89.6%) as their first language.

A proficiency test was another instrument used in this study. The proficiency test includes 70 vocabulary and reading comprehension questions. The coordinator (an associate professor) and two other colleagues (one associate professor and one professor) commented on the quality and difficulty level of the items to ensure their content validity. The exam was not discipline-specific as a determining factor.

**Table 3**  
*The Number of Years the Participants Have Studied English*

	Frequency	Valid Percent
5 years	37	16.8
6 years	12	5.5
7 years	40	18.2
Over 7 years	131	59.5
Total	220	100.0
Missing	1	
<b>Total</b>	<b>221</b>	

**Table 4**  
*Years One Has Studied English*

	Mean	Std. Deviation
5 years	43.78	12.658
6 years	46.83	12.059
7 years	50.40	9.001
Over 7years	51.98	8.620
<b>Total</b>	<b>50.05</b>	<b>10.070</b>

**Table 5**  
*Participants' Parents' Literacy*

		Frequency	Valid Percent
Valid	Literate	208	96.3
	Illiterate	8	3.7
	Total	216	100.0
Missing		5	
<b>Total</b>		<b>221</b>	

**Table 6**  
*Participants' Mother Tongue*

	Frequency	Percent
Persian	198	89.6
Turkish	6	2.7
Kurdish	2	.9
Other	15	6.8
<b>Total</b>	<b>221</b>	<b>100.0</b>

### Data Collection and Analysis

The authors administered the proficiency test and the questionnaire among the intended students. Before administration, they provided the necessary instruction to ensure the cooperation of all the students. To ensure ethical issues in this research, participants were informed on the content and goal of the study. As safeguarding participants' priva-

cy and securing their data is paramount, the researchers mentioned the privacy measures taken. Moreover, participants' anonymity or confidentiality was promised and observed in the study. Informed consent was obtained before administering the questionnaires. Regarding data analysis, the data were descriptively analyzed to determine the proficiency mean scores and social, cultural, and linguistic fac-

tors for medical and paramedical students. The t-test was run to indicate whether there was any statistically significant difference between medical and paramedical students concerning their proficiency scores and the social, cultural, and linguistic factors. Then, Pearson's Product Moment Correlation was run to determine the relationship between socio-cultural and linguistic factors and language proficiency of master and non-master students in medical sciences. Finally, multiple regression was run to determine whether social, cultural, and linguistic factors influence medical and paramedical students' language proficiency.

## RESULTS AND DISCUSSIONS

The present study investigated the difference between medical and paramedical students regarding their language proficiencies. Another objective of the study was to determine if these majors were statistically different concerning social, cultural, and linguistic factors individually in each field and the total sample. This study also probes into how each predictor of language proficiency affected the students' language proficiency in each field. Accordingly, the research questions were answered in this section to see how far the study's objectives were met.

### Medical and Paramedical Students in Terms of Language Proficiencies

In line with the first research question (Are there any significant differences between medical and paramedical majors regarding their proficiencies?), Table 7 illustrates the T-test results indicating the difference between the medical and paramedical students' proficiency grades.

As the P-value equals 0.00 and less than 0.05, there is a significant difference between the mean score of medical and paramedical students' English proficiency. Figures in Table

**Table 7**

*T-test (Proficiency Scores Between Medical and Non-medical)*

	major	N	Mean	Std. Deviation	
Proficiency score	Medical	126	53.90	7.572	0.001*
	Nonmedical	92	44.71	10.621	

**Table 8**

*Mean of Social, Cultural, and Linguistic Factors*

Factors	Mean	Std. Deviation
Social factors	102.04	9.994
Cultural factors	36.98	5.238
Linguistic factors	37.97	3.426

8 display that the mean score in the medical fields is more than that of paramedical ones. This finding demonstrates that medical students outperformed paramedical students, which can be justified by the solid language background predominantly observed among master holders. This justification has been evidenced by Sadeghi Moshtaghi Kashanian, Maleki, and Haghdoost (2013). Razmjoo and Movahed (2009) also approved the relationship between the field of study and English proficiency. Moreover, Alfayez, Strand, and Carline (1990) and Credé and Kuncel (2008) identified prior academic ability and English language proficiency as the most important predictor of performance for medical students.

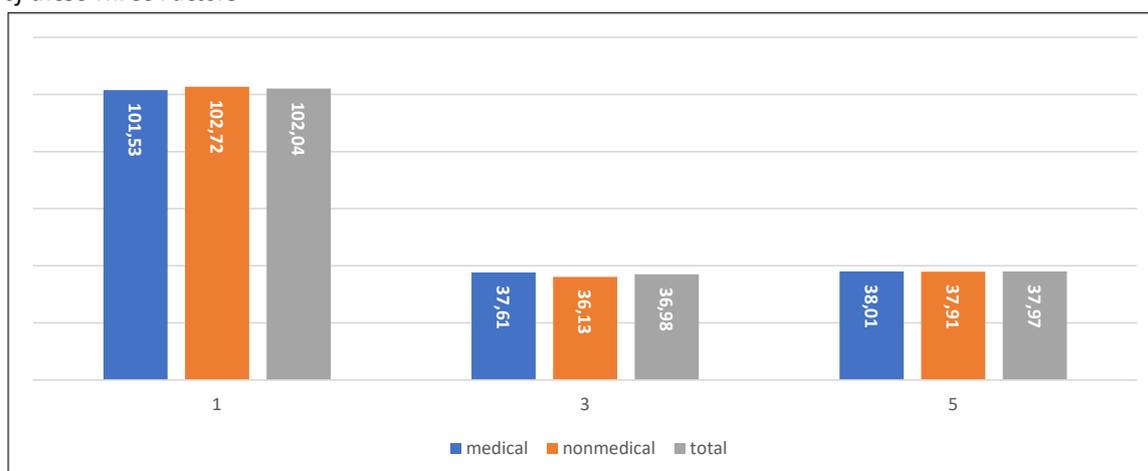
Table 8 indicates the mean scores for the social, cultural, and linguistic factors as 102.04, 36.98, and 37.97, from the highest to the lowest, respectively. The mean of the social factors is significantly higher than the cultural and linguistic ones for both fields of study. This finding aligns with the study by Amir Abadi and Razmjoo (2022), showing the significant role of social factors in the development of language proficiency. Moreover, figure 1 shows the mean scores of these three factors for medical and paramedical fields of study. The sociocultural factors results indicate the importance of social classes and educational and cultural backgrounds among students whose English proficiencies are lower than their medical counterparts (table 8).

### Medical and Paramedical Students Regarding Predictors of Language Proficiency

Table 9 summarizes the findings to answer the second research question and see whether there are differences between the medical and paramedical students regarding the three factors. Again, the t-test unveils a statistically significant difference between medical and paramedical students concerning cultural factors;

**Figure 1**

The mean of these Three Factors



**Table 9**

T-test (Social, Cultural, and Linguistic Factors Between Medical and Non-medical)

	major	N	Mean	Std. Deviation	
Social factor	medical	116	101.53	8.567	0.423
	nonmedical	87	102.72	11.647	
Cultural factor	medical	119	37.61	5.740	0.045*
	nonmedical	89	36.13	4.370	
Linguistic factor	medical	119	38.01	2.898	0.843
	nonmedical	86	37.91	4.063	

**Table 10**

Pearson Correlation Between the 3 Factors and Proficiency Score in the Total Sample

Factors	Pearson Correlation	
Social factor	.101	.153
Cultural factor	.137	.050*
Linguistics factor	.015	.829

### The Link between Social, Cultural, and Linguistic Factors and the Language Proficiency

To answer the third research question, "Is there any significant relationship between social, cultural, and linguistic factors and the language proficiency of medical and paramedical students?" Table 10 indicates that the only statistically meaningful and positive relationship is between the cultural factors and the proficiency scores (0.137). Therefore, it is concluded that as cultural factors play a role, the students' proficiency scores are escalated accordingly (Figure 2). This finding is in accordance with the studies run by Poonam et al. (2023), Amirabadi and Razmjoo (2017), and Razmjoo and

Movahed (2009), in which cultural factors are significant predictors of language proficiency.

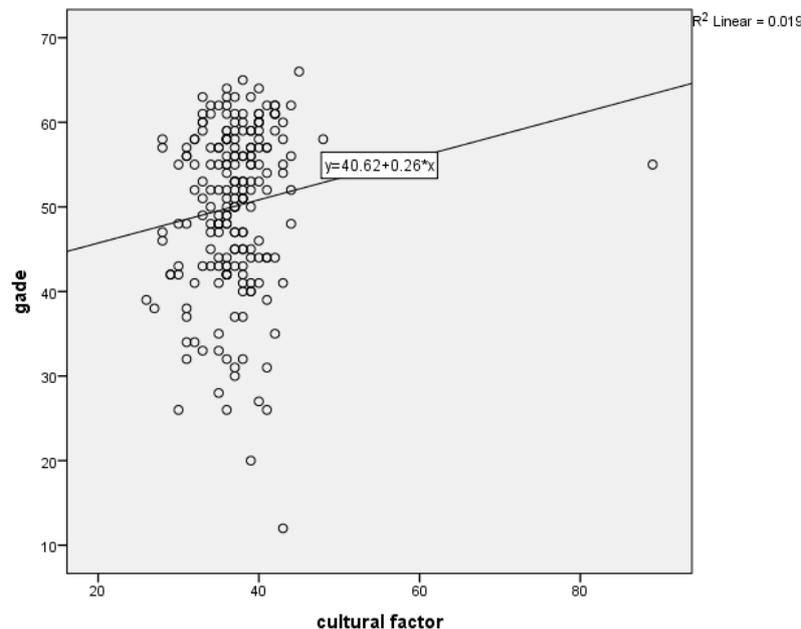
The authors calculated the regression coefficients to see whether the three mentioned factors affect the medical and paramedical students' language proficiency (Table 11).

The model concerns the following postulations:

$X_1$ =social factors,  $X_2$ =cultural factors,  $X_3$ =linguistics factor

follows here:

$$Y=33.779 +.118 X_1 +.160 X_2 -.048 X_3 \tag{1}$$

**Figure 2***the Relationship Between Cultural Factors and Proficiency*

### Influential Predictors of the Medical and Paramedical Students' Proficiency

Comparing the effect size of social, cultural, and linguistic factors in this regression model shows that the cultural factor with a coefficient of 0.160, the social factor with a coefficient of 0.118, and finally, the linguistic factors with a negative coefficient of 0.048 were the most to the least influential predictors of the medical and paramedical students' proficiency scores, respectively. Furthermore, it should be noted that the only constant coefficient of 33.779 with the  $p\text{-value} = .001 < 0.05$  is statistically meaningful.

### The link between the Predictors and Medical Students' Proficiency

Table 12 summarizes the results to investigate the relationship between the social, cultural, and linguistic factors and medical students' proficiency, which addresses research question 5. The results exhibit the social, linguistic, and cultural factors with a correlation coefficient of +0.027, -0.024, and -0.021, respectively, indicating positive and negative relationships with the proficiency scores in the medical group. However, none of these factors have maintained a statistically significant relationship with the proficiency scores in this group. This finding can indicate that other factors, mainly internal predictors such as intrinsic motivation, have

affected the participants' proficiency as an internal drive. It aligns with what Lori and Al-Ansari (2001) have stated. They believed that motivation is one of the most significant but complicated variables in explaining individuals' differences

in language learning. Dörnyei (2001) also stated that much research showed motivation as a significant determinant in L2 acquisition. Credé and Kuncel (2008) also discovered that study skills, habits, attitudes, and motivation for studying positively correlate with students' academic performance, although their study did not investigate medical fields.

The authors ran multiple regression analyses to see whether the three factors bear any effects and can be the predictors of language proficiency of the medical group posed in the sixth research question. The estimated regression model for the medical fields is as follows:

$$Y = 55.312 + 0.036 X_1 - 0.051 X_2 - 0.089 X_3 \quad (2)$$

In this regression model (table 13), however, linguistic factors such as the role of mother tongue, grammar, the field of study, and academic abilities have shown a negative effect (-0.089) in terms of the effect size; they highly influenced the proficiency test scores in this group. This finding is more or less in accordance with the results found by Alfayez, Strand, and Carline (1990) and Credé and Kuncel (2008). They state that prior academic ability and English language proficiency are the most important predictors of performance in medical school. The cultural and social factors with coefficients of -0.051 and 0.036 are other influential factors.

### The Link between the Predictors and Paramedical Students' Proficiency

Table 14 shows the findings related to the sixth research question concerning the relationship between the three

**Table 11**

*A Regression Model for the Three Factors and Proficiency Scores in the Total Sample*

Model B	Unstandardized Coefficients		Standardized Coefficients	
	Std. Error	Beta		
(Constant)	33.779	10.060		.001*
Social factor	.118	.083	.116	.157
Cultural factor	.160	.142	.087	.259
Linguistic factor	-.048	.231	-.016	.836

**Table 12**

*Correlation Between the Three Factors and Proficiency Scores in the MEDICAL Group*

Factors	Pearson Correlation	
Social factors	.027	.770
Cultural factors	-.021	.819
Linguistics factors	-.024	.794

**Table 13**

*A Regression Model for the Three Factors and Proficiency Scores in the MEDICAL Group*

Model B	Unstandardized Coefficients		Standardized Coefficients	
	Std. Error	Beta		
(Constant)	55.312	12.328		.000*
Social factor	.036	.091	.041	.694
Cultural factor	-.051	.128	-.040	.692
Linguistic factor	-.089	.270	-.034	.742

factors and paramedical students' proficiency. Pearson's correlation indicates linguistic factors capture the smallest correlation coefficient of 0.055, which is not statistically significant for the paramedical group. However, cultural and social factors display correlation coefficients of 0.244 and 0.222, with the proficiency scores statistically significant for the paramedical fields. The role of social and cultural factors have been repeatedly emphasized in the literature, such as Lantolf and Poehner (2014), Alfayez, Strand, and Carline (1990), Snow (1993), Roebuck (2001), Lori and Al-Ansari (2001), House (2002), Sysoyev and Donelson (2002), Oh and Kit-fong Au (2005), Haworth et al. (2006), Verhoeven and Vermeer (2006), Hew Tano (2007), Credé and Kuncel (2008), and Khalifa (2012) and the studies carried out in Iran as an EFL context such as those of Tabasi (2000), Rezaeian (2001), Salamian (2002), Fijani (2005), Hassani (2005), Mohammadi (2007), Razmjoo and Movahed (2009), Gholami (2012), Sadeghi (2013), Bagheri and Andi (2015), and Amirabadi and Razmjoo (2017). A critical review of Vygotsky's Socio-Cultural Theory suggests that concepts, social objects, and activities fundamentally regulate mental performance. This issue indicates the impact of sociocultural perspectives on L2 learning (Lantolf et al., 2015; Lantolf et al., 2020).

Table 15 illustrates the findings of the last research question regarding the effects of social, cultural, and linguistic factors on the proficiency of paramedical students. The estimated regression model for the para-medical fields is as follows:

$$Y=15.952 +.282 X_1+.155 X_2 - .154 X_3 \tag{3}$$

According to Table 15, linguistic factors showed a negative and insignificant coefficient. However, the social and cultural factors have established positive coefficients; 0.288 and 0.155, respectively. Only social factors are meaningfully present in this regression model for the para-medical fields. This finding aligns with House's (2002) assertion that socioeconomic status is one of the determinants of learning; he has concluded that students' learning improves if they are from an above-average or average-income family. Also, according to Amirabadi and Razmjoo (2017), social factors have established a significant relationship with language proficiency. However, in this study, the results are obtained for the paramedical fields, which can signify the importance of such socioeconomic predictors as social class, economic position, learning age, the role of technology, and parents' literacy for those students with weaker language backgrounds in paramedical fields.

**Table 14***Correlation Between the Three Factors and Proficiency Score in the PARA-MEDICAL Group*

Factors	Pearson Correlation	
Social factors	.222	.040*
Cultural factors	.244	.024*
Linguistics factors	.055	.617

**Table 15***A Regression Model for the Three Factors and Proficiency Scores in the PARA-MEDICAL Group*

Model B	Unstandardized Coefficients		Standardized Coefficients	
	Std. Error	Beta		
(Constant)	15.952	13.304		.234
Social factor	.282	.134	.303	.039*
Cultural factor	.155	.327	.066	.636
Linguistic factor	-.154	.319	-.057	.631

## CONCLUSION

This investigation delved into the intricate interplay of social, cultural, and linguistic factors impacting the English proficiency of 221 medical and paramedical students at Shiraz University of Medical Sciences, guided by Vygotskian sociocultural theory. The central aim was to discern the extent of convergence or divergence regarding the determinants of English proficiency within these major academic fields.

The study revealed substantial disparities in English proficiency between medical and paramedical students, with the former displaying superior language skills. This outcome is in tandem with their robust language backgrounds, particularly notable in medicine, dentistry, and pharmacy. Notably, a statistically significant difference emerged in cultural factors, accentuating the pivotal role of culture and social activity in language learning, aligning with Vygotsky's sociocultural theory.

While the study identified a significant relationship between cultural factors and proficiency scores, the anticipated influence of cultural variables on university students' proficiency and academic success in learning English was less pronounced. Intriguingly, no statistically significant relationship surfaced between these factors and proficiency scores in the medical group, prompting contemplation of internal and personal determinants such as motivation and learning strategies. On the other hand, cultural and social factors established a statistically meaningful relationship with the proficiency scores in the para-medical group. The ideas of social class, socioeconomic status, the role of social media, and parents' education as external factors rather than inter-

nal variables remained significant in the paramedical group compared to their medical counterparts. Also, according to the multiple regression analyses, linguistic factors did not predict language proficiency in either group. Despite valuable insights, the study faced limitations in generalizability and access to live proficiency tests. Future research should replicate the study in diverse contexts, explore more representative samples, and incorporate qualitative perspectives. Additionally, examining the internal and psychological factors affecting proficiency and restructuring the educational system to enhance students' drives is recommended.

In conclusion, this exploration underscores the multifaceted nature of language proficiency determinants. The robust findings contribute to our understanding of the nuanced factors shaping language proficiency and prompt reflection on the dynamic interplay of internal and external influences. As we navigate the implications of Vygotsky's sociocultural theory, a call arises for a holistic approach in educational systems, acknowledging both the theoretical underpinnings and practical insights offered by this study. This cohesive narrative, echoing the themes introduced in the introduction, highlights the enduring relevance of sociocultural factors in shaping language proficiency across diverse academic fields.

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## DECLARATION OF COMPETING INTEREST

None declared.

## AUTHORS' CONTRIBUTIONS

**Shadab Moslehi:** conceptualisation, investigation, writing (original draft), data curation, formal analysis.

**Reza Kafipour:** conceptualisation, methodology, writing (review and editing), formal analysis.

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