# The Beliefs about Language Learning Inventory: Factorial Validity, Formal Education and the Academic Achievement of Iranian Students Majoring in English

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**Abstract**
This paper explored the factorial validity of the Beliefs about Language Learning Inventory (BALLI) within a foreign language context and its relationship with educational level and academic achievement. The BALLI was administered to 418 undergraduate and graduate university students who majored in Teaching English as a Foreign Language, English Language and Literature and English Translation at seven tertiary education centers in Mashhad, Iran. The low correlation coefficients among the 34 beliefs addressed by the BALLI necessitated dispensing with Principle Component Analysis. The application of the Principle Axis Factoring to the beliefs and their rotation revealed 14 factors. One way ANOVA analysis of responses revealed that sophomore undergraduate students differ from senior undergraduate and graduate students in 11 beliefs indicating that formal education affects almost one third of learners' belief. The same analysis of the GPAs obtained by 86 sophomore undergraduate participants showed their academic achievement is significantly related to five beliefs. The implications of these findings are discussed within the Iranian EFL context.

**Keywords**: Learner beliefs; Factorial validity; Foreign language; Language teaching; Academic achievement

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**Introduction**

As part of her teaching programme, Horwitz (1985) asked 25 language teachers to recall freely what they believed foreign language learning involved. They were specifically instructed to write down not only their own personal beliefs but also what they thought others believed about language learning. After the teachers' written answers were collected, she scrutinized them one by one, removed idiosyncratic opinions and kept 30 opinions as Beliefs about Language Learning Inventory (BALLI). Over the years, the BALLI has evolved into a 34-item questionnaire widely used in a fairly large number of educational contexts.

As a psychological measure, however, the BALLI has had to establish its construct validity by specifying what areas of language learning it addresses since it will be too cumbersome, if not impossible, to discuss all its 34 items one by one. Horwitz (1985, 1988, 1999) herself assigned the items logically to five major areas of beliefs, i.e., 1) difficulty of language learning, 2) foreign language aptitude, 3) the nature of language learning, 4) learning and communication strategies, and 5) motivations and expectations. If Horwitz' classification is psychologically real, then five factors must appear in the factorial analysis of responses given to the BALLI.

In addition to exploring the factorial validity of five logically established areas of language learning addressed by the BALLI, this study attempts to find out whether formal education in English brings about any changes in the beliefs learners hold about language learning. It also tries to investigate whether learners' beliefs affect their academic achievement. Although some studies have shown significant relationships between language proficiency and some beliefs (e.g., Peacock 2001), none have related them to academic achievement within a foreign language context.

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**Literature Review**

Among the researchers exploring the factorial validity of the BALLI, Oh (1996) could establish *four* beliefs after administrating it to 195 first and second-year American university students learning Japanese at the University of Texas at Austin, i.e., motivation/ confidence in speaking Japanese, beliefs about importance of formal learning, foreign language aptitude, and beliefs about the importance of correctness. Similarly, Yang (1999) extracted four factors from the beliefs of 505 university EFL learners in Taiwan, i.e., self-efficacy and expectation, value and nature of learning spoken English, foreign language aptitude, and formal structure study.

Kunt (1997), however, found three factors when the BALLI was administered to 882 Turkish-speaking university students learning English as a foreign language at two pre-university English programs in North Cyprus. They were: the value and nature of learning English, self efficacy/ confidence in speaking, and beliefs about social interaction. Kunt reported high instrumental motivation for learning English for both groups, strong beliefs in the importance of learning English, and the high value placed on guessing and repeating during practice.

The latest study on the factorial validity of the BALLI belongs to Hong (2006, p. 120) who found 10 factors after he employed the principal component analysis for his 428 undergraduate students who spoke Korean and 420 bilingual university students who spoke Chinese and Korean. After employing the scree plot test, four factors were identified for each group. They accounted for 35% of the total variance for the monolingual group and 36% of the total variance for the bilingual group.

Although Hong (2006), Kunt (1997), and Oh (1996) found different number of factors, their studies had one feature in common: using principle component analysis (PCA) as their factorial design. Some scholars,

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however, believe that PFA does not provide a true factor analysis such as principle axis factoring (PAF) and should therefore be restricted in application (e.g., Bentler & Kano, 1990; Floyd & Widaman, 1995; Ford, MacCallum & Tait, 1986; Gorsuch, 1990; Loehlin, 1990; MacCallum & Tucker, 1991; Mulaik, 1990; Snook & Gorsuch, 1989; Widaman, 1990, 1993). Some other scholars, nonetheless, claim that there is almost no difference between PCA and PAF (e.g., Arrindell & van der Ende, 1985; Guadagnoli & Velicer, 1988; Schoenmann, 1990; Steiger, 1990; Velicer & Jackson, 1990).

The present research project was conducted to establish the factorial validity of the BALLI by employing both PCA and PAF within an Iranian EFL context. It was administered to 418 undergraduate and graduate Iranian students who majored in English as a foreign language and specialised in English language, English literature and English translation and thus their field of study was limited to that of English. Since senior undergraduate and graduate students studied courses on foreign language learning, it was hypothesised that their answers would reveal the effect of formal teaching on their beliefs.

In addition to exploring the factorial validity of the BALLI, this study has utilized the grade point average of sophomore undergraduate participants to find out whether there is any significant relationship between their beliefs and academic achievement. It is postulated that the relationship will shed some lights on the studies which are either based on the percentage of answers (e.g., Altan, 2006) or compared the students' beliefs with those of teachers (e.g., Kern, 1995; Peacock, 2001).

For example, Altan (2006) administered the BALLI to 50 teacher education students and 248 Turkish undergraduate students majoring in English, German, French, Japanese and Arabic at five universities. Based on

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the participants' response to the question, "If someone spent one hour a day learning a foreign language, how long would it take him/her to become fluent?," Altan argued that

> A substantial number of participants felt that a maximum two and a half years is sufficient for learning another language and from forty-eight to seventy-five *percent* of the students chose between 1-2 and 3-5 years. Nevertheless, each group also contained a group of participants (ranging from fourteen to twenty-two *percent* who felt it would take from five to ten years to learn a language under the conditions described [italics are mine] (p. 48)

The percentages presented in the paragraph above will have little, if any, educational value unless it is statistically confirmed that learners' beliefs regarding the effect of spending one hour on learning a foreign language is *detrimental* to their academic success or language proficiency. The results obtained by Peacock (2001, p. 191), for example, showed that the belief regarding the number of hours does not change even after their being exposed to explicit instruction as shown in Table 1.

**Table 1**
Responses given to the question "If someone spent one hour a day learning a foreign language, how long would it take him/her to become fluent?"

| **Choices** | **First-year trainees (n = 72)** | **Second-year trainees (n = 76)** | **Third year trainees (n = 70)** |
|---|---|---|---|
| 2 years or less | 20 | 21 | 26 |
| From 3 to 5 years | 33 | 28 | 26 |
| 5 years or more | 47 | 51 | 48 |
| | Agree or strongly agree | Neither agree nor disagree | Disagree or strongly disagree |

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The percentages given in Table 1 above do not have any statistically significant meaning. As Peacock (2001) himself acknowledged, out of 34 beliefs, his 146 TESL trainees differed significantly from experienced ESL teachers in only *two, i.e.,* item 13 "It's OK to guess if you don't know a word in the foreign language," and item 26 "Learning a foreign language is mostly a matter of translating from Chinese." These results defy some researcher's assumption that beliefs may affect not only their academic success but also their career negatively (see Horwitz 1988, Kern 1995, Mantle-Bromley 1995, Peacock 2001, and Samimy & Lee 1997).

This study is, therefore, designed to find out what belief areas have factorial validity when principle component analysis (PCA) and principle axis factoring (PAF) are utilized and then explore whether beliefs change from one educational level to another as a result of studying English as a foreign language (EFL). Furthermore, it aims to show whether there is a relationship between beliefs and academic achievement. It specifically addresses the following questions.

1. Do the 34 beliefs held by participants correlate significantly and highly with each other?
2. What is the factor structure of beliefs when PCA and PAF are applied to data? Do they reveal the same factors?
3. Do beliefs change as a result of academic level and education?
4. Are the beliefs of sophomore undergraduate students related to their academic achievement?

**Methodology**

**Participants**

Four hundred eighteen students, 312 female and 106 male, took part in the present study. They studied Teaching English as a Foreign Language (n = 150, 35.95%), English Language and Literature (n = 223, 53.3%) and

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English Translation (n = 45, 10.8%) at Azad University (n =39, 9.3%), Emam Reza University (n = 35, 6.4%), Ferdowsi University of Mashhad (n =202, 46.3%), Khayam University (n =69, 16.5%), Khorshidi Teacher Training Center (n = 23, 5.5%), Hasheminezhad Teacher Training Center (n =24, 5.7%), and Samenolaemeh Teacher Training Center (n = 26, 6.2%). The participants' age ranged from 19 to 49 (mean= 22.39, SD = 3.41). While the majority of participants spoke Persian (n = 409, 97.8%), 1.4% and 0.7% spoke Turkish and Spanish, respectively.

Out of 418 students who took part in this study, 86 (23.3%), 192 (52%) and 91 (24.7%) were sophomore, junior and senior undergraduate students at the above mentioned seven tertiary education institutions in Mashhad, the capital city of Khorassan-e-Razavi in Iran. They formed 88% of the whole sample whereas 45 (10.8%) and 4 (1%) participants were doing their master and doctorate degrees, respectively, at Ferdowsi University of Mashhad. In other words, 369 (88.3%) undergraduate and 49 (11.7%) graduate students participated in the project voluntarily.

**Instruments**

Two questionnaires were used in this study: Bio-questionnaire and the BALLI.

**Bio-questionnaire**

In order to elicit some information related to the participants' biodata a questionnaire consisting of seven multiple-choice items and five short answer questions were designed (see Appendix 1). Question six in the questionnaire asked for the participants' total great point average (GPA) so that the relationship between their beliefs and academic achievement could be explored. In order to insure the validity of their answers to this question, the name of about 20 percent of participants from all seven institutions were chosen randomly and their total GPAs were obtained from the registrars'

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offices. The official GPAs correlated highly and significantly with the self-reported GPAs, i.e., 0.87, and thus validated the elicited indices of academic achievement.

**The Beliefs about Language Learning Inventory (BALLI)**

The Beliefs about Language Learning Inventory (BALLI) developed by Horwitz (1988) was employed in this study to explore the relationship between participants' beliefs about language and their academic achievement. Since the majority of participants were either native speakers of Persian (98%) or spoke it as their second language (2%) and studied English as a foreign language, the structure, content and order of beliefs comprising the inventory were modified to limit the number of foreign languages, save space and achieve homogeneity in the expression of choices.

For example, belief five in Horwitz's BALLI (1988) reads, *the language I am trying to learn is structured in the same way as English*. The clause *the language I am trying to learn* was changed to *English* because only students majoring in English took part in the present project. The modified belief five along within its five choices reads.

5. English is structured in the same way as Persian.

| | | | | |
|---|---|---|---|---|
| **A**. Strongly agree | **B**. Agree | **C.** Undecided | **D**. Disagree | **E**. Strongly disagree |

Having the same choices for all beliefs enabled the researcher to design a single answer sheet on which the participants could mark their choices and thus could help use the same booklet over and over. Among the 34 beliefs, however, only belief 14 could not be reworded to have the same choices because it addressed time instead of agreement. It was therefore moved to

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the end of the inventory so that the participants would not mix it with the other beliefs as follows.

34. If someone spent one hour a day learning English, how long would it take him/her to become fluent?

**A**. Less than a year **B**. 1-2 years **C**. 3-5 ;

**D**. 5-10 years **E**. You can't learn a language in 1 hour a day

The Beliefs about Language Learning Inventory (BALLI) explores five logical areas, i.e., beliefs dealing with foreign language aptitude (26.5%), learning and communication strategies (23.5%), the nature of language learning (20.6%), difficulty involved in learning (17.6%) and motivations and expectations (11.8%).

**Procedure**

A test booklet consisting of two parts was formed. The first part contained a bio-questionnaire consisting of 12 questions dealing with the participants' educational and personal background. The modified Beliefs about Language Learning Battery (BALLI) was given in the second part. The participants were asked to provide short answers for the first part and then to read the BALLI and fill out numbered boxes on a single page answer sheet. The English directions related to the BALLI were given in the booklet. However, the researcher himself was present in all meetings where the questionnaires were administered and repeated the directions in Persian once again so that all participants had a clear understanding of what they were supposed to do. They were told to ask the meaning of whatever unknown words they came across in the inventory. The BALLI was administered under standard conditions and all the answers chosen were tabulated in the SPSS manually.

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**Data Analysis**

The data obtained via the BALLI were tabulated two times. First, five points were established for each stated belief and the data were submitted to the stated tests on the SPSS. Then, Following Peacock (2001) all the five choices given for each belief of the BALLI were reduced to three to explore the relationship between beliefs and academic achievement. Choices A (strongly agree) and B (agree) were added up to form one point. Choice C (undecided) was considered as a separate point and those who had chosen D (disagree) and E (strongly disagree) were put together to form the third point. The correlational and factorial analyses along with ANOVA tests were done on the five-point and three-point beliefs by utilizing SPSS version 16.0 to test the hypotheses below.

1. The 34 beliefs held by undergraduate and graduate learners will show high intercorrelations with each other.
2. The 34 beliefs held by undergraduate and graduate learners will load on five factors corresponding to the five major logical areas of language learning established by the designer of the BALLI.
3. The beliefs of sophomore undergraduate learners will be significantly different from senior undergraduate and graduate participants.
4. The beliefs of sophomore undergraduate learners will be significantly related to their academic achievement.

**Results and Discussion**

The reliability coefficient obtained for the BALLI in this study is 0.57 (Cronbach alpha). Considering the five points of the Likert scale through which the beliefs about language learning are explored by the inventory, this level of reliability sounds to be plausible and very much close to what Landau and Everitt (2004) considered acceptable, i.e. 0.60. However, the result obtained in this study was lower than what some researchers have reported. For example, Hong (2006, p. 120) found moderate alpha levels in

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his study, i.e., 0.74 and 0.77 for the 428 monolingual students and the 420 bilingual students, respectively. Because of these discrepancies, some researchers have avoided the reliability analysis of their results altogether (e.g., Horwitz 1985; Peachock, 2001).

The relatively low reliability coefficient obtained in the present study, i.e., 0.57, might basically be attributed to the heterogeneous nature of beliefs addressed by the BALLI inventory. As will be realized in the next section, the beliefs comprising the BALLI do not reveal high correlation coefficients among themselves, implying that they are not closely related to each other.

**Correlations among Beliefs**

The correlation coefficients obtained among the 34 beliefs held by 418 undergraduate and graduate students were pretty low and ranged from -0.23 to 0.40 (Correlation matrix is not given to save space.) Out of 561 coefficients only six beliefs showed high correlations, i.e. beliefs 15 and 19 (.40), 22 and 26 (.32), and 19 and 25 (.33). These results do ***not*** confirm the first hypothesis that *the 34 beliefs held by undergraduate and graduate learners will show high correlations with each other*. They are nonetheless unique because none of the studies conducted on the BALLI so far have reported any correlations among its 34 beliefs. Hong (2006), for example, provided correlation matrix neither for his 428 monolingual Korean speaking group nor for his 420 bilingual Chinese and Korean speaking group.

**Factorial Structure of BALLI**

Neither have the previous studies on the BALLI reported correlations among the 34 beliefs nor have they employed an appropriate method of factor extraction. They have basically employed principal components analysis which is only a data reduction procedure. According to Ford, MacCallum, and Tait (1986), components are calculated using all of the

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variance of the manifest variables, and all of that variance appears in the solution. In Hong's (2006, p. 260 & 264), for example, all variances have been extracted from 1 as their communality.

The studies on the BALLI should have used factor analysis instead of principal components analysis because the latter is employed when there is no *a priori* idea about the relationship among variables explored. The designer of the BALLI (Horwitz, 1985, 1988), however, argued that the 34 beliefs address five areas of language learning. This means that all the beliefs must load on five factors as latent variables causing the manifest variables to covary. During factor extraction the shared variance of a variable is, therefore, partitioned from its unique variance and error variance to reveal the underlying factor structure; only shared variance appears in the solution.

In contrast to factor analysis, Principal Components Analysis (PCA) does not discriminate between shared and unique variances. When the factors are ***uncorrelated*** and communalities are moderate it can produce inflated values of variance accounted for by the components (Gorsuch, 1997; McArdle, 1990). Since factor analysis analyzes only shared variance, it should yield "the same solution (all other things being equal) while also avoiding the inflation of estimates of variance accounted for" (Costello & Osborne 2005, p.2).

In the present study, therefore, the Principal Axis Factoring (PAF) has been employed to extract latent variables. Table 2 presents the communalities obtained by analyzing the beliefs explored by the BALLI in this study. As can be seen, the initial and extracted communalities range from .11 to .31 (mean = .18), and .12 to .61 (mean = .34), respectively. If the mean of these communalities are adopted as the moderately shared variance, then there would be no justification for applying the PCA to the beliefs

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explored by the BALLI (see Fabrigar, Wegener, MacCallum & Strahan, 1999).

**Table 2**
Communalities obtained by administering the BALLI to 418 undergraduate and graduate students

| belief | Extraction Method: Principal Axis Factoring | | belief | Extraction Method: Principal Axis Factoring | | belief | Extraction Method: Principal Axis Factoring | |
|---|---|---|---|---|---|---|---|---|
| | Initial | Extraction | | Initial | Extraction | | Initial | Extraction |
| B01 | 0.18 | 0.26 | B13 | 0.18 | 0.36 | B25 | 0.27 | 0.49 |
| B02 | 0.13 | 0.26 | B14 | 0.27 | 0.42 | B26 | 0.26 | 0.51 |
| B03 | 0.15 | 0.44 | B15 | 0.27 | 0.40 | B27 | 0.12 | 0.19 |
| B04 | 0.19 | 0.32 | B16 | 0.14 | 0.18 | B28 | 0.16 | 0.50 |
| B05 | 0.12 | 0.19 | B17 | 0.22 | 0.42 | B29 | 0.19 | 0.50 |
| B06 | 0.26 | 0.61 | B18 | 0.13 | 0.25 | B30 | 0.15 | 0.23 |
| B07 | 0.20 | 0.26 | B19 | 0.31 | 0.48 | B31 | 0.27 | 0.42 |
| B08 | 0.20 | 0.33 | B20 | 0.26 | 0.43 | B32 | 0.12 | 0.20 |
| B09 | 0.14 | 0.27 | B21 | 0.11 | 0.31 | B33 | 0.19 | 0.43 |
| B10 | 0.11 | 0.16 | B22 | 0.19 | 0.26 | B34 | 0.11 | 0.17 |
| B11 | 0.11 | 0.12 | B23 | 0.15 | 0.34 | | | |
| B12 | 0.17 | 0.29 | B24 | 0.14 | 0.24 | | | |

Table 3 presents Total variance explained by 14 extracted factors As can be seen, the number of factors extracted by the Principal Axis Factors (PAF), i.e., 14, is more than what Hong (2006) obtained in his study, i.e., 10. While Hong's factors explain 55.54% of the variance in his bilingual group, the 14 factors of this study explain 59.8% in the beliefs held by its bilingual participants. (The table presenting total variance explained by extracted factors is omitted to save space.)

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**Table 3**
Total variance explained by 14 extracted factors

| Factor | Initial Eigenvalues* | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.853 | 8.391 | 8.391 | 2.213 | 6.509 | 6.509 | 1.365 | 4.016 | 4.016 |
| 2 | 2.161 | 6.357 | 14.748 | 1.585 | 4.660 | 11.170 | 1.188 | 3.495 | 7.511 |
| 3 | 1.680 | 4.940 | 19.688 | 1.036 | 3.047 | 14.217 | 1.169 | 3.439 | 10.950 |
| 4 | 1.584 | 4.658 | 24.346 | 0.937 | 2.757 | 16.973 | 1.161 | 3.415 | 14.366 |
| 5 | 1.552 | 4.565 | 28.911 | 0.889 | 2.613 | 19.587 | 0.801 | 2.357 | 16.723 |
| 6 | 1.408 | 4.140 | 33.051 | 0.788 | 2.318 | 21.905 | 0.730 | 2.147 | 18.870 |
| 7 | 1.370 | 4.028 | 37.080 | 0.726 | 2.136 | 24.041 | 0.678 | 1.994 | 20.863 |
| 8 | 1.221 | 3.592 | 40.672 | 0.546 | 1.607 | 25.647 | 0.659 | 1.937 | 22.800 |
| 9 | 1.179 | 3.468 | 44.140 | 0.496 | 1.459 | 27.107 | 0.619 | 1.821 | 24.622 |
| 10 | 1.133 | 3.332 | 47.472 | 0.450 | 1.325 | 28.431 | 0.617 | 1.813 | 26.435 |
| 11 | 1.096 | 3.222 | 50.694 | 0.441 | 1.298 | 29.730 | 0.592 | 1.740 | 28.175 |
| 12 | 1.050 | 3.089 | 53.783 | 0.436 | 1.281 | 31.011 | 0.591 | 1.740 | 29.915 |
| 13 | 1.034 | 3.042 | 56.825 | 0.374 | 1.101 | 32.112 | 0.547 | 1.609 | 31.524 |
| 14 | 1.012 | 2.977 | **59.802** | 0.318 | 0.935 | 33.047 | 0.518 | 1.523 | 33.047 |

*Factors whose eigenvalues are less than 1 have not been given

When the unrotated principal axis factoring (PAF) was applied to the data, only belief 6 and 20 showed the highest loadings on factor 2 (.57) and factor 1 (.51), respectively. The low loadings obtained in this study thus support those statistical theorists who call for the restricted application of Principal Components Analysis (PCA) and advocate a true factor analysis such as PAF instead (e.g., Bentler & Kano, 1990; Floyd & Widaman, 1995; Ford, MacCallum & Tait, 1986; Gorsuch, 1990; Loehlin, 1990; MacCallum & Tucker, 1991; Mulaik, 1990; Snook & Gorsuch, 1989; Widaman, 1990,

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1993). They also provide enough evidence to challenge those theorists who claim that there is almost no difference between principal components and factor analysis, or that PCA is preferable (Arrindell & van der Ende, 1985; Guadagnoli and Velicer, 1988; Schoenmann, 1990; Steiger, 1990; Velicer & Jackson, 1990).

The application of the unrotated PCA produces comparatively more crossloadings. For example, belief 1 loads .35 only on ***factor*** 1 whereas the same belief loads .42 and -.36 on ***components*** 1 and 30 (the components matrix is not given to save space.) The loadings of belief 2 make the two procedures more distinct. While PAF reveals no loadings of .30 or higher on any ***factor***, belief 2 loads on ***components*** 4, 7 and 9. The rotation of loadings makes the distinction even more prominent.

When the rotated Principle Axis factoring, Varimax with Kaiser Normalization, was applied to the data it produced 14 factors among which seven beliefs show fairly high loadings, i.e., .50 or higher (Costello &Osborne 2005, p.4), i.e., beliefs 15 and 19 on factor 1, belief 26 on factor 2, belief 29 on factor 6, belief 28 on factor 7, belief 3 on factor 8, belief 33 on factor 12, and beliefs 21 on factor 13 [see Khodadady & Hashemi (2010) for the magnitude of rotated loadings. They have not been given here to save space.]

Similar to principle axis factoring (PFA), all the beliefs load on 14 components when PCA is applied to the beliefs. (The loadings on the components have not been given to save space.) Out of 34 beliefs, however, 10 cross load on two ***components*** at least. In contrast, only two beliefs cross load on two ***factors*** when PAF is adopted. These results provide further support for the inappropriateness of principle component analysis in identifying the latent beliefs held by language learners.

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In addition to rotation, scree test was employed to find out whether the number of factors could be reduced in any meaningful way as shown in Figure 1. The plot involves examining the graph of the eigenvalues and looking for the natural bend or break point in the data where the curve flattens out (Costello & Osborne 2005, p.3). As can be seen, the scree plot *does not* flatten out in a distinct manner and thus necessitates the acceptance of 14 factors having eigenvalues of 1 and higher. This finding is in sharp contrast to what Hong (2006) found in his study. As can be seen in Figure 2, four components in Hong's study reveal themselves to viewer before the others flatten out.

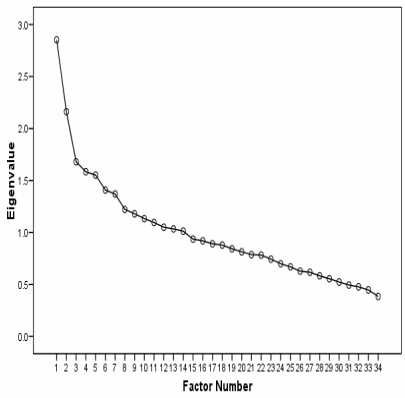



**Figure 1**
Scree plot of factors obtained in this study

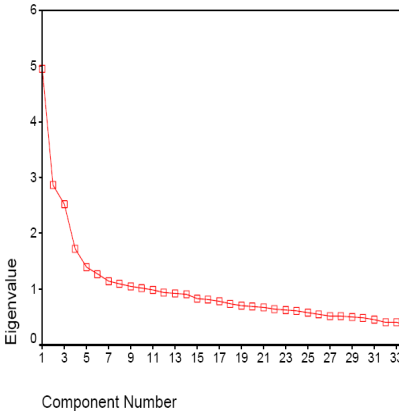



**Figure 2**
Scree plot of components obtained by Hong (2006)

The results presented in Figure 1 above disconfirm *the second hypothesis that the 34 beliefs held by undergraduate and graduate learners will load on five factors corresponding to the five major areas of language learning*

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*established by the designer of the BALLI*. They indicate that Iranian learners believe that language learning involves 14 factors.

**Latent Variables Explored by the BALLI**

Out of 34 beliefs explored by the BALLI, six beliefs do not show meaningful loadings on the 14 factors specified in this study, i.e., 0.30 or higher. They are belief 10, *It is easier for someone who already speaks a foreign language to learn another one*, 16, *It is important to repeat and practice often, 23, It is easier to speak than understand English*, 24, *Learning English is different from learning other school subjects*, 27, *It is easier to read and write English than to speak and understand it*, and 30, *I would like to learn English so that I can get to know its speakers better*. The low loadings of these beliefs may indicate their dependency on context and thus require their possible revision through administration to larger samples. The remaining 28 beliefs, however, loaded on 14 factors as described below.

Table 4 presents the first factor: *Nature of language learning*. As can be seen, three out of seven beliefs comprising the third logical area of nature of language learning loaded on factor one without cross loading on others and thus validates Horwitz's (1988) categorization. According to 72% of participants, English cannot be learned by translation. Slightly higher than 50% view learning English as a process of mastering vocabulary while 31% assign such a role to grammar. The results given in Table 8, therefore, provide the third logical area with factorial validity.

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**Table 4**
Factor 1: Nature of language learning

| Beliefs | Loading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|
| 15. Learning English is mostly a matter of learning many new vocabulary words. | .58 | 53 | 14 | 33 |
| 19. Learning English is mostly a matter of learning many of grammar rules. | .61 | 31 | 17 | 52 |
| 25. Learning English is mostly a matter of translating from English into Persian. | .57 | 12 | 15 | 72 |

Table 5 presents the second factor: *Motivation and intelligence dependency of foreign language learning*. As can be seen, two out of four beliefs comprising the fifth logical area of motivations and expectations, i.e., 22 and 26, and one out of nine beliefs comprising the second logical area of foreign language aptitude, 31, load on factor two and thus confirm the inappropriateness of logical categorization. The majority of learners believe that if they speak English, they will have many opportunities to use it (85%) and get a good job (76%). Speaking English will also show that they are very intelligent (67%). Since belief 31 loads on factor 10 as well, it implies the necessity of having innate linguistic ability in order to speak English as a foreign language.

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**Table 5**
Factor 2: Motivation and intelligence dependency of foreign language learning

| Beliefs | Loading | Crossloading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|---|
| 22. If I speak English very well, I will have many opportunities to use it. | .46 | No | 85 | 8 | 7 |
| 26. If I learn to speak English very well, it will help me to get a good job. | .67 | No | 76 | 15 | 10 |
| 31. People who speak more than one language well are very intelligent. | .34 | Factor 10 | 67 | 16 | 16 |

Table 6 presents the third factor: *Self-confidence and self-consciousness dependency of foreign language learning.* As can be seen, two out of six beliefs comprising the first logical area of difficulty of language learning, i.e., beliefs 4 and 6, one out of nine comprising the second logical area of foreign language aptitude, i.e., belief 14, and one out of eight beliefs comprising the second logical area of learning and communication strategies, i.e., belief 17, have loaded on this factor. These results show that logical categorization of beliefs under five separate areas lacks factorial validity. They establish self-confidence, believing that the learners will ultimately speak English because they have the aptitude, as a distinct factor which helps the majority of undergraduate and graduate learners (82%) to disagree with the belief that *Learning English is very difficult*.

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**Table 6**
Factor 3: Self-confidence and self-consciousness dependency of foreign language learning

| Belief | Loading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|
| 4. Learning English is very difficult. | -.32 | 8 | 10 | 82 |
| 6. I believe I will ultimately learn to speak English very well. | .75 | 83 | 10 | 7 |
| 14. I have an English aptitude. i.e., have the ability to learn it. | .41 | 71 | 23 | 6 |
| 17. I feel self-conscious speaking English in front of other people. | .37 | 48 | 27 | 25 |

Table 7 presents the fourth factor: *Age, culture, context and practice dependency of language learning*. As can be seen, ***one*** out of nine beliefs comprising the second logical area of foreign language aptitude, i.e., belief 1, and ***two*** out of seven beliefs comprising the third logical area of nature of language learning, i.e., beliefs 8 and 11, and ***two*** out of eight beliefs comprising the fourth logical area of learning and communication strategies, i.e., beliefs 12 and 20, load on factor four. These results provide *further evidence to show that logical categorization of beliefs under five areas lacks factorial validity*.

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**Table 7**
Factor 4: Age, culture, context and practice dependency of foreign language learning

| Beliefs | Loading | Crossloading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|---|
| 1. It is easier for children than adults to learn English. | .37 | No | 91 | 4 | 5 |
| 8. It is necessary to know English culture in order to speak it. | .35 | No | 61 | 20 | 19 |
| 11. It is better to learn English in an English speaking country. | .32 | No | 89 | 5 | 6 |
| 12. If I heard some people speaking English, I would go up to them so that I could practice speaking the language. | .38 | Factor 9 | 69 | 25 | 6 |
| 20. It is important to practice in the language laboratory. | .48 | No | 70 | 17 | 13 |

Table 8 presents the fifth factor: *Learning and communication strategies*. As can be seen, ***four*** out of eight beliefs comprising the fourth logical area of learning and communication strategies, i.e., beliefs 7, 9, 13, and 18, load on factor five. These beliefs do *not* cross load on any other factor and thus provide factorial validity for the logical area of learning and communication strategies within the narrow scope of four beliefs dealing with accent, accuracy, guessing and mistakes.

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**Table 8**
Factor 5: Learning and communication strategies

| Belief | Loading | Crossloading | Agree | Undecided | Disagree |
|---|---|---|---|---|---|
| 7. It is important to speak English with an excellent accent. | .31 | No | 76 | 11 | 13 |
| 9. You should not say anything in English until you can say it correctly. | .44 | No | 14 | 6 | 80 |
| 13. It is okay to guess if you do not know a word in English. | .41 | No | 82 | 11 | 7 |
| 18. If you are allowed to make mistakes in the beginning, it will be hard to get rid of them later on. | .35 | No | 40 | 19 | 40 |

Table 9 presents the sixth factor: *National importance of speaking English*. As can be seen, one out of eight beliefs comprising the fifth logical area of motivation and expectations, i.e., belief 29, loaded highly on factor six (.65) without loading on others. This result differentiates the importance of speaking English as a national priority from the fifth logical area of motivations and expectations and establishes it as a distinct latent variable. The majority of undergraduate and graduate participants (64%) believed that the importance Iranians attach to English is a contributing factor to its being learned.

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**Table 9**
Factors 6, 7 and 8

| Factor | Belief | Loading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|---|
| 6 | 29. Iranians think that it is important to speak English. | .65 | 64 | 22 | 14 |
| 7 | 28. People who are good at math and science are not good at learning English. | .66 | 7 | 34 | 58 |
| 8 | 3. Some languages are easier to learn than others. | .64 | 81 | 12 | 7 |

Table 9 also presents the seventh factor: *Compatibility of science and math with language*. As can be seen, one out of nine beliefs comprising the second logical area of foreign language aptitude, i.e., belief 28, loads highly on factor seven. The majority of undergraduate and graduate participants (58%) do ***not*** believe that *People who are good at math and science are not good at learning English*. The distinctive nature of this belief as a single factor is further emphasized by the fact that it does not cross load on other factors.

In addition to factor 7, Table 9 presents the eighth factor: *Comparative easiness of some languages*. As can be seen, one out of nine beliefs comprising the second logical area of foreign language aptitude, i.e., belief 3, loads highly on factor eight and does not cross load on others. The results given in Tables 17 and 18 emphasize the inappropriateness of logical categorization of learning areas. The majority of undergraduate and graduate participants (81%) believe that *some languages are easier to learn than others* and thus establish it as a distinct latent variable in foreign language acquisition.

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Table 10 presents the ninth factor: *Time and interaction dependency of speaking*. As can be seen, one out of eight beliefs comprising the fourth logical area of learning and communication strategies, i.e., belief 12, and one out of six beliefs comprising the first logical area of difficulty of language learning, i.e. belief 34, loaded on factor nine. The majority of undergraduate and graduate participants (69%) believed that interacting with English speaking people will help them learn it. Since belief 12 also cross loads on factor four, i.e., *Age, culture, context and practice dependency of foreign language learning,* factor 9 attests to the participants' acceptance of age, culture, and practice as latent variables involved in learning speaking. Similarly, 67% of participants believed they would speak English within less than one to two years (if they were in contact with English speakers).

**Table 10**
Factor 9: Time and interaction dependency of speaking

| Belief | Loading | Crossloading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|---|
| 12. If I heard some people speaking English, I would go up to them so that I could practice speaking the language. | .31 | Factor 4 | 69 | 25 | 6 |
| | | | Less than 1 to 2 years | 3-5 years | 10 years or more |
| 34. If someone spent one hour a day learning English, how long would it take him/her to become fluent? | .37 | No | 67 | 16 | 16 |

Table 11 presents the tenth factor: *Hereditary and intelligence dependency of language learning*. As can be seen, ***two*** out of nine beliefs comprising the second logical area of foreign language aptitude, i.e., beliefs 2 and 31, load on factor 10. The majority of undergraduate and graduate participants (56%) believed *some people are born with a special ability*

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*which helps them learn English*. Sixty-nine percent of participants also believe that the special inherited ability is further backed up by the intelligence of those who speak more than one language.

**Table 11**
Factor 10: Hereditary and intelligence dependency of language learning

| Belief | Loading | Crossloading | Agree% | Undecided% | Disagree% |
|---|---|---|---|---|---|
| 2. Some people are born with a special ability which helps them learn English. | .48 | No | 56 | 20 | 24 |
| 31. People who speak more than one language well are very intelligent. | .33 | Factor 2 | 69 | 16 | 15 |

Table 12 presents the eleventh factor: *National aptitude in learning English*. As can be seen, *one* out of nine beliefs comprising the second logical area of foreign language aptitude, i.e., belief 32, loaded on factor 11 (.41) without loading on others. Fifty percent of undergraduate and graduate participants believed that *Iranians are good at learning English*. Thus the results presented in the table establish *national aptitude in learning English* as a distinct factor in its own right.

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**Table 12**
Factors 11, 12, 13 and 14

| Factor | Belief | **Loading** | **Agree%** | **Undecided%** | **Disagree%** |
|---|---|---|---|---|---|
| 11 | 32. Iranians are good at learning English. | .41 | 50 | 37 | 13 |
| 12 | 33. Everyone can learn to speak English. | .57 | 79 | 13 | 8 |
| 13 | 21. Women are better than men at learning English. | .53 | 20 | 46 | 34 |
| 14 | 5. English is structured in the same way as Persian. | .41 | 11 | 22 | 67 |

Table 12 also presents the twelfth factor: *Learnability of speaking English*. As can be seen, belief 33 has a loading of .57 on this latent variable and thus establishes learnability of speaking English as a popularly held belief with which the majority of 418 learners, i.e., 79%, agree. This factor, therefore, has a construct validity which is factorially distinct from the second logical area of foreign language aptitude. The unique nature of this belief as a distinct latent variable is further empahsised by the observation that it shows no loading higher than 0.30 on other factors.

In addition to factors 11 and 12, Table 12 presents the thirteenth factor: *Gender-independency of English learning*. While the logical categorization of belief 21 considers gender as a foreign language aptitude, the high loading of this belief on a single factor, i.e., .53, without cross loading on others highlights the irrelevance of gender in foreign language learning.

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While 34% of undergraduate and graduate students disagree that *women are better than men at learning English*, the majority (46%) have taken a neutral stance.

And finally, Table 12 presents the last factor: *Structural dissimilarity of Persian and English*. As can be seen, *one* out of five beliefs comprising the third logical area of the nature of language learning, i.e., belief 5, loaded on factor 14 (.41) without loading on others. The majority of 418 undergraduate and graduate learners (67%) disagreed with the belief that *English is structured in the same way as Persian*.

**Beliefs and Educational Level**

In order to explore the third hypothesis that *the beliefs of sophomore undergraduate learners will be significantly different from senior undergraduate and graduate participants*, one way ANOVA analysis was applied to the data. The results showed educational level brings about significant difference in eleven (32%) out of 34 beliefs, i.e., 1, 7, 9, 11, 15, 18, 19, 21, 25, 28 and 32.

Table 13 presents the descriptive statistics of belief 1: *It is easier for children than adults to learn English*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly ($F = 3.43$, $df = 2$, $p < .03$) in their belief. Scheffe post hoc test, however, showed that only sophomore undergraduate participants' belief differed significantly from graduate participants ($MD = 0.254$, $p < .04$), implying that senior undergraduate participants held the same belief as graduates.

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**Table 13**
Descriptive statistics of belief 1

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Upper Bound | Lower Bound | | |
| graduate | 49 | 1.35 | .694 | .099 | 1.15 | 1.55 | 1 | 3 |
| sophomore* | 86 | 1.09 | .364 | .039 | 1.02 | 1.17 | 1 | 3 |
| senior* | 91 | 1.24 | .638 | .067 | 1.11 | 1.37 | 1 | 3 |
| total | 226 | 1.21 | .570 | .038 | 1.13 | 1.28 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 14 presents the descriptive statistics of belief 7: *It is important to speak English with an excellent accent.* One way ANOVA analysis showed that undergraduate and graduate participants differed significantly ($F = 7.53$, $df = 2$, $p < .001$) in their belief. Scheffe post hoc test, showed that sophomore undergraduate participants' belief differed significantly not only from graduate participants ($MD = 0.438$, $p < .002$), but also from senior undergraduate students ($MD = 0.309$, $p < .013$).

**Table 14**
Descriptive statistics of belief 7

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Upper Bound | Lower Bound | | |
| Graduate | 49 | 1.61 | .812 | .116 | 1.38 | 1.85 | 1 | 3 |
| Sophomore* | 86 | 1.17 | .465 | .050 | 1.07 | 1.27 | 1 | 3 |
| Senior* | 91 | 1.48 | .794 | .083 | 1.32 | 1.65 | 1 | 3 |
| Total | 226 | 1.39 | .712 | .047 | 1.30 | 1.49 | 1 | 3 |

* Sophomore and senior undergraduate students

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Table 15 presents the descriptive statistics of belief 9: *You should not say anything in English until you can say it correctly*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 3.06, df = 2, p <.049) in their belief. Scheffe post hoc test, however, revealed significant differences neither between sophomore undergraduate and graduate students nor senior undergraduate and graduate students.

**Table 15**
Descriptive statistics of belief 9

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Upper Bound | Lower Bound | | |
| Graduate | 49 | 2.92 | .400 | .057 | 2.80 | 3.03 | 1 | 3 |
| Sophomore* | 86 | 2.65 | .716 | .077 | 2.50 | 2.80 | 1 | 3 |
| Senior* | 91 | 2.67 | .684 | .072 | 2.53 | 2.81 | 1 | 3 |
| Total | 226 | 2.72 | .653 | .043 | 2.63 | 2.80 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 16 presents the descriptive statistics of belief 11: *It is better to learn English in an English speaking country*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 3.29, df = 2, p <.039) in their belief. However, similar to belief 9, Scheffe post hoc test revealed significant differences neither between sophomore undergraduate and graduate students nor senior undergraduate and graduate students.

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**Table 16**
Descriptive statistics of belief 11

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 1.14 | .408 | .058 | 1.03 | 1.26 | 1 | 3 |
| Sophomore* | 86 | 1.33 | .710 | .077 | 1.17 | 1.48 | 1 | 3 |
| Senior* | 91 | 1.12 | .468 | .049 | 1.02 | 1.22 | 1 | 3 |
| Total | 226 | 1.20 | .568 | .038 | 1.13 | 1.28 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 17 presents the descriptive statistics of belief 15: *Learning English is mostly a matter of learning many new vocabulary words*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly ($F = 10.52$, $df = 2$, $p < .000$) in their belief. Scheffe post hoc test showed that sophomore undergraduate participants' belief differed significantly not only from graduate participants ($MD = 0.716$, $p < .000$) but also from senior undergraduate students ($MD = 0.451$, $p < .015$).

**Table 17**
Descriptive statistics of belief 15

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 2.29 | .866 | .124 | 2.04 | 2.53 | 1 | 3 |
| Sophomore* | 86 | 1.57 | .834 | .090 | 1.39 | 1.75 | 1 | 3 |
| Senior* | 91 | 1.84 | .910 | .095 | 1.65 | 2.02 | 1 | 3 |
| Total | 226 | 1.83 | .908 | .060 | 1.71 | 1.95 | 1 | 3 |

* Sophomore and senior undergraduate students

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Table 18 presents the descriptive statistics of belief 18: *If you are allowed to make mistakes in the beginning, it will be hard to get rid of them later on*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 12.12, df = 2, p <.000) in their belief. Scheffe post hoc test showed that sophomore undergraduate participants' belief differed significantly not only from graduate participants (MD = 0.755, p < .000), but also from senior undergraduate students (MD = 0.581, p < .001).

**Table 18**
Descriptive statistics of belief 18

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 2.59 | .734 | .105 | 2.38 | 2.80 | 1 | 3 |
| Sophomore* | 86 | 1.84 | .919 | .099 | 1.64 | 2.03 | 1 | 3 |
| Senior* | 91 | 2.01 | .888 | .093 | 1.83 | 2.20 | 1 | 3 |
| Total | 226 | 2.07 | .911 | .061 | 1.95 | 2.19 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 19 presents the descriptive statistics of belief 19: *Learning English is mostly a matter of learning many of grammar rules*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 4.308, df = 2, p <.015) in their belief. Scheffe post hoc test showed that only sophomore undergraduate participants' belief differed significantly from graduate participants (MD = 0.435, p < .015).

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**Table 19**
Descriptive statistics of belief 19

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 2.63 | .755 | .108 | 2.42 | 2.85 | 1 | 3 |
| Sophomore* | 86 | 2.20 | .892 | .096 | 2.01 | 2.39 | 1 | 3 |
| Senior* | 91 | 2.32 | .815 | .085 | 2.15 | 2.49 | 1 | 3 |
| Total | 226 | 2.34 | .845 | .056 | 2.23 | 2.45 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 20 presents the descriptive statistics of belief 21: *Women are better than men at learning English.* One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 5.002, df = 2, p <.007) in their belief. Scheffe post hoc test showed that only senior undergraduate participants' belief differed significantly from graduate participants (MD = 0.361, p < .015).

**Table 20**
Descriptive statistics of belief 21

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 2.31 | .619 | .088 | 2.13 | 2.48 | 1 | 3 |
| Sophomore* | 86 | 2.19 | .660 | .071 | 2.04 | 2.33 | 1 | 3 |
| Senior* | 91 | 1.95 | .765 | .080 | 1.79 | 2.10 | 1 | 3 |
| Total | 226 | 2.12 | .709 | .047 | 2.02 | 2.21 | 1 | 3 |

* Sophomore and senior undergraduate students

Table 21 presents the descriptive statistics of belief 28: *People who are good at math and science are not good at learning English.* One way

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ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 3.11, df = 2, p <.047) in their belief. However, similar to belief 9 and 11, Scheffe post hoc test revealed significant differences neither between sophomore undergraduate and graduate students nor senior undergraduate and graduate students

**Table 21**
Descriptive statistics of belief 28

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 2.65 | .561 | .080 | 2.49 | 2.81 | 1 | 3 |
| Sophomore* | 86 | 2.43 | .678 | .073 | 2.28 | 2.58 | 1 | 3 |
| Senior* | 91 | 2.63 | .551 | .058 | 2.51 | 2.74 | 1 | 3 |
| Total | 226 | 2.56 | .610 | .041 | 2.48 | 2.64 | 1 | 3 |

***** Sophomore and senior undergraduate students

Table 22 presents the descriptive statistics of belief 32: *Iranians are good at learning English*. One way ANOVA analysis showed that undergraduate and graduate participants differed significantly (F = 6.02, df = 2, p <.003) in their belief. Scheffe post hoc test, showed that senior undergraduate participants' belief differed significantly not only from graduate participants (MD = 0.339, p < .02), but also from sophomore undergraduate students (MD = 0.305, p < .012).

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**Table 22**
Descriptive statistics of belief 32

| Level | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | minimum | maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | upper bound | lower bound | | |
| Graduate | 49 | 1.41 | .674 | .096 | 1.21 | 1.60 | 1 | 3 |
| Sophomore* | 86 | 1.44 | .606 | .065 | 1.31 | 1.57 | 1 | 3 |
| Senior* | 91 | 1.75 | .739 | .077 | 1.59 | 1.90 | 1 | 3 |
| Total | 226 | 1.56 | .692 | .046 | 1.47 | 1.65 | 1 | 3 |

* Sophomore and senior undergraduate students

***Beliefs and Academic Achievement***

The grade point average obtained by 86 sophomore undergraduate participants were submitted to one way ANOVA analysis to explore the hypothesis that *the beliefs of sophomore undergraduate learners will be significantly related to their academic achievement.* The results showed that the hypothesis holds true for only 5 beliefs (≈ 15%), i.e., 2, 4, 19, 24 and 25. (The GPAs of sophomore participants on the 34 beliefs explored by the BALLI are given in Appendix 2)

Table 23 presents the grade point average (GPA) of the 86 sophomore participants and their belief on the hereditary nature of learning English as a foreign language (EFL). As can be seen, the GPAs of 15% of learners who are undecided on the belief that *some people are born with a special ability which helps them learn English* are significantly higher than those who agree (57%) or disagree (28%) [$F = 4.21$, $df = 2$, $p < .02$]. This finding then shows that factor 10, i.e., *hereditary dependency of language learning,* is significantly related to English learners' academic success.

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**Table 23**
Hereditary and Academic Achievement of undergraduate sophomore participants

| **Belief** | | **Agree** | **Undecided** | **Disagree** |
|---|---|---|---|---|
| 2. Some people are born with a special ability which helps them learn English. | Percentage | 57% | 15% | 28% |
| | GPA (Mean) | 16.6 | 16.9 | 15.7 |

Table 24 presents the GPA of the 86 sophomore participants and belief on learning difficulty. As can be seen, the GPA of 6% of learners who agree with the belief that *Learning English is very difficult* is significantly lower than 86% of participants who disagree ($F = 8.89$, $df = 2$, $p < .000$). Since this belief loads negatively on factor 3 (-.32), i.e., s*elf-confidence and self-consciousness dependency of foreign language learning*, this finding indicates that there is a positive relationship between EFL learning and self-confidence.

**Table 24**
Learning difficulty and academic achievement

| **Belief** | | **Agree** | **Undecided** | **Disagree** |
|---|---|---|---|---|
| 4. Learning English is very difficult. | Percentage | 6% | 8% | 86% |
| | GPA (Mean) | 13.9 | 16.2 | 16.6 |

Table 25 presents the GPA of the 86 sophomore participants and their belief on English grammar. As can be seen, 51% of learners who do ***not*** believe that *learning English is mostly a matter of learning many of grammar rules*, have obtained GPAs which are significantly higher than others ($F = 3.60$, $df = 2$, $p < .03$). Since this belief has the highest loading on factor 1 (.61), *nature of language learning*, providing English learners with a more comprehensive knowledge of language nature, will result in their higher academic success.

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**Table 25**
Grammar and Academic Achievement

| Belief | | Agree | Undecided | Disagree |
|---|---|---|---|---|
| 19. Learning English is mostly a matter of learning many of grammar rules. | Percentage | 31% | 17% | 51% |
| | GPA (Mean) | 16.1 | 15.7 | 16.8 |

Table 26 presents the GPA of the 86 sophomore participants and their belief on the difference between English and other school subjects. As can be seen, 60% of learners who believe that *learning English is different from learning other school subjects* have obtained GPAs which are significantly higher than those who disagree ($F = 3.12$, $df = 2$, $p < .05$). (Belief 24 is among the six beliefs which did not load meaningfully on any factor, i.e., 0.30 and higher.)

**Table 26**
School subjects and Academic Achievement

| Belief | | Agree | Undecided | Disagree |
|---|---|---|---|---|
| 24. Learning English is different from learning other school subjects. | Percentage | 60% | 20% | 20% |
| | GPA (Mean) | 16.5 | 16.9 | 15.7 |

Table 27 presents the GPA of the 86 sophomore participants and their belief on translation. As can be seen, the GPA of 17% of learners who believe that *learning English is mostly a matter of translating from English into Persian* is significantly lower than 69 % of those participants who disagree ($F = 7.68$, $df = 2$, $p < .001$). This belief has a very high loading on the first factor (.57), and thus reveals a positive and significant relationship between familiarity with the nature of language and academic success.

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**Table 27**
Translation and Academic Achievement

| Belief | | Agree | Undecided | Disagree |
|---|---|---|---|---|
| 25. Learning English is mostly a matter of translating from English into Persian. | Percentage | 17% | 14% | 69% |
| | GPA (Mean) | 15.2 | 16.3 | 16.7 |

## Conclusions

The BALLI has factorial validity in Iran because its 28 beliefs load on 14 factors as its latent variables, i.e., (1) nature of language learning, (2) motivation and intelligence, (3) self-confidence and self-consciousness, (4) age, culture, context and practice, (5) learning and communication strategies, (6) national importance of speaking English, (7) compatibility of science and math with language, (8) comparative easiness of some languages, (9) time and interaction, (10) hereditary and intelligence, (11) national aptitude, (12) learnability of speaking, (13) gender-independency, and (14) structural dissimilarity of Persian and English.

Although the primary justification for the aggregation of individual items as factors in a psychological instrument is to have a "meaningful overall score" (McIntosh, 2008, p. 6), the BALLI lacks such an index. The large number of factors obtained in this study provides the evidence required to show the inappropriateness of an overall score for the BALLI as suggested by Horwitz (1985).

Among the 14 factors validated in this study, six change as a result of formal education, i.e., nature of language learning, self-confidence and self-consciousness, learning and communication strategies, compatibility of science and math with language, national aptitude and gender-independency. Since the participants of the present study were all majoring

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in English, future research should reveal whether majoring in other fields such as science and engineering bring about similar changes in factors.

In addition to educational level, three out of 14 factors revealed significant relationships with academic achievement. The learners who disagreed that *learning English is mostly a matter of learning many of grammar rules* and *learning English is mostly a matter of translating from English into Persian* obtained significantly higher GPAs than those who were undecided or agreed, indicating that foreign learners need to be taught regarding the nature of language learning as the first factor.

The GPAs of the participants who disagreed with the belief that *learning English is very difficult* was also significantly higher than those who agreed or were undecided, indicating that educational materials dealing with the second factor, i.e., self-confidence and self-consciousness, should be incorporated at the very beginning of foreign language teaching programs. Those learners who have lower proficiency should be helped out right at the early stage of foreign language learning by offering remedial classes so that they won't get disappointed by their low GPAs and increasing loss of self-confidence and self-consciousness.

As the third factor, the belief on hereditary and intelligence showed a significant relationship with academic achievement in that the participants who were undecided whether *some people are born with a special ability which helps them learn English* obtained the GPAs which were significantly higher than those who disagreed or agreed indicating that foreign language learners need to be taught that those who rely on studying and thus meet educational requirements are more successful than those who depend on their linguistic inheritance and intelligence.

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And finally, there are six beliefs which neither loaded on any factor nor revealed any relationship with educational level. These beliefs call for further research to establish their relevance to foreign language learning, particularly belief 24. The GPAs of the participants who were undecided regarding the belief that *learning English is different from learning other school subjects* was significantly higher than their disagreeing or agreeing peers. Future research with larger samples taken from fields other than English as a foreign languages may shed further lights on the beliefs whose factorial validity was not established in this study.

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**Appendix**
**1: Bio-questionnaire**

Please, give short answers to questions or check the box applying to you.

1. Name and family name: _____

2. I am a student of _____ (write the name of your university, please.)

3. I am a ☐ freshman ☐ sophomore ☐ junior ☐ senior

4. I am _____ years old.

5. I am a ☐ Male/ ☐ Female student

6. My total grade point average (GPA) is _____ (please add up your GPAs during the past few terms and take their average. If you are in your second term, write your GPA in the first semester.

7. I am a ☐ BA/BSc. ☐ MA/MSc. ☐ Doctorate ☐ PhD

8. I speak ☐ Arabic ☐ English ☐ Kurdish ☐ Persian ☐ Turkish with my parents and brothers and sisters. If you speak any language other the above-mentioned ones, please write the name _____

9. What field/major are you studying now?
_____

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10. Have you ever travelled to or lived in a foreign country? ☐ Yes ☐ No

If you answer to question 10 is positive, which country?

_____

If you answer to question 10 is positive, how long? _____

11. Have you taken part in English classes in institutes? ☐ Yes ☐ No

If you answer to question 11 is positive, which institute?

_____

If you answer to question 11 is positive, how long? _____

12. Have you ever taught the English language publicly or privately? ☐ Yes ☐ No

If you answer to question 10 is positive, how long? _____

**Appendix 2**

*The three points chosen by sophomore and senior undergraduate as well as graduate students on the BALLI (All results are expressed as percentage)*

| Belief | Educational Level | Agree | Undecided | Disagree |
|---|---|---|---|---|
| 1. It is easier for children than adults to learn English. | Undergraduate: Sophomore | 93 | 5 | 2 |
| | GPA (Mean) | 16.4 | 16.7 | 15.7 |
| | Undergraduate: Senior | 87 | 2 | 11 |
| | Graduate | 78 | 10 | 12 |
| 2. Some people are born with a special ability which helps them learn English. | Undergraduate: Sophomore | 57 | 15 | 28 |
| | GPA (Mean) | 16.6 | 16.9 | 15.7 |
| | Undergraduate: Senior | 60 | 20 | 20 |

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| | | | | |
|---|---|---|---|---|
| | Graduate | 55 | 16 | 29 |
| 3. Some languages are easier to learn than others. | Undergraduate: Sophomore | 85 | 9 | 6 |
| | GPA (Mean) | 16.5 | 16.1 | 15.5 |
| | Undergraduate: Senior | 84 | 12 | 4 |
| | Graduate | 71 | 16 | 12 |
| 4. Learning English is very difficult. | Undergraduate: Sophomore | 6 | 8 | 86 |
| | GPA (Mean) | 13.9 | 16.2 | 16.6 |
| | Undergraduate: Senior | 4 | 8 | 88 |
| | Graduate | 8 | 4 | 88 |
| 5. English is structured in the same way as Persian. | Undergraduate: Sophomore | 5 | 26 | 70 |
| | GPA (Mean) | 15.7 | 16.3 | 16.5 |
| | Undergraduate: Senior | 16 | 20 | 64 |
| | Graduate | 10 | 14 | 76 |
| 6. I believe I will ultimately learn to speak English very well. | Undergraduate: Sophomore | 90 | 7 | 3 |
| | GPA (Mean) | 16.4 | 16.3 | 16.2 |
| | Undergraduate: Senior | 88 | 8 | 4 |
| | Graduate | 88 | 10 | 2 |
| 7. It is important to speak English with an excellent accent. | Undergraduate: Sophomore | 86 | 10 | 3 |
| | GPA (Mean) | 16.4 | 16.5 | 16.4 |
| | Undergraduate: Senior | 70 | 11 | 19 |
| | Graduate | 59 | 20 | 20 |
| 8. It is necessary to know English | Undergraduate: Sophomore | 64 | 22 | 14 |

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| | | | | |
|---|---|---|---|---|
| culture in order to speak it. | GPA (Mean) | 16.5 | 16.3 | 16.1 |
| | Undergraduate: Senior | 63 | 16 | 21 |
| | Graduate | 71 | 12 | 16 |
| 9. You should not say anything in English until you can say it correctly. | Undergraduate: Sophomore | 14 | 7 | 79 |
| | GPA (Mean) | 16.7 | 17.3 | 16.3 |
| | Undergraduate: Senior | 12 | 9 | 79 |
| | Graduate | 4 | 0 | 96 |
| 10. It is easier for someone who already speaks a foreign language to learn another one. | Undergraduate: Sophomore | 64 | 23 | 13 |
| | GPA (Mean) | 16.3 | 16.8 | 16.2 |
| | Undergraduate: Senior | 70 | 19 | 11 |
| | Graduate | 65 | 24 | 10 |
| 11. It is better to learn English in an English speaking country. | Undergraduate: Sophomore | 81 | 5 | 14 |
| | GPA (Mean) | 16.5 | 15.4 | 16.0 |
| | Undergraduate: Senior | 93 | 1 | 5 |
| | Graduate | 88 | 10 | 2 |
| 12. If I heard some people speaking English, I would go up to them so that I could practice speaking the language. | Undergraduate: Sophomore | 73 | 21 | 6 |
| | GPA (Mean) | 16.4 | 16.2 | 16.8 |
| | Undergraduate: Senior | 68 | 27 | 4 |
| | Graduate | 65 | 29 | 6 |
| 13. It is okay to guess if you do not know a word in English. | Undergraduate: Sophomore | 79 | 14 | 7 |
| | GPA (Mean) | 16.5 | 15.8 | 15.9 |
| | Undergraduate: Senior | 88 | 9 | 3 |

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| | | | | |
|---|---|---|---|---|
| | Graduate | 90 | 4 | 6 |
| 14. I have an English aptitude. i.e., have the ability to learn it. | Undergraduate: Sophomore | 67 | 24 | 8 |
| | GPA (Mean) | 16.6 | 16.1 | 15.7 |
| | Undergraduate: Senior | 79 | 18 | 3 |
| | Graduate | 69 | 31 | 0 |
| 15. Learning English is mostly a matter of learning many new vocabulary words. | Undergraduate: Sophomore | 65 | 13 | 22 |
| | GPA (Mean) | 16.2 | 16.7 | 16.8 |
| | Undergraduate: Senior | 51 | 15 | 34 |
| | Graduate | 27 | 18 | 55 |
| 16. It is important to repeat and practice often. | Undergraduate: Sophomore | 97 | 0 | 3 |
| | GPA (Mean) | 16.4 | 15.6 | 16.4 |
| | Undergraduate: Senior | 95 | 3 | 2 |
| | Graduate | 90 | 8 | 2 |
| 17. I feel self-conscious speaking English in front of other people. | Undergraduate: Sophomore | 56 | 27 | 17 |
| | GPA (Mean) | 16.5 | 16.2 | 16.3 |
| | Undergraduate: Senior | 44 | 30 | 26 |
| | Graduate | 49 | 29 | 22 |
| 18. If you are allowed to make mistakes in the beginning, it will be hard to get rid of them later on. | Undergraduate: Sophomore | 51 | 14 | 35 |
| | GPA (Mean) | 16.2 | 16.4 | 16.7 |
| | Undergraduate: Senior | 38 | 22 | 40 |
| | Graduate | 14 | 12 | 73 |
| 19. Learning English is mostly | Undergraduate: Sophomore | 31 | 17 | 51 |

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| | | | | |
|---|---|---|---|---|
| a matter of learning many of grammar rules. | GPA (Mean) | 16.1 | 15.7 | 16.8 |
| | Undergraduate: Senior | 22 | 24 | 54 |
| | Graduate | 16 | 4 | 80 |
| 20. It is important to practice in the language laboratory. | Undergraduate: Sophomore | 72 | 17 | 10 |
| | GPA (Mean) | 16.5 | 15.9 | 16.4 |
| | Undergraduate: Senior | 67 | 15 | 18 |
| | Graduate | 61 | 20 | 18 |
| 21. Women are better than men at learning English. | Undergraduate: Sophomore | 14 | 53 | 33 |
| | GPA (Mean) | 16.5 | 16.6 | 15.9 |
| | Undergraduate: Senior | 32 | 42 | 26 |
| | Graduate | 8 | 53 | 39 |
| 22. If I speak English very well, I will have many opportunities to use it. | Undergraduate: Sophomore | 90 | 5 | 6 |
| | GPA (Mean) | 16.4 | 15.6 | 16.7 |
| | Undergraduate: Senior | 84 | 9 | 8 |
| | Graduate | 78 | 14 | 8 |
| 23. It is easier to speak than understand English. | Undergraduate: Sophomore | 19 | 28 | 53 |
| | GPA (Mean) | 16.3 | 16.4 | 16.5 |
| | Undergraduate: Senior | 20 | 23 | 57 |
| | Graduate | 20 | 6 | 73 |
| 24. Learning English is different from learning other school subjects. | Undergraduate: Sophomore | 60 | 20 | 20 |
| | GPA (Mean) | 16.5 | 16.9 | 15.7 |
| | Undergraduate: Senior | 59 | 25 | 15 |

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| | | | | |
|---|---|---|---|---|
| | Graduate | 76 | 10 | 14 |
| 25. Learning English is mostly a matter of translating from English into Persian. | Undergraduate: Sophomore | 17 | 14 | 69 |
| | GPA (Mean) | 15.2 | 16.3 | 16.7 |
| | Undergraduate: Senior | 10 | 16 | 74 |
| | Graduate | 4 | 8 | 88 |
| 26. If I learn to speak English very well, it will help me to get a good job. | Undergraduate: Sophomore | 76 | 10 | 14 |
| | GPA (Mean) | 16.4 | 16.1 | 16.8 |
| | Undergraduate: Senior | 70 | 15 | 14 |
| | Graduate | 76 | 16 | 8 |
| 27. It is easier to read and write English than to speak and understand it. | Undergraduate: Sophomore | 31 | 17 | 51 |
| | GPA (Mean) | 16.1 | 16.9 | 16.4 |
| | Undergraduate: Senior | 30 | 16 | 54 |
| | Graduate | 22 | 16 | 61 |
| 28. People who are good at math and science are not good at learning English. | Undergraduate: Sophomore | 10 | 36 | 53 |
| | GPA (Mean) | 15.8 | 16.7 | 16.3 |
| | Undergraduate: Senior | 3 | 31 | 66 |
| | Graduate | 4 | 27 | 69 |
| 29. Iranians think that it is important to speak English. | Undergraduate: Sophomore | 67 | 20 | 13 |
| | GPA (Mean) | 16.2 | 16.9 | 16.8 |
| | Undergraduate: Senior | 67 | 20 | 13 |
| | Graduate | 80 | 12 | 8 |
| 30. I would like to learn English so | Undergraduate: Sophomore | 77 | 19 | 5 |

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| | | | | |
|---|---|---|---|---|
| that I can get to know its speakers better. | GPA (Mean) | 16.3 | 16.8 | 16.2 |
| | Undergraduate: Senior | 65 | 26 | 9 |
| | Graduate | 61 | 31 | 8 |
| 31. People who speak more than one language well are very intelligent. | Undergraduate: Sophomore | 66 | 17 | 16 |
| | GPA (Mean) | 16.4 | 16.6 | 15.9 |
| | Undergraduate: Senior | 74 | 11 | 15 |
| | Graduate | 61 | 18 | 20 |
| 32. Iranians are good at learning English. | Undergraduate: Sophomore | 62 | 33 | 6 |
| | GPA (Mean) | 16.3 | 16.5 | 16.8 |
| | Undergraduate: Senior | 43 | 40 | 18 |
| | Graduate | 69 | 20 | 10 |
| 33. Everyone can learn to speak English. | Undergraduate: Sophomore | 81 | 9 | 9 |
| | GPA (Mean) | 16.3 | 17.3 | 15.9 |
| | Undergraduate: Senior | 73 | 10 | 18 |
| | Graduate | 78 | 18 | 4 |

| **Belief** | **Level** | 1-2 years | 3-5 years | 10 years or more |
|---|---|---|---|---|
| 34. If someone spent one hour a day learning English, how long would it take him/her to become fluent? | Undergraduate: Sophomore | 67 | 13 | 20 |
| | GPA (Mean) | 16.4 | 16.3 | 16.4 |
| | Undergraduate: Senior | 74 | 13 | 13 |
| | Graduate | 59 | 29 | 12 |

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