



A Cross-Linguistic Study of Lexical Stress Sensitivity and Listening Ability of Iranian EFL learners: A Comparison between Monolinguals and Bilinguals

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Abstract: The current study aimed to examine the correlations between lexical stress sensitivity and listening ability of Iranian EFL learners with a focus on comparing Persian monolinguals and Baluchi-Persian bilinguals. The participants of the study were 44 monolingual EFL learners whose first language was Persian and 48 bilingual EFL learners speaking both Persian and Baluchi. Regarding their level of language proficiency, both groups were intermediate, based on the results of the Oxford Placement Test. A 30-item lexical stress sensitivity test and a 10-item listening comprehension test were administered to respectively determine the subjects' level of lexical stress sensitivity and their listening comprehension ability. The results of the data analyses revealed that there is a significant difference between lexical stress sensitivity in monolingual and bilingual Iranian EFL learners. This may indicate the effectiveness of the mother tongue and the advantage of bilinguals over monolinguals when learning a new language. Furthermore, no correlation was found between lexical stress sensitivity in particular and the listening ability of either monolinguals or bilinguals in general. These findings imply that although bilinguals are definitely more sensitive toward stress placement, this sensitivity does not necessarily lead to better listening comprehension, indicating that recognizing the stress placement in individual words is perhaps only one among many of the factors that can be relevant to the overall listening ability.

Keywords: Persian Monolinguals, Baluchi-Persian Bilinguals, Lexical Stress Sensitivity, Listening Comprehension.

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Introduction

Language in spoken form contains a range of acoustic signals including prosodic features such as intonation, rhythm, and lexical stress. Lexical stress or word stress, as defined by Cutler and Jesse (2021), is the accentuation of syllables within a word. Andrikopoulou et al. (2021) also defined lexical stress as the relative prominence, or contrast, between syllables within a word, which often involves variations in acoustic features such as intensity, pitch, and duration. There are cross-linguistic differences regarding the realization and function of stress. The syllables of polysyllabic words differ in their relative salience in lexical-stress languages such as English. In such cases, some syllables are more prominent and are perceived as more salient than other syllables. On the other hand, fixed-stress languages stand wherein stress is mostly allocated to the same syllable position in all lexical items. Considering the fact that Persian is a fixed-stress language (Ghorbani, 2019), English and Persian, are in essence, categorized differently concerning their patterns of lexical stress (Hashemian et al., 2010), and hence if Persian second language learners are not aware of or sensitive toward such cross-linguistic differences, they might encounter difficulties in their accurate pronunciation of English words and it may also affect their listening ability.

Although contrastive analyses have been overruled generally in the field of second language acquisition, they play a crucial role when it comes to pronunciation, accent, perceptual ability, and listening comprehension in a second language (Morrison, 2002; Flege et al. 1997). The persistent effect of learners' first language on the perception of the spoken form of the second language is an agreed-upon matter (Ou, 2016). It is a well-established issue that learners from non-stress languages have difficulty in the perception and pronunciation of lexical stress languages (Gibson & Bernales, 2020; Dong et al., 2013; Marren, 2011; Demirezen, 2012). Hence, it is a necessity that more cross-linguistic studies be carried out to truly understand the extent of differences (if any) in lexical stress sensitivity and its relation to the listening ability of second-language learners from various first-language backgrounds and various levels of proficiency. This matter gains more importance when it comes to languages that have different patterns of lexical stress or dissimilar word-level prominence like Persian (Abolhasanizadeh et al., 2012; Rahmani et al., 2015) and English (June, 2005). English has a distinct stress and intonation pattern which is not lost even in the fastest speech (Buck, 2001). However, according to Sadeghi (2017), previous literature has demonstrated that in Persian, stressed and unstressed syllables are not distinguished from each other in the absence of accentuation.

According to Rind et al. (2021), Baluchi and Persian are grouped in the category of related languages. In their study on Baluchi, Soohani et al. (2011) showed that the stress pattern in complex words demonstrates that the suffixes attract the primary stress. In their most recent study, Soohani et al. (2021) concluded that Baluchi is among the languages that admit all types of heterosyllabic clusters. They depicted that Baluchi language is an instance of nucleus-weight language wherein heavy syllables are reliant on the number of components in the nucleus and the context-dependent weight of CVC syllables affects the stress pattern system. In this regard, Baluchi is like English. This study, therefore, aims to compare the lexical stress sensitivity of Persian and Baluchi-speaking learners of English and explore any possibly related differences they might show in their English listening comprehension ability.

Regarding the importance of listening ability, Rost (2001) mentions that “a key difference between more successful and less successful acquirers relates in large part to their ability to use listening as a means of acquisition” (p. 94). Listening comprehension which is an invisible cognitive operation (Brindley & Wigglesworth, 1997, p. 65) and the most frequently used mode of human communication is highly reliant on the accurate recognition of stress patterns in both individual lexical items and whole sentences. Listeners are more likely to pay attention to content words, stress, and intonation rather than function words and grammar (Kurita, 2012). In his review of the latest studies on listening comprehension, Kurita (2012) pointed to the importance of prosodic cues including stress and intonation in the development of listening comprehension. Therefore, there are firm ties between listening ability and recognition of stress, whether at the lexical or sentential levels.

Unfortunately, the comparison between monolinguals and bilinguals, speaking languages with different prosodic systems, with regard to their lexical stress sensitivity and listening comprehension ability has not received due consideration from the researchers in the field of second language acquisition. Thus, the current study sets out to fill this recognized lacuna and aims to compare the lexical stress sensitivity of Persian-speaking monolinguals and Baluchi-Persian-speaking bilinguals who are learning English and to explore any possible related differences they might show in their English listening comprehension ability. It is anticipated that the results of this study will shed more light on the possible differences between monolinguals and bilinguals attempting to learn a new language. The examination of lexical sensitivity may also deepen our understanding regarding difficulties in listening comprehension and pronunciation and thereby would assist second language learners and instructors.

Review of the Literature

In this section, some of the studies that have scrutinized the relationship between lexical stress sensitivity and some other factors such as lexical tone sensitivity, phonetic transcription, and reading ability are reviewed so as to demonstrate the gap in the literature that the current study has set out to fill.

Some researchers have examined the contribution of lexical tone sensitivity to lexical stress sensitivity. In one such study, Choi et al. (2017) investigated this matter with regard to Cantonese and English speakers. Five hundred and sixteen participants were tested on their lexical tone sensitivity and working memory. Structural equation modeling was utilized to analyze the data. The results uncovered that Cantonese lexical tone sensitivity contributed to English lexical stress sensitivity. These results suggest that the association between tone and stress is mediated by joint phonological and acoustic processes underlying lexical tone and lexical stress perception. The implication of these findings for the present study is that they show the first language prosodic features (for example Cantonese lexical tone sensitivity) can affect the lexical stress sensitivity in the target language, and hence it is worthwhile to explore whether or not other prosodic features of the first language like its lexical stress pattern would be similarly effective.

The majority of the studies in this field have scrutinized the relationship between reading and prosody, in particular lexical stress. For instance, Guttierrez-Palma et al. (2016) measured the awareness of lexical stress via the ability to detect the loudest syllable in non-words. The target language was Spanish and the tests utilized in this study included a test of phonemic awareness skills, a lexical stress awareness task, and a reading aloud task. The results of the study advocated the positive impact of prosodic knowledge on the ability to read Spanish words. Another point revealed in this study was the relationship between lexical stress awareness and stress reading errors. On the other hand, there was no relationship between phonemic awareness and stress errors.

In his dissertation, Park (2018) also took up the same issue and conducted two studies. In study 1, he examined sensitivity to different cues containing orthographic and morphological cues to stress assignment during multisyllabic non-word reading. The participants were 41 bilingual adults. They spoke Korean and English. In study 2, he investigated the relationship between stress cue sensitivity and reading ability. These studies indicated that participants relied on both types of stress cues. It was also revealed that there is an association between lexical stress sensitivity and word reading in English. The sensitivity of

bilinguals to the two aforementioned stress cues especially orthographic ones was also attested.

In another akin study, Kim and Petscher (2016) explored the relationship between children's sensitivity to suprasegmental features such as stress and timing and their reading skills in a corpus collected from 370 children. They were also interested in determining the nature of the relationship between prosodic sensitivity and word reading by systematically testing five alternative models. They also set out to determine the relationship between prosodic sensitivity and reading comprehension. They made use of a prosodic sensitivity task measuring stress and timing and a structural equation model for data analysis. The results depicted that there was no direct relation between prosodic sensitivity and word reading on one hand, and prosodic sensitivity and reading comprehension, on the other hand. However, the relation between prosodic sensitivity and word reading could be mediated via phonological and morphological awareness. Prosodic sensitivity affects reading comprehension via word reading and listening comprehension.

The contribution of prosodic sensitivity to word reading is also well-evidenced in Holliman's (2017) study. Ninety-three English-speaking children participated in this study. Prosodic sensitivity, vocabulary knowledge, and phonological and morphological awareness were predictor variables while word reading and spelling were criterion variables. Bivariate correlation analyses and hierarchical regression analyses were used to analyze the data. The results demonstrated the association between prosodic sensitivity and all the other variables. It was also shown that prosodic sensitivity can explain unique variance in word reading, not spelling.

The implication of these studies on reading for the present study would be that if prosodic knowledge including stress sensitivity affects learners' reading skills, it may also, by extension, be relevant to other skills like listening which this study is attempting to investigate.

In his review study, Kurita (2012) examined a variety of studies done in the area of listening comprehension with the aim of providing a basis for listening instruction. He divided the related studies into three groups: linguistic studies, cognitive studies, and affective studies. The researcher concluded that metacognitive knowledge, lexical knowledge, and prosodic cues such as stress and intonation are essential in the development of listening comprehension.

Gibson and Bernales (2020) focused on the contribution of language background and second language training to the lexical stress perception of the second language. Sixty-two monolingual English-speaking students in the U.S.A. and 67 English-as-a-foreign-language students in Chile took a lexical stress perception test. The results revealed that instruction has a positive impact on the improvement of lexical stress perception. The researchers concluded that instruction in this domain leads learners to develop a general skill to discern lexical stress in L2, providing them with an advantage over those who have not received instruction and merely transfer their L1 lexical perception to L2.

Demirezen (2012) believed that lexical stress placement and its perception as lexical stress detection should occupy a crucial place in teaching English. In his research, he mostly focused on the implications that nuclear stress placement has for non-native-speaking teachers and believed that the identification, determination, and assignment of lexical stress are quite essential factors.

Learners from a language with a stress system different from a second language should be mainly concerned with the correct location of lexical stress. This concern was truly reflected in Ghorbani's (2019) study. This researcher who believes in the effect of first language transfer of sound system, particularly scrutinized the influence of phonetic transcription on learning of word stress. The sample of his study included Iranian undergraduate EFL learners in Bojnourd, Iran. A word stress test was given to the participants and an independent t-test was used to analyze the data. The results advocated the facilitative role of transcription in the process of learning lexical stress. Regarding the importance of stress sensitivity, Ghorbani's (2019) and previously mentioned Park's (2018) studies highlight that there are ways to boost this sensitivity in learners.

From this review of the pertinent literature, it becomes apparent that the role of lexical stress sensitivity has been fundamentally probed in relation to the reading ability of the learners, (e.g. Holliman, 2017; Kim & Peetscher, 2016). Other aspects that have been delved into regarding lexical stress sensitivity include phonetic transcription (Ghrobani, 2019) and orthographic stress (Guttierrez-Palma et al., 2016). To our knowledge, the relationship between lexical stress sensitivity and the listening ability of EFL learners and any possible effect the mother tongue might have on lexical sensitivity remains underexplored. Consequently, the current study sets out to fill this recognized lacuna. The research questions of the current study are:

1. Is there any significant difference between Persian monolinguals and Persian-Baluchi bilinguals at the intermediate level in their lexical stress sensitivity?

2. Is there any correlation between lexical stress sensitivity in English and the L2 listening comprehension ability of Persian monolingual Iranian intermediate EFL learners?
3. Is there any correlation between lexical stress sensitivity in English and the L2 listening comprehension ability of Persian-Baluchi bilingual Iranian intermediate EFL learners?

Methodology

This study, due to its method of sampling and type of data, is descriptive and quantitative in nature. In the following sections, research participants, instrumentation, procedure, and data analysis methods are explained.

Participants

The participants of this study were 44 monolingual EFL learners whose first language was Persian and 48 bilingual EFL learners speaking both Persian and Baluchi. They were 16-18 years old female students who had received about 3-5 years of formal English instruction.

Via the analysis of a corpus of SLA studies, Thomas (1994) identified four common devices for assessing L2 proficiency. These devices include impressionistic judgment, institutional status, in-house assessment, and standardized tests. The researchers of the current study made use of two of these devices, namely impressionistic judgment of the English teachers and a standardized test. The instructors' assessment of the participants' proficiency in English coincided with the results of the standardized test, indicating that all participants were at the intermediate level of proficiency. A summary of their demographics is presented in Table 1.

Table 1. Demographics of the Participants in the Study

Groups of participants	Monolingual group	Bilingual group
Number	44	48
Level of proficiency	Intermediate	Intermediate
Mean age	17	17
Years of formal English instruction	3-5	3-5
Mother tongue	Persian	Baluchi, Persian

Procedure

Stratified sampling was employed to choose the participants for the study whereby two high schools in Zahedan and two high schools in Iranshar, both cities of Sistan and Baluchestan Province, were randomly selected. In the next step, all of the students studying in the selected schools took the Oxford Placement Test (OPT). Fifty minutes were allotted for the completion of the test. Nevertheless, participants were allowed to deliver their test papers earlier than the allotted time if they had finished answering the test items. Each correct response was scored by one point. Incorrect responses received no points. Those whose scores were above fifty were considered intermediate learners and were selected to take part in the current study. The oral proficiency scale adopted from ACTFL (2012) was also applied to complement the results gained from OPT. This scale had ten options, ranging from one (the student cannot communicate in English at all) to ten (the student has almost no flaws in spoken English). Any discrepancy in the results gained from these sources was resolved by further discussion between the researchers and the instructors.

The study sample included both Persian monolinguals and Baluchi-Persian bilinguals. All of the participants took two tests in the next step. The first one was a 30-item researcher-developed test of lexical stress sensitivity, consisting of 10 two-syllable, 10 three-syllable, and 10 four-syllable lexical items. The selected lexical items were read by a native English speaker living in America and were recorded to be later played to the participants, who were in turn required to determine the most prominent syllable via putting a checkmark on the syllable. No negative marks were given to the incorrect answers and all accurate ones equally received one point. The second test was a listening comprehension test developed by the researchers. Similar to the previous data collection means, wrong answers received no points and correct ones were equally scored by one point. In the end, the results were analyzed using SPSS to seek answers to the aforementioned research questions.

Instruments

Three kinds of instruments were utilized for collecting the required data. The first one was an Oxford Placement test (OPT) for measuring the participants' level of proficiency together with a ten-point ACTFL (American Council on the Teaching of Foreign Languages) oral proficiency scale. The researchers made use of these two tests to ensure the homogeneity of the participants in terms of their language proficiency. The second device was a 30-item test that was administered to measure the participants' lexical stress sensitivity in English and the third one was a simple listening comprehension test used to assess their listening comprehension ability in English.

The standardized test employed in the present study is an Oxford Placement test (OPT) developed by Allan (1985). The first section of OPT which consists of one hundred items was administered to high school students from among whom the participants of the present study were chosen. The above-mentioned test was designed to measure test takers' knowledge of L2, i.e., their grammar and general pragmatic knowledge underlying language use.

In order to supplement the results obtained through OPT, a 10-point oral proficiency scale was completed by the English instructors of the high school students to gain information about their general speaking ability. The oral proficiency scale was adopted from the ACTFL proficiency guideline (2012).

To measure the participants' lexical stress sensitivity, the researchers developed a 30-item test. To ensure the reliability of this researcher-made test, it was piloted before the study. The reliability of the test was determined to be 0.71 using Kuder-Richardson Formula 21. Two experts in the field verified the validity of the test, as well.

A 10-item listening test, which was developed by the researchers, was utilized to measure the listening comprehension of the participants. This test was based on the materials from *the Vision Series*, which are taught in high schools in Iran under the curriculum designed by the Ministry of Education. *Vision Series* were used because they are fine-tuned to the level of proficiency of the participants.

Data Analysis

The collected data were analyzed quantitatively whereby mean scores were calculated to find out the participants' lexical stress sensitivity in both monolingual and bilingual groups. The means were then compared, using a t-test. The same procedure was utilized for comparing the listening comprehension of the two groups under investigation. In order to see if the two groups' lexical stress sensitivity correlated with their English listening comprehension, the Pearson product-moment correlation coefficient was utilized.

Results

Ninety-two participants in total, consisting of 44 monolinguals and 48 bilinguals, were tested in terms of their lexical stress sensitivity (LSS) and listening comprehension. Prior to any statistical analysis, a test of normality was run to examine and ensure the normal distribution

of the data. The normality test showed a $p < .05$ for all groups under examination (Table 2), indicating that the data are distributed normally.

Table 2. Test of Normality

	Monolingual LSS	Monolingual Listening	Bilingual LSS	Bilingual Listening
<i>P</i> value	.005	.000	.003	.000

In the next step, descriptive statistics were calculated. The obtained data from monolinguals and bilinguals' performances are tabulated in Table 3.

Table 3. Descriptive Statistics

Groups		Total Score	Mean	SD	Skewness	Min	Max
Monolingual	LSS	30	9.58	4.73	1	0	27
	Listening	10	7.96	2.10	-.50	4	10
Bilingual	LSS	30	13.05	4.18	.48	2	28
	Listening	10	7.52	2.20	-.29	4	10

According to the mean scores and skewness scores obtained from both groups of monolinguals and bilinguals, the ceiling or floor effect is not observed, and a normal distribution of the data is once again confirmed. Table 3 also delineates that based on their mean scores, bilinguals performed better on the lexical stress sensitivity test in comparison to monolinguals.

The first research question of the current study aimed to examine whether there were any significant differences between Persian monolinguals and Persian-Baluchi bilinguals at the intermediate level of proficiency in terms of their lexical stress sensitivity. Accordingly, the null hypothesis corresponding to this question would assume no significant differences between Persian monolinguals and Persian-Baluchi bilinguals at an intermediate level in terms of their lexical stress sensitivity.

In order to provide an answer for the first question, an independent sample t-test was run the results of which are presented in the following table.

Table 4. Independent Sample T-test for LSS of Monolinguals and Bilinguals

Groups	Mean Differences	Standard Error	Sig.	Confidence Interval
LSS	-3.46	.93	.00	-5.32- -1.60

According to the independent sample t-test, the performance of monolinguals and bilinguals in LSS is significantly different ($p \leq .05$). In addition, since the confidence interval doesn't include zero, the difference between the performance of monolingual and bilinguals in LSS is once again evident. Thus, it means monolinguals and bilinguals have a totally different behavior in LSS, with bilinguals performing better compared to monolinguals. As a result, being monolingual or bilingual does make a significant difference in the performance of language learners in terms of lexical stress sensitivity. Hence, the first null hypothesis of the present study is rejected and the first research question is answered positively.

The second research question of the present study aimed to examine whether there were any correlations between lexical stress sensitivity in English and L2 listening comprehension ability of Persian monolingual Iranian intermediate EFL learners. Accordingly, the second null hypothesis of this study would assume there to be no correlations between lexical stress sensitivity in English and the L2 listening comprehension ability of Persian monolingual Iranian EFL intermediates.

In order to test the hypothesis, meaningful correlations between the linguistic abilities of the groups under study and their lexical stress sensitivity in English were calculated. Results obtained from correlations are presented in Table 5.

Table 5. Correlations between LSS and Listening Ability

	Mono. Listening	Bi. LSS	Bi. Listening
Mono. LSS	.27	.14	.26
Mono. Listening		.13	.70**
Bi. LSS			.17

According to calculated correlations, the performances of monolinguals in the listening comprehension test and LSS test were not significantly correlated ($p > 0.05$). It means monolingual performances in LSS and their listening skill do not enjoy a statistically meaningful relationship. To put it differently, the results of the calculations showed that no significant correlation was found between monolinguals' performances in LSS and their listening ability. Consequently, the second null hypothesis is confirmed and the second research question is answered negatively.

The third research question of the current study aimed to examine whether there were any correlations between lexical stress sensitivity in English and L2 listening comprehension ability of Persian-Baluchi bilingual Iranian intermediate EFL learners. Accordingly, the last null hypothesis of the study would assume no correlations between lexical stress sensitivity in English and L2 listening comprehension ability of Persian-Baluchi bilingual Iranian intermediate EFL learners.

According to the calculated correlations tabulated in Table 5, the performances of bilinguals in the listening comprehension test were not significantly correlated with their LSS ($p > 0.05$). It means bilinguals' performances in LSS and their listening skills did not enjoy a statistically meaningful relationship. Therefore, the third null hypothesis is confirmed and the third research question is answered negatively.

Discussion

As it became apparent from the previous section, there is a statistically significant difference between monolinguals and bilinguals in terms of their lexical stress sensitivity in English. What is more, no correlation was found between Iranian EFL learners' lexical stress sensitivity and listening skills in either monolingual or bilingual groups.

It was expected that cross-language commonalities enhance lexical stress sensitivity for Baluch bilingual learners of English who have similar patterns of lexical stress at their disposal due to their first language, i.e., Baluchi. Consistent with these expectations, there was a significant difference between the lexical stress sensitivity of Persian monolinguals and Baluchi-Persian bilinguals in this study. It can be speculated that the influence of Baluchi was dominant in the representation of linguistic knowledge in the minds of Baluch bilinguals. Hence, they benefited from similarities between their L1 and the English language stress patterns. In other words, bilingual learners successfully transferred the stress pattern of their L1 to L3 that evidently shows the facilitative role of L1 transfer when learning a new language.

The current study revealed the superiority of bilinguals over monolinguals in the domain of phonology. Similar findings have been reported in other domains of SLA. For example, Asadollahpour et al. (2015) showed that bilinguals had a better working memory. Siegal et al. (2009) showed that bilingualism is effective in pragmatic development. Yow and Markman's (2011) study depicted that bilingualism boosted the development of the understanding of referential intent. Kecskes (2015) showed that the pragmatic development in bilinguals included more individual control compared to the monolingual pragmatic development.

Similar findings about the advantage of bilinguals have been reported by Bijeljac-Babic et al. (2012) who found that bilinguals learning French together with a language that has lexical stress are more sensitive to stress pattern contrasts than monolinguals. They conclude that sensitivity to prosodic contrasts is improved in bilingual situations. Zembruski, et al. (2020) also demonstrated the superiority of bilingual children when word stress is at focus. In another study, Choi et al. (2019) revealed the facilitative effect of bilingualism on English lexical stress discrimination.

Nevertheless, the results of the current study are in contrast with the findings of Mennen et al.'s study (2020) which showed that monolinguals and bilinguals did not differ in their lexical stress sensitivity. One reason behind these opposing findings may be that the two languages in Mennen et al.'s (2020) study have considerable phonetic overlaps, but in our study, Baluchi and Persian are distinct in their realization of word stress patterns.

Regarding the impaired lexical stress sensitivity found in the Persian monolingual participants of this study, Gibson and Bernales (2020) found that monolinguals transferred their L1 (Spanish) stress perception to L2 (English). However, in their study such transfer was facilitative because Spanish and English stress patterns are similar for disyllabic words. They also stated that without L2 phonetic training, learners are not able to develop the general skill in detecting the stress pattern of L2.

Though it appears that bilinguals are definitely more sensitive toward stress placement, based on the results gained in the present study, this sensitivity does not necessarily lead to better listening comprehension. The reason for that could be the fact that when students' listening comprehension is being tested, they are dealing with a continuous string of speech whereby recognizing the stress placement in individual words is only one of the factors that can enhance their listening. Hence, regarding the fact that many other factors like students' level of general proficiency or their vocabulary knowledge and other prosodic features like intonation are at play, it seems language learners need to work on a number of different aspects and not just their LSS to improve their listening ability.

One reason for the lack of correlation between lexical stress sensitivity and listening ability in both monolingual and bilingual learners can be the level of proficiency of the participants. Since the participants of this study were at the intermediate level of English language proficiency, it can be expected that when the level of second language proficiency improves, learners become more cognizant of stress patterns of English, handling the tasks of lexical stress sensitivity more easily and more efficiently. This is in line with Segal and

Kishon-Rabin's (2018) findings that suggested that proficiency in a non-native language with variable stress may facilitate stress identification in non-native languages.

The participants of the current study were familiar with the notion of differing patterns of stress in the English lexicon. In fact, the notion of stress patterns in English had been explained explicitly and abstractly to them in their high school English books (*the Vision Series*), provided by the Ministry of Education in Iran. Yet, for those participants (Persian monolinguals) whose first language lacks lexical stress, the task of recognizing the stress patterns in English as their second language remained difficult to handle on their own. It seems that, compared to Baluchi-Persian bilinguals, they need more practical utilizations of lexical stress patterns in English.

As mentioned before, stress placement in Persian words is predictable and does not have a contrasting role. The situation is reversed in English where stress carries contrasting values. As it can be inferred from Table 3, both monolingual and bilingual groups in this study did not particularly perform very highly in their responses to the lexical stress sensitivity test where they were required to identify and discriminate the true stress placement in mostly unknown words. Nevertheless, bilinguals performed significantly better on the same test. All in all, our findings support the assumption that variations in stress at the surface level of L1 are insufficient to highly facilitate the awareness of stress placement in L2 and L3 in particular (Segal & Kishon-Rabin, 2018), or to show a significant correlation with listening comprehension in general. However, being bilingual, especially if one of the acquired languages (here Baluchi as the first language) resembles the target language in some aspects of its prosodic features, would improve the learners' sensitivity toward stress placement.

Similar findings have been reported in studies on stress processing in languages with fixed stress assignment (Dupoux & Peperkamp, 2002; Frost, 2011; Kijak, 2009; Dupoux et al., 1997; Dupoux et al., 2010; Peperkamp et al., 2010). The general findings of these studies similarly depicted that participants from fixed-stress languages had difficulty with the discrimination of stress.

Another explanation for the lack of correlation between listening ability and lexical stress sensitivity can be attributed to learning English after the optimal period for phonetic perception (Werker & Tees, 2005). Persian speakers and learners begin learning English at the _____ age _____ of 13-14 in an EFL context without being directly exposed to it in their immediate environment. Hence, it seems possible that their continuous contact with Persian that is of a fixed stress

pattern influences their ability to judge the stress pattern in the English lexicon which has different prosodic characteristics. A somewhat similar explanation was provided by Ortin and Simonet (2023) who stated that acquisitional difficulties with L2 stress may be due to a reduced perceptual sensitivity to stress distinctions. Such reduced sensitivity shows itself in working memory, rather than in acoustic/auditory memory.

Another reason behind the poor performance of monolinguals can be the high cognitive load experienced by Persian monolingual learners of English in the absence of phonological encoding of stress. That is to say, such learners should depend on their memory of acoustic cues when doing lexical stress sensitivity tasks, rather than on the phonological knowledge and the awareness gained from their first language.

Overall, the present study scrutinized the influence of the native language on lexical stress sensitivity by including participants from two underexplored languages: Persian and Baluchi. The results of the current study depicted that native language does have an impact on the perceptual sensitivity of lexical stress, providing further warranting for the Contrastive Analyses Hypothesis (Wardhaugh, 1970) at least in the domain of phonetics and phonology.

One possible implication of the present study is that prosodic features of English, such as lexical stress, are not salient enough for EFL learners, i.e., the learners are not adequately sensitive toward the patterns of word stress. Therefore, teachers are recommended to highlight such features in the input to which EFL learners are exposed. They can make use of input flooding, input enhancement, and explicit and implicit instruction so as to enhance Iranian students' awareness and acuity about the true placement of stress in the English lexicon. Careful inclusion of activities dealing with recognition and production of word stress can help materials developers promote heightened prosodic awareness in the learners. Syllabus designers can also heed these findings and incorporate various kinds of word stress activities in the syllabi they design. The current study carries some implications for teacher trainers, as well. The pre-service teachers' cognition is partly affected by the teaching they receive during pre-service training (Baleghizadeh & Rezaee, 2010). Indeed, trainers inculcate their trainees with certain ideologies and perceptions. So, teacher trainers are recommended to remind pre-service teachers of the importance of word stress sensitivity. Teacher trainers are suggested to keep teachers-in-training abreast of findings of this and other similar studies that indicate that monolinguals' sensitivity to L2 word stress could be flawed. Collectively, the findings of further studies juxtaposed with those gained in this study can bring us one step closer to a more inclusive understanding of the complex phenomena of SLA.

Conclusion

In this study, the main aim was to explore the lexical stress sensitivity of Persian monolingual and Baluchi-Persian bilingual EFL learners. The relationship between LSS and the listening comprehension of the participants was also examined. It was shown that there is a significant difference between the lexical stress sensitivity of monolingual and bilingual Iranian EFL learners at the intermediate level of proficiency. In addition, it was found that all of the participants performed poorly on lexical stress sensitivity tests. What is more, no correlation was found between LSS in particular and the listening ability of either monolinguals or bilinguals in general.

The present study suffers from some limitations that would affect the generalization of the results to other contexts. One of the limitations relates to the task type of lexical stress sensitivity used in this study. The researchers made use of a researcher-made piloted task. Additionally, only one type of listening comprehension task was utilized. The current study was also narrowed down with regard to participants' level of proficiency, including only intermediate learners, and was further confined to only EFL contexts.

There are many other pertinent aspects in need of further exploration. Extending similar studies across various contexts of learning broadens our perspective on the relationship between listening ability and lexical stress sensitivity. Hence, other researchers are invited to do similar studies in their own contexts. It is suggested that other studies make use of an ABX task to measure lexical stress sensitivity. Additionally, in the current study, only perception tasks were adopted to evaluate listening skills and sensitivity to lexical stress. Production tasks of lexical stress and listening may offer a more complete picture of this issue among Iranian EFL learners.

Another pertinent dimension to examine includes the impact of gender on lexical stress sensitivity. Future researchers can make their study robust in terms of population, as well. For instance, they can enlarge the research population to as many or more than 70 participants in each group. The other promising venue for future comparative research is the inclusion of both intermediate and advanced learners or adults and children in the same study with the intention of seeing whether the results would be different across proficiency levels (Ortin & Simonet, 2023) and age.

In addition, a fruitful venue for further research would include developmental patterns of lexical stress sensitivity and listening skills in longitudinal studies, because it is believed that the acquisition of a second language better equips a listener for the prosodic judgment of stress placement in words (Segal & Kishon-Rabin, 2018). Moreover, establishing a

(dis)association between the neural perceptual mechanisms underlying lexical stress and other prosodic information is recommended. Likewise, the researchers also motivate and recommend a study on whether or not the first language has an enduring impact on stress sensitivity at a higher proficiency level of a second language.

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Declaration of conflicting interests

The authors of the present article do not have any conflict of interest to declare.

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