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In the Name of God

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Journal of Language Research, *Alzahra University*
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Research Article

Cross-linguistic rhythmic patterns in Persian-English bilingual speakers: Implications for speaker recognition*

Homa Asadi[1], Maral Asiaee[2]

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Abstract

This study investigates rhythmic patterns in Persian-English bilingual speech, focusing on duration-based measures in a sample of late bilingual adult males. Using various rhythmic measures, including consonantal and vocalic duration, we explored cross-linguistic differences, individual consistency, and speaker identification potential. The results revealed significant differences between Persian (L1) and English (L2), particularly in vocalic measures, whereas consonantal measures exhibited greater consistency. Cross-linguistic correlations were stronger for consonantal measures than for vocalic measures, suggesting higher individual consistency in consonant timing. Speaker identification, conducted through linear discriminant analysis, achieved the highest accuracy with consonantal measures, with stronger performance in L1 than in L2. These findings indicate that while bilingual speakers adjust their rhythmic patterns to suit L2 demands, they retain individual characteristics, especially in consonant timing. This research has implications for understanding bilingual speech production and enhancing speaker recognition technology.

Keywords: Bilingualism, speech rhythm, speaker individuality, Persian, English

How to Cite:

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1. Introduction

The human voice is a highly complex acoustic signal, characterized by a unique combination of features that allow listeners to identify individual speakers with remarkable accuracy. This ability to recognize voices plays a fundamental role in social interactions, communication, and even forensic applications. While the exact mechanisms underlying voice recognition are still being explored, it is evident that numerous acoustic parameters contribute to shaping a speaker's distinctive vocal identity.

Previous studies have revealed substantial variations in the acoustic properties of speech, including both spectral and temporal parameters, among different speakers (Nolan, 1989; Rose, 2002; Jessen et al., 2005; Jessen & Becker, 2010; Gold et al., 2013; Dellwo et al., 2015; He & Dellwo; 2016). For instance, formant frequencies and fundamental frequency have been shown to be particularly influential in revealing speaker-specific characteristics among speakers (Goldstein, 1976; Braun, 1995; Debruyne et al., 2002; Gold et al., 2013; Jessen & Becker, 2010; Asadi et al., 2018). Additionally, spectral moments of consonants, especially fricatives, have been found to provide valuable speaker-specific information, further enhancing the distinctiveness of individual voices (Smorenburg & Heeren, 2020; Ulrich et al., 2023). Furthermore, studies have demonstrated that voice quality features, such as the balance between high-frequency harmonic and inharmonic energy, also contribute to the unique vocal signature of each speaker (Kreiman & Sidtis, 2011; Lee et al., 2019). The underlying rationale for this variability lies in the individual physiological characteristics of speakers' speech organs. However, it is crucial to acknowledge that social factors, including regional accents, dialects, and cultural influences, also play a non-trivial role in shaping the distinctive characteristics of a person's voice.

Beyond spectral features, temporal aspects of speech, particularly speech rhythm, are crucial in differentiating individual voices. Rhythmic patterns, characterized by the timing of morae, syllables, words, and phrases, vary considerably across different languages (Gibbon, 2022). These patterns convey not only the linguistic content of an utterance but also information

about the speaker's identity. Recent investigations have revealed that temporal aspects of speech, especially rhythmic patterns, contribute significantly to speaker identification. These patterns, reflecting the timing of consonantal and vocalic intervals, demonstrate substantial between-speaker variability (Dellwo et al., 2015; Asadi et al., 2018, Taghva et al., 2023). Individual differences in the timing of specific articulatory gestures have been identified as a major contributor to variability in the temporal patterns of speech production between speakers. Differences in the anatomical size of the articulatory apparatus can lead to distinct coordination strategies, resulting in variations in how speakers operate their speech organs, including the tongue, lips, and jaw, ultimately impacting the acoustic parameters of speech rhythm (Dellwo et al., 2015). Nevertheless, the connection between physiological factors and rhythmic variability is not straightforward, as acquired linguistic behaviors and language-specific prosodic patterns also contribute to the temporal characteristics of speech.

The influence of language-specific factors on speech rhythm measures is further exemplified by the phonotactic system of a given language. Languages traditionally fall into different rhythmic categories: stress-timed (e.g., English), syllable-timed (e.g., Persian), or mora-timed (e.g., Japanese) (Ladefoged, 1975, Lazard, 1999; Dellwo, 2010). These classifications reflect fundamental differences in temporal organization. For instance, syllable complexity has a significant impact on systematic variability in speech rhythm measurements (Prieto et al., 2012). It is proposed that stress-timed languages with more phonotactically complex structures exhibit higher levels of vocalic and consonantal intervals compared to languages with simpler structures (Ramus et al., 1999). Additionally, languages that allow vowel reduction often reflect this acoustically through highly variable vocalic intervals (Dellwo, 2010). Given the inherent differences in the rhythmic characteristics of speech across languages, it is plausible that bilingual speakers demonstrate variations when switching from one language to another. This is particularly evident when bilingual speakers are speaking in two typologically distinct languages.

This study aims to investigate the degree to which durational measures

of speech rhythm vary among bilingual speakers. By comparing Persian-English bilingual speakers, we explore the impact of language-specific rhythmic characteristics on individual speaker variability. Persian and English represent particularly interesting cases for comparison due to their distinct rhythmic properties. Persian exhibits a relatively simple syllable structure (CV(C)(C)) and minimal vowel reduction (Windfuhr, 1979; Sadeghi, 2015). In contrast, English features complex syllable structures, significant vowel reduction, and stress-based timing patterns (Dellwo, 2010). By analyzing how switching from Persian to English affects speech rhythm measures, we also aim to determine the extent to which this variability influences between-speaker rhythmic variability. Our findings will clarify the extent to which speech rhythm is influenced by language and individual speaker characteristics, providing insights into the complex relationship between these factors in bilingualism.

1.1. The role of speech rhythm in variability between languages and speakers

The rhythmic properties of speech have been the subject of extensive investigation in the fields of linguistics and phonetics. Numerous metrics have been devised to quantify speech rhythm from various phonetic units, particularly focusing on cross-linguistic attributes (Ramus et al., 1999; Dellwo, 2006; Grabe & Low, 2002; White & Mattys, 2007). While phoneticians have developed various measures to categorize languages rhythmically, the existence of such differences and the feasibility of language classification based on these measures remain debated (White & Mattys, 2007; Dellwo, 2010; Loukina et al., 2011). Loukina et al. (2011) demonstrated the diverse rhythmic variations across languages, highlighting that a single speech rhythm metric cannot optimally differentiate all language pairs. Consequently, multiple measures are essential for accurate identification of more than two languages. In light of this discovery, phoneticians embarked on a more comprehensive investigation into the factors contributing to variation in speech rhythm measures, resulting in the formulation of the hypothesis of speaker-specific rhythmic patterns.

Building on the understanding that speech rhythm is not solely a language-specific phenomenon, researchers investigated whether acoustic rhythm metrics can effectively distinguish between speakers of the same language. Numerous studies across diverse languages have demonstrated significant between-speaker variability in various rhythm measures, suggesting that these metrics can indeed capture individual speaker characteristics. Yoon (2010) found significant between-speaker variability in %V and VarcoV for English speakers. Wiget et al. (2010) and Leemann et al. (2014) also observed considerable individual differences in rhythmic measures for English and Zurich German speakers, respectively. Similarly, Dellwo et al. (2015) found substantial between-speaker variability in %V, ΔC(ln), ΔV(ln), and Δpeak(ln) among German and Swiss German speakers. Furthermore, Asadi et al. (2018) demonstrated the effectiveness of speech rhythm measures in distinguishing Persian speakers, identifying %V as a key factor. Taghva et al. (2023) extended this to Kalhori Kurdish, confirming the effectiveness of %V and syllable rate. Overall, duration-based metrics of speech rhythm have consistently proven their ability to capture speaker individuality across various languages. These studies mainly focused on speakers who spoke the same language.

Research on second language (L2) speech rhythm has shown that learners exhibit significant variability in their ability to acquire the temporal patterns of the target language, which is influenced by factors such as the rhythmic characteristics of their first language (L1), their level of proficiency in the L2, and the extent of their exposure to the target language. White and Mattys (2007) demonstrated that speakers may not implement the subtle adjustments required to accommodate the rhythmic differences between their L1 and a rhythmically similar L2, instead relying on their native language timing patterns, which may not be effective for rhythmically distinct languages. This finding was further supported by Li and Post (2014), who examined the development of English rhythm in L2 learners with typologically different L1s, specifically Mandarin and German. Their study revealed that while both groups followed similar developmental paths in acquiring vocalic variability and accentual lengthening, they diverged in the proportion of vocalic materials in

their L2 utterances, reflecting direct L1 transfer. The study highlights the role of proficiency in rhythm development and supports a multisystemic model of L2 rhythm acquisition, where different rhythmic properties are acquired at varying proficiency levels, influenced by both L1 transfer and universal acquisition processes. Ordin and Polyanskaya (2015) found that as French and German learners of L2 English became more proficient, their speech rhythm shifted from syllable-timed to stress-timed patterns typical of English. While German learners achieved native-like variability, French learners showed lower variability even at advanced levels, indicating persistent native language influences. Stockmal et al. (2005) provided additional insights by examining Latvian native speakers and Russian learners, demonstrating that high-proficiency learners could approximate native speech patterns, whereas low-proficiency individuals exhibited substantially more inconsistent rhythmic characteristics.

Bilingual speakers offer a unique perspective on speech rhythm variability, as they navigate between two linguistic systems with potentially distinct rhythmic properties. Lleó et al. (2011) studied German-Spanish bilingual children and found that their vocalic and consonantal interval timing patterns suggest an interaction between the rhythmic systems of both languages. Bunta and Ingram (2007) similarly demonstrated that bilingual children exhibit distinct speech rhythm patterns for their target languages, deviating from their monolingual peers. Henriksen (2016) conducted a study on adult bilinguals, further confirming these findings. He found that highly proficient adult Spanish-English bilinguals exhibited different rhythmic patterns in their L1 and L2 rhythms, suggesting distinct rhythmic production strategies in their two languages. Aldrich (2020) investigated the speech rhythm of adult early Spanish-English bilingual speakers and found language-specific rhythm production with more variability associated with English compared to Spanish. They concluded that this differentiation in terms of rhythm suggests a possibly unique abstract organization for each language at the prosodic level.

Previous studies on bilingualism have primarily focused on linguistic

differences between languages. However, the extent to which between-speaker variability is affected has been largely overlooked. Dellwo and Smith (2015) pioneered research in this area by examining speech rhythm characteristics in bilinguals. They tested the hypothesis that a speaker's temporal characteristics in one language would correlate with those in another. Using a variety of durational rhythmic features, they found significant speaker-specific effects for measures like %V, ΔV, and articulation rate. This suggests that speakers systematically vary in their suprasegmental temporal characteristics. The authors argue that these measures are likely influenced by individual differences in articulatory control.

1.2. The current study: Research questions

This research examines the speaker-specific temporal features of bilingual Persian-English speakers, with a particular emphasis on durational rhythmic variability. We aim to ascertain whether temporal features derived from consonantal, vocalic, and syllable intervals can also effectively discriminate bilingual speakers when they are engaged in speech production across languages with distinct phonological systems and rhythmic categories. This research seeks to investigate the extent to which rhythmic variability measures contribute to speaker individuality and to determine the degree to which such features are language-dependent or speaker-specific. We hypothesize that speakers may exhibit greater acoustic variability in their native language compared to their second language. The challenges inherent in second language acquisition may lead speakers to prioritize intelligibility over acoustic variation, potentially resulting in a reduction in variability within their speech patterns. The primary research questions addressed in this study are as follows:

1) How do rhythm metrics differ between Persian (L1) and English (L2) in bilingual speakers?
2) To what extent do speakers maintain consistent rhythmic patterns across their two languages?
3) Which rhythm metrics are most effective for speaker identification in

L1 and L2?

To address these research questions, an exploratory corpus analysis of a bilingual Persian-English speech corpus was conducted. To control for the influence of lexical variability on rhythm measures, participants produced an equivalent number of sentences in both languages. This ensured that rhythmic differences were not confounded by differences in lexical choices, which can affect rhythm in spontaneous speech (Wiget & et al., 2010, Dellwo et al., 2015). Extraneous factors such as age and accent were carefully controlled to minimize their influence on the analysis. The findings of this study are anticipated to be instrumental in advancing applied domains where knowledge of human individuality cues is crucial, such as automatic speaker recognition and forensic speaker identification.

2. Procedure

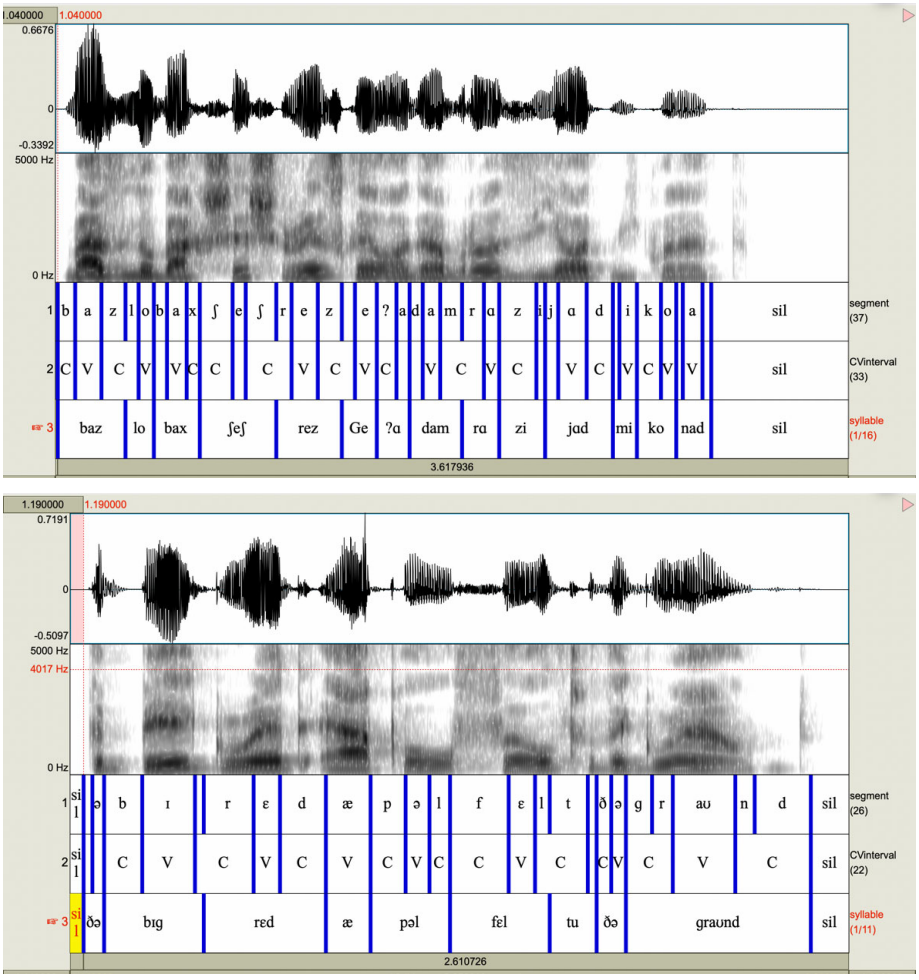
2.1. Participants and data segmentation

The study sample consisted of 20 male native Persian speakers, all of whom demonstrated proficiency in English. The participants were selected according to specific criteria, including that they were late bilinguals with Persian as their first language, exhibited minimal regional or social accent variation, and had no history of language or hearing impairment. The participants had a mean age of 27.6 years (SD = 3.1, range = 24-36). Oral English proficiency was assessed in an initial screening interview conducted by two experienced English teachers to ensure a consistent language level among participants. Audio recordings were made using a ZOOM H4n Pro handheld recorder in a controlled, noise-free environment to ensure the highest possible quality of data. The recordings were captured at a 44,100 Hz sampling rate with 16-bit quantization. The participants were instructed to read a predetermined list of sentences at a comfortable pitch and volume. The reading material comprised 50 sentences in Persian and 50 sentences in English, each selected for its phonetic richness and inclusion of a diverse range of lexical items, ensuring a broad representation of phonetic contexts. Each participant read the sentences in both languages naturally, with a three-second pause inserted

between successive utterances to allow for the clear separation of the speech samples. Subsequently, the speech data underwent comprehensive analysis using Praat software (version 5.2.34; Boersma and Weenink, 2024). The audio files were annotated at three distinct levels: segmental, consonantal-vocalic intervals (CV), and syllable. Vowels were segmented at the onset and offset of their steady-state formant patterns. The onset was marked when the formant trajectories stabilized, while the offset was identified at the point where the formants returned to baseline or transitioned into a neighboring consonant. Glides were segmented based on the formant transitions between two adjacent vowels. The onset of a glide was marked where the formant movement began, and the offset was placed where the formant stabilized into the adjacent vowel. For plosive consonants, the beginning was marked at the onset of the burst, characterized by a sudden increase in acoustic energy. The end of the plosive was defined as the point where the burst energy dissipated, and the following vowel or consonant began to emerge. In the case of voiced plosives, the vocalic transition also guided the offset placement. For other consonants, such as fricatives and affricates, segmentation relied on established acoustic landmarks, such as the onset of fricative noise or the abrupt energy changes characteristic of stops. Additionally, the authors manually annotated the syllable level to ensure an accurate reflection of the syllable structure. For quantitative analysis, a Praat script, designated as *DurationAnalyzer*, was employed to automatically calculate a range of rhythm metrics based on the duration of the annotated levels. This automated approach facilitated the extraction of relevant temporal features, which were then utilized to investigate cross-linguistic rhythm patterns in Persian and English. Figure 1 illustrates an annotated signal containing both Persian and English speech segments, as pronounced by speaker 1.

Figure 1.

Annotated speech signal illustrating Persian and English utterances produced by speaker 1



2.2. Acoustic rhythmic parameters

In this study, we examined duration-based metrics derived from consonantal and vocalic intervals, along with syllable units in speech signals. To minimize the influence of speech rate on the analysis and avoid potential artifacts, we used only rate-normalized measures. We selected eight duration-based metrics: one consonantal and vocalic proportion metric (%V), two variability measures for consonantal and vocalic durations (ΔV(ln), ΔC(ln)), two rate-normalized variability measures (n-PVI-V, n-PVI-C), two coefficients of variation measures (VarcoV and VarcoC), and a syllable rate-based measure

(articulation rate). These metrics are grounded in well-established temporal measures from previous research on speech rhythm (Ramus et al., 1999; Grabe and Low, 2002; Dellwo et al., 2015; Asadi et al., 2018; Aldrich, 2020) and were used to analyze the speech of bilingual speakers. The following duration-based measures were automatically calculated from the consonantal-vocalic (CV) interval tier, while the articulation rate was calculated from the syllable tier, expressed in terms of the number of syllables per second. Investigated measures are summarized below:

-%V: The percentage of overall speech duration accounted for by vocalic segments.

-ΔV(ln): The standard deviation of the natural logarithm of vocalic interval durations, representing variability in vocalic durations.

-ΔC(ln): The standard deviation of the natural logarithm of consonantal interval durations, indicating variability in consonantal durations.

-VarcoC: The variability in consonantal durations, determined by the standard deviation of consonant interval durations divided by the mean consonant interval duration, multiplied by 100 to express it as a percentage.

-VarcoV: The variability in vocalic durations, calculated as the standard deviation of vowel interval durations divided by the mean vowel interval duration, multiplied by 100 to express it as a percentage.

-n-PVI-V: The rate-normalized Pairwise Variability Index for vocalic intervals, calculated as the average absolute difference in duration between successive vocalic intervals, adjusted for speech rate.

-n-PVI-C: The rate-normalized Pairwise Variability Index for consonantal intervals, calculated similarly to n-PVI-V but for consecutive consonantal intervals.

-articulation rate: The number of syllables articulated per second.

2.3. Statistical analysis

All statistical analyses were carried out using the R statistical programming language, version 4.3.1 (R Core Team, 2023). To investigate the rhythmic differences between Persian-English bilinguals' production in their L1

(Persian) and L2 (English), we conducted a statistical analysis on the selected rhythm metrics: %V, ΔV(ln), ΔC(ln), VarcoC, VarcoV, n-PVI-V, and n-PVI-C. For each measure, we computed descriptive statistics, which included means, standard deviations, and coefficients of variation (CV). The CV, calculated as the ratio of standard deviation to mean, was particularly useful in assessing the relative variability of rhythm measures within each language context. To ensure a robust comparison between L1 and L2 production patterns, we employed paired-sample t-tests for each rhythm measure, as the same speakers produced both languages. Effect sizes were calculated using Cohen's d, with pooled standard deviations to account for the within-subjects design. The normality of the data for each rhythm measure was assessed using the Shapiro-Wilk test. The results indicated that all measures followed a normal distribution ($p > 0.05$), justifying the use of parametric tests for statistical analysis.

To examine the relationship between speakers' rhythmic patterns across their two languages, we conducted Pearson correlation analyses for each rhythm measure between L1 and L2 productions. These correlations helped determine whether speakers maintained consistent individual rhythmic characteristics across languages or demonstrated language-specific adaptations. Strong correlations ($r > 0.5$) were interpreted as evidence of cross-linguistic consistency in individual utterances, while weak correlations suggested more successful adaptation to language-specific rhythm patterns. The statistical significance of all correlations was assessed at $\alpha = 0.05$, with particular attention paid to the strength of correlations as indicated by the correlation coefficient (r).

To quantify the magnitude of cross-linguistic differences, we calculated mean differences and percentage changes between L1 and L2 for each rhythm measure. These calculations provided a clear indication of the direction and magnitude of change in rhythmic properties when speakers switched between languages. The percentage differences were calculated as $((L2-L1)/L1) \times 100$, offering a normalized measure of change that could be compared across different rhythm metrics. Results were rounded to three decimal places for

consistency.

Speaker identification analysis was conducted using Linear Discriminant Analysis (LDA) with a leave-one-out cross-validation procedure to evaluate the discriminative power of each rhythm metric. The analysis was performed separately for each language (L1 and L2) and for the combined dataset. Prior to LDA, the data was standardized to have a mean of zero and a standard deviation of one. For the combined analysis using all parameters, Principal Component Analysis (PCA) was applied as a dimensionality reduction technique, retaining components that explained 95% of the total variance. Classification accuracy was assessed through overall accuracy rates and confusion matrices, with statistical significance evaluated against chance-level performance using a chi-square test ($p < 0.05$). This framework allowed for a comprehensive evaluation of each rhythm metric's effectiveness in speaker identification across both languages.

3. Results

3.1. Preliminary data analysis

Table 1 provides descriptive statistics for speech rhythm metrics calculated for Persian-English bilingual speakers.

Table 1.

Descriptive data pertaining to speech rhythm metric grouped by language

Measure	Mean (SD)		CV (%)	
	Persian (L1)	English (L2)	Persian (L1)	English (L2)
ΔC(ln)	0.677 (0.087)	0.702 (0.0722)	12.85	10.26
n-PVI-C	64.69 (6.21)	68.59 (5.843)	9.60	8.59
VarcoC	0.990 (0.401)	0.851 (0.264)	40.51	31.02
ΔV(ln)	0.489 (0.034)	0.574 (0.045)	6.95	7.84
n-PVI-V	51.46 (3.47)	60.15 (5.89)	6.74	9.79
VarcoV	0.518 (0.063)	0.631 (0.087)	12.16	13.79
%V	37.07 (3.24)	33.65 (4.25)	8.74	12.63
Articulation rate	5.107 (0.557)	3.901 (0.483)	10.91	12.38

* CV = Coefficient of Variation (standard deviation/mean × 100%)

For consonantal-based measures, English has a slightly higher mean ΔC (ln) value (0.702) compared to Persian (0.677), while Persian shows a greater coefficient of variation (CV) for ΔC (ln), at 12.85% versus 10.26% in English. VarcoC, which measures variability in consonantal timing, is higher on average in Persian (0.990) than in English (0.851), with Persian displaying greater relative variability in this measure as well (CV of 40.51% compared to 31.02% in English). These differences suggest distinct rhythmic handling of consonant timing between the two languages.

For vocalic-based metrics, English shows higher mean values for ΔV (ln) and VarcoV, with means of 0.574 and 0.631, respectively, compared to 0.489 and 0.518 in Persian. English also has a higher mean n-PVI-V value (60.15) compared to Persian's 51.46, indicating greater variability in vowel durations. The %V measure differs considerably, with Persian showing a higher mean %V (37.07) than English (33.65). Finally, the articulation rate (rateSyl) is faster in Persian, averaging 5.107 syllables per second, compared to 3.901 in English.

3.2. Comparative statistics between between L1 (Persian) and L2 (English)

Table 2 presents the comparative statistics between L1 (Persian) and L2 (English) speech rhythm measures in Persian-English bilingual speakers, including t-tests, effect sizes (Cohen's d), and percentage differences (% Diff). The t-statistics and p-values reveal several significant differences between the two languages. Notably, n-PVI-C, ΔV (ln), VarcoV, n-PVI-V, %V, and articulation rate show statistically significant differences ($p < 0.05$), indicating that these rhythm metrics vary significantly when bilingual speakers switch between languages. For example, ΔV (ln) has a t-statistic of 7.83 and a highly significant p-value ($p < 0.001$), along with a large effect size (Cohen's $d = 2.12$), suggesting a substantial increase of 17.38% in English compared to Persian. Similarly, the articulation rate has a large negative effect size (Cohen's $d = -2.34$) and a significant difference ($p < 0.001$), showing a 23.61% decrease in English.

In terms of effect size, metrics such as VarcoV (Cohen's $d = 1.49$) and n-

PVI-V (Cohen's d = 1.81) show large positive differences in English, while %V and articulation rate display notable negative values, reflecting reductions in English.

Table 2.

Results of paired t-test along with effect sizes and Diff%

measure	t-stat	p-value	Cohen's d	%Diff
ΔC(ln)	1.12	0.276	0.31	3.69
n-PVI-C	2.31	0.032*	0.65	6.02
VarcoC	-1.43	0.168	-0.42	-14.04
ΔV(ln)	7.83	<0.001**	2.12	17.38
n-PVI-V	6.42	<0.001**	1.81	16.88
VarcoV	5.89	<0.001**	1.49	21.81
%V	-3.12	0.006*	-0.91	-9.22
Articulation rate	-8.45	<0.001**	-2.34	-23.61

* p < 0.05, ** p < 0.001; % Diff = ((L2-L1)/L1) × 100%; Cohen's d interpretation: small = 0.2, medium = 0.5, large = 0.8

3.3. Cross-linguistic correlations between L1 (Persian) and L2 (English)

Table 3 provides a summary of the correlation coefficients between Persian (L1) and English (L2) speech rhythm metrics, calculated for bilingual speakers. These correlations reveal the extent to which speech rhythm patterns are preserved across languages for individual bilingual speakers, offering insights into the potential transfer of rhythmic features between L1 and L2. The results show that ΔC(ln) and n-PVI-C exhibit strong cross-language correlations, with correlation coefficients of 0.62 (p = 0.004) and 0.58 (p = 0.007), respectively, suggesting that bilingual speakers maintain relatively consistent patterns in these measures across both languages. VarcoC (r = 0.45, p = 0.046) was significantly correlated across the languages albeit moderately. Other measures including ΔV (ln), n-PVI-V, %V and articulation rate displayed moderate correlations, indicating some degree of rhythmic similarity between L1 and L2, though to a lesser extent. Weak correlation was observed for VarcoV (r = 0.28, p = 0.232), suggesting minimal cross-language consistency for this measure. Generally, these findings suggest that while certain rhythm metrics

are strongly correlated across languages, others show only moderate or weak cross-linguistic consistency, reflecting a varied adaptation of rhythmic patterns in bilingual speech.

Table 3

Cross-Language Correlations Between L1 (Persian) and L2 (English)

parameter	r	p-value	correlation strenght
ΔC(ln)	0.62	0.004**	Strong
n-PVI-C	0.58	0.007**	Strong
VarcoC	0.45	0.046**	Moderate
ΔV(ln)	0.39	0.089	Moderate
n-PVI-V	0.31	0.184	Moderate
VarcoV	0.28	0.232	Weak
%V	0.42	0.065	Moderate
Articulation rate	0.35	0.13	Moderate

* Statistically significant correlations ($p < 0.05$, $p < 0.01$) were interpreted as weak ($r < 0.3$), moderate ($0.3 \leq r < 0.5$), or strong ($r \geq 0.5$) based on the magnitude of the correlation coefficient (r).

3.4. Suitability of rhythmic measures for speaker identification in L1, L2, and combined accuracy across both languages

To assess how effective rhythmic measures are in the speaker identification task, we performed linear discriminant analysis (LDA) once in each language and once across the whole data. To do so, a standard LDA algorithm with a leave-one-out cross-validation procedure was used. The results of this analysis are summarized in Table 4.

Table 4

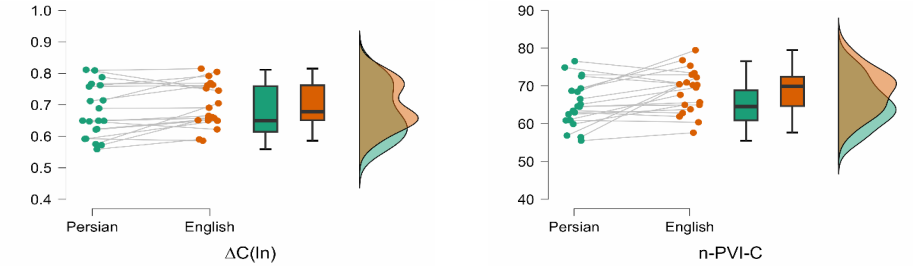
Identification accuracy in Persian (L1), English (L2) and across both languages

parameter	accuracy in Persian (L1)	accuracy in English (L2)	overall accuracy
ΔC(ln)	79.20%	71.80%	75.50%
n-PVI-C	74.50%	76.30%	75.40%
VarcoC	70.10%	68.40%	69.30%
ΔV(ln)	68.40%	65.20%	66.80%
n-PVI-V	64.00%	62.50%	63.70%
VarcoV	61.20%	60.10%	60.70%
%V	59.40%	58.70%	59.10%
Articulation rate	57.80%	55.30%	56.60%

While ΔC(ln), n-PVI-C, and VarcoC showed the highest accuracy in both Persian (L1) and English (L2), the order of their importance varied. In L1, ΔC(ln), n-PVI-C, and VarcoC achieved the highest accuracy rates, whereas in L2, n-PVI-C had the highest accuracy, followed by ΔC(ln) and VarcoC. Additionally, the higher accuracy rates observed for L1 speaker identification indicate that individual speakers exhibited more consistent and distinctive speech rhythm patterns in their native language compared to their second language. The raincloud chart of the two parameters that best identified speakers in their L1, L2, and overall is presented in Figure 2.

Figure 2

Raincloud chart of ΔC(ln) and n-PVI-C in Persian (L1) and English (L2)



4. Discussion

The current study investigated the influence of bilingualism on speech rhythm by examining duration-based rhythm metrics in Persian-English late bilingual speakers. The results reveal several significant patterns in how bilingual speakers handle rhythm across their L1 (Persian) and L2 (English), with implications for both language-specific rhythm characteristics and bilingual speech production.

Our findings revealed significant cross-linguistic differences between Persian and English in most rhythm metrics, particularly in vocalic measures. English exhibited higher values of ΔV(ln), VarcoV, and n-PVI-V compared to Persian, suggesting greater variability in vocalic intervals. These results are in accordance with the established notion of English as a stress-timed language, where vowel durations fluctuate significantly based on stress patterns. The large effect sizes for these measures (Cohen's d ranging from 1.49 to 2.12) highlight the substantial magnitude of these cross-linguistic differences. Additionally, English displayed a lower %V value (33.65%) compared to Persian (37.07%), indicating a proportionally smaller amount of vocalic regions in English speech. This finding aligns with the higher degree of syllabic complexity in English and its tendency to reduce vowels in unstressed positions.

In comparison to native English speakers, as examined in the study by White and Mattys (2007), Persian-English bilinguals in our study exhibited significantly lower values for vocalic rhythmic measures (%V, VarcoV, and n-PVI-V), as well as a slower articulation rate when speaking English. This indicates that native English speakers exhibit more pronounced stress-timed prosodic characteristics, marked by higher values for n-PVI-V and VarcoV, as well as a more consistent vocalic interval percentage. In contrast, the English speech of Persian-English bilinguals, as an L2, exhibited rhythmic properties more typical of syllable-timed languages like Persian, characterized by reduced vocalic duration variability and greater temporal uniformity. This supports the well-documented phonological transfer effect, where a speaker's first language (L1) influences the rhythmic and temporal characteristics of their second

language (L2) production (Henriksen, 2016; Aldrich, 2020).

Regarding bilingual studies, Aldrich (2020) found that both vocalic and consonantal rhythmic measures exhibited greater variability in English compared to Spanish among Spanish-English bilinguals. However, in our study, we observed this increased variability only for vocalic intervals. This suggests that Persian-English bilinguals primarily experience rhythmic influence in their vocalic patterns during language switching, while Spanish-English bilinguals exhibit influence in both vocalic and consonantal patterns. We assume this discrepancy may be due to the bilingual status of our participants, who are late bilinguals, compared to the early bilingual participants in Aldrich's study (2020). Furthermore, the articulation rates of the two languages were found to be markedly different, with Persian showing a faster articulation rate (5.107 syllables/second) compared to English (3.901 syllables/second). This outcome may be explained by the simpler syllable structure of Persian, which allows for a greater number of syllables to be produced within a given time frame compared to English. This finding corroborates the findings of Dellwo et al. (2015), who observed that German-Italian bilingual speakers demonstrated a higher articulation rate in Italian, characterized by its simpler syllable structure, relative to German. Aldrich (2020) also found similar findings that Spanish, which is simpler in syllable structure, had a higher articulation rate compared to English in early Spanish-English bilingual speakers.

The correlation analysis revealed interesting patterns regarding the consistency of rhythmic features across languages. Strong cross-language correlations were observed for consonantal measures (ΔC(ln): r = 0.62; n-PVI-C: r = 0.58), suggesting that speakers maintain relatively stable consonantal timing patterns across both languages. This finding suggests that certain aspects of temporal organization, especially those related to consonantal intervals, may be more resistant to cross-linguistic influence and may reflect individual characteristics rather than language-specific patterns. Conversely, vocalic-based measures showed weaker cross-language correlations (VarcoV: r = 0.28; n-PVI-V: r = 0.31), indicating that speakers are more flexible in adapting their vocalic timing patterns when switching between languages. This

adaptability in vocalic production might reflect speakers' conscious effort to accommodate the different rhythmic requirements of their L1 and L2.

Regarding the suitability of rhythm measures for showing between-speaker variability, the LDA analysis revealed that consonantal measures, particularly ΔC(ln) and n-PVI-C, emerged as the most reliable parameters for identifying speakers across both languages, achieving accuracy rates of 75.5% and 75.4% respectively. This finding suggests that consonantal rhythm measures may serve as more stable individual markers of speaker identity compared to vocalic measures. This finding is different from those of Asadi et al. (2018), who found vocalic measures like %V and articulation rate to be robust parameters in speaker identification tasks in Persian. We assume that this difference might result from two primary factors: the selection of rhythm measures and the statistical procedures employed. In the current study, the inclusion of additional consonantal measures, such as nPVI-C and VarcoC, allowed for a more detailed analysis of consonantal variability, which proved to be more effective in distinguishing speakers, particularly in a bilingual context. Moreover, the use of linear discriminant analysis, in contrast to the linear mixed effects models and multinomial logistic regression utilized by Asadi et al. (2018), may have highlighted distinct aspects of speaker variability, favoring consonantal over vocalic measures. These differences underscore the significance of tailoring measure selection and statistical modeling to the specific linguistic and speaker characteristics under investigation.

Results indicated that speaker identification was more effective in Persian (L1) than in English (L2). The generally higher identification accuracy in L1 suggests that speakers maintain more consistent individual patterns in their native language, likely due to well-established motor patterns and greater automaticity in L1 speech production. Additionally, the challenges associated with L2 acquisition may lead speakers to prioritize intelligibility over acoustic variation, thereby reducing the variability in their speech patterns. This is further supported by the lower accuracy of vocalic parameters in L2, which may stem from the difficulty of mastering vowel production in a second language. Foreign accents often arise from deviations in vowel articulation,

which differ from native speaker norms, contributing to the reduced effectiveness of vocalic measures in L2.

Several limitations should be considered. The use of read speech, while providing a controlled experimental setting, may not fully capture the dynamic nature of spontaneous speech. Furthermore, while the sample size of 20 male speakers is sufficient for statistical analysis, future research with a more diverse sample, including female speakers, is needed to confirm the generalizability of these findings

5. Conclusion

The current study examined rhythmic patterns in late Persian-English bilinguals, revealing significant cross-linguistic differences, particularly in vocalic measures, while consonantal timing showed greater stability across languages. The findings demonstrate that bilingual speakers adapt their rhythmic patterns when speaking English, as evidenced by significant changes in vocalic variability measures and articulation rate while maintaining certain individual characteristics, especially in consonantal timing. Results from the speaker identification analysis highlighted the potential of rhythm metrics, particularly consonantal measures, for speaker recognition applications, with higher accuracy rates in L1 compared to L2 production. These results expand insights into bilingual speech rhythm and have practical implications for bilingual speech production and speaker recognition technology, though future research with larger sample sizes and spontaneous speech would be valuable to confirm these patterns across different contexts and language pairs.

Appendix:

Ten sentences from our dataset are presented below.

1) The big red apple fell to the ground.
2) Seven seals were stamped on great sheets.
3) No doubt about the way the wind blows.
4) You cannot brew tea in a cold pot.
5) Help the woman get back to her feet.

6) Dill pickles are sour but taste fine.

7) The bark of the pine tree was shiny and dark.

8) Take the winding path to reach the lake.

9) The wrist was badly strained and hung limp.

10) Kick the ball straight and follow through.

۱) با روشن‌شدن هوا تظاهرکنندگان به‌سوی مجلس شورای اسلامی شروع به راهپیمایی کردند.

۲) بذل و بخشش رزق آدم را زیاد می‌کند.

۳) در مسابقه‌ی جام جهانی فوتبال، نروژ، ژاپن را شکست داد.

۴) هر روز صبح پنیر با کره می‌خورم.

۵) در کنفرانس ژنو صلح برقرار گردید.

۶) این ماهی طعم میگو دارد.

۷) اگر اسمت را عوض کنی به نفع تو است.

۸) این متن خیلی سنگین است.

۹) رعد و برق باعث رعب و وحشت چند نفر شد

۱۰) من طبل بلد نیستم.

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Argument coding in the experiential predicate *təmʃʌ kərdən* 'to look' in Garrusi Kurdish

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Abstract

təmʃʌ kərdən 'to look' is an experiential predicate in Garrusi Kurdish whose arguments and event structure are represented as a coverb complex predicate. The present study explores how arguments are encoded in the predicate-argument construction of *təmʃʌ kərdən* based on Croft's typological perspective (2022). It investigates the strategies employed by this verbal event to express its participants' roles, which grammatical and semantic functions are hosted by its components, and how its event structure is represented with respect to its argument structure. For this purpose, a fieldwork was conducted and 30 native speakers of Garrusi Kurdish were interviewed. Wallace Chafe's The Pear Story film was used as a catalyst for data collection, and Kurdish narratives were recorded. A total of 88 tokens of *təmʃʌ kərdən*, extracted from our discursive corpus, were analyzed to study argument coding strategies. The findings revealed that this experiential complex predicate, exhibits variation in the participants' argument coding and the type of the event it expresses. It basically used experiencer-oriented strategy, encoding the experiencer as a subject argument phrase. However, the stimulus showed variation in coding strategies, being expressed as an object argument phrase, as an oblique argument phrase, or as a complement clause. Of the 88 tokens of *təmʃʌ kərdən*, only 16 instances employed subject-object argument structure. The most tokenized coding strategy was subject-oblique argument coding with a locative/goal stimulus. Additionally, this complex predicate was observed to function as a subevent in serial verb construction. It could also express a different event structure.

Keywords: experiential event, argument structure, complex predicate, coverb, serial verb

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1. Introduction

The experiential predicate *təmʃʌ kərdən* exists in most of Iranian languages with slight phonetic variation. Dabir-Moghaddam (1997, pp. 37-38) includes this verbal form in his corpus of Persian compound verbs. He argues that this verb, meaning "to watch", is formed through a combination process: "watching + do". He defines it as a transitive verb that includes two core argument phrases. Family (2014, pp. 61-62) includes this verbal form in her list of Persian compound verbs in her discussion of *kærdæn* as a light verb. She argues that it is composed of "viewing + do" and means 'to look'. In Persian, *tæmaʃa kærdæn* ('to watch') is used less than *negah kærdæn* ('to look'), both in formal and informal contexts. The following examples illustrate the argument structure of these verbs in Persian:

(1) mæn sæhnæ=ro tæmaʃa kærd-æm
I scene=ACC watch make/do.PST-1SG
'I watched the scene.'

(2) mæn sæhnæ=ro negah kærd-æm
I scene=ACC look make/do.PST-1SG
'I watched the scene.'

(3) mæn be sæhne negah kærd-æm
I to scene look make/do.PST-1SG
'I looked at the scene.' [lit. 'I looked to the scene']

As the examples represent, in Persian, *tæmaʃa kærdæn* has a subject-object argument structure, whereas the arguments of *negah kærdæn* can be expressed in two ways: subject-object argument coding and subject-oblique argument coding with a prepositional object argument phrase. In Garrusi Kurdish, the single verbal form *təmʃʌ kərdən* denotes both events 'to watch' and 'to look'.

In the present study, we investigate argument coding strategies employed in the experiential complex predicate *təmʃʌ kərdən* 'to look' in Garrusi Kurdish. We studied this verbal event within the typological framework

of Croft (2022), exploring his perspective on predicate-argument construction. Croft focuses on the "strategies" used to express the arguments of a predicate in a language variety. He classifies predicates into different types based on the "strategies" employed in their formalization. In this regard, the predicate *təmʃʌ kərdən*, composed of two elements as "subevents of a single event" – that is, the event of 'looking' – is a subtype of "eventive complex predicates" (see Croft, 2022, p. 399).

Croft (2022) argues that eventive complex predicates and their argument structure are formed through four strategies as follows: serial verb construction, auxiliary verb construction, support verb construction, and argument complex predicate construction. Each of these constructions, based on the function of their subevents, represent a type of complex predicate with a specific argument structure.

This study aims to explore how arguments are encoded in the predicate-argument construction of the experiential complex predicate *təmʃʌ kərdən* in Garrusi Kurdish. It investigates the strategies this complex predicate employs to express its participants' roles, grammatical and semantic functions are hosted by its components, and how its event structure is represented with respect to its argument structure. For this purpose, we conducted a fieldwork and analyzed 88 tokens of this complex predicate in Garrusi Kurdish discourse. our findings revealed that this experiential complex predicate manifest variation in the participants' argument coding and the type of the event it expresses in sentential context.

This paper is organized into eight sections. After describing the verbal event under discussion and outlining our objectives, we present an overview of the recent typological studies about the experiential predicates in Section 2. In Section 3, we describe our fieldwork and the structure of our task utilized in the process of data collecting for our corpus analysis. Section 4 explores argument coding in experiential predicates from Croft's (2022) typological perspective. Then, we share our findings about argument coding in the experiential predicate *təmʃʌ kərdən* ('to look') in Garrusi Kurdish in the following four sections. Section 5 represents *təmʃʌ kərdən* as a coverb construction,

investigating its argument structure within the domain of this construction. Section 6 displays *təmʃʌ kərdən* as a subevent in serial verb construction, exploring its argument structure as followed by other experiential events. Section 7 depicts *təmʃʌ kərdən* as expressing a state, illustrating the experiential relation between its arguments. Finally, section 8 concludes with the outcomes of our findings in this study.

2. Typological Views about the Experiential Predicates

Experiential predicates, also known as perception events or verbs of perception, have been studied from different perspectives. Here we concentrate on those which are typological explorations in the languages of the world. Viberg (1984) explores perception verbs in different languages, studying the lexical field of perception in 50 languages. His aim was to investigate the representation of perceptual experience in different languages. Croft (1993) examines the semantics of mental verbs and subject assignment in experiential verbs within the scope of causal structure. Reh (ed., 1998) investigates the experiencer constructions in African languages, focusing on coding strategies in experiential situations.

Wierzbicka (1999) studies the diversities and universals of emotions in different languages. She focuses on the parameters that represented how languages encode emotions. Evans and Wilkins (2000) study 69 Australian languages to examine the lexicalization of perception words with respect to their semantic extensions. Croft (2001) studies experiencer coding with respect to morphological marking and syntactic properties. Bickel (2004) explores how experiencer is encoded in the Himalayas, focusing on the morphological downgrading of the experiencer in the language. Verhoeven (2007) explores experiential constructions in Yucatec Maya to represent functional domains of experience and the experiential situation.

San Roque et al. (2015) examines 13 languages to see the frequency of the perception words within these languages. They study the usage of perception terms in spontaneous conversation to explore the universals of experience and cognition. Winter, Perlman, and Majid (2018) conduct a

quantitative study on English sensory vocabulary to examine the frequency of visual words in this language. Croft (2022) studies argument coding strategies in experiential construction. This work is the theoretical framework used in the present study. Croft's views about experiential events are explained in section 4. Norcliffe and Majid (2024) conduct a quantitative study on the lexicalization of perception verbs in 100 languages from the perspective of lexical-semantic typology.

3. Methodology and Data Collection

We employed an experimental method for the present study and conducted fieldwork to collect our data. We used "The Pear Story" film as a catalyst for our data collection and interviewed 30 native speakers of Garrusi Kurdish. "The Pear Story" film is a six-minute movie, with sound effects but no words, produced by Wallace Chafe and his colleagues at the University of California, Berkeley, in 1975.

The data was collected by a native interviewer who interviewed 30 native speakers of Garrusi Kurdish in Qohurd-e Olya, a village in Mehraban-e Sofla Rural District of Hamadan Province. Before watching the film, the participants were asked to provide their consent for recording their voice. Then, they watched the film and narrated it simultaneously while they were watching. Afterwards, we transcribed the recorded voices and encoded each sentence numerically. In the final stage, the sentences that included the experiential event *təmʃʌ kərdən* were extracted. A total of 88 samples were typologically investigated for the present study.

4. Argument Coding in Experiential Predicates

Croft (2022) investigates the relationships among the participants in experiential events and illustrates their typologically different argument structure. He classifies experiential events into four categories (2022, p. 227):

a. **Perception events:** *see, look at, hear, listen to, taste, touch, feel, etc.*
b. **Cognition events:** *know, think about, remember, forget, wonder about, etc.*

c. **Emotion events:** *fear, frighten, love, like, want, surprise, annoy, etc.*

d. **Bodily sensation events:** *itch, ache, feel hot/cold, be hungry, be sick, etc.*

Croft (2022) defines the presence of two participants, one expressed as a core argument phrase and the other expressed either as a core or a peripheral argument phrase, as inevitable in an experiential construction. The central participant is the "experiencer", who "is typically stimulated by some other participant", referred to as the "stimulus" (p. 227). He identifies some grammatical facts about experiential constructions that distinguish their argument structure from other events in transitive and intransitive constructions. He notes that "the most striking" one is that "the same events can be expressed with the experiencer and stimulus participants encoded in the reverse grammatical roles, even in the same language" (example 61, p. 227):

(4) a. I like cats. [Subject = experiencer, Object = stimulus]

b. Cats please me. [Subject = stimulus, Object = experiencer]

Croft (2022), following Croft (1993) and Verhoeven (2007), calls example (4a) "experiencer-subject" or "experiencer-oriented strategy" and example (4b) "experiencer-object" or "stimulus-oriented strategy". These examples represent the experiential events encoding a transitive argument structure. Therefore, within the scope of transitivity, two types of transitive argument structures strategies can be formalized: "experiencer-oriented transitive strategy" (example 4a) and "stimulus-oriented transitive strategy" (example 4b). Then, he explores the same strategies in intransitive argument structures in which the non-subject participant is expressed as an oblique argument. He illustrates the expression of the experiencer and the stimulus in "reverse grammatical roles" with examples from Samoan and Ancient Greek languages (examples 62 and 63, p. 228):

(5) sā ʻou ita ʻi l-o=ʼu uso[1]
PST 1SG angry PREP ART=POSS=1SG brother
'I was angry with my brother.'

1. Examples from other sources are quoted without any change in writing alphabet and glassing rules.

(6) moi enok^{h}lîe
1SG.DAT bother:2SG
'You bother me.'

Example (5) from Samoan represents an "experiencer-oriented intransitive strategy", in which the experiencer is a subject argument phrase and the stimulus is an oblique argument phrase. Example (6) from Ancient Greek depicts a "stimulus-oriented intransitive strategy", in which the stimulus is encoded as a subject argument phrase and the experiencer is formalized as an oblique (Dative) argument phrase (Croft, 2022, p. 228).

Croft (2022, pp. 228-230) in the next step, based on the causal relations between the experiencer and the stimulus, subdivides the experiential events into three categories:

a. Attending events: *look at, listen to, think about, grieve over.*

b. Affecting events: *frighten*, *surprise*, *please*, *amuse*, *bore*, *excite.*

c. Experience events: *see, remember, fear.*

Attending events "highlight the experiencer directing her/his attention". In these events, the experiencer is always encoded as a subject, while the stimulus can be expressed either as a direct object or as an oblique argument. Affecting events "highlight the stimulus altering the mental state of the experiencer". These events always express the stimulus as a subject and the experiencer can be encoded either as an object or as an oblique argument. The third type of experiential events, called "experience events", express a "state". The experiential situation of these events "highlights both the experiencer attending to the stimulus and the stimulus bringing about the mental state of the experiencer simultaneously". These events may employ "symmetric encoding strategies" (Croft, 2022, pp. 228-230).

5. *təmʃʌ kərdən* in Coverb Construction

Croft (2022, p. 421) considers the "coverb construction", also known as the "light verb construction", as an instance of a "support verb construction". These constructions are complex predicates in which an "inflecting verbal element" combines with a non-verbal element to conceptualize a single event.

In this type of complex predicate, the verbal element "has undergone semantic change" and "makes a minimal semantic contribution to the meaning of the whole complex predicate". Therefore, it is the semantic content of the non-verbal element that "describes the event" (Croft, 2022, p. 419). Croft refers to the following example from Wagiman (example 68, p. 421) to represent a sample of "coverb construction" in this language variety:

(7) bewh-ma nega-bu-ni boran
cross-ASP 1SG-**hit**-PST river
'I crossed the river.'

The most highly productive coverb complex predicates in Iranian languages are those in which *kærdæn* (*kərdən* in Garrusi) 'to make/do' functions as the inflecting verbal element. This verbal form is a causative auxiliary that can precede any type of word in Iranian languages and form complex predicates with various event structures. The experiential predicate *təmʃʌ kərdən* 'to look', composed of the nominal *təmʃʌ* (look) and the causative *kərdən* (to make/do), denotes both the events of 'looking' and 'watching' in Garrusi Kurdish. It is a "perception" event with two central arguments: an experiencer and a stimulus. Based on the relations between its participants, it is a dynamic "attending" event. Therefore, it always encodes the experiencer as a subject and uses an experiencer-oriented strategy (see Croft, 2022, p. 228).

The experiencer in *təmʃʌ kərdən*, like most subject argument phrases in Iranian languages, is indexed on the verbal event. However, we observed that it manifests variation in stimulus argument coding and represents different patterns. Furthermore, a detailed examination of its tokens showed that this complex predicate can also act as a part of another type of complex predicate and its participants can have other sorts of relations. We explore the argument structure of *təmʃʌ kərdən* as an attending event in coverb construction in the present section and focus on other observations in Sections 6 and 7.

5.1 Subject-Object Argument Coding

In a clausal event, subject argument is "the most salient participant" and object argument functions as "the next most salient participant". Therefore,

subject and object are prototypically “core arguments” or “central participants” in a predicate (Croft, 2022, p. 173). In this regard, bivalent transitive events, in which there are “two central participants” encoded as “subject and object”, are considered to be “the prototypical clausal event type” (Croft, 2022, p. 183). Thus, subject-object argument coding is taken to be the prototypical argument coding in predicate-argument construction.

The verbal event under discussion, *təmʃʌ kərdən*, is an experiential bivalent event encoding two participants expressed as an experiencer and a stimulus. However, to illustrate the transitivity of this event, the salience of its arguments, and their prototypical status, we need to explore the samples extracted from the corpus and classified based on the grammatical function of their argument phrases. We start with those examples in which an element cross references with an object:

(8)	pijʌ-gæ	hæ	təmʃʌ=jʌn	kərd	læ	hʌl=ə	gʊlʌbi	xʷɒrd-ən
05.334[1]	man-DEF.SG bi-n be.PST-3PL	just	look=3PL	make/do.PST	in	manner=GEN/EZ	pear	eat.PST-INF

‘The man constantly looked at them (as) they were eating pears.’

(9)	ʔow=eʃ	təmʃʌ=j	ke-j	læ	bʌn	gʊlʌbi	kæn-i
11.306	he=ADD	look=3SG	make/do.PRS-3SG	from	above	pear	pick.PRS-3SG

‘He (who) is picking pears from above looks at him.’

(10)	ʔʌhʌ	təmʃʌ=jʌn	ke-j	jek=i	jek=i
11.322	aha	look=3PL	make/do.PRS-3SG	one=NUM	one=NUM

‘Aha! He looks at them one by one.’

(11)	dir-i	təmʃʌ=jʌn	ke-j	ʔyʃ-i	pæs
13.333	have.AUX.IPFV.PRS-3PL	look=3PL	make/do.PRS-3SG	say.PRS-3SG	so
	gʊlʌbi-jægʌn=ə	me	kʌ		
	pear-DEF.PL=GEN/EZ	I	where		

‘(As) he is looking at them says “so, where are my pears?”’

1. The numbers written before the glossing in each example stands for the code of the participants’ sentence in the corpus.

(12)	fæɢæt	pijʌ-gæ	dir-i	təmʃʌ=jʌn	ke-j
13.337	just	man-DEF.SG	IPFV.PRS-3PL	look=3PL	make/do.PRS-3SG

'The man is just looking at them.'

(13)	se	næfær=eʃ	l=ow	lʌ	læ	rubəru=j	təmʃʌ=j	kæ-n
22.1	thre	person=A	on=th	sid	fro	front=3SG:P	look=3	make/do.P
87	e	DD	at	e	m	OSS	SG	RS-3PL

'Three people on that side also look at him as they are in front of him.'

(14)	ʔow	se	næfær-æ	təmʃʌ=jʌn	kæ-n	hʌt-ən-æ	wær
24.196	that	three	person-DEF.SG	look=3PL	make/do.PRS-3PL	come.PST-3PL-APPL	forward
	kʊmæk=i	bə-kæ-n	ʔowɒnæ	kwɒ	bə-ke-j		
	help=3SG	SBJV-do.PRS-3PL	they	collect	SBJV-do.PRS-3SG		

'Those three persons (who) are watching them came forward to help him to collect them.'

The second argument in all these examples is a covert object which has been indexed as a pronominal clitic (*j/jʌn*) in the verbal structure. This oblique clitic was hosted by the nominal element of the complex predicate in all tokens. The argument coding pattern of these samples can be illustrated as [SBJ LOOK=OBL DO]. We observed that the sentences including an object in their argument structure basically followed this pattern. However, we found two samples in which the object was expressed overtly:

(15)	ʔi	lʌ	ʔow	lʌ=j	təmʃʌ=j	kərd
30.201	this	side	that	side=3SG:POSS	look=3SG	make/do.PST

'He looked around.' [lit. 'He looked at this side and that side']

(16)	pʌ=j	fək	kæ-m	zæxm-dʌr	bi-jæ	təmʃʌ	ke-j
23.17	leg=3SG:POS	thin	do.PRS	wound	become.PS	look	make/do.PR
5	S	k	-1SG	-ADJ	T-PRS.PRF		S-3SG

'He looks at his leg (that) I think has become wounded.'

The second argument of the predicate in example (15) has been represented twice in the clause: once as an overtly expressed noun phrase (*ʔi lʌ ʔow lʌ=j*) and again as an oblique clitic indexed on the nominal part of the

complex predicate. This example provides us with another pattern of subject-object argument coding: [SBJ OBJ LOOK=OBL DO].

In contrast, the object argument phrase in example (16) has not been encoded as a clitic inside the verbal structure. In this sentence, the second argument of *təmʃʌ kərdən*, overtly expressed at the beginning of the sentence (*pʌ=j*), has a relative construction. It functions as the subject argument of the relative clause. Therefore, the overt expression of the object of *təmʃʌ kərdən*, without oblique indexation, has been possible through its inclusion as a subject argument in the relative construction. This possibility provides us with the third pattern of subject-object argument coding with respect to *təmʃʌ kərdən*: [SBJ OBJ LOOK DO].

One may ask if the second argument of *təmʃʌ kərdən* was a noun phrase overtly expressed without clitic indexation, but not as a subject of its preceding clause, how would it be encoded in this Kurdish variety? To answer this question, we should investigate a set of other examples in the following section.

5.2 Subject-Oblique Argument Coding

The second argument coding strategy employed in the formalization of predicate-argument constructions is subject-oblique argument structure. Oblique arguments in an event are encoded as "the least salient" participants (Croft, 2022, p. 173). They are considered to be peripheral participants in a predicate. Just as the core participants are prototypically encoded by subject and object argument phrases, the peripheral arguments are also prototypically encoded by oblique argument phrases (Croft, 2022, p. 174). The arguments in the complex predicate *təmʃʌ kərdən* were also observed to be expressed by subject-oblique coding strategy:

(17)	təmʃʌ=j	dʊt-æ	ke-j	kʊlʌ-ge=j	kæf-i	zæmin
03.203	look=LOC/GL	girl-DEF.SG	make/do.PRS-3SG	hat-DEF.SG=3SG:POSS	fall-3SG	ground

'He looks at the girl (so) his hat falls on the ground.'

(18)	pijʌ-gæ	təmʃʌ=j	dæs=ijʌn	kərd	wæli	ʔowɒnæ	rˇuwej-n
07.299	man-DEF.SG	look=LOC/LG	hand=3SG:POSS	make/do.PST	but	they	go.PST-3PL

'The man looked at their hands but they went.'

(19)	təmʃʌ=j	tæræf	kərd	d-ir-ijʌ	wæ	zæmin
13.266	look=LOC/GL	guy	make/do.PST	give/hit-PASS-PST.INTR	to	ground

'He looked at the guy (so) he was beaten to the ground.'

(20)	təmʃʌ=j	pijʌ-gæ	ke-j	sæbæd-ægæ	ʔælgir-i
19.195	look=LOC/GL	man-DEF.SG	make/do.PRS-3SG	basket-DEF.SG	lift-3SG

'He looks at the man (then) he picks up the basket.'

(21)	se	dʌnæ	zʌrˠu	l=ow	lʌ	wusi-jʌ-g-ən	təmʃʌ=j	je
19.218	three	NUM	child	on=that	side	stand-PST.INTR-PRS.PRF-3PL	look=LOC/GL	this.HUM

kæ-n
make/do.PRS-3SG
'Three boys (who) have stood over there are looking at this boy.'

(22)	təmʃʌ=j	bɒwk=i	ke-j
20.215	look=LOC/GL	father=3SG:POSS	make/do.PRS-3SG

'He looks at his father.'

(23)	hæ	wudʒi	dæs	wæ	kæmær	min-ijʌ-jæ	təmʃʌ=j	ʔowɒnæ
24.237	just	likewise	hand	to	waist	stay-PST.INTR-PRS.PRF	look=LOC/GL	they

ke-j
make/do.PRS-3SG
'Standing paralyzed with his hand on his waist likewise, he is looking at them.'

In all these examples, the stimulus has been expressed overtly, but with a different coding pattern. Participants of a clausal event can be generally ordered either as a preverbal or a postverbal argument. However, in all these samples, the stimulus has been expressed inside the complex predicate – between the nominal and the verbal components of *təmʃʌ kərdən*. The identification of this argument as an oblique argument opens a discussion based on prepositions in Garrusi Kurdish.

In Garrusi Kurdish, prepositions can also be formalized as clitics

hosted by any word, including verbs. These prepositions are case-assigners and when precede a noun phrase assign a flagging marker to them. The formal representation of the case marker is determined by the grammatical function of the noun phrase. If the noun phrase is an oblique adjunct, it will be overtly flagged by *-o/owæ* or *-dʌ/tʌ*:

(24)	ʔi	pijʌg=eʃ	**læ**	ʔi	bʌn-**owæ**	təmʃʌ=j	ke-j
21.192	this	man-DEF.SG=ADD	from	this	up-OBL	look=3SG	make/do.PRS-3SG
	'This man also looks at him from above.'						

(25)	jek-ə-l-ej=ʃ	**wæ**	tʃət-æg-**owæ**	hʌlæt=ə	tənis=ægæ
25.304	one-INDF=of=3SG=ADD	with	thing-DEF.SG-OBL	manner=GEN/EZ	tennis-DEF.SG
	təmʃʌ=j	ke-j			
	look=3SG	make/do.PRS-3SG			
	'One of them also with that tennis like thing is looking at him.'				

The locative/source argument phrase *læ ʔi bʌn-owæ* in example (24) and the instrumental argument phrase *wæ tʃət-æg-owæ* in example (25) are flagged by the marker *-owæ* in the event under discussion. Other samples of these flagging markers are also observable in example (45) with *l=ej-dʌ* and in example (59) with *nærdəwʌn-ægæ-ʔo* and *xʷɒr-ʌ*. However, not all the oblique arguments are flagged by these markers.

Prepositions in Garrusi Kurdish are argument markers – that is, when they precede a noun phrase, the presence or absence of the flagging marker they assign determines the semantic function of the oblique argument. If the noun phrase is an argument expressed as an oblique adjunct, it will be assigned a marker by the preposition. However, if the noun phrase functions as an obligatory oblique complement, the preposition will not formally assign a marker to it. Therefore, adjunct arguments are overtly flagged, whereas oblique complements lack an overt flagging, employing zero flagging strategy.

The lexical presence of the preposition is also specified with the function of the oblique complement. When the oblique complement is a recipient and functions as a dative argument, it is proceeded by the preposition *wæ*. When it is a location and functions as a source or goal argument, the preposition *læ* will precede it. These prepositions can also be represented as a

proclitic while preceding the oblique complement or have an applicative function when the oblique is a goal argument (dative or locative) expressed postverbally:

(26)	se	dʌnæ	rˠæfiq-ægʌn=i	**l=**ow-ræ	dir-ən
13.275	three	NUM	friend-DEF.PL=3SG:POSS	**from=**that=side	have.AUX.IPFV.PRS-3PL
	təmʃʌ=j	kæ-n			
	look=3SG	make/do.PRS-3PL			
	'His three friends are looking at him from there.'				

(27)	se	dʌnæ	kʊrˠ	təmʃʌ=j	kərd-ən	hʌt-ən-**æ**	lʌ=j
09.228	three	NUM	boy	look=3SG	make/do.PST-3PL	come.PST-3PL**-APPL**	side=3SG:POSS
	'Three boys (who) looked at him came to his side.'						

(28)	geji-**jæ**	lʌ=j	pijʌ-gæ
09.206	reach.PST-**APPL**	side=GEN/EZ	man-DEF.SG
	'He reached to the side of the man.'		

Example (26) depicts the clitic representation of the preposition *læ* in the noun phrase functioning as a locative/source argument phrase (*l=ow=ræ*). The clitic projection of the prepositions *læ* and *wæ* is also observable in examples (13) and (21) in *l=ow lʌ*, examples (31), (32), and (50) in *w=ej lʌ* and *w=ow lʌ*, and example (45) in *l=ej-dʌ*. Examples (27) and (28) illustrate the applicative function of these prepositions projected as *æ* with goal arguments. We can also observe the applicative use of these prepositions in examples (14) in *hʌt-ən-æ wær*, (39) in *de-j-æ bʌn*, and (59) in *hʌt-æ xʷɒr-ʌ*.

In some verbal structures, when the predicate is in complex form and the oblique complement functions as a locative/goal argument, the preposition *læ* can be represented by the non-verbal element of the predicate as the short vowel *ə* after consonant and as the glide *j* after vowel. This phenomenon provides a platform for the locative/goal argument to be located inside the complex predicate. In all examples of *təmʃʌ kərdən* with subject-oblique argument coding, the locative/goal oblique, preceded by the glide *j* which is attached to the nominal element, has been expressed between the nominal and the verbal parts of the complex predicate. To show how this clitic is

represented as a short vowel, we refer to another complex predicate from the corpus (*kʊmæk kərdən* 'to help') including an oblique complement with the same function:

(29)	ʔivæt-i	kərd	kʊmæk**=ə**	pijʌ-jægæ	bə-ke-j
01.188	stop=3SG	do.PST	help**=LOC/GL**	man-DEF.SG	SBJV-do.PRS-3SG
	'He stopped it (to) help the man.'				

(30)	ʔowɒnæ	hʌt-ən	kʊmæg**=ə**	jæ	kərd-ən
10.310	they	come.PST-3PL	help**=LOC/GL**	this,HUM	do.PST-3PL
	'They came (and) helped him.'				

The same projection of the preposition *læ* is also observable in possessive constructions of Garrusi Kurdish – that is, in what is known as Ezafe Construction in Iranian languages. As illustrated in examples (28) in *lʌ=j pijʌ-gæ* and (55) in *sæbæd-ægе=j me*, when the possessee ends with a vowel, the genitive marker is expressed as *j*. However, when the possessee ends with a consonant, as depicted in examples (11) in *gʊlʌbi-jægʌn=ə me* and (54) in *sæbæd=ə gʊlʌbi-jægе=j*, this marker is represented as *ə*.

Croft (2022), as he is discussing Stassen's views on "presentational possession" (2009), highlights that genitive and locative flagging marker in many languages have the same form: "in many languages, a genitive (possessive) flag is identical to, or historically derived from, a locative flag" (p. 310). However, the zero projection of this marker in dependent-head sequence, as in example (42) in *læ des ʔʌj kʊrˠ-ægʌn*, or in the reversal sequence followed by an indexical clitic, such as example (57) in *bəzən-æ sədʌ=j*, were also observed in the corpus. We have glossed this marker as GEN/EZ in the present study. To say whether it is a linker or a prepositional clitic in Garrusi Kurdish needs further investigations and falls out of this study.

We found that the most frequent strategy observed throughout the corpus to be employed by *təmʃʌ kərdən* was the subject-oblique argument coding strategy. However, as discussed, the oblique argument in this coding strategy is expressed in a specific pattern: an interverbal argument phrase that was marked by the prepositional clitic attached to the nominal element as a

locative/goal oblique complement. The argument coding pattern of the samples with this oblique argument can be illustrated as [SBJ LOOK=LOC/GL OBL DO]. This pattern was the most tokenized pattern for the oblique argument of *təmʃʌ kərdən*. Nevertheless, two sequential samples articulated by a single participant were also observed in which the oblique complement was not expressed as an interverbal argument:

(31) w=ej lʌ təmʃʌ ke-j
25.344 to=this side look make/do.PRS-3SG
'He looks at this side.'

(32) w=ow lʌ təmʃʌ ke-j
25.345 to=that side look make/do.PRS-3SG
'He looks at that side.'

These examples manifest the overt expression of the oblique argument in the event *təmʃʌ kərdən*. However, the pattern of its encoding has two differences with the aforementioned pattern: it is a preverbal argument phrase and functions as a dative oblique complement marked by the proclitic form of the preposition *wæ*. This sample provides us with another pattern of subject-oblique argument coding: [SBJ OBL LOOK DO].

6. *təmʃʌ kərdən* in Serial Verb Construction

Croft (2022, p. 405) identifies serial verb construction as "the most common strategy" for expressing eventive complex predicates. In this type of complex predicates, both elements of the predicate are verbs denoting "subevents of a single event" (p. 400). He classifies serial verbs, based on their formalizing strategies, into two types: "zero-coded serial verbs" and "overtly coded serial verbs". Zero-coded serial verbs follow each other without any "linking element" and are formed based on "zero coding strategy", whereas overtly coded serial verbs are obviously connected by a "linking element" and are highlighted by "overt coding strategy" (Croft, 2022, p. 406). Following Durie's classification (1997), he presents Table 1 as "the family of strategies making up the zero-coded serial verb strategy":

Table 1.

The family of serial verb strategies (Croft, 2022, p. 406)

Contiguity	**contiguous**
	not contiguous, separated by an argument phrase
Incorporation (morphological boundness)	from a single word
	separate words
Locus of predicate Inflection	inflection on first verb
	inflection on last verb
	same inflection on all verbs
	split inflection
	separate inflection

Therefore, serial verbs can be either contiguous or separated by an argument phrase, can form a single word or be separate, and can show variation in their place of inflection. The following examples employed by Croft (2022) shed light on this construction. Example (33) from Sranan (example 19, p. 407) represents serial verbs separated by an object argument phrase, example (34) from Alamblak (example 20, p. 407) depicts contiguous serial verbs formed as a single word, and example (35) from Òbòlò (example 24, p. 408) illustrates same inflection on all verbs:

(33) kofi naki amba kiri
Kofi **hit** Amba **kill**
'Kofi hit Amba dead.' [= Kofi killed Amba]

(34) yënt mi-ak-tita-r-t
girl ELEV-**get-carry_on_shoulders-**3SGM-3SGF
'He carried the girl down there on his shoulders.'

(35) é-gwên èmi é-nû
PL-call 1SG **PL-come**
'Let them call me to come.'

Croft (2022, p. 406) defines serial verbs that are "contiguous and separate words" as "the prototypical serial verb strategy" in eventive complex

predicate construction. The zero-coded strategy employed for the complex predicates, "allows for variation in the position of the serial verbs with respect to each other and to their argument phrases". This variation can be attested in a language through the above-mentioned strategies: whether the verbs are contiguous or remote, whether they form a single word or are incorporated, and where the verbal inflections are placed, including variations in "verbal categories" like "person indexation, tense, and modality" (Croft, 2022, p. 408).

Delving deeply into our collected data, we observed that the coverb complex predicate *təmʃʌ kərdən* can also function as a subevent of serial verb construction in Garrusi Kurdish discourse. It can precede another experiential verb and thus employ serial verb strategies for encoding the arguments in the predicate. In this section, we explore the samples of *təmʃʌ kərdən* from the corpus expressed as a part of serial verb construction. We found two sets of serial verbs with respect to the verbal structure under discussion: 'to look + to see' and 'to look + to know', semantically belonging to the same category of experiential events. Both sequences are constructed through "zero-coded serial verb strategy". However, they show variation in specific features of "the family of serial verb strategies" that Croft refers to.

6.1 To Look + To See

In primary classification, 'to look' and 'to see' belong to the same group of experiential predicates as perception verbs. But, based on the relations among their participants, these two verbal events are subcategorized in different groups: 'to look' is a dynamic "attending verb" with an experiencer directing its attention to the stimulus, whereas 'to see' is an "experience verb" expressing a state through a parallel "tow way" relation between its experiencer and stimulus (see Croft, 2022, pp. 227-229). The verbal event *digən* 'to see' in Garrusi Kurdish has a subject-object argument structure, using experiencer-oriented transitive strategy. It can also employ another argument coding strategy and express the stimulus participant as a complement clause. Investigating the argument phrases of *təmʃʌ kərdən*, we found that in some cases *digən* followed this event immediately before a stimulus complement

clause:

(36)	təmʃʌ	ke-j	d-yn-i	jek-ə=l=ej	læ	sæbæd-ægʌn=i
05.317	look	make/do.PRS-3SG	IPFV-see.PRS-3SG	one-INDF=of=3SG	of	basket-DEF.PL=3SG:POSS
	dəz-ij-ən					
	steal-PRS.PRF-3PL					
	‘He looks seeing (that) they have stolen one of his baskets.’					

(37)	hæ	təmʃʌ	ke-j	d-yn-i	ni=jæ
05.322	just	look	make/do.PRS-3SG	IPFV-see.PRS-3SG	NEG=be.PRS.3SG
	‘He constantly looks seeing (that) it is not there.’				

(38)	tæʔædʒob-o	təmʃʌ	ke-j	d-yn-i	jek-ə=l=ej	ni=jæ
19.256	surprise-OBL	look	do.PRS-3SG	IPFV-see.PRS-3SG	one-INDF=of=3SG	NEG=be.PRS.3SG
	‘He looks with surprise seeing (that) one of them is not there.’					

(39)	kælɒw-ægе=j	de-j-æ	bʌn	təmʃʌ	ke-j	d-yn-i
19.261	hat-DEF.SG=3SG:POSS	give/hit-3SG-APPL	up	look	make/do.PRS-3SG	IPFV-see.PRS-3SG
	zʌrˠu-gʌn	di-jʌ-n				
	child-DEF.PL	PRF-come.PRS-3PL				
	‘He raises his hat (and) looks seeing (that) the children are coming.’					

(40)	təmʃʌ	kərd	di	jek-ə=l=ej	læ	sæbæd-ægʌn=i
24.230	look	make/do.PST	see.PST	one-INDF=of=3SG	of	basket-DEF.PL-3SG:POSS
	ni=jæ					
	NEG=be.PRS.3SG					
	‘He looked seeing (that) one of his baskets is not there.’					

(41)	təmʃʌ	ke-j	d-yn-i	sæbæd-æg=ej	jek-ə=l=ej
25.338	look	make/do.PRS-3SG	IPFV-see.PRS-3SG	basket-DEF.SG=3SG:POSS	one-INDF=of=3SG
	ni=jæ				
	NEG=be.PRS.3SG				
	‘He looks seeing (that) one of his baskets is not there.’				

These examples represent *təmʃʌ kərdən* and *digən* as sequential verbs in a serial verb construction. Both verbs match with the first two "family of serial verb strategies": they are contiguous and separate words. Thus, they are considered to be a sample of prototypical seral verbs. However, they show variation in some features of inflection. As the examples illustrate, both verbs are either in the present or in the past tense. Both are declarative affirmative predicates. Both lack any aspectual marker in the past tense but they behave differently in the present tense. Nevertheless, it is not a difference bound to verbal projection in specific situation.

The present form of *digən* in Garrusi is determined by aspectual features. *digən* is never articulated in simple present form in Garrusi Kurdish. It is always either in progression or perfection, hosting an aspectual marker – the prefix *də-* for imperfective aspect and the suffix *-igæ/-ijæ* for perfective aspect. Therefore, since it is a natural feature of this verbal form in Garrusi, we conclude that *təmʃʌ kərdən* and *digən* also match with respect to aspect.

After examining the uniformity status of their TAMP (tense, aspect, mood, polarity) features, we now investigate these two verbs' argument indexation in a serial verb construction. Both events have an experiencer indexed on the verbal structure. And both share a stimulus expressed as a resultative complement. A "temporal causal order" is observable between the two events and the resultative stimulus. This issue matches with Croft's discussion (2022) about the sequence of the events in serial verb strategies. Considering Durie's observations (1997), he argues that "the order of serial verbs is determined by causal ordering of the subevents" (Croft, 2022, p. 411). Likewise, here the second event *digən* is the effect of *təmʃʌ kərdən* manifested through the resultative stimulus complement:

təmʃʌ kərdən ⟶ *digən* ⟶ resultative stimulus
(cause) (effect)

In all the examples mentioned above, both subevents encode a single stimulus in form of a clause. The argument coding strategy of tokens of this pattern can be depicted as [SBJ LOOK-DO + SEE RES-COMP]. However, we found some samples in the corpus in which the subevents of the serial verb did

not share a single stimulus:

(42)	bʌ	dəɢɢæt	təmʃʌ=j		ʔætrʌf=i	ke-j	d-yn-i	læ
03.248	with	care	look=LOC/GL		around-3SG:POSS	make/do.PRS-3SG	IPFV-see.PRS-3SG	in
	des	ʔʌj	kʊrˠ-ægʌn	kə	də-tʃə-n	gʊlʌbi	hæs	
	hand	this	boy-DEF.PL	who.REL	IPFV-go-3PL	pear	be.PRS	

'He looks around carefully seeing (that) these boys, who are going, have pears in their hands.'

(43)	təmʃʌ=j	bʌn	ke-j	d-yn-i	ʔi	pijʌ-gæ	dir-i
08.190	look=LOC/GL	up	make/do.PRS-3SG	IPFV-see.PRS-3SG	this	man-DEF.SG	have.PRS-3SG
	gʊlʌbi	də-tʃin-i					
	pear	IPFV-pick-3PL					

'He looks up seeing (that) this man is picking pears.'

(44)	təmʃʌ=j	ʔi	lʌ	ʔow	lʌ	ke-j	d-yn-i	ni=jæ
05.321	look=LOC/GL	this	side	that	side	make/do.PRS-3SG	IPFV-see.PRS-3SG	NEG=be.PRS

'He looks around seeing (that) it is missing.

These samples include a verbal form with subject-oblique argument structure discussed in coverb construction. The stimulus of the first verb in all these examples is a locative/goal noun phrase or an adverb, the direct target of the experiencer's attention, whereas the stimulus of the second verb is a resultative complement. Nevertheless, we found a case in which the subevents of the serial verb had a single stimulus (the pears), expressed as a noun phrase in the first event and as a complement clause in the second one:

(45)	təmʃʌ=j	gʊlʌbi-jægʌn	kərd	di	l=ej-dʌ	gʊlʌbi=jæ
30.200	look=LOC/GL	pear-DEF.PL	make/do.PST	see.PST	in=this-OBL	pear=be.PRS

'He looked at the pears seeing (that) there are pears here.'

6.2 To Look + To Know

The verbal form *zʌnəstən* 'to know' is the next event observed to function as a subevent in the serial verb construction of *təmʃʌ kərdən*. It is also an experiential predicate classified as a "cognition event" (see Croft, 2022, pp. 227-228). *zʌnəstən*, as an "experience event", shares the same eventive subcategorization features with *digən*. Likewise, it can have two patterns of argument structure: subject-object and subject-complement. However, when juxtaposed with *təmʃʌ kərdən* in a serial verb construction, *zʌnəstən* manifests some strategic differences as compared with its counterpart *digən*:

(46)	təmʃʌ	ke-j	bə-zʌn-i	jʌru	n-yn-i
30.205	look	make/do.PRS-3SG	SBJV-know-3SG	guy	NEG-see.PRS-3SG

'He looks (to) know if the guy does not see him.'

(47)	təmʃʌ	kæ	bə-zʌ-m	pijʌ-gæ	n-yn-i
29.222	look	make/do.PRS.IMP-2SG	SBJV-know-1SG	man-DEF.SG	NEG-see.PRS-3SG

'Look (to) let me know if he does not see!'

(48)	təmʃʌ	kæ	bə-zʌ-m	pijʌ-gæ	n-yn-i	ʔowæ
29.223	look	make/do.PRS.IMP-2SG	SBJV-know-1SG	man-DEF.SG	NEG-see.PRS-3SG	he
	gʊlʌbi-jægæ	du-we-j				
	pear-DEF.SG	IPFV-take.PRS-3SG				

'Look (to) let me know if he does not see (that) he is taking the pears!'

As represented by the examples, *təmʃʌ kərdən* and *zʌnəstən* are prototypically contiguous and separate words. However, the subevents of these examples show variation in both TAMP features and argument indexation. In all examples, both events represent the same tense, aspect, and polarity. But they vary in mood projection. The second verb has a fix mood in all, representing a subjunctive event. However, the first verb in example (46) is a declarative event, whereas in examples (47) and (48) it represents an imperative event. In this regard, both events in example (46) share a single experiencer indexed on the verbal structure. By contrast, in the last two examples the experiencer of the first verb is indexed as a singular second person and as a singular first person in the second verb. This variation can be explored in the discursive

context of the examples. In fact, in these examples, the first event indexes the addressee or listener within the narration, whereas the second event indexes the participant as a speaker identifying with a character in the narration.

Like *təmʃʌ kərdən* + *digən*, these subevents in examples (46-48) also share a single stimulus expressed as a complement clause, though purposive. Likewise, the second event *zʌnəstən* is the effect of *təmʃʌ kərdən* demonstrated through the purposive stimulus complement:

təmʃʌ kərdən ⟶ *zʌnəstən* ⟶ purposive stimulus
(cause) (effect)

In examples (46-48) subevents of the serial verb express a single stimulus in form of a purposive complement. The argument coding pattern of these examples can be represented as [SBJ LOOK-DO + KNOW PURP-COMP]. However, like *təmʃʌ kərdən* + *digən*, we observed some cases in the serial verb construction of *təmʃʌ kərdən* + z*ʌnəstən* that did not share a single stimulus:

(49)	ʔævvæl	təmʃʌ=j	pijʌ-gæ	ke-j	bə-zʌn-i	pijʌ-gæ
03.189	first	look=LOC/GL	man-DEF.SG	make/do.PRS-3SG	SBJV-know-3SG	man-DEF.SG
	təmʃʌ	ni-ke-j				
	look	NEG-make/do.PRS-3SG				

'First, he looks at the man (to) know if the man is not watching.'

(50)	təmʃʌ=j	w=ej	lʌ	w=ow	lʌ	ke-j	bə-zʌn-i	læ
23.212	look=LOC/GL	to=this	side	to=that	side	make/do.PRS-3SG	SBJV-know-3SG	in
	kuræ=s	ki	bərd-ijæ-gej					
	where=be.PRS.3SG	who.Q	take.PST-PRS,PRF=3SG					

'He looks around (to) understand where it is (and) who has taken it.'

(51)	pijʌ-g=eʃ	təmʃʌ=j	ʔowɒnæ	ke-j	bə-zʌn-i	ʔowɒnæ
25.348	man-DEF.SG=ADD	look=LOC/GL	they	do.PRS-3SG	SBJV-know-3SG	they
	læ kuræ	hɒwərd-əg-ən	ʔowæ	xʷɒrd-əg-ən		
	from where	bring.PST-PRS.PRF-3PL	it	eat.PST-PRS.PRF-3PL		

'The man also looks at them (to) understand from where they have brought and have eaten it.'

Similarly, in these examples, the first subevent employs a subject-oblique argument structure, encoding a locative/goal argument phrase as its second argument. The second subevent, on the other hand, expresses the stimulus participant as a purposive complement clause.

7. *təmʃʌ kərdən* as an Experience Event

In further explorations throughout the corpus, we observed instances where the experiential complex predicate *təmʃʌ kərdən* was not a dynamic attending event. Instead, behaving like verbs such as "see, remember, or fear", it functioned as an "experience event" and expressed a "state" (see Croft, 2002, pp. 228-229):

(52)	təmʃʌ	kərd	jʌnæ	gʊlʌbi	xʷæ-n
05.329	look	make/do.PST	these	pear	eat.PRS-3PL

'He looked [=saw that] they are eating pears.'

(53)	ʔe:	təmʃʌ	kərd	hətʃ-i	ni=jæ
11.426	wow	look	make/do.PST	non-INDF	NEG=be.PRS.3SG

'Wow! He looked [=saw that] there is nothing!'

(54)	təmʃʌ	kərd	ʔe:	sæbæd=ə	gʊlʌbi-jæge=j	pæs	kʌ
20.283	look	make/do.PST	wow	basket=GEN/EZ	pear-DEF.SG=3SG:POSS	so	where

'He looked [=saw that] wow! So where is his basket of pears?'

(55)	təmʃʌ	kərd	ʔe:	sæbæd-æge=j		me	kʌ
21.302	look	make/do.PST	wow	basket-DEF.SG=GEN/EZ		I	where

'He looked [=saw] (and said) "Wow! Where is one of my baskets?"'

(56)	ʔyʃ-i	təmʃʌ	bə-kæ-n	gʊlʌbi	dʌ
25.327	say.PRS-3SG	look	SBJV-make/do.PRS-3PL	pear	give/hit.PST

'He says "look! [=see that] he gave us pears".'

In all these examples, the stimulus of the event *təmʃʌ kərdən* has been expressed as a perceptional complement motivating the mental status of the

experiencer. Here the attending verb 'to look' has been used as an experience verb like 'to see'. This usage provides us with another argument coding pattern of *təmʃʌ kərdən* as a complex sentence: [SBJ LOOK-DO COMP].

The discursive context of the narration motivates the expression of utterances like examples (55) and (56). These samples reveal the mental processing of the participants as they were simultaneously narrating what they observed. As discussed in Section 3, The Pear Story film is a six-minute narrative with sound effects but no words. The participant identifies with characters inside the narration in these examples and expresses her mental processing as a complement clause. Another pattern of these samples was also observed in the corpus in which the participants seemed to address an absent listener:

(57)	ʃʌ	bəzən-æ	sədʌ=j	hʌt	
02.225	look	goat-DEF.SG	sound=3SG:POSS	come.PST	
	'Look! [=see that] The sound of the goat came.'				

(58)	ʃʌ	dʊtʃærx-æg=eʃ	ʔælvərˠ-ʌn		
11.328	look	bike-DEF.SG=ADD	lift-CAUS.PST		
	'Look! [=see that] He also lifted the bike.'				

(59)	ʔʌhʌ	ʃʌ	pijʌ-gæ	bitʃʌræ	nærdəwʌn-ægæ-ʔo	hʌt-æ	xʷɒr-ʌ
11.422	aha	look	man-DEF.SG	poor	ladder-DEF.SG-OBL	come.PST-APPL	down-OBL
	'Aha! Look! [=see that] The poor man came down from the ladder!'						

(60)	ʃʌ	wæ	zurˠ-o	we-j=gej
16.184	look	with	force-OBL	take.PRS-3SG=3SG
	'Look! [=see that] He takes it by force.'			

(61)	təmʃʌ	je	kælɒw-æg=ej	bərd	be-j	wæ	ʔowæ
22.209	look	this.HUM	hat-DEF.SG=3SG	take.PST	SBJV.give/hit-3SG	to	he
	'Look! [=see that] He took the hat (to) give it to him.'						

In these examples, the verbal part of the complex predicate is deleted from the discourse and the nominal element – that is, *təmʃʌ*, frequently expressed in short form as *ʃʌ* in discourse, conveys the event per se. Therefore, we do not have access to TAMP features and argument indexation. However, we can say that, contextually, a participant as a speaker addresses a singular or a plural second person argument, sharing his/her experience with them. In fact, the short form *təmʃʌ*, basically articulated as *ʃʌ*, functioned as a marker for evidentiality in the narrative discourse of The Pear Story film.

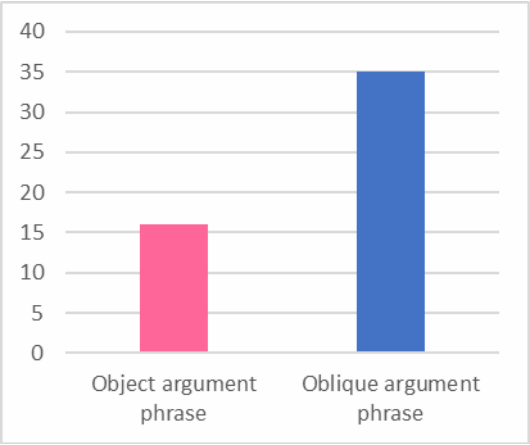
8. Discussion and Conclusion

təmʃʌ kərdən is primarily an attending coverb complex predicate composed of a nominal element *təmʃʌ* ('look') and a verbal part *kərdən* ('to make/do'). It includes two central participants as experiencer and stimulus in its predicate-argument construction. Of 88 samples of *təmʃʌ kərdən* observed in the corpus of our study, in 51 tokens both participants were expressed as argument phrases and in 37 tokens the stimulus was expressed as a complement clause.

Investigating the tokens with two central argument phrases, we observed that the experiencer, whether expressed overtly or not, was indexed on the verbal element of the complex predicate in all cases. However, coding strategy was not consistent in stimulus argument phrase and the stimulus showed variation in its form, its semantic content, and the location of its formalization. In these samples, we found two basic argument coding strategies: subject-object argument coding and subject-oblique argument coding. Only 16 tokens out of 51 employed subject-object argument coding and 35 tokens used the second strategy. The following figure represents the frequency of stimulus argument phrase coding strategies in the verbal event under discussion:

Figure 3.

Stimulus argument phrase coding strategies in təmʃʌ kərdən



These argument phrases also showed variation in each coding strategy and represented different patterns of expression in the argument structure of *təmʃʌ kərdən*. We observed that, in subject-object coding strategy, the stimulus argument phrase was expressed in three patterns. It could be indexed as an oblique clitic in the nominal part of the complex predicate, cross-referencing a covert object. In one sample, this oblique clitic also indexed an overt stimulus. In the third pattern, also observed only in one case, object was overtly expressed without indexation in the verbal structure.

In the second argument coding strategy, the stimulus was overtly expressed as an oblique argument phrase. It was expressed basically, in 33 out of 35 tokens, inside the verbal structure – that is, between the nominal and the verbal elements of the complex predicate. In this pattern, the stimulus argument phrase, flagged by the prepositional clitic attached to the nominal part of the complex predicate, was expressed as a locative/goal argument phrase. This prepositional clitic was also identical with the genitive maker used in possessive construction. There were also two sequential clauses articulated by a single participant in the corpus that used another pattern of oblique coding strategy. The oblique argument in this pattern was expressed preverbally as a dative argument. The following table and figure demonstrate the distribution of the argument coding patterns used for the stimulus argument phrase in *təmʃʌ kərdən*:

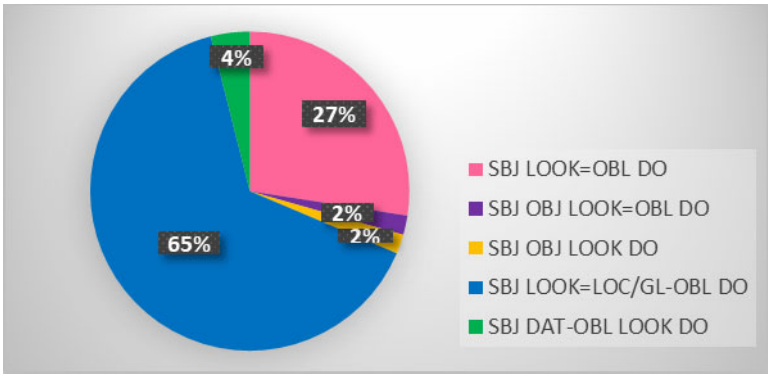
Table 2.

Distribution of the argument coding patterns of the stimulus

Argument Coding Strategy	Pattern	Token
Subject-object argument coding	SBJ LOOK=OBL DO	14
	SBJ OBJ LOOK=OBL DO	1
	SBJ OBJ LOOK DO	1
Subject-oblique argument coding	SBJ LOOK=LOC/GL-OBL DO	33
	SBJ DAT-OBL LOOK DO	2
		51

Figure 4.

Distribution of the argument coding patterns of the stimulus



As illustrated in Table 3 and Figure 2, the stimulus argument phrase is basically expressed as a locative/goal oblique in Garrusi Kurdish discourse. Therefore, in this Kurdish dialect, the prototypical argument coding strategy – the usage of two core argument phrases – is not common with respect to the verbal event under discussion. The following table represents the basic features of the stimulus argument phrase encoded in the experiential predicate *təmʃʌ kərdən*:

Table 3.

Basic features of the stimulus argument phrase in təmʃʌ kərdən

Object Argument Phrase	Oblique Argument Phrase
covert stimulus	overt stimulus
interverbal	interverbal
hosted by the nominal	partly hosted by the nominal
clitic indexation	clitic flagging
oblique object	locative/goal oblique

Tables 2 and 3, as well as Figure 2, demonstrate that the object argument phrase is basically expressed as a pronominal clitic, which functions as an oblique clitic. Therefore, it can be concluded that the stimulus argument phrase in *təmʃʌ kərdən* is basically expressed as an oblique argument, either covertly and indexed as a clitic or overtly and flagged as a noun phrase.

Furthermore, we observed some samples in the corpus where the coverb complex predicate took part in serial verb construction. In all samples, the serial verbs were formalized through zero-coded strategy and were prototypical serial verbs – that is, they were contiguous and separate words. However, we found variation in patterns of argument indexation, TAMP marking, semantic content of the stimulus, argument structure of the first verb, and the event structure of the second verb. Table 4 present the patterns observed in the argument coding of these serial verbs:

Table 4.

Argument patterns of təmʃʌ kərdən in serial verb construction

Serial Verb Strategy	Pattern	Token
look + see	SBJ LOOK-DO + SEE RES-COMP	6
	SBJ LOOK-OBL-DO + SEE RES-COMP	4
look + know	SBJ LOOK-DO + KNOW PURP-COMP	3
	SBJ LOOK-OBL-DO + KNOW PURP-COMP	3
		16

We also found some samples in the corpus where the event 'to look' was identified with 'to see' and expressed the stimulus as a complement clause. In these cases, *təmʃʌ kərdən* was no longer an "attending" experiential event but functioned as an "experience" and expressed a state. Table 5 presents the patterns observed when the event of the complex predicate changed:

Table 5.

Argument patterns of təmʃʌ kərdən as an experience event

Event Change Strategy	Pattern
look ⟶ see	SBJ LOOK DO + COMP
	LOOK + COMP

We end our discussion and conclusion about the experiential predicate *təmʃʌ kərdən* by highlighting the contribution of its components in the formalization of the argument and the event structures:

Table 6.

The contribution of the components of təmʃʌ kərdən in argument and event structures

Nominal Element	Verbal Element
attending event	causative auxiliary
experience event	
object indexation	subject indexation
oblique flagging	TAMP indexation

Eighty-eight tokens of the experiential predicate *təmʃʌ kərdən* in Garrusi Kurdish were studied to explore the arguments encoding in the predicate-argument construction of this complex predicate. According to the results, this experiential event demonstrates variation in encoding its participants in the predicate-argument construction, showing inconsistency in its event structure.

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Abbreviations

1	first person	IMP	imperative
2	second person	IPFV	imperfective
3	third person	LOC	locative
ACC	accusative	NEG	negative
ADD	additive	NUM	number
ADJ	adjective	OBJ	object
APPL	applicative	OBL	oblique
ART	article	PASS	passive
ASP	aspect	PL	plural
AUX	auxiliary	POSS	possessive
CAUS	causative	PREP	preposition
COMP	complement	PRF	perfective
DAT	dative	PURP	purposive
DEF	definite	PRS	present
DEM	demonstrative	PST	past
EZ	ezafe	Q	question
GEN	genitive	RES	resultative
GL	goal	SG	singular
HUM	human	SBJ	subject
INDF	indefinite	SBJV	subjunctive
INTR	intransitive	TAMP	tense, aspect, mood, polarity

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Research Article

Speakers' choice of apology strategies in a discourse completion task: A study of Turkish speakers in Tabriz

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Abstract

This study investigates the use of apologizing strategies by speakers of Azerbaijani Turkish in Iran. One hundred and twenty (60 male and 60 female) randomly selected speakers of Azerbaijani Turkish from Tabriz participated in a Discourse Completion Test (DCT) and returned 2400 apology speech acts. The DCT included 20 scenarios representing 10 discourse situations. The acts were analyzed based on the categorization suggested by Blum-Kulka and Olshtain (1984), which included Illocutionary Force Indicating Device, Taking on responsibility, Explanation, Offer of repair, Promise of forbearance, Concern for hearer, and Nonverbal strategies. The findings indicated that the highly preferred apology strategies among the participants are explanation and offer of repaire. Moreover, there was a statistically significant association between the independent variables (the participants' age, gender, and level of education) and the choice of apology strategies. However, such an association was only significant for some discourse situations; e.g., in interaction with relatives that are in an equal status with the participant and in an adult-child interaction where the participant has a superior status.

Keywords: Discourse Completion Test, Tabriz, Azerbaijani Turkish, apology, speech acts

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1. Introduction

Apologies typically arise when a social norm is breached due to a fault or offense, prompting the offender to address and rectify the resulting harm. An apology is linguistically manifested through what is termed an apology speech act. Blum-Kulka and Olshtain (1984) propose that this speech act can take two fundamental forms: Illocutionary Force Indicating Device (IFID) and the apology speech act set. In the case of IFIDs, expressions like 'sorry' or 'excuse me' serve as commonly used, language-specific devices to pacify the interlocutor. Each language possesses its own scale of conventionality for IFIDs. Alternatively, an apology can be conveyed through expressions that explain the cause of the fault, the speaker taking responsibility for the offense, expressing a willingness to compensate, or promising that the action will not recur (Blum-Kulka & Olshtain, 1984, pp. 206-207).

One pivotal study in the exploration of apology strategies is the Cross-Cultural Speech Act Realisation Project (CCSARP), conducted by a collaborative team of researchers from diverse countries. This extensive project encompassed various studies investigating request and apology strategies in five languages: English, German, Hebrew, Danish, and French. Noteworthy contributions from this project are documented in works such as Kasper et al. (1989). The CCSARP laid the foundation for numerous subsequent studies on languages worldwide. As will be discussed in the following lines, these studies indicated that a speakers' decision to apologize can be affected by social, pragmatic, and cultural factors such as degree of seriousness of the offence, social distance, the relationship between the participants, and cultural values. The correlation of these factors with the preferred speech act can establish their impact on the choice of the strategy (Holmes, 1989). For instance, people are more likely to use intense apology strategies when the committed offense is very serious. The same applies when the offended is of higher status than the offender (Olshtain & Cohen, 1983). Hodeib (2019) showed IFIDs were predominantly used when the offended party was older or had higher social status, while repairs were favored in situations involving physical or emotional damage. Additionally, Jebahi (2011) showed that Tunisian university students

preferred to use remorse where the offended is their close friend, older than them, or has the power to affect their future. In contrast, Muhammed (2006) revealed that Sudanese students apologized more frequently in situations of equal status or less severity.

Cultural and social factors such as age, gender, and social status further influence the choice of apology strategy. For example, research by Jebahi (2011) on Tunisian adults indicated a reluctance to apologize to children in most cases, with the primary strategy being the offer of repair, although some adults preferred denial of responsibility. Holmes's (1989) study on sex differences in apology strategies in New Zealand English indicated that women both apologize and are apologied to more than men. Moreover, he found that although both genders used the same apology strategies, the reason enforcing the apology was different for the two groups. For instance, women mostly apologized when they violated the other person's rights; while men mostly apologized when damaging someone's posessions. Moreover, Shahrokhi and Jan (2012) showed that Persian male speakers tended to use IFIDs and taking responsibility alighning with the findings of Márquez Reiter (2000) and Blum-Kulka et al. (1989). Zandi and Amani (2016) in their study on apology strategies in *Lori-e Bakhtiyari* showed that women were more ready to accept their fault and apologize. Besides, most of them chose the *explanation* strategy to give a reason for their action; which means they were more clear and straight in apologizing. However, male participants tried to postpone apologizing or put the blame on someone else. On the other hand, Fraser (1981) found no significant difference between male and female participants' apologies. This was confirmed by Harb (2015) who, in her study on the role of gender in the apology strategies employed by native speakers of Arabic, found no statistically significant difference between male and female participants in the choice of apology strategies. Similarly, Zandi et al. (2017), found that both male and female participants use the same strategies for apologizing; however, the frequency of use for each strategy was different among the two gender groups. These are in line with findings of Muhammed (2006) on Sudanese learners of English.

Understanding the diverse forms of apology speech acts, as explored in seminal studies like the CCSARP, lays the groundwork for our investigation into the specific apology strategies employed in Azerbaijani Turkish. While there have been some studies on speech acts in Azerbaijani Turkish, such as as Tabar and Malek's (2013) work on requests and Tabatabaei, Gencer, Eldem, and Bakhtiarvand's (2018) study on apologizing strategies among Turkish learners of English, to the best of our knowledge, no previous study has addressed the speech act of apology in Azerbaijani Turkish. Therefore, the present study aims to examine the strategies used by people in Tabriz for apologizing.

Azerbaijani Turkish (or Azerbaijani or Azeri) belongs to the Oghuz branch of Turkic languages (Brown & Ogilvie, 2010; Heiat, 2001). This variety of Turkish is primarily spoken in the country of Azerbaijan and different regions of Iran, including East and West Azerbaijans, Zanjan, Ardabil, Qazvin, Hamadan, etc. The Turkish spoken in Iran is sometimes referred to as Iranian Turkish. Tabriz, the capital city of East Azerbaijan province located in the northwest of Iran, is predominantly a speaker of Azerbaijani Turkish. However, most of the literate population can also converse in Farsi, the country's only official language.

The present paper seeks to discern the patterns employed by participants to apologize in various social contexts when offering apologies. Additionally, we will investigate the potential impact of social factors, i.e., age, gender, and level of education on these apology patterns. More specifically, our research questions include:

1. What verbal apology strategies are employed in various discourse situations?
2. How men and women differ in their selection of apology strategies?
3. How do age groups differ in their choice of apology strategies?
4. How does the participants' level of education influence their selection of apology strategies in each context?

This paper is organized as follows: the next section provides a detailed description of the research methodology. Subsequently, the findings will be presented, and, finally, the last section concludes the research, discussing the implications of the findings for future research.

2. Methodology

2.1 Participants

One hundred and twenty native speakers of Azernaijanian Turkish (60 males and 60 females) participated in this study. All the participants lived in Tabriz at the time of study and most of them could speak Farsi as the official language of the country. The participants were categorized based on their age (young [25-40], and elderly [40-90]), gender (male and female), and education (with and without academic education).

2.2 Tools

The data were collected using a modified version of Discourse Completion Test (DCT) (Blum-Kulka, 1982). The DCT is widely used for collecting data on speech acts as it allows researchers to elicit standardized responses in specifi sociolinguistic cotexts (Mackey & Gass, 2021). The test involved situations describing a socially differentiated context, followed by a blank space to be filled out by the participants (Blum-Kulka & Olshtain, 1984; Mackey & Gass, 2021). The DCT was modified based on 10 discourse situations likely to be encountered by the participants, with each situation offering two contexts. The questionnaire included 20 situation descriptions.

Participants identified themselves with the person committing offenses in the situations, choosing their normal reaction from among the options available to them. The questionnair also included a section for gathering demographic information of the informants including their age, gender, occupation, education, and mother language.

2.2.1 Construct validity of the DCT

To ensure the construct validity of the DCT in this study, we followed several steps. The DCT enarios were adapted from established DCT formats (Blum-Kulka & Olshtain, 1984; Mackey & Gass, 2021) to reflect everyday apology situations specific to Tabrizi Turkish. This adaptation process involved selecting 10 realistic discourse situations based on focus groups with native speakers. The situations were validated by three experts in sociolinguistics and

cross-cultural pragmatics to ensure they reflected naturalistic interactions within the Tabrizi Turkish-speaking community.

Moreover, a pilot study was conducted with a small sample of native Tabrizi Turkish speakers (N=) to test the DCT items. Feedback from participants regarding the clarilty, appropriateness, and reliability of the scenarios was used to refine the DCT. This step was crucial in ensuting that the elicited responses represented naturalistic use of apology strategies in the target community.

To control potential for extraneous variables, the DCT also included a section to gather participants' demographic information (e.g., age, gender, occupation, education, and mother tongue). This allowed us to analyze responses according to relevant social factors that could influence apology behavior in Tabrizi Turkish.

2.3 Data collection procedure

After making sure of the situations and the questionnaire, the authors collected the data through fieldwork. Participants read each situation, imagined themselves in those situations, and selected the option that best suited each scenario. Oral instructions were in Turkish, while written descriptions were in Farsi. Options provided for participants were in Azerbaijani Turkish, written in a modified version of the Arabic alphabet commonly used among Turks in Iran. All the participates read and answered the questions on their own, except for the illiterate participants for whom the descriptions were read aloud by the researcher.

Two contextual variables, social distance (SD) and power (P), were considered. These variables were proposed by Brown and Levinson (1987) and define the relationship between the interlocutors. Social distance shows the degree of familiarity of the interlocutors. Power, on the other hand, indicates the degree of authority and the ability to influence someone (Ogiermann, 2018). The social distance between the interlocutors in this study were defined as stranger, relative, and friend. Besides, we embedded three power relationships in the situations: equal status, speaker dominance, and hearer dominance (Table 1).

Table 1.

Summary of situations described in DCT

	Social distance	Power relationship	Items in DCT
Situation 1: the speaker attempts to apologize for being late to an important job meeting with a high-status person.	Interviewr-interviewee	Hearer dominance	1 and 13
Situation 2: the speaker tries to apologize to their professor for not finishing a project on time.	Student-professor	Hearer dominance	2 and 18
Situation 3: the speaker forgot to express condolences for the death of a friend's close relatives.	Friends	Equal status	3 and 17
Situation 4: the speaker fails to answer a friend's call.	Friends	Equal status	4 and 11
Situation 5: the speaker bumps into an older person and causes their things to fall on the ground.	strangers	Hearer dominance	5 and 12
Situation 6: the speaker failed to visit a relative when they were sick.	Relatives	Equal status	6 and 16
Situation 7: the speaker failed to help their classmates.	Friends	Equal status	7 and 19
Situation 8: the speaker walks over someone's foot while getting off a bus	Strangers	Equal status	8 and 14
Situation 9: the speaker forgets to participate in their friends' party.	Friends	Equal status	9 and 20
Situation 10: the speaker gets angry at their neighbor's children because of a misunderstanding.	Adult-child	Speaker dominance	10 and 15

To analyze the relationship between independent variables (age, gender, education) and the choice of apology strategies, the Pearson chi-square test was performed.

2.4 Analysis of the data

The data obtained from the DCT were analyzed using the coding scheme provided by Blum-Kulka and Olshtain (1984), and Blum-Kulka et al.

(1989). The coding scheme offers dimensions for analyzing each response individually. The apology strategies and options available for informants in the present research are provided in the following sub-section.

2.4.1 Apology strategies

Illocutionary Force Indicating Device (IFID): an explicit and routin device for the direct expression of apology (Blum-Kulka & Olshtain, 1984). According to Olshtain and Blum-Kulka (1983) and Blum-Kulka and Olshtain (1984) each language has its own set of IFIDs, which can be put on a scale of conventionality. Some of the phrases used for the direct expression of apology in Tabriz are as follows:

1. /yzr istiɾæm/ (I apologize)
2. /bæɣɯʃlæjɯn/(forgive me/I'm sorry)
3. /ɡyzæʃt elæjɯn/(forgive me)
4. /mæziɾæt istiɾæm/ (I beg your pardon)

Taking on responsibility (AR): using this strategy, the speaker accepts their fault and tries to placate their interlocutor by apologizing. Examples:

1. /bæɣɯʃlæjɯn, biliɾæm ki be væxtæ qɑlmɑmɑlɯjdɯm/ (I'm sorry, I know that I was not supposed to be late).
2. /ɡyzæʃt elæjɯn, xɑtɑ mændædɯ/ (Forgive me, the fault is mine).
3. /søzym joxdur. hɑq sizɯnændɯ/ (I have nothing to say. You're right).
4. /mæni bæɣɯʃlæjɯn. bilmiɾæm næ dejæm/ (I'm sorry, I don't know what to say).
5. /mæni bæɣɯʃlæjɯn. mæn t͡søx diqqæt ejlæmælijdim/ (I'm sorry, I had to be more careful).

Explanation: This strategy is used when the speaker wants to diminish their guilt or justify their fault by attributing their action to an external cause. This strategy is demonstrated in the sentences below:

1. /bæɣɯʃlæjɯn. tɑksi joxidi; onɑ gøræ bevæxtɑ qɑldɯm/ (I'm sorry, I was waiting for a taxi).
2. /bæɣɯʃlæjɯn. ɑnɑmɯn mærizliɣinæ gøræ vɑxtɯndɑ qʊrtɑrɑmmɑdɯm/ (I'm sorry, I couln't finish on time because of my

mother's sickness).

3. /yzr istiræm. mütəʔæssifɑnæ mænim xæbærim joxidi/ (I apologize. Unfortunately, I didn't know).
4. /bæɣɯʃlæjɯn. gɯʃinin sæsi ɑz idi, eʃitmæmiʃæm/ (I'm sorry, I couln't hear the mobile's ring tone).
5. /bæɣɯʃlæjɯn. tælæsirdim, hævɑsɯm olmɑdɯ/ (I'm sorry, I was in a hurry and I didn't notice.
6. /æzizim bɣɯʃlæ. fikr elædɯm sæn kæsɯbsən, hirslændim/ (I'm sorry dear. I thought you tore it and I got mad).

Offer of repair: this strategy is employed to mitigate bad effects of a fault by compensating for the damage or trouble. The examples below demonstrate the use of this strategy in context:

1. /bæɣɯʃlæjɯn. iʃimizi bɑʃlijɑx ki bundɑn ɑrtɯq vɑxtɯnɯzɯ ɑlmijim/ (I'm sorry. Let's start our work …)
2. /yzr istiræm. tezliknæn jɑzarɑm/ (I beg your pardon. I'll write for you soon).
3. /gøræn læhzæ tez zæŋg vurɑrɑm/ (I'll call as soon as I saw it).
4. /bæɣɯʃlæjɯn, kømæklik ælimdæn gælær/? (I'm sorry, can I help?)

Promise of forbearance: this strategy is used to ensure that the fault will not be repeated. The examples below illustrate the use of this strategy in context.

1. /bæɣɯʃlæjɯn. qol veriræm dɑ tikrɑr elæmijæm/ (I'm sorry. I promise that I won't do it again).
2. /dɑhɑ tikrɑr olmɑjɑdʒ͡ɑx/ (it won't happen again).

There are also devices to intensify apology. These devices can be used alone or in combination with other strategies, and they may include the use of adverbials (e.g., very), repetition (e.g., 'I'm very, very sorry'), and expressing concern for the hearer (e.g., 'are you alright?'.

Concern for hearer: this strategy shows that the speaker cares for the hearer.

1. /mæziræt istiræm. nɑrɑhɑtsɯz/? (I beg your pardon. Are you sad?)
2. /jɑxtʃ͡ɯsɯz/? (Are you alright?)

3. /lytfæn ælimnæn nɑrɑhɑt olmɑ/ (Please don't be mad at me.)

Nonverbal strategies: the apology is expressed nonverbally by showing emotions, hugging, kissing, and hand-shaking.

1. /onu gudʒ͡ɑxlɑjɯb hæmdærdi elæræm bilæsinæn/ (I'll express my sympathy by giving them a hug).
2. /ællærindən tutub mæziɾætxɑhi elæræm/ (I'll take their hands and apologize).
3. /mæziɾætxɑhi ytʂ͡yn bilæsɯnɯ gudʒ͡ɑxlɑjɯb øpæræm/ (I'll give them a hug and apologize).

4. Results

A descriptive analysis of the data showed thatparticipants, in general, preferred apology strategies as follows: explanation (38.5%), repair (27.3%), taking responsibility (15.9%), IFID (8.2%) concern for the hearer (6%), forbearance (2.6%) and nonverbal strategies (1.7%). It's noteworthy that the results of Pearson's chi-square test indicated statistically significant relationships between the use of apology strategies and participants' age ($X^2(6, N = 2400) = 64.27$, $p = .00$), gender ($X^2(6, N = 2400) = 51.13$, $p = .00$), and education level ($X^2(6, N = 2400) = 36.52$, $p = .00$).

Table 2 presents a cross-tabulation of the frequency of apologizing strategies concerning age, gender, and education groups. According to this table, "explanation, repair, and taking responsibility" were the most preferred strategies for both young and elderly groups. Notably, the non-verbal strategy (e.g., giving a hug) was exclusively chosen by the young participants. Male and female participants more frequently opted for explanation, repair, taking responsibility, and IFID strategies, with the most significant difference observed in the frequency of the non-verbal strategy, chosen in 40 cases by males but not at all by females. Table 2 also indicates that both highly educated and low education level groups preferred giving an explanation, offering repair, and taking reponsibility to apologize for their faults. However, for lower-educated participants, forbearance followed concern for the hearer and non-verbal strategies. In contrast, for the higher-educated group, the non-verbal strategy was the least chosen.

Table 2.

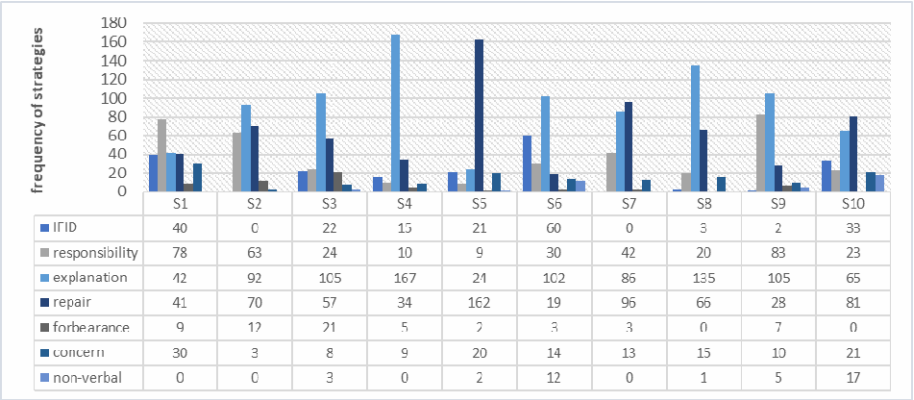
The cross-tabulation of the frequency of apologizing strategies and age, gender, and education groups

		age		gender		education	
		young	old	male	female	low	high
strategy	IFID	82	114	110	86	85	111
	responsibility	181	201	184	198	199	183
	explanation	436	487	449	474	466	457
	repair	371	283	302	352	327	327
	forbearance	29	33	36	26	31	31
	concern	61	82	79	64	56	87
	non-verbal	40	0	40	0	36	4
Total		1200	1200	1200	1200	1200	1200

Additionally, a statistically significant relationship was found between the choice of strategies and discourse situations $X^2(54, N = 2400) = 948$, $p = .00$. Figure (2) shows the frequency of strategies used in each discourse situation, providing valuable insights into participants' preferences and contextual variations.

Figure 5

frequency of the preferred strategies used in each discourse situation



In what follows, we will examine in detail the pattern employed in each

discourse situation.

Situation 1

In Situation 1, where the speaker aims to apologize for being late to an important job meeting with a higher-status person, respondents predominantly chose to take responsibility for their actions (32.5%), explain the reason (17.5%), offer repair (17.1%), and express their apology directly (16.7%). Notably, non-verbal strategies were not selected at all. None of the dependent variables showed a statistically significant relationship with the apology strategies chosen for the first situation (age: X^2 (5, N = 240) = 9.61 , p = 0.08 .; gender: X^2 (, N = 240) = 1.75 , p = .88; education: X^2 (5, N = 240) = 0.43, p = .99).

Table 3.

A comparative table of apology strategies in situation 1 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	H	L
IFIDs	21	19	18	22	21	19
responsibility	39	39	40	38	39	39
explanation	20	22	15	27	21	21
repair	21	20	28	13	19	22
forbearance	6	3	5	4	5	4
concern	13	17	14	16	15	15
non-verbal	0	0	0	0	0	0

Our data revealed that both male and female respondents prefer using a combination of apology strategies. The most frequent mixture was IFIDs + taking responsibility, with 30% of females and 32% of males opting for this combination. Additionally, 19% of females and 16% of males chose IFIDs alone. In this situation, female participants favored taking responsibility (30%), offering repair (20%), using IFIDs (19%), and providing an explanation (17%) as their preferred apology strategies. Similarly, male participants also preferred taking responsibility (32%), followed by giving an explanation (19%), offering

repair (16%), using IFIDs (16%), and expressing concern for the hearer (15%). Promises of forbearance and using non-verbal strategies were the least preferred options for both groups.

A comparison of the two age groups indicated that both young and elderly participants preferred taking responsibility for being late to the appointment (31% and 30%, respectively). For young participants, the next favorite strategies included offering repair (23%), using IFIDs (16%), explanation, and concern for the hearer (both 13%). Promise of forbearance (4%) and non-verbal strategies (0%) were the least preferred strategies for the younger generation in this situation. In contrast, the elderly chose to explain the reason for their lateness (24%), apologize using IFIDs (18%), offer repair (13%), and express concern for the hearer (11%). Again, promises of forbearance and non-verbal strategies were less preferred (4% and 0, respectively).

We also examined the difference in the choice of apology strategies in the first situation based on participants' academic and non-academic education. Our results indicated that participants with higher education preferred accepting responsibility for their fault (33%), rectifying their mistake (20%), and explaining the reason (18%). Direct expressions such as "excuse me," expressing concern for the hearer, promises of forbearance, and non-verbal strategies were less preferred by this group in this context (14%, 12%, 4%, and 0%, respectively). On the other hand, individuals with lower education chose to take responsibility, use direct expressions, provide an explanation, and offer repair with close frequencies (22%, 22%, 20%, and 18%, respectively).

Situation 2

In the second situation, where the speaker attempts to apologize to a higher-status person (their professor) for not finishing a project on time, the most preferred strategies included explanation (38.3%), taking responsibility (29.2%), and offering repair (26.3%). Other strategies were chosen with significantly lesser frequencies, totaling 6.3%. The strategies selected for apologizing in the second situation differed based on participants' gender (X^2

(5, N = 240) = 14.71 , p < .01). However, there was no significant relationship between the choice of strategies and participants' age and education.

Table 4.

A comparative table of apology strategies in situation 1 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	H	L
IFIDs	0	0	0	0	0	0
responsibility	28	35	24	39	31	32
explanation	50	42	40	52	44	48
repair	33	37	46	24	36	34
forbearance	7	5	8	4	7	5
concern	2	1	2	1	2	1
non-verbal	0	0	0	0	0	0

Gender* s2

As it can be seen from Table 4 almost half of the female participants chose to provide an explanation for their failur (41%) and almost the other half chose to offer a repair (27%) or take the responsibility of their action (21%). A similar pattern can be observed with the male participants. The higher frequency of *explanation* strategy can be interpreted as a face-saving action through which the speaker tries to mitigate the effects of their fault by giving reasons for it.

Age*s2

Analysing the data by the participants' age showed that the most preferred strategy to apologize in this situation for the elderly participants was providing an explanation (39%%), take the responsibility of their action (33%), and repair their fault (20%). The younger generation, on the other hand, chose to repair their fault (41%), explain (30%), and take responsibility (20%).

Edu*s2

Looking at the data from an educational point of view showed that people with academic education chose *repair*, explanation, and taking

responsibility with almost the same frequencies (32, 31, and 31%, respectively). People with non-academic education chose *explanation* (43%) for apologizing in such a situation followed by offer of repair (27%), and taking responsibilty (19%). Some participants from both groups chose to promise not to repeat their fault again but the frequencies were not weighty (Table 4).

Situation 3

The third situation described a context in which the speaker forgets to express condolences for the death of a friend's close relatives. Here again the most preferred strategy was explanation (43.8%) with promise of repair (23.8%) coming after that. This was followed by IFID (9.2%), promise of forbearance (8.8%), concern for the hearer (3.3%). Besides, 3 of the the young females with non-academic education were the only participant who chose non-verbal strategies (1.3%). Results of a chi-square test of independence showed that the relation between gender, age, and education and the choice of apology strategies in this situation is not significant (age: X^2 (6, N = 240) = 8.86 , p = .18; gender: X^2 (6, N = 240) = 4.25 , p = .64; education: X^2 (6, N = 240) = 6.1, p = .4).

Table 5.

A comparative table of apology strategies in situation 3 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	high	low
IFIDs	13	9	9	13	13	9
responsibility	12	12	11	13	9	15
explanation	49	56	53	52	54	51
repair	29	28	34	23	31	26
forbearance	10	11	7	14	9	12
concern	4	4	3	5	4	4
non-verbal	3	0	3	0	0	3

Gender*s3

Here almost half of both male and female participants preferred to

explain the reaseon for their fault (48 and 45%, respectively). Other participants chose to offer a repair (23% males and 25% females). Females (13%) chose to apologize using non-verbal strategies such as giving a hug or a kiss and taking responsibility of their action (10%) while male participants preferred to take responsibility (10%), promise not to repeat their fault again (9%) and use non-verbal strategies (7%).

Age*s3

Taking the participants' age into account, our results showed that both old and young generation chose to provide an explanation for their fault (47 and 55%, respectievly). This was followed by offer of repair (28%), non-verbal strategies (9%), and taking responsibility (8%) for the young generation. The older generation also chose to apologize by offering repair (19%), taking responsibility (12%), and using non-verbal strategies (11%).

Edu*s3

Both educational groups showed similar patterns in their choice of apology strategies for this situation, i.e., both groups preferred expalantion and offer of repair as the main apology strategies (54 and 31 for the H group and 51 and 26 for the L group) . However, people with academic education chose IFIDs (13) over taking responsibility (9). Besides, 3 people from the non-academic group chose non-verbal strategies.

Situation 4

The next situation was about a person who fails to answer a firend's call. As it can be seen from Table 6, explanaition (69.6%) was the most highly preferred strategy followed -with a significant difference- by offer of repair (14.2%). The other strategies were chosen with notably lower frequencies (16.4% totally). The frequency of strategies chosen in this situation did not differ by the participants' age (X^2 (5, N = 240) = 7 , p = .22), gender (X^2 (5, N = 240) = 4.58 , p = .46), and level of education (X^2 (5, N = 240) = .54 , p = .99).

Table 6.

A comparative table of apology strategies in situation 4 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	low	high
IFIDs	6	9	8	7	8	7
responsibility	7	3	3	7	5	5
explanation	83	84	79	88	85	82
repair	15	19	22	12	16	18
forbearance	4	1	4	1	2	3
concern	5	4	4	5	4	5
non-verbal	0	0	0	0	0	0

S4*gender, age, education

Both male and female participants acted similarly in choosing the right strategy here. The same pattern can be observed for the two education groups. The age groups also chose explanation and offer of repair as the main strategies. However, accodring to Table 6 more young people preferred to offer a repair than the aged people.

Situation 5

In the fifth situation, the speaker bumps into an older person and causes their things fall on the ground. As it is obvious from Figure (2), the respondents chose to compensate for the trouble by offering the hearer a repair (67.5%). The other strategies chosen by the respondents included explanation (10%), IFID (9.2%), concern for the hearer (8.3%%), promise of forbearance, and non-verbal strategies (both 0.8%). The relation between the participants' age, gender, and education and the choice of apology strategies was not stratistically significant (X^2 (6, N = 240) = 9.84, p>.05, X^2 (6, N = 240) = 7.62, p>.05, X^2 (6, N = 240) = 11.18, p>.05).

Table 7.

A comparative table of apology strategies in situation 5 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	low	high
IFIDs	12	9	10	11	7	14
responsibility	5	4	1	8	6	3
explanation	10	14	12	12	9	15
repair	76	86	87	75	88	74
forbearance	2	0	0	2	2	0
concern	13	7	8	12	7	13
non-verbal	2	0	2	0	1	1

Situation 6

The sixth situation described a context in which the speaker fails to visit a relative when they were sick. Our results showed that the respondents chose to apologize by providing an explanaition (42.5%), using direct devices for the expression of apology (25%), taking responsibility (12.5%), offering repair (7.9%), showing concern for the hearer (5.8%), using non-verbal strategies (5%), and offering forbearance (1.3%).

Table 7.

A comparative table of apology strategies in situation 6 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	low	high
IFIDs	34	26	20	40	26	34
responsibility	13	17	16	14	15	15
explanation	43	59	52	50	49	53
repair	9	10	11	8	12	7
forbearance	2	1	2	1	3	0
concern	7	7	7	7	3	11
non-verbal	12	0	12	0	12	0

As can be seen in Table 7 only young male respondents with non-academic education chose non-verbal strategies here. The relation between gender and the choice of apology strategies was statistically significant X^2 (6, N = 240) = 16.42, p < .01. Also, a chi-square test on independence showed that there is a significant association between education level and apology strategiess, X^2 (6, N=240) = 22.11, P < .01. Besides, the participants' preferred apology strategies is also associated with their age X^2 (6, N=240) = 19.64, P < .01. Most of the elderly participants preferred *explanation* and *IFIDs* (totally 90 out of 120 cases). The other strategies were also selected but with notably less frequencies. On the other hand, young participants chose a variety of strategies but *explanation* gained the highest frequency again (Table 7).

Situation 7

In situation 7 where the participants fail to help their peer, they chose to apologize by *promis of repair* (40%), *explanation* (35.8%), and *taking responsibility* (17.5%). Besides, some participants chose *concern for the hearer* (5.4) and *promis of forbearance* (1.3%) but none of them chose *direct devices* or *non-verbal sreategies* (both 0%) to apologize their classmates.

Table 8.

A comparative table of apology strategies in situation 7 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	low	high
IFIDs	0	0	0	0	0	0
responsibility	27	15	23	19	23	19
explanation	35	51	38	48	48	38
repair	47	49	54	42	43	53
forbearance	2	1	0	3	1	2
concern	9	4	5	8	5	8
non-verbal	0	0	0	0	0	0

According to Table 8 females preferred explanation (51) and offer of

repair (49) to apologize their peers. Most of the male participants, on the other hand, chose repaire (47) followed by explanation (35) and taking responsibility (27). However, the association between gender of the participants and their choice of strategies was not statistically significant X^2 (4, N = 240) = 8.7, p = .06.

Most of the elderly participants preferred *explanation* while the young chose *offer of repair* to apologize their classmate (Table 8). However, the relationship between age and strategy was not significant X^2 (4, N = 240) = 6.73, p = .15.

Participants with academic education preferred to offer a repair (53) to their classmates rather than explain (38) or take responsibility (19). While those with non-academic education chose explanation (48) and offer of repaire (43) with similr frequencies. Nonetheless, no statistically significant association was observed between the participants' level of education and the strategies they chose for apologysing to their peers X^2 (4, N = 240) = 3.61, p = .46.

Situation 8

In the eightth situation, the speaker walks over someone's foot while getting off from a bus. This describes the interaction between two strangers. For such a situation most of the participants chose to aologose by explanation (56.3%) and offer of repair (27.5%). Some others preferred taking responsibility (8.3%), concern for the hearer (6.3%), and non-verbal strategies (0.4%) but no one chose promis of forbearance.

Table 9.

A comparative table of apology strategies in situation 8 by age, education, and gender groups

	gender		age		education	
	M	F	young	old	low	high
IFIDs	3	0	1	2	2	1
responsibility	6	14	11	9	11	9
explanation	70	65	67	68	68	67
repair	31	35	34	32	33	33
forbearance	0	0	0	0	0	0
concern	9	6	6	9	5	10
non-verbal	1	0	1	0	1	0

As mentioned earlier, the two highly preferred strategies for all groups include *explanation* and *offer of repair* to apologize a stranger. The third preferred strategy for females was *taking responsibility* while males chose *expressing concern for the hearer*. The third mostly chose strategy for young participants was *taking responsibility*. The older generation chose *taking responsibility* and *concern for the hearer*. People with academic education chose *concern for the hearer* after *explanation* and *offer of repair* and, with little difference, *take responsibility* while those without academic education preferred to take the *responsibility* of their action. Nonetheless, none of the independent variables were significantly associated with the apology strategies (gender*strategy: X^2 (5, N = 240) = 8.22, p = .14, age*strategy: X^2 (5, N = 240) = 2.2, p = .81, and education level*strategy: X^2 (5, N = 240) = 3.2 , p = .66).

Situation 9

In situation 9, where the speaker forgets to participate in a friends' party, giving an explanation (43.8%), taking responsibility (34.6%), and offer of repair (11.7%) were more preferred. Concern for the hearer, offer of forbearance, non-verbal strategies, and IFIDs were also chosen but with less frequency (4.2%, 2.9%, 2.1%, and 0.8%, respectively).

Table 10.

A comparative table of apology strategies in situation 9 by age, education, and gender groups

	gender		age		education	
	M	F	Y	O	L	H
IFIDs	1	1	0	2	0	2
responsibility	37	46	38	45	43	40
explanation	55	50	54	51	52	53
repair	13	15	16	12	14	14
forbearance	3	4	3	4	2	5
concern	6	4	4	6	5	5
non-verbal	5	0	5	0	4	1

As can be seen from Table 10 all group follow almost the same pattern in choosing strategies to apologize a friend. However, it is notable that the non-verbal strategies are mostly selected by the young male participants with lower education. A chi-square test of independence showed that there was no significant relationship between either of the independent variables and the selection of apology strategies by the participants (age: X^2 (6, N = 240) = 8.79 , p = .18; gender: X^2 (6, N = 240) = 6.9, p = .33; education level: X^2 (6, N = 240) = 5.2, p = .51).

Situation 10

In situation 10 the speaker gets angry to his/her neighbor's children but then understands that he/she was wrong and wants to apologize to the child. Most of the participants chose the explanation strategy (38.5%) followed by offer of repair (27.3%) and taking responsibility (15.9%). A significantly less number of the participants chose IFID (8.2%), concern for the hearer (6%), promis of repair (2.6%), and non-verbal strategies (1.7%).

Table 11.

A comparative table of apology strategies in situation 3 by age, education, and gender groups

	gender		age		education	
	M	F	Y	O	L	H
IFIDs	20	13	16	17	14	19
responsibility	10	13	14	9	10	13
explanation	34	31	26	39	35	30
repair	28	53	39	42	39	42
forbearance	0	0	0	0	0	0
concern	11	10	8	13	7	14
non-verbal	17	0	17	0	15	2

A Pearson's chi-square test showed that there is a stratistically significant relationship between age and apology strategies in the tenth situation X^2 (5, N = 240) = 22.01 , p < .01. As it can be seen in Table 11, despite

offer of repaire and explanation that were the two highly preferred options here, most of the old participants chose to use *IFIDs* and to show *concern for the hearer*. However, younger participants chose to use *non-verbal strategies* and *IFIDs* and *take the responsibility* of their action.

Moreover, the relationship between gender and the strategies is also significant X^2 (5, N = 240) = 26.77 , p < .01. Most of the female participants chose *offering a repair* (53) and *explanation* (31) to apologize to the child. *IFIDs*, *taking responsibility* and *concern for the hearer* were also selected with a notably less frequency i.e., 13, 13, and 10, respectively. Male participants, on the other hand, showed a more even pattern. Their choices were distributed among a variety of the options with the most highly chosen being *explanation*. Besides, only male participants chose *non-verbal* strategies.

The association between level of education and strategies was also significant X^2 (5, N = 240) = 13.91 , p < .01. Here again the most freuently chosen strategies were *offer of repair* and *explanation*. The most notable difference between people with academic and non-academic education was that the second group were more likely to use *non-verbal* strategies than the first group.

5. Discussion and Conclusion

Our aim here was to find out which strategies are used by people of Tabriz to apologize in different discourse situations. The situations involved two dimensions: social power and social distance. The social distance between the interlocutors were defined as strangers, relatives, and friends. The power relationships between the interlocutors defined their social status relative to eache other and included equal status, speaker dominance, and hearer dominance. Beside the discourse situations, we wanted to know if factors such as the participants' age, gender, and level of education can influence their choice of apology strategies.

Besides, regardless of the situations, the relationship between the participants' choice of apology strategies and their age, gender, and education was statistically significant. The most notable difference between participants

in all groups was in the frequency of the choices, rather than their precedence. To be more specific, all male/female, young/old, and higher/lower education groups preferred to express their apology by *explanation*, *offer of repair*, and *taking responsibility*. However, young respondents used more repairs than the older participants. Moreover, almost all of the non-verbal strategies were chosen by the young male participants with lower education. This result is partly in line with Zandi et al. (2017) who found that both male and female participants use the same strategies for apologizing but with different freuencies. Our results are also in line with findings of Fraser (1981), Muhammed (2006), and Harb (2015) who did not find a statistically significant difference in the pattern of apologies between male and female participants.

A more detailed analysis of the data considering the discourse situations showed that the participants' age, gender, and level of education can affect their the choice of apology strategies in some contexts. For instance, in situation 10 (items 10 and 15) , where the participants imagin getting angry to a child, the association between the independent variables and the choice of apology strategies was statistically significant. All groups showed similar patterns in apologizing to a child, i.e., expalanation and offer of repair. However, in our research, young male participants with non-academic education were more likely to apologize the child with a non-verbal strategy like giving them a hug or buying them a candy. Our result regarding the insignificance of the association between genders in apologizing to a child is in line with findings of Harb (2015). The non-verbal strategy was not taken into account in Harb's study. However, IFIDs and repair were mostly chosen by females and explanation and taking responsibility by the male participants in his research. Our results regarding apologizing to a child were not in accordance with Jebahi (2011) where children were not apologized to. This can be due to cultural differences between Tunisian society and Tabriz.

The association between the independent variables and the choice of apology strategy was also significant in situation 6 (items 6 and 16 in the questionnaire). In this situation, both sides are in socially equal status. Although *explanation* and *IFIDs* were the most common strategy among all

groups, the non-verbal strategy was only selected by young male respondents with non-academic education. This shows that the participants accept their fault and prefer to apologize to their friend in an explicit and direct way. This finding is in agreement with Demeter (2006) who showed that Romanian speakrs prefer an explicit expression of apology most of the time, includingwith their friends. However, our finding is not conforming to Hodeib (2019) who showed that IFIDs were mostly used when the offendee is older and/or has higher social status than the offender.

Finally, in the second situation, where the speaker wants to apologize a higher-status person (their boss or professor), there was a significant association between gender and apology strategies. The higher frequency of *explanation* strategy selected by the participants for this situation can be interpreted as a face-saving action through which the speaker tries to mitigate the effects of their fault by giving reasons for it.

This paper is the first attempt to study apology strategies in Azerbaijani Turkish. Our results suggested that the pattern of apologizing in Tabriz does not conform to the common pattern seen in previous studies. According to our results, Tabrizi people prefer justifying their fault and repair it for their interlocutor; while speakers of Thai and American English (Bergman & Kasper, 1993), Romanian (Demeter, 2006), and Sudanese Arabic (Nureddeen, 2008) preferred using expressions like 'sorry' or 'excuse me' to pacify the interlocutor. This lack of conformity can be reffered to the socio-cultural differences between these communities and the community existing in Tabriz.

Without considering the discourse situations, there was a statistically significant association between the independent variables (the participants' age, gender, and level of education) and the choice of apology strategies. However, a more specific analysis of the data showed that such an association is only significant for some discourse situations; i.e., for the situations 6, 10 and gender in situation 2. This shows that speakers behavior may change based on the context.

DCTs provide valuable data for sociolinguistic analysis. However, they have limitations that mst be acknowledged in making conclusions. DCTs often

elicit idealized or hypothetical responses, which may differ from naturally occurring speech. Participants may give more socially desirable answers than their real life. Besides, DCTs do not capture features such as face expressions or intonations, that may affect the ongoing discourse. These limitations suggest findings from DCTs must be interpreted with caution. To mitigate these shortcomings, further research could be conducted to study apology strategies in real conversational situations with data produced in less controlled situations than DCT. Furthermore, a deeper investigation into how demographic variables such as age and education might influence apology strategies in Tabrizi Turkish could further complement the existing line of research on apology strategies.

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An optimality theoretic-based analysis of consonant cluster pronunciation errors among Iraqi EFL learners

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Abstract

This study examines the pronunciation errors of English consonant clusters among Iraqi EFL learners through the lens of Optimality Theory (OT). For this aim, 40 first-year university students of different majors aged 18-25 years were selected from beginner and lower-intermediate levels based on their scores on Oxford Placement Test. Using different instruments, such as reading instruction and read-aloud test, and being informed from the category of major pronunciation problems by Arabic learners presented by Yavaş (2011), an Optimality Theory-based analysis was adopted in the research. Findings indicated that in pronouncing initial clusters of two consonants, *COMPLEX onset as the high-ranked constraint is frequently violated in Iraqi Arabic (IA), because in IA there are many words started with #CCV. Also, *#CCC is never violated in IA. Since constraints are universal, languages differ only in how they rank them. In pronouncing a coda cluster consisting of two consonants, although *CCcoda is never violated in IA, this constraint is not permuted in the pronunciation of the participants. However, to pronounce words with the structure of VCCC(C)#, it seems that the two low-ranked constraints, namely *CCCCcoda and *CCCcoda in English are permuted to high-ranked constraints in the pronunciation of IA learners.

Keywords: pronunciation errors, consonant clusters, Iraqi EFL learners, constraint ranking, optimality theory

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1. Introduction

An essential element of effective communication is proper English pronunciation, which serves as the foundation for intelligibility among speakers. However, non-native English speakers may encounter difficulties when conversing with native speakers (Altaha, 1995). Lado (1957) notes that these issues are especially common when the learners' native languages are linguistically very different from English. Pronunciation differences and challenges have made phonological error analysis a significant area of interest for researchers (Yavas, 2011; Majeed, 1999; Bauman-Waengler, 2004). Mastering another language necessitates the ability to use it correctly, which involves understanding its phonetic system (Al-Abdely & Thai, 2016). Proper recognition and production of the phonemes in a new language are crucial for successful pronunciation (Baker, 2006). For EFL Arab students, difficulties in English pronunciation are evident due to the differences in the sound systems of Arabic and English, such as the place of articulation (Altamimi, 2015).

Optimality Theory (OT) is one of the recent theories applicable to the analysis of phonological errors. Introduced by Prince and Smolensky (1993) as an alternative to rule-based phonology, OT posits that a form is influenced by a hierarchy of constraints, either faithfulness or markedness/well-formedness constraints (Alezetes, 2007). Faithfulness constraints ensure that the output remains true to the input, whereas well-formedness constraints allow for less marked outputs (Alezetes, 2007). The hierarchy of these constraints determines which constraints are more violable (Galal, 2004). Typically, the optimal form will violate constraints that are ranked lower in the hierarchy or are less frequently violated in higher hierarchies (Galal, 2004). The optimal output comes from the constraints in the competence of language users; according to OT, at the universal level, there are groups of constraints on phonological representations (CON stands for Constraints); moreover, it is possible to make relation between an actual input and all potential outputs (GEN stands for the Generator), and finally, the optimal output will be selected based on simultaneous evaluation of the potential outputs based on ranked constraints (EVAL stands for Evaluator) (Archangeli, 1999). To accomplish

these processes, two different constraint families, called Faithfulness and Markedness are important (Kager, 1999). Kager (1999) defined the terms as two forces that are involved in a basic conflict in each grammar. The Markedness constraint groups (e.g. ONSET, NOCODA, and *COMPLEX) evaluate the output to prevent producing marked and complex forms (Kager, 1999). Markedness constraints can be violated (Blevins, 1994). On the other hand, faithfulness constraint families evaluate output concerning input to seek identical representation between their forms (McCarthy & Prince, 1995). Faithfulness has three sub-constraints, called, MAX IO (maximize the input), DEP IO (output depends on input), and IDENT; these sub-constraints acknowledge the output parts which are the same as the input and each one of these constraints benefit from certain segment prohibition (McCarthy & Prince, 1995).

Based on the constraint ranking in Optimality Theory (OT), the present study aims to reveal the strategies and simplification techniques employed by Iraqi EFL learners to overcome difficulties with English consonant clusters. Additionally, the study seeks to determine whether OT can enhance the quality of teaching and learning pronunciation.

2. Literature Review

Optimality Theory (OT), as a framework for understanding language knowledge and acquisition, has garnered significant attention in the field of L2 language acquisition (e.g., Hancin-Bhatt & Bhatt, 1997). Researchers have applied OT to L2 phonological acquisition to explain various phonological errors, including studies by Broselow et al. (1998). For example, Al-Yami and Al-Athwary (2021) explored the pronunciation difficulties of specific English consonant clusters (CCs) encountered by Saudi EFL learners. Their OT analysis indicated that onset clusters were predominantly affected by L1 ranking constraints, while coda clusters were more influenced by universal Markedness constraints. The study found that the tendency to prioritize Markedness constraints over Faithfulness constraints led participants to employ simplification strategies. Similarly, Al-Jarrah (2002) utilized OT to analyze how

Arab native speakers learn English word stress. The study reported that some Arab English learners struggled with English stress patterns, and these difficulties were attributed to failures in adhering to the correct ordering of universal and violable constraints, as outlined by OT.

Several non-Arabic studies have also applied Optimality Theory (OT) to analyze pronunciation errors in English learners. Usman and Kagu (2021) examined the articulation patterns of English consonant clusters by Nigerian broadcasters, comparing their pronunciation to Received Pronunciation. They found that participants used epenthetic vowels to break up onset consonant clusters and employed consonant deletion to simplify coda clusters.

Liu (2021) used both empirical and theoretical methods to analyze the acquisition of English sentence stress through OT. Their study aimed to address issues related to the mispronunciation of English sentence stress.

Razmdideh and Naseri (2020) conducted a descriptive-analytic study to investigate the substitution of English consonants with their Persian counterparts. Their analysis focused on the constraints and rankings of OT to minimize interference during later stages of language learning.

Torabi and Jabbari (2018) investigated how Persian-speaking learners' background affects their acquisition of English primary stress patterns, considering two recent transfer hypotheses: Failed Functional Feature and Prosodic Transfer. Similarly, Ghorbanpour et al. (2019) explored syllable adaptation in Persian loanwords, particularly tetrasyllabic words, using OT. They noted that Persian avoids consonant clusters in the onset position, leading to adaptations of borrowed words to fit Persian syllable structures.

Yeh (2022) analyzed strategies employed by Taiwanese elementary school children for pronouncing English obstruent-obstruent clusters, such as schwa [ə] insertion or obstruent deletion, using OT. Nguyen (2019) applied OT to explore techniques used by Vietnamese L1 speakers for pronouncing final English consonant clusters.

According to Al-Hamash (1985), many Arab learners of English struggle with pronouncing English clusters, making this area a significant focus for the current study. Previous research has utilized contrastive analysis (e.g.,

Alezetes, 2007) and Gilbert's Prosody Pyramid (e.g., Bin-Hady, 2016) to examine pronunciation errors among Arab English learners. However, to the best of the authors' knowledge, the application of Optimality Theory (OT) to analyze pronunciation errors among Iraqi EFL learners remains unexplored.

Furthermore, while various studies have investigated pronunciation errors of EFL learners across different countries and languages—such as Ababneh's (2018) study on Saudi students and Jabbari and Fazilatfar's (2012) research on Persian EFL learners-there is a noticeable lack of studies focusing on Iraqi learners. This gap in the literature prompted the decision to conduct the present study.

3. Methodology

The participants of the present study were 40 first-year university students from the University of Basra, comprising 20 males and 20 females, aged between 18 and 25 years. Participants were chosen from beginner and lower-intermediate levels based on their scores on the Oxford Placement Test (OPT). Specifically, students with OPT band scores below 50 were selected for the study. All participants were native speakers of Iraqi Arabic.

This study utilized several instruments, including reading instruction, a read-aloud test, and the OPT. According to Jackson et al. (2016), employing various instruments and procedures in research can enhance internal validity and support cross-validation, leading to more precise and reliable results. In addition to these instruments, the authors incorporated extra words and sentences to further ensure the reliability of the pronunciation error analysis.

For the reading instruction component, participants were asked to read two short texts aloud: "How Do Hearing-Impaired People Talk?" and "Rice", extracted from the fourth edition of *Reading and Vocabulary Development 1: Facts and Figures* by Ackert and Lee. These texts were chosen based on the reason that they were designed for elementary and lower-intermediate learners, featuring core vocabulary appropriate for their reading level. Additionally, the texts were selected to engage participants and facilitate the data collection process by encouraging them to read aloud more

comfortably.

In the read-aloud test, the participants were required to read 42 selected words aloud within 15 minutes. Each test was conducted and recorded individually in a quiet room. The words were presented in a randomized order on a sheet to minimize sequencing effects. Participants were informed before the test that the recordings were solely for the study, their anonymity would be maintained, and their performance would not impact their university courses. All sessions were conducted individually in a quiet classroom at the Department of Language at the University of Basra.

After selecting participants with beginner and lower-intermediate proficiency levels based on their OPT scores (below 50), they were asked to read the texts and words during the read-aloud practice in a quiet room. Their pronunciations were recorded and transcribed using the International Phonetic Alphabet (IPA). The collected data were categorized and sub-categorized according to major pronunciation problems identified by Yavaş (2011), with some modifications by the authors:

1. Onset and coda clusters:
   I. Onset clusters:
      A. consisting of two consonants (/**pl**eɪ/)
      B. consisting of three consonants (/**str**ʌk.tʃər/)
   II. Coda clusters:
      A. consisting of two consonants:
         a. nasal- stop (/læ**nd**/)
         b. lateral- stop (/mɪ**lk**/)
         c. lateral- nasal (/fɪ**lm**/)
         d. fricative- stop (/æ**sk**/)
         f. stop- s/z (/kæ**ts**/)
      B. consisting of three / four consonants:
         a. CC-s/z (/kæ**mps**/)
         b. CC-stop (/tɛ**kst**/)
         c. CCCC (/tɛ**ksts**/)
2. Heterosyllabic obstruent-obstruent in multisyllabic words

(/sɛ**p**.**t**ɛm.bər/)

Subsequently, two to three words were selected from each category and related sub-category. Constraints were ranked according to the processes observed in the optimal candidate, and an optimality tableau was designed for the selected data. The authors then analyzed each tableau to identify the phonological processes involved in the different types of pronunciation errors.

4. Results and Discussion

Learners encountered significant difficulties with the pronunciation of initial consonant clusters. As shown in Table 1, their major issue was with the #CCC clusters, which are absent in Iraqi Arabic (IA). Consequently, transfer from their mother tongue was evident, often manifesting as prothesis or epenthesis. For example, to pronounce such non-existent features, Iraqi learners used strategies like inserting the /ɪ/ sound, resulting in pronunciations like [ɪs.tɪ.rʌk.tʃər] or [sɪ.tɪ.rʌk.tʃər] for [strʌk.tʃər].

Table 1.

Frequency and percentage of the participants mispronouncing initial consonant clusters

Type of initial cluster	Frequency of mispronouncing participants	Percentage of mispronouncing participants
#fricative or plosive+ liquid	6	15%
#/s/+ voiceless stop	30	75%
#/s/ + liquid or nasal	10	25%
#CCC	40	100%

Regarding VCC# clusters, learners did not face significant problems because the syllabic structure of Iraqi Arabic (IA) in the coda position is VCC#, allowing them to positively transfer this feature to English. Abdul Sattar (2015) noted that in Iraqi Arabic, the CVCC pattern occurs in word-final positions and in monosyllabic words. However, learners struggled with V-stop-stop# clusters,

with a notable difficulty rate of 27.5%. This issue primarily occurred with the pronunciation of some regular past tense (or past participle) verbs, such as "attacked," which was pronounced as [ætæked]. This type of error reflects spelling pronunciation of words, as discussed by Keshavarz (2015).

Table 2.

Frequency and percentage of the participants mispronouncing VCC#

Type of VCC#	Frequency of mispronouncing participants	Percentage of mispronouncing participants
V-nasal-stop#	0	0%
V-lateral-stop#	4	10%
V-lateral-nasal#	0	0%
V-fricative-stop#	5	12.5%
V- stop- s/z#	0	0%
V-stop-stop#	11	27.5%

In pronouncing coda clusters, learners faced difficulties with the VCCCC# feature, which does not exist in Iraqi Arabic (IA) or Classical Arabic. As shown in Table 3, 85% of the participants employed a straightforward strategy to address this issue by deleting the final consonant in the cluster. For example, with the word /teksts/, learners omitted the last consonant, pronouncing it as [tekst].

Table 3.

Frequency and percentage of the participants mispronouncing VCCC# and VCCCC#

Type of coda cluster	Frequency of mispronouncing participants by deleting the last consonant	Percentage of mispronouncing participants
VCCC#	4	10%
VCCCC#	34	85%

Our findings align with the studies of Eckman (1991), Carlisle (1997, 1998), and Eckman and Iverson (1994), which explored how learners address non-existent features in onset and coda clusters. These studies investigated consonant clusters in onsets or coda positions where the learners' native language (NL) had fewer or less marked clusters compared to the target language (TL). Eckman (2008) updated his Structural Conformity Hypothesis (SCH) to account for situations where learners' interlanguage grammars permit the production of more complex clusters than in their NL, yet these structures remain less complex compared to those in the TL (in this case, English).

Additionally, the study found that heterosyllabic obstruent-obstruent clusters in multisyllabic words posed no difficulty for Iraqi English learners. The participants demonstrated a strong command of this pronunciation rule, showing no errors in words containing such structures.

In order to examine whether there is a unified constraint ranking for pronunciation errors in each category, we conducted an analysis using Optimality Theory (OT). Among gathered data from the error pronunciation of Iraqi participants, some errors were related to the difficulty in pronunciation of consonant clusters in onset and coda position. In this section these errors were analyzed based on optimality theory.

4-1. Onset Clusters

According to Ghalib (1984), the syllabic structure of Iraqi Arabic in onset position includes #CV and #CCV. Therefore, it is anticipated that participants would not struggle with pronouncing initial clusters in English. However, the data shows that some participants did face difficulties and tended to break the clusters by inserting a vowel through epenthesis or prosthesis.

According to Table 1, only 15% of the participants had difficulty pronouncing #fricative or plosive + liquid clusters. This could be because, in Iraqi Arabic, most words with initial consonant clusters follow this pattern (e.g., /flus/ "money", /trab/ "sand"). Consequently, those who pronounced these clusters correctly likely transferred this feature from their first language to English. On the other hand, learners who mispronounced these clusters may

have simplified them by inserting a vowel, as #CCV is more marked than #CV.

Based on Tableau 1, which shows the optimality analysis of /treɪ/ and /flaɪ/ as two instances of fricative/plosive + liquid clusters, participants over-ranked the markedness constraint *COMPLEX onset due to the strategy of simplification, causing the candidates [treɪ] and [flaɪ] to lose the competition. The candidates [ɪtreɪ] and [ɪflaɪ] were also discarded since they violated Anchor-L which states that any element at the left edge of a morpheme in the input must have an identical correspondent at the left edge of the output (Orie & Pulleyblank, 2002). Ultimately, the optimal candidates [tɪreɪ] and [fɪlaɪ] won the competition by violating the lowest ranked constraint, DEP-V, which indicates that every vowel in the output must have a correspondent in the input (Orgun, 2001),. The ranking of constraints is as mentioned in (1). According to this ranking, since there is no conflict between *COMPLEX ^{onset} and Anchor-L, a comma is inserted between them in the ranking and the vertical line in the tableau is dashed. DEP-V is ranked lowest since there is a conflict between this constraint and the other high-ranked ones. If DEP-V were higher than Anchor-L or *COMPLEX onset, then the candidates b and a respectively would become winners. So in order for candidate c to become the winner, DEP-V should be ranked the lowest.

1) Ranking of constraints: *COMPLEX onset, Anchor-L >>DEP-V

Tableau 1.

Epenthesis for breaking the cluster of #fricative or plosive + liquid

Input: /treɪ/, /flaɪ/	*COMPLEX^{onset}	Anchor-L	DEP-V
a. [treɪ], [flaɪ]	*!		
b. [ɪtreɪ], [ɪflaɪ]		*!	*
c. ☞ [tɪreɪ], [fɪlaɪ]			*

For syllables starting with #/s/ + voiceless stop, 75% of Iraqi learners experienced pronunciation difficulties. Among them, 83.3% (n=25) tended to insert a vowel in the middle to break the cluster, while only 16.7% (n=5) inserted a vowel at the beginning of the cluster. The optimality analysis of both strategies is presented in Tableaus 2 and 3 for the word "skill." Due to the

participants' tendency to break the cluster, the markedness constraint *COMPLEX onset is over-ranked compared in both tableaux to other constraints. Since the candidate [sɪkɪl], in tableau (2) is the optimal one, DEP-V/S_T is the lowest in the ranking. This constraint assigns a violation mark for every vowel in the output that follows a sibilant and precedes a stop and does not have a correspondent in the input (Zuraw, 2007). Anchor-L is the other constraint which is over ranked DEP-V/S_T but its rank is lower than *COMPLEX^{onset} because if Anchor-L were ranked higher than *COMPLEX^{onset}, in tableau (3), the candidate [ɪskɪl] would be kicked out of the competition and would not be the optimal candidate.

2) *COMPLEX ^{onset}>> Anchor-L >> DEP-V/S_T

Tableau 2.

Epenthesis for breaking the cluster of #/s/ + voiceless stop

Input: /skɪl/	*COMPLEX onset	Anchor-L	DEP-V/S_T
a. [skɪl]	*!		
b. [ɪskɪl]		*!	
c. ☞ [sɪkɪl]			*

Based on Tableau 2, the optimal candidate [sɪkɪl] only violated the lowest ranked constraint, DEP-V. The candidate [skɪl] had a fatal violations of *COMPLEX onset. Anchor-L was ranked higher than DEP-V/S_T to ensure the preference for epenthesis of a vowel over prothesis.

3) *COMPLEX onset >> DEP-V/S_T >> Anchor-L

Tableau 3.

Prothesis for breaking the cluster #/s/ + voiceless stop

Input: /skɪl/	*COMPLEX onset	DEP-V/S_T	Anchor-L
a. [skɪl]	*!		
b. [sɪkɪl]		*!	
c. ☞ [ɪskɪl]			*

As indicated in Tableau 3, [ɪskɪl] can be the optimal candidate only if

Anchor-L is ranked lowest and DEP-V/S-T is ranked higher to ensure that prosthesis of a vowel wins over epenthesis.

For the case of /s/ + nasals and liquids, only 25% of the participants had pronunciation problems, and nearly all of them inserted a vowel at the beginning of the cluster to break it. Based on optimality analysis, the markedness constraint of *COMPLEX onset, the faithfulness constraints DEP-V/S_m and DEP-V/S_l were ranked higher than DEP-V. Since there is no conflict between *COMPLEX onset and DEP-V/S_m and DEP-V/S_l, they have the same rank. This ranking ensures that prosthesis wins over epenthesis in pronouncing clusters of #/s/ + liquid or nasal. DEP-V/S_m assigns a violation mark for every vowel in the output that follows a sibilant and precedes an [m] and does not have a correspondent in the input, and DEP-V/S_l assigns a violation mark for every vowel in the output that follows a sibilant and precedes an [l] and does not have a correspondent in the input (Zuraw, 2007).

4) Ranking of constraints: *COMPLEX onset, DEP-V/S_m, DEP-V/S_l >>DEP-V

Tableau 4.

Prosthesis for breaking the cluster of #/s/ + liquid or nasal

Input: /sli:p/, /sneık/	*COMPLEX onset	DEP-V/S_m/ DEP-V/S_l	DEP-V
a. [sli:p], [sneık]	*!		
b. [sıli:p], [sıneık]		*!	
c. ☞ [ısli:p], [ısneık]			*

As mentioned in Tableau 4, candidate (b) demonstrating epenthesis of the vowel lost the competition because it violated DEP-V/S_m and DEP-V/S_l.

According to Yavaş (2011), the error patterns of Egyptian Arabic speakers show that clusters violating sonority sequencing are modified using vowel prosthesis, while clusters that do not violate this sequencing receive an epenthetic vowel, resulting in a speedier and more native-like pattern. This pattern differs from that of Iraqi Arabic speakers. In Iraqi Arabic, the epenthetic strategy is employed in cases of violating sonority sequence (Tableau 3), while

for non-violating sonority sequences, two strategies are used depending on the type of cluster: prosthesis for #/s/ + nasal or liquid (Tableau 4) and epenthesis for #fricative or plosive + liquid (Tableau 10).

The cluster of three consonants in the initial position is absent in Iraqi Arabic. According to the data, all participants had difficulty pronouncing clusters of three consonants and modified them by inserting vowels. Two vowels were inserted after the first and second consonants to break the cluster into three syllables. Since #CCC does not exist in Iraqi Arabic, learners tended to transfer this feature to the target language. Consequently, the markedness constraint *#CCC ranked higher in the optimality analysis. This constraint prohibits the occurrence of three consonants in the initial position. Additionally, the structure of #CCC in English is limited to #/s/ + voiceless stop + liquid or glide (Roach, 2009). *#CCC and Anchor-L have the same rank because there is no conflict between them. Anchor-L ranked higher than DEP-V to ensure that epenthesis wins over prosthesis in breaking the cluster of #CCC. Tableau 5 indicated this analysis for the word “structure.”

5) *#CCC >> Anchor-L >> DEP-V

Tableau 5.

Epenthesis for breaking the cluster of #CCC

Input: /strʌk.tʃər/	*#CCC	Anchor-L	DEP-V
a. [strʌk.tʃər]	*!		
b. [ɪs.tɪ.rʌk.tʃər]		*!	**
c. ☞[sɪ.tɪ.rʌk.tʃər]			**

4-2. Coda Clusters

The syllabic structure of Iraqi Arabic in coda position is VCC# (Ghalib, 1984). Therefore, it is expected that Iraqi learners of English would not encounter problems pronouncing coda clusters. However, as shown in Table 2, learners experienced difficulties with coda clusters in some regular past tense (or past participle) verbs, pronouncing words based on their spelling. For example, they pronounced “based” as [beɪsed], “killed” as [killed], and “attacked” as [ætæked]. According to Keshavarz (2015), this type of error is

known as spelling pronunciation. Although the constraint *CCcoda (which prohibits clusters of two consonants in the coda position) is not violated in Iraqi Arabic, it is violated in Classical Arabic. Since learners transfer this feature to English, this constraint is ranked low in the optimality analysis. To lose the competition, a candidate must violate a high-ranked constraint, which in this case is not *CCcoda but rather an orthographic constraint, SIMPLICITY. The reason *CCcoda is not violated by Iraqi learners and is ranked lower than SIMPLICITY is that learners pronounce coda clusters differently in various words. For example, they pronounce "fact" correctly but "attacked" incorrectly. This indicates that *CCcoda cannot be the reason for the pronunciation error. SIMPLICITY, which ensures a one-to-one mapping between sounds and letters (Coulmas, 1989), is ranked higher in analyzing errors related to spelling pronunciation. DEP-IO is ranked lowest because if its ranking were higher than *CC^{coda}, candidate b would win the competition and candidate c would not be optimal. Tableau 6 demonstrates the optimality analysis of "attacked," which was pronounced erroneously as [ætæked].

6) SIMPLICITY>> *CC^{coda}>> DEP-IO

Tableau 6.

Spelling pronunciation of words

Input: /ə.tækt/	SIMPLICITY	*CC^{coda}	DEP-IO
a. [ə.tækt]	**	*	
b. [ə.tækd]	*	*	
c. ☞ [ataked]			*

Based on Tableau (6), SIMPLICITY had the highest rank, so candidate (a) violated this constraint twice. Also, candidate (b) was eliminated from consideration for violating SIMPLICITY and *CC^{coda}. Consequently, candidate (c) emerged as the winner since it only violated the lowest ranked constraint, DEP-IO.

Although VCCC# is not present in Iraqi or Classic Arabic, the results show that participants did not encounter significant problems with pronouncing this cluster. Table 3 illustrates that only 10% of the participants adjusted the difficulty of pronouncing the three-consonant cluster by omitting

the final consonant. For words ending in four-consonant clusters, 85% of participants chose to delete the last consonant in the cluster.

In the optimality analysis for this case, the constraints *CCCcoda (prohibiting clusters of three consonants in the coda position) and *CCCCcoda (prohibiting clusters of four consonants in the coda position) are ranked higher in the hierarchy. Conversely, the constraint MAX-IO is ranked lowest since it does not favor the optimal candidate. Tableau (7) provides the details of this analysis for the word "texts".

7) *CCCC^{coda} >> MAX-IO

Tableau 7.

Deletion of the last consonant in VCCCC#

Input: /teksts/	*CCCC^{coda}	MAX-IO
a. [teksts]	*!	
b. ☞ [tekst]		*

Based on the data collected, all participants had no difficulty pronouncing heterosyllabic obstruent-obstruent clusters in multisyllabic words, such as “September,” “catbird,” “picture,” “October,” and “dictionary.” The focus was on the pronunciation of the underlined sounds in these examples. This is because both English and Iraqi Arabic syllables permit obstruent clusters at syllable boundaries. This finding contrasts with Yeh (2022), which claimed that Mandarin syllables strictly prohibit complex syllable margins, leading learners to use either epenthesis or segment deletion to address the pronunciation of English words with complex syllable margins.

As previously discussed, by analyzing constraint rankings, we assessed the strategies and simplification techniques employed by Iraqi EFL learners when pronouncing various consonant clusters in onset and coda positions, and investigated the transfer processes causing interference between the two languages. We explored the different categories of mispronunciations among Iraqi EFL learners to determine if they are significantly impacted by the permutation of constraint rankings from Iraqi Arabic to English.

When pronouncing initial clusters of two consonants, the high-ranked constraints *COMPLEX ONSET and SON SEQ are often violated in Iraqi Arabic (IA), as many words in IA begin with #CCV. Therefore, the ranking of these constraints from IA is not permuted. However, when participants pronounce words with initial clusters of three consonants, *#CCC is never violated in IA. As long as this constraint is low-ranked in English, its rank order is changed in IA, so that learners apply this constraint to simplify the cluster.

When final clusters of two consonants are pronounced, although *CCcoda is never violated in Iraqi Arabic (IA), this constraint is not permuted in the utterance of English learners of IA. The mispronunciations of words with the structure VCC# were attributed to spelling pronunciation. The two low-ranked constraints of *CCCCcoda and *CCCcoda in English are permuted to high-ranked constraints in the pronunciation of English learners of IA.

5. Conclusion

The current study aimed to investigate the pronunciation difficulties faced by Iraqi EFL learners with non-Arabic sounds. To achieve this, 40 first-year university students (20 male and 20 female) aged 18-25, selected from beginner and lower-intermediate levels based on their OPT scores, participated in the study. Utilizing instruments, such as reading instruction and read-aloud tests, and referring to the major pronunciation problems identified by Yavaş (2011), the research employed optimality-based quantitative analysis with descriptive statistics.

Throughout the study, numerous examples were observed where participants addressed clusters by inserting a vowel, either through epenthesis or prosthesis. It was concluded that features aligning with the Arabic sound system were easily transferred to the target language structure. However, structures highly ranked according to optimality theory remained challenging for learners. For example, since the Arabic sound system does not support the optimality ranking, and *CCCCcoda is ranked highest in IA due to the marked nature of VCCCC#, the ranking order of this constraint is changed. Mismatches between the two languages may also stem from teachers and trainers who may

not effectively help learners distinguish and integrate the sounds of the foreign language into its phonological system. Increased training on problematic sounds can improve students' ability to make accurate inferences about the English sound system and reduce errors.

OT contributes to the analysis of the learning/ teaching process by providing insights into how learners build their constraint rankings, taking into account both universal principles and language-specific input. OT can help explain the phonological errors learners make by identifying how learners' rankings of universal constraints differ from those of the target language. Since learners are often influenced by the constraint rankings of their native language, this can result in predictable phonological errors. For example, learners might simplify complex consonant clusters or fail to distinguish between sounds that are distinct in the target language but not in their native language. OT provides a framework to predict and analyze these errors by comparing the constraint rankings in the learner's interlanguage with those in the target language (Broselow et al., 1998).

OT can inform pronunciation teaching by highlighting which constraint violations are likely to be more challenging for learners. Teachers can focus on constraint rankings that learners tend to mis-rank, helping them prioritize certain phonological structures in their teaching. For example, by understanding that a markedness constraint (such as avoiding consonant clusters) may be ranked higher in a learner's native language, teachers can create targeted exercises to practice consonant clusters, thus guiding the learner to adopt the correct ranking in the target language (Archibald, 2005).

Certain macro-policies impose intervening factors that create inconsistencies and deficiencies in teaching English as a foreign language. These problems often affect both students and teachers, who are compelled to follow certain guidelines. For instance, professors might be required to teach and present materials in Arabic using inappropriate teaching methods and poorly translated sources. This can lead to a situation where English instruction is reduced to preparing students for tests through multiple-choice items, rather than fostering genuine language learning. Ideally, learners should not view

English merely as a means to pass a test and obtain a language certificate. Instead, they should engage with the language as a voluntary and intrinsic part of their education, applying their knowledge in various contexts during and after their studies.

Different strategies to enhance students' listening abilities should be emphasized. Given that some learners who experienced various target language contexts were able to differentiate between problematic sounds, these findings should be highlighted and incorporated into ELT programs. Introducing the latest technologies and materials can also significantly improve pronunciation skills and help learners distinguish problematic sounds more effectively.

Finally, the critical role of teachers in enhancing students' communicative competencies and pronunciation abilities must be recognized. Teachers can leverage a variety of tasks and activities to increase students' awareness of the target language's components and familiarize them with its phonological system. Some errors can be addressed by teaching students rules for making inferences based on their learning and following specific directions. Additionally, incorporating useful ELT materials, sources, games, and applications tailored to students' needs and interests can be effective methods for instruction. Teachers should seize every opportunity to bridge the gaps between languages and improve pronunciation.

Further research is needed to strengthen the findings of this study and to determine whether they are replicable in different settings with unique characteristics. Firstly, comprehensive studies should investigate the mispronunciations of a broader range of Arab students to produce more detailed, generalizable findings. Secondly, research should explore other categories of learners' errors that were not addressed in the current study. Thirdly, intervention studies using control groups could examine factors such as the impact of textbooks, students' exposure to the target language context, teacher expertise and instructional methods, the use of media and realia in classrooms, and even the literacy levels of students' families. Finally, since learners' mispronunciations are influenced by their teachers, it is important to investigate how effective teachers contribute to establishing proper pronunciation guidelines and enhancing their students' pronunciation skills.

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Metaphors we grow old by: A study of *gocalıq* (old age) metaphors in Azerbaijani Turkish poetry

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Abstract

The present study attempts to probe into the reflection of aging in Azerbaijani Turkish poetry using Lakoff & Johnson's Conceptual Metaphor Theory (CMT). The corpus of the study contains Azerbaijani Turkish poems of Shahriar (1906-1988) as well as seven other poets. A total of 50 Turkish verses on old age were recruited for this study. As an initial step, conceptual metaphors were extracted from the corpus. Then, conceptual mappings involved in each metaphor were provided. Finally, source domains in old age metaphors were obtained. The results of the paper reveal that old age is expressed through nine salient metaphors in Azerbaijani Turkish poetry. Moreover, some metaphors are shared between cultures, especially metaphors related to deterioration which are based on bodily experiences, while other metaphors are more based on the Azerbaijani culture of the poets and highly influenced by customs, traditions, religion, and economy. Also, physical deterioration rather than mental deterioration is an ideal source domain, since it is clearly delineated and people believe that they know it well.

Keywords: conceptual metaphor; Azerbaijani Turkish poetry; old age; cross-linguistic; versified translation of poetry

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1. Introduction

Old age reflects itself in various disciplines such as physiology, psychology, sociology, literature and art, among which poetry is the most conspicuous because poetry is life itself, and like life, it encompasses aging. 'Youth and I are house-mates still' by Coleridge, 'I look into my glass, And view my wasting skin' by Hardy, and 'That time of year thou mayst in me behold, When yellow leaves, or none, or few, do hang' by Shakespeare (Perrine, 1977) are some of the examples of this kind. One of the common literary devices used in these poems to depict aging is metaphor. However, what is metaphor?

Metaphor is related to cognitive abilities or functions. Cognitive abilities are skills of mind. Some skills like abstract thinking, critical thinking, logical reasoning and literacy are examples of cognitive abilities. They can range from fundamental processes like perception to more sophisticated ones, such as problem solving and metacognition (Kiely 2014). One of the cognitive abilities or cognitive functions is language and one of the most intriguing issues in cognitive analysis of language is that of metaphor. Metaphor was believed to be just a literary device (a literary device that asserts one object is another) before Lakoff's Conceptual Metaphor Theory (CMT), but it is defined as one of the basic cognitive mechanisms that structure the way we formulate and understand abstract concepts by cognitive linguists (Johnson, 1987; Lakoff, 1987, 1993; Lakoff & Johnson, 1980, 1999). Moreover, the critical notion of imagery, according to Freeman (2021), can be redefined by studying poetry from conceptual metaphor perspective since in the light of recent studies in metaphor, there is now considerable concern about conceptual metaphor and its effect on literary studies. Also, many literary scholars, working within the CMT framework, demonstrate how conceptual metaphors provide important meaning structures upon which more elaborate, sometimes indeterminate, literary interpretations may be understood (Gibbs, 2017: 131).

Since the publication of Lakoff's seminal work (Lakoff & Johnson, 1980), metaphors have become one of the most commonly discussed topics in cognitive linguistics. An intriguing but neglected area in conceptual metaphor studies is the exploration of how old age is conceptualized in poetry. Aging is a

universal experience that every person, including poets, must contend with, and some of the most powerful poems address this theme (Baldwin 2023). As poets age, their considerations of aging vary. Azerbaijani Turkish poetry has witnessed some significant poetic pieces considering aging. This study aims to provide a deeper understanding of aging metaphors in Azerbaijani Turkish poetry. It aims to shed light on how aging, as a universal consideration, has been conceptualized in some of the most powerful poetic works in Turkic literature. This paper applies CMT to study Azerbaijani Turkish poems about aging, aiming to uncover metaphoric conceptions to poets' lives and experiences of the world. More specifically, this paper aims to shed light on metaphorical studies in an attempt to consider the interactions of metaphorical expressions, culture, and embodiment. To achieve this aim, the following research questions will be addressed: 1. What are the source domains in the metaphorical expressions for old age in Azerbaijani Turkish poetry? 2. Are these metaphors culture-specific or universal?

2. Review of Literature

A few studies have been published on old age in Turkish and Persian poetry. Yalameha & Rajabi (2017) considered the reflection of *old assistants'* types and samples in *Saeb Tabrizi's* poetry. They found that different types of *old assistants* have been employed in *Saeb Tabrizi's* Diwan such as *Pire Moghan*, *Pire Meykadeh*, *Pire Kharabat*, *Pire Meyforoosh*, etc. The concept of o*ld assistants* is used to understand the relationship between *Saeb's* poetry and mysticism. Mozafari & Parnosh (2016) highlighted that both *Ibn Mutazz* and *Saadi* describe youth as a period of frivolity, pleasure and luxury, strength and exuberance. Old age, on the other hand, is a period of physical weakness, frailty, and loss of physical power as well as a time of piety, rejection of pleasures, increased prudence, and knowledge, ultimately ending in death. According to Rahimi & Safabakhsh (2012), old age and youth have been beautifully depicted in *Nezami Ganjavi's* poems through the color element. White, black, and red are examples of colors used to describe the younger generation, either directly or indirectly, while old age is depicted through yellow and white. Kooshan & Zyaee (2012) in

a comparative study considered the adaptation of *Peer* (Old) in *Khajeh Hafez's* Diwan with *Hakim Fuzuli's* Persian and Azerbaijani Turkish Diwans. They proved that *Shiraz's* Diwan contains no definite evidence of dependence on a spiritual guide. However, there is evidence in his thoughts showing that he believes in wishing to have a spiritual guide in seeking the reason for path. *Hakim Fuzuli's* Farsi and Azerbaijani Turkish Diwans emphasize the necessity of having a spiritual guide. This is identified by the praises of the innocent Imams. In his poems, *Fuzuli* portrays the guide of life as being greater than an angel.

Some studies have also been published on old age in English. Holyk (2021) studied *Somewhere towards the end* by Diana Athill to extract old age metaphors in English literary discourse. She found that literary discursive models of old age conceptualization describe the new reality of old age not only as a biological phenomenon but also as a social construct. Najim Al Khafaji (2007) found that for a skeptic Christian poet like Yeats, old age is a mysterious and dreadful experience and his attitudes towards it are simultaneously ambivalent. For Yeats, old age is both 'an age of frustration and uncertainty' and 'an age of wisdom leading to fame and immortality'. For poets, old age is sometimes neither an age of loss nor gain. Martha Clark (1980) suggested that in American poetry, although a great number of poems equate growing old with diminishment, some poems indicate a striving for continued struggle, change, growth, and self-realization in old age.

A recent review of the literature on conceptual metaphor in Azerbaijani Turkish found that Shahiditabar and Pourghasemian (2021) considered conceptual metaphors of 'separation' in Azerbaijani Turkish poetry. The results of the paper showed that separation is expressed through eleven salient metaphors in Azerbaijani Turkish: 1. SEPARATION IS HUMAN/ANIMATE, 2. SEPARATION IS PAIN, 3. SEPARATION IS NATURAL FORCE, 4. SEPARATION IS FIRE, 5. SEPARATION IS THING/TOOL, 6. SEPARATION IS FALL, 7. SEPARATION IS OPPRESSION, 8. SEPARATION IS DEATH, 9. SEPARATION IS TRAVEL, 10. SEPARATION IS PLACE/CONTAINER, and 11. SEPARATION IS RESURRECTION. In their analysis they showed that

Azerbaijani Turkish metaphors are touched by cultural and environmental influences and some conceptual metaphors are based on recurring bodily experiences as it is seen in SEPARATION IS HUMAN/ANIMATE metaphors. Aside from the mentioned work, some works deal with the Turkish language spoken in Turkey (see Adıgüzel, 2020; Can & Can, 2010; Özçalkan, 2003).

This paper is organized as follows: after the introductory sections, i.e., introduction and review of literature, the second section, methodology, gives a brief overview of Conceptual Metaphor Theory (CMT). The third section deals with the corpus of the study. In the fourth section, the results of the study are presented. The discussion is presented in the final section.

3. Methodology

From a cognitive point of view, metaphor is seen in the ordinary usage of language. Cognitive linguists believe that everyday language is pervasively metaphorical and the metaphor profoundly 'structures the ways human beings perceive, what they know, and how they think' (Abrams 2009:191). In other words, metaphors are considered to be fundamental to both language and thought. Metaphorical expressions indicate underlying conceptual metaphors. Conceptual metaphors pair an abstract concept, such as 'old age' in this study, with a concrete or physical concept, like 'loser champion', to form metaphors such as OLD AGE IS LOSER CHAMPION. Another example of this is when we talk about life or love in terms of journey, or about arguments in terms of war (Kövecses, 2010: 4). Different conceptual metaphors are often invoked by poets to support a particular point of view. The selection of such metaphors tends to be directed subconsciously in the mind of the person employing them. A key terms in understanding metaphor is mapping. Metaphor is a mapping or projection across different conceptual domains. Mapping describes the mental organization of information in conceptual domains. To understand a metaphor, a part of the conceptual structure of the source domain is mapped onto the target domain. Take this poem by Shahriar (*Old age arrived, took the fort,/ It pushed you into the cage like a blind bird!*) as an example. In this poem, we have the OLD AGE IS INVADER metaphor. Invader is the source domain, and old age

is the target domain. Through mapping, Invader (source domain) maps onto and describes aspects of Old age (target domain).

Culture and the human body occupy crucial roles in understanding conceptual metaphors. Metaphors are employed by creative writers and poets, and because literature is a part of culture, metaphor and culture can be seen as intimately linked (Kövecses, 2005: 1). The human body is also an ideal source domain in conceptualization since it is clearly delineated and we know it well (Kövecses, 2010: 18).

According to Kövecses, culture can be thought of as a set of shared understanding of the world (Kövecses, 2005). He lists six reasons why culture and metaphor are interrelated. First, cultural models for abstract domains are metaphorically constituted. Second, conceptual metaphors are often expressed in language- a major component of culture. Third, conceptual metaphors may be realized in cultural practice. Fourth, when conceptual metaphors are expressed in the form of metaphorical linguistic expressions in discourse, they may serve culturally distinct social-cultural functions. Fifth, the conventional metaphorical system of a culture preserves and lends stability to a particular culture. Sixth, *creativity* in figurative thought can provide cultures with the potential of change and new experience (Kövecses, 2005: 284). For instance, in Chinese culture, THE MIND IS THE HEART metaphor shows Chinese reasoning in art, music, literature, politics, and medicine while THE MIND IS THE BRAIN metaphor in English leads to alternative reasoning about the causes of human thought and action, which is also evident in a wide range of cultural artifacts and beliefs (Gibbs, 2017).

The human body, including its physiological, structural, motor and perceptual is universal and this universal body is the basis of many conceptual metaphors. The metaphors that emerge from it are potentially universal as well (Kövecses, 2005: 285). When speaking metaphorically, people have access to readily available sociocultural ideas that are related to bodily experiences, even if they have not previously experienced these in a directly embodied manner (Gibbs, 2017). According to Gibbs (2006), embodiment refers not only to neural events but also to cognitive unconscious and to phenomenological experience.

3.1. Corpus

Azerbaijani Turkish poems of *Mohammad Hossein Shahriar* (Şəhriyar, 2005) are chosen as the main corpus of the current study. The main reason for choosing his poerty as the corpus is that he is one of the most outstanding and prolific poets of the Turkic world and old age is one of the most important poetic themes of his poetry. In some cases, some poems from, *Mirza Alakbar Sabir* (2004), *Seyid Azim Shirvani* (Şirvani, 2007), *Ashig Alasgar* (Ələsgər, 1991), *Aliagha Vahid* (Vahid, 2008) and *Khasta Qasim* (Namazov, 2004) are also used. In addition to these works, two poems performed by Azerbaijani Ashiks, one from *Ashig Shamshir* and another from *Javad* are also used. Sonnet 73 of *Shakespeare* (2017) as well as some examples from *Somewhere towards the end* by *Athill* (2009) and a Persian poem from *Vahshi Bafqi* (Bafqi, 2022) are also used in the corpus to draw cross-cultural comparisons.

3.2. Procedure

A total of 50 Turkish verses on old age, an English sonnet by Shakespeare and a Persian poem by Vahshi Bafqi were recruited for this study. At the beginning of the study, all conceptual metaphors were extracted from the corpus. Once conceptual metaphors were extracted, we then provided conceptual mapping involved in each metaphor. Finally, source domains in old age metaphors were obtained. As mentioned, a conceptual metaphor refers to the understanding of an idea or simply a conceptual domain in terms of another. For example, we understand the idea of OLD AGE in terms of WAR in '*Forts are ruined, the soldier is killed, his trench is empty! / Survivors have less flesh on the body; they are skinny!*' through mapping. A mapping is how a source domain (WAR in the above-given poem) tracks onto and describes aspects of the target domain (OLD AGE in the mentioned poem.)

4. Results

After studying the corpus, 50 metaphors regarding old age are extracted. The results of the paper show that OLD AGE is expressed through 9 salient metaphors in Azerbaijani Turkish poetry. It is shown in Table 1:

Table 1.

Conceptual Metaphors of OLD AGE in Azerbaijani Turkish poetry

Metaphor	Frequency	Percentage
OLD AGE IS AUTUMN/WINTER	14	28%
OLD AGE IS HUMAN	14	28%
OLD AGE IS DETERIORATION	6	12%
OLD AGE IS NIGHT	4	8%
OLD AGE IS DEAD/WOUNDED SOLDIER/WAR	4	8%
OLD AGE IS WITHERING	2	4%
OLD AGE IS INVADER	2	4%
OLD AGE IS BLAND	2	4%
OLD AGE IS THING OF LITTLE VALUE	2	4%
Total	50	100%

In this section of the paper, Azerbaijani Turkish poems written in both Perso-Arabic as well as Latin scripts with translations are presented:

Table 2.

Shahriar's poem on OLD AGE IS AUTUMN

Latin script	Perso-Arabic script
İnsan xəzanıdır, tökülür can xəzəl kimi, Saz tək xəzəl yağanda sızıldar xəzan səsi.	انسان خـزانی‌دیر، تؤکولور جـان خزل کیمی! سازتک خزل یاغاندا سیزیلدار خزان سسی!

Autumn has fallen on man! Flesh tearing down flying in winnowing autumn wind.
Leaves are falling down like strings of a broken Qopuz singing elegies.

Aging is characterized in terms of fall leaves, as in (2). Leaves are dry and brown when they fall. Dryness and brown color symbolize death and sadness. What is conceivable in (2) is that aging is thought about in terms of 'fall leaves' and falling of leaves could be perceived as singing elegies. In (3), old age is thought about in terms of autumn, which withers rival's blossoms.

Table 3.

Vahid's poem on OLD AGE IS AUTUMN

Latin script	Perso-Arabic script
Naz elə, gül, bizim ellərdə də güllər gülsün, Solsun əğyarin açılmış gülü dönsün xəzələ.	ناز ائله! گول! بیزیم ائللرده‌ده گوللر گولسون! سولسون اغیارین آچیلمیش گولو دؤنسون خزله!

Oh, my beloved! Play hard to get! Then, flowers bloom all through it.

May rival's blossoms wither in the garden! May turn them into fall!

For Seyed Azim Shirvani, old age is chilly:

Table 4.

Seyed Azim Shirvani's poem on OLD AGE IS WINTER

Latin script	Perso-Arabic script
Yetişdi əlliyə yaşım, tökər su çəşm-i-xunpaşim, Ağardı bərf tək başım, dönüb bir zəmhərir oldum.	یئتیشدی اللی‌یه یاشیم، توکر سو چشم خونپاشیم، آغاردی برف‌تک باشیم، دونوب بیر زمهریر اولدوم

I aged 50; I am crying bloody tears,

My hair turned white like snow; I got chilly!

For Shahriar, old age is winter/autumn and he is a pale wheat crop:

Table 5.

Shahriar's poem on OLD AGE IS WINTER

Latin script	Perso-Arabic script
Qışın qərə-qeyidi alıb mənim canımı, Xortdan deyib qocalıq, kəsib mənim yanımı. Payızlamış zəmiyəm, vəryan mənə nə gərək, Dönərgə döndərəcək döndükcə vəryanımı.	قیشین قره قئییدی آلیب منیم جانیمی خورتدان دئییب قوجالیق ، کسیب منیم یانیمی پاییزلامیش زمی‌یم، وریان منه نه گرک!؟ دؤنرگه دؤندره‌جک ، دؤندیکجه وریانیمی!

Winter concern has taken my life!

It has changed into the bogeyman and does not leave me alone!

I am a pale wheat crop; I need no waterway!

Destination will turn my waterway while turning!

The long-running winter/autumn seems to cover the poet's life. His condition worsens as the coldness deepens because his life crops are not cool-weather crops. They wither in autumn and winter. Autumn is conceptualized as despondency and sadness in this poem. Moreover, autumn metaphor is seen in Russian poetry as maturity, despondency and sadness (Hayrutdinova, Wang, & Zhang, 2021) or autumn is seen as 'savage' in Ukrainian poetry (Kravets, Siuta, Struhanets, & Struhanets, 2021). In English poetry, 'That time of year thou mayst in me behold' as one of the most widely anthologized sonnets by William Shakespeare (2017) has been drawn to the topic of old age:

That time of year thou mayst in me behold
When yellow leaves, or none, or few, do hang (Shakespeare)

In this sonnet, Shakespeare addresses youth and declares that when yellow leaves, or none, or few, hang upon the trees you can see in him (the poet) a reflection of autumnal and wintery time of the year. However, in Persian poetry, Vahshi Bafqi provides a similar conceptualization of old age:

Table 6.
Vahshi Bafqi's poem on OLD AGE IS AUTUMN

English translation	Persian poem
When the old age made Zulaikha decrepit, Floral garden changed into autumn!	زلیخا را چو پیری ناتوان کرد گلش را دست فرسود خزان کرد

It can be argued that autumn metaphors are shared between cultures. In other words, the correlation between autumn metaphors defining old age in Azerbaijani Turkish, English, Persian, Russian and Ukrainian poetry and cultural experiences show that autumn as a source domain is shared between the mentioned cultures and cannot therefore be regarded as culturally specific.

4.1. OLD AGE IS HUMAN

Old age is conceptualized as human in Shamshir's poetry:

Table 7.

Shamshir's poem on OLD AGE IS HUMAN

Latin script	Perso-Arabic script
Gizlənmişdim cavanlıq bağına, Onda məni gəldi gördü qacalıq. Cavanlıq tərlanı uçdu əlimdən, Mənə verdi qəmi-dərdi qocalıq.	گیزلنمیشدیم جوانلیقین باغینا، اوندا منی گلدی گؤردو قوجالیق! جوانلیق ترلانی اوچدو الیمدن، منه وئردی غمی–دردی قوجالیق!
Harayıma çatan dostum olmadı, Qaçmağa var idi qəsdim, olmadı, Qapını bacanı basdım olmadı, Açıb pəncərədən girdi qocalıq.	هاراییما چاتان دوستوم اولمادی، قاچماغا واریدی قصدیم، اولمادی، قاپی‌نی باجانی باسدیم، اولمادی! آچیب پنجره‌دن گیردی قوجالیق!
İştaham kəsilib naz-o-nemətdən, Dolmadan kababdan pilovdan ətdən, Gözəllər yanında düşdüm hörmətdən, Başıma yüz kələk qurdu qocalıq.	اشتهام کسیلیب ناز و نعمت‌دن، دولمادان، کاباب‌دان، پلودان، اَت‌دن، گؤزللر یانین‌دا دوشدوم حرمت‌دن، باشیما یوز کلک قوردو قوجالیق!
Qaçdım çaylara kimi axabilmədim, Güləşdim, mən onu yıxa bilmədim, Çalışdım əlindən çıxabilmədim, Ağır yükdü yaman zordu qocalıq.	قاچدیم چایلارا کیمی، آخا بیلمه‌دیم! گولشدیم، من اونو ییخا بیلمه‌دیم! چالیشدیم الین‌دن چیخا بیلمه‌دیم! آغیر یوکدو، یامان زوردو، قوجالیق!
Şəmşir! Yeməsən də, durmaq olmur ac, Həkim verə dişdən olmadı əlac, Ölməsəm bəsimdi tapanda umac, Tikə boğazəmı cırdı qocalıq.	شمشیر! یئمه‌سن‌ده، دورماق اولمور آج! حکیم وئره دیش‌دن، اولمادی علاج! اؤلمه‌سم بسیم‌دی تاپاندا اوماج! تیکه بوغازیمی جیردی قوجالیق!

I entered the Youth Garden stage,
Where I was seen by Old Age!
The Youth Bird flew away! Left me in cage!
Giving me great sorrow and sharp pain!

I appealed for help. None gave me a hand, therefore!
I wanted to run for Her but failed for sure!

Shutting Old Age out from the youth within, I closed the door!
Alas! Old Age entered from the window pane!

For blessing and wealth, I've lost my lust!
For dolma, kebab, rice, meat and crust.
With the angel-faced Beloveds, my face, I lost!
Old Age played a hundred tricks on me to wane!

I ran to the rivers but could not flow around,
Grappled with Him, could not wrestle Him to the ground,
Tried to escape the clutches of Old Age, did not bound,
Old Age is a heavy burden, a nasty bull for a thane!

Shamshir! If you skip your morning meal, you won't endure,
False teeth prescribed by the doctor did not cure,
If I survive, 'umac' will suffice, it doth secure,
Oh, Old Age! Morsel tore my throat again!

This poem consists of five stanzas. Old age is conceptualized as HUMAN in five lines of the poem. Old age left the poet in cage in the first stanza. In the second line, old age sees the poet and in the fourth line, gives great sorrow and sharp pain to him. In the second stanza, old age enters from the window and in the third stanza, old age is a cunning person who played a hundred tricks on the poet. That is, old age is a big bully in this stanza who tricks the poet and in the fourth stanza, he runs to the rivers and grapples with old age but cannot defeat him. In other words, old age sees the poet, gives great sorrow, opens the window, plays tricks and finally grapples with the poet like HUMAN. But in the last stanza, the poet experiences a loss of appetite (*Shamshir*! If you skip your morning meal, you won't endure). The reason behind the poet's decreased appetite is his loss of teeth as a sign of physical deterioration. The physician prescribes the poet false teeth in the next lines but they are not helpful and he just affords *umac* (a kind of Azerbaijani soup made from flour) which symbolizes a small meal. In this stanza, one of the effects of old age is shown as deterioration and the deterioration of the poet's health is depicted as the

process in which his physical health becomes worse progressively over time.

Another example of OLD IS IS HUMAN deals with OLD AGE IS LOSER CHAMPION metaphor by Shahriar. In this poem, like the third stanza of Shamshir's poem, the poet wrestles with time. Wrestling metaphors in Azerbaijani Turkish emerge within the social and cultural contexts in which they function and not simply from purely conceptual metaphors. In the following metaphor, both culture and embodiment play crucial roles.

Table 8.

Shahriar's poem on OLD AGE IS LOSER CHAMPION

Latin script	Perso-Arabic script
Sanki zaman güləşdi, məni güpsədi yerə, Şerim, yazım olub yıxılan pəhləvan səsi.	سانکی زمان گولشدی منی گوپسدی یئره شعریم یازیم اولوب ییخیلان پهلـــوان سسی

Time seemed to grapple with me and wrestled me to the ground!
My poem is like a loser champion's voice!

Güləş also known as *Kurash* refers to 'folk wrestling' practiced in most Turkic regions including Azerbaijan. Aside from being a sport, *güləş* is also used as a traditional part of marriage ceremonies in Azerbaijan. A crowd of well-wishers gather outside the groom's house. The groom, mostly with his groomsmen standing in line on the roof of his house, throws apples to his bride and the crowd of well-wishers. And some of the well-wishers wrestle with each other in front of the groom as a tradition. Shahriar depicts this ceremony in 'Heydar Babaya Salam':

Table 9.

Shahriar's Heydar Babaya Salam

Latin script	Perso-Arabic script
Heydərbaba, kəndin toyun tutanda, Qız-gəlinlər həna, piltə satanda, Bəy gəlinə damnan alma atanda, Mənim də o qızlarında gözüm var, Aşıqların sazlarıda sözüm var.	حیدربابا، کندین تویون توتاندا قیز-گلینلر ، حنا-پیلته ساتاندا بَی گلینه دامنان آلما آتاندا منیم‌ده او قیزلاریندا گؤزوم وار! عاشیقلارین سازلاریندا سؤزوم وار!

Heydar Baba! When the village wedding ceremony is held!
Girls and newly-wed women sell henna and wick!
Groom throws the apple to bride from the roof!
I am also in love with your girls!
My words are in your ashiks' music!

Güləş is also used in Azerbaijani narratives to show the power of the protagonist. For instance, in Məlikməmməd nağılı 'Fairy tale of Malikmammad' (Nemət, 2017), the hero wrestled with the dragon for 40 days! Bearing these traditional, social and historical contexts in mind, the metaphoric use of "old age" in (8) is a culture-specific manifestation of the loser champion metaphor. Moreover, based on the Embodiment Hypothesis (see Johnson, 1987; Kövecses, 2005), 'wresting of the poet with time' metaphor proves the correspondence between his bodily experience and the poet's mental image schemata. That is, the poet uses this metaphor to create and comprehend his cultural embodied experience.

Another example of OLD AGE IS HUMAN refers to Alasgar's poem. Alasgar, an aging poet, conceptualizes old age as a deteriorated traveler using Azrael instead of Ajal and writes:

Table 10.
Alasgar's poem on OLD AGE IS HUMAN

Latin script	Perso-Arabic script
Səksanı-doqsanı keçibdir yaşım,	سکسانی-دوخسانی کئچیبدیر یاشیم
Gör deyə titrəyir bəlalı başım,	گؤر دئیه تیتره‌ییر بلالی باشیم
Əzrail həmdəmim, məzar yoldaşım,	عزرائیل همدمیم، مزار یولداشیم
Daha köç təblin çal qoca bəxtim.	داها کوچ طبلین چال قوجا بختیم

I've lived to the ripe old age of 80 or 90!
My Old Age behaves like nothing has happened!
I traveled in the company of Azrael and the Grave.
My Old Luck! Sound the death knell to pass the Gate!

In this poem, OLD AGE IS HUMAN who sounds the death knell. Azrael is the angel of death in Islamic teachings and he is said to hold a scroll concerning the fate of people. The poet travels in the company of Azrael which keeps in mind the religion-specific metaphor based on the mentioned source domain. As far as this poem on sounding the death knell by old age is concerned, this metaphors arise from religious teachings of the poet and it is culture-specific.

4.2. OLD AGE IS DETERIORATION

The definitions of old age are not consistent from the viewpoints of biology, demography, and sociology. It is accepted that old age is usually referred to as deterioration. The distinguishing characteristics of old age are both physical and mental (Salokangas & Joukamaa, 1991). Certain kinds of memory, certain aspects and skills and muscular strength tend to diminish with age. In addition to Shamshir's poem which showed how morsel tore the poet's throat, which was one of the 'effects' of old age as deterioration, some direct examples of deterioration/diminishment metaphors include Shahriar and Sabir's poems:

Table 11.

Shahriar's poem on OLD AGE IS DETERIORATION

Latin script	Perso-Arabic script
İnsan qocalmış olsa, qulaqlar ağırlaşar, Sanki yazıq qulaqda guruldur zaman səsi.	انسان قوجالمیش اولسا، قولاغلار آغیرلاشار سانکی یازیق قولاغدا گورولدور زمان سسی

When you are quite old, you are increasingly hard of hearing,
Like as time has caused a great furor in the poor ear!

Table 12.

Shahriar's second poem on OLD AGE IS DETERIORATION

Latin script	Perso-Arabic script
Hünər olsa ruh cavandır, hələ-hələ düşgün olmaz, Ondakı gördün düşübsən, bu nəfir bədən düşübdü.	هنر اولسا روح جواندیر، هله-هله دوشگون اولماز اوندا که گؤردون دوشوبسن، بو نفیر بدن دوشوبدو!

Sprit is young with art; It will not be diminished by time.
If you are diminished, it's the flesh, not spirit!

Table 13.
Sabir's poem on OLD AGE IS DETERIORATION

Latin script	Perso-Arabic script
Əfsus qocaldım ağacım düşdü əlimdən Səd heyf cavanlıq,	افسوس قوجالدیم آغاجیم دوشدو الیم‌دن، صد حیف جوانلیق!
Zəf eylədi aciz məni qaldım əməlimdən, Çekdim nə ziyanlıq!	ضعف ائیله‌دی عاجز منی قالدیم عملیم‌دن، چکدیم نه زیانلیق!

What a pity I got old and my stick fell down,
Much to my regret that I lost my youth,
Weakness brought disgrace on me.
I'm at a loss to know what to do!

In a case (an Azerbaijani ashik music), the poet used to be prejudiced against the elderly and then became old himself, his anti-elderly prejudice turned inward, causing depression.

Table 14.
Javad's poem on OLD AGE IS DETERIORATION

Latin script	Perso-Arabic script
Vəqtim vardı qocalığa gülərdim, Başım çekməmişdi hardan bilərdim!?	وقتیم واردی قوجالیقا گولردیم باشیم چکمه‌میشدی هاردان بیلردیم!؟

I used to laugh at old age!
I had never experienced it! How on earth did I know I would grow old one day?

It can be argued that deterioration metaphors show how the poets create and comprehend their embodied experience. Deterioration as a bodily experience corresponds with the poet's mental image schemata while creating

the metaphors presented in this part. It is worth mentioning that old age as a bodily experience in English evokes these metaphors: OLD AGE IS DECLINE, OLD AGE IS A DISEASE, OLD AGE IS PHYSICAL/MENTAL HARM (Holyk, 2021: 79). It can be said that physical and mental deterioration of old age is shared between cultures.

4.3. OLD AGE IS NIGHT

In our data, there are some verses that vindicate the idea of night as source domain which is realted to death. Death as Kövecses declares can be viewed as departure, night, darkness, and cold (Kövecses, 2010: 26). In (15), for instance, death is metaphorically defined as *Ajal*, who is knocking at the door. It seems that OLD AGE IS NIGHT, as Kövecses declares, is more likely to be a metaphor here.

Table 15.

Shahriar's poem on OLD AGE IS NIGHT

Latin script	Perso-Arabic script
Bu qaranlıq gecələrdə qapımız pis döyülür, Nə bilim, bəlkə əcəldir, dayanıb can apara.	بو قارانلیق گئجه‌لرده قاپیمیز پیس دؤیولور نه بیلیم، بلکه اجل‌دیر، دایانیب، جان آپارا!

Our door is being hammered on in these dark nights,
Mabey, Death is at the door! Waiting for stealing our flesh!

In another poem, regarding OLD AGE IS NIGHT, Shahriar is miserable when *Ajal* enters his house and the sun sets and it gets dark:

Table 16.

Shahriar's second poem on OLD AGE IS NIGHT

Latin script	Perso-Arabic script
Adıbatmış əcəl gələndə bizə, Mən ayım çıxdı, gün də batmışdı.	آدی باتمیش اجل گلنده بیزه من آییم چیخدی، گونده باتمیش‌دی!

When the cursed Death came to our house,
I was miserable! The sun set!

This poem of Shahriar was written when he was old and alone. His wife died young and his daughter married. Ajal is the 'time of death' in Islamic teachings. The poet is not satisfied with Ajal and calls him as 'cursed'. When Ajal arrives, Azrael meets the person to take his/her soul according to Islam.

4.4. OLD AGE IS DEAD/WOUNDED SOLDIER/WAR

Table 17.

Shahriar's poem on OLD AGE IS WOUNDED SOLDIER

Latin script	Perso-Arabic script
Anama söyləyin: Oğlun yıxılıb səngərdə, Tellərin bas yarama, qoyma, məni qan apara.	آناما سؤیله‌یین اوغلون ییخیلیب سنگرده، تئللرین باس یاراما قویما منی قان آپارا!

I have fallen in the trench; Let my mother know!
Put your hair on my wound to ward off bleeding!

The use of a wounded/dead soldier as a source domain is not pervasive when conceptualizing old age in the studied poems. The context of the soldier is associated with war, attack, bleeding, etc. These features of the soldier are consistent with old age in Shahriar's poetry. In the same vein, the same source domain for conceptualizing old age is used when Shahriar visited his homeland after 35 years at the end of his life with regret:

Table 18.

Shahriar's poem on OLD AGE IS DEAD SOLDIER

Latin script	Perso-Arabic script
Qələlər darbadağın, sərbaz ölüb, səngəri boş, Dirilərdən də dəxi yağ əriyibdir, dəri boş. Şəhriyar kəndə gəlib, kənd uşağının yeri boş, Biz görənlər hamı getmiş, hamı itmiş-batmış, Hamısı işləyib, axırda yorulmuş, yatmış.	قلعه‌لر دارباداغین، سرباز اؤلوب، سنگری بوش! دیری‌لردن‌ده، داخی یاغ اری‌ییب‌دیر، دری بوش! شهریار کنده گلیب، کند اوشاغینین یئری بوش! بیز گؤرنلر هامی گئتمیش، هامی ایتمیش، باتمیش، هامیسی ایشله‌ییب، آخیردا یورولموش، یاتمیش!

Forts are ruined, the soldier is killed, his trench is empty!
Survivors have less flesh on the body; they are skinny!

Shahriar is back home. Village children! You are all missed out!
Villagers who saw us all have gone, lost, missed!
All have been overworked! Exhausted, Slept!

In this stanza, in addition to OLD AGE IS WOUNDED SOLDIER, other metaphors such as OLD AGE IS DESTROYED CASTLE as well as OLD AGE IS SKINNY PERSON are seen. These metaphors all associate with OLD AGE IS DETERIORATION. By employing these metaphors, the poet allows us to think about his complex and abstract feelings regarding old age in terms of comparatively simple and concrete concepts. An intriguing point is that the first two lines of the poem are not conceptual metaphors since they depict a war scene. In the next lines, by naming village children the poet feels nostalgic about his childhood friends. With this image shift the poet employs the above-mentioned conceptual metaphors. It can be argued that metaphors help the poet think and write about abstract and complex phenomena by simplifying them, highlighting certain aspects and deemphasizing others since they are notable for the emotional valence that they can convey (see Flusberga, Matlockb & Thibodeauc, 2018).

Another point regarding the mentioned metaphors is the key concept of war and its cultural significance. The wounded soldier, destroyed castle and skinny person metaphors in shahriar's poetry evoke OLD AGE IS WAR metaphor in Azerbaijani Turkish. The same metaphor exists in English. AGING IS WAR/BATTLE in English, as far as Holyk is concerned:

It might be the result of the conceptual network of BATTLE, which is commonly projected against the LIFE domain and characterizes the concept of HUMAN LIFE in general, and OLD AGE as its particular stage, especially in terms of mental conflict.

(Holyk, 2021: 14):

It seems reasonable to conjecture that war metaphors which are shared between Azerbaijani and English reveal metaphor variation. In English, terms as 'wartime' in '*I was his wartime fling, or folly…*' or 'frontier' in *'The last man in my life as a sexual being, who accompanied me over the frontier between*

late middle-age and being old, was Sam' (ibid., 14-15) and in Azerbaijani Turkish, terms like 'soldier' or 'trench' in '*Forts are ruined, the soldier is killed, his trench is empty!*' show that even though both languages and cultures share the same metaphor, different metaphorical patterns are revealed in the cultures.

4.5. OLD AGE IS WITHERING

Khasta Qasim, a mystic, ashik and philosopher in the Afsharid dynasty (17th century), conceptualizes old age as withering:

Table 19.

Khasta Qasim's poem on OLD AGE IS WITHERING

Latin script	Perso-Arabic script
Gəl bir səndən xəbər alım,	گل بیر سن‌دن خبر آلیم
Süleymandan qalan dünya.	سلیمان‌دان قالان دونیا
Əzəli gül kimi açıb,	ازلی گول کیمی آچیب
Axırında solan dünya.	آخیرین‌دان سولان دونیا
De görüm nəyə talıbsan,	دئ گؤروم نه‌یه طالیب‌سان؟
Dərsini kimdən alıbsan?	درسینی کیم‌دن آلیب‌سان؟
Neçə min yol boşalıbsan.	نئچه مین یول بوشالیب‌سان؟
Neçə min yol dolan dünya.	نئچه مین یول دولان دونیا
Xəstə Qasım qalıb naçar,	بو دنیا فانی‌دیر فانی!
Bu sirri bəs kimlər açar?	بو دنیادا قالان هانی؟
Gələn qonar, qonan köçər,	داود اوغلو سلیمانی،
Hey salarsan talan dünya.	تخت اوستون‌دن سالان دنیا!
	خسته قاسیم قالیب ناچار
	بو سرّی بس کیم‌لر آچار؟
	گله‌ن قونار، قونان کؤچه‌ر
	هئی سالیرسان تالان دونیا

Thou, a Solomon's kingship relic

I wanna 'answer of this question' pick:

Why blossom so fast and wither sick?
World bestowed us His crown!

Let me know what thou want?
Who taught the world 'the man hunt'?
Thousands of times filled! But can't!
Emptied again its children's bone!

This world is mortal; Mortal
Nobody has remained in the portal.
Solomon, son of David? Not immortal!
By this world lost His throne!

Khasta Qasim gives up the Fate.
Who lets me in on the secret? Wait!
We'll all pass the Gate soon or late.
May this world be a plundered zone!

Despite the fact that life and death are not mentioned in this poem, LIFE/DEATH IS JOURNEY metaphor guides us in making sense of Khasta Qasim's poem. The interpretations of *life and death are journeys* and *old age is deterioration* are reinforced by supporting metaphors employed by the poet, many of which conventional in everyday conceptual system. The line "*Who taught the world the man hunt?*" evokes the LIFE IS HUNTER metaphor; the words/phrases "withering, eliminating, losing throne and passing through the Gate" evoke the conventional metaphor LIFE IS DETERIORATION; OLD AGE IS WITHERING; DEATH IS PASSING. According to the poet, this mortal world is like a flower. It first begins to blossom and then withers. It is the mother who gives birth to her children and then eliminates them. It also caused Solomon King to lose his throne since here is the Gate to pass through. Old age is withering, eliminating, losing throne and passing through the Gate. They are all deterioration according to Khasta Qasim. In some intriguing cases, the poet's

poetic intelligence does not deteriorate with age despite the examples of old age as deterioration or withering metaphors:

Table 20.

Alasgar's poem on OLD AGE IS WITHERING/ DETERIORATION

Latin script	Perso-Arabic script
Məni qoca gördü ürbəndin açdı,	منی قوجا گؤردو روبندین آچدی
Ala gözlərinə gözüm sataşdı,	آلا گؤزلرینه گؤزوم ساتاشدی
Huş başımdan getdi xəyalım çaşdı,	هوش باشیمدان گئتدی خیالیم چاشدی
Murğ-i ruhum asimanlar dolanır.	مرغ–روحوم آسمانلار دولانیر

She found me decrepit and lifted up her veil,
Her beautiful eyes caught mine.
I went bananas; She just freaked me out,
My Spirit Bird flies high into the sky!

Rubənd or *yaşmaq* is an Azerbaijani type of veil or hijab worn by Azerbaijani Muslim women to cover their faces in public or in front of a non-mahram, especially in the time of the poet, that represents Islamic female dress. In the Azerbaijani cultural context of Alasgar, females needed to observe the hijab in front of a non-mahram. Lifting *yaşmaq* by a young female in front of an elderly (who was non-mahram) was uncommon since he might seem enthusiastic about her beauty which was Haram (something which is sacred or prohibited) based on the religious teachings of the poet. However, by lifting the veil, her lovely eyes caught the poet's eyes despite being old and the poet went bananas and his Spirit Bird flew high into her sky. What we see in the poem is the physical appearance of the poet. He looks old and the young lady lifts up her veil. Despite his physical deterioration, the poet's mental ability is high and he pursues his romantic passion. That is, for *Alasgar*, love does not seem to experience physiological barriers. In the same vein, when *Shahriar* faces betrayal his hair turns grey and becomes old:

Table 21.

Shahriar's poem on OLD AGE IS WITHERING

Latin script	Perso-Arabic script
Gəlməz, tanıram bəxtimi, indi ağarar sübh, Qaş böylə ağardıqca, daha baş da ağarı.	گلمز! تانیرام بختیمی، ایندی آغارار صبح! قاش بؤیله آغاردیقجا داها باش‌دا آغاری!

She won't come at the break of dawn. I know my luck!
As dawn is breaking, my hair turns gray!

4.6. OLD AGE IS INVADER

In one case, the poet was overwhelmed by feelings of depression and conceptualized old age as an invader. The depressed mood of the poet was the result of living alone after his wife's death (*Your wife? She has died for ten years!*) and having a lack of emotional support.

Table 22.

Shahriar's poem on OLD AGE IS INVADER

Latin script	Perso-Arabic script
İçərim sanki öz səsimlə deyir: -Sən ölübkən, qəbirdə xortdamısan! Nə xanım? Arvadın on ildi ölüb! Arvadın öldü, qızların köçdü, Qocalıq gəldi, qələni aldı. Səni kor quş kimi basıb qəfəsə!	ایچه‌ریم سانکی اوز سسیمله دئییر: سن أولوبکن، قبیرده خوتدامیسان نه خانیم؟ آروادین اون ایلدی اؤلوب! آروادین اؤلدو، قیزلارین کؤچدو، قوجالیق گلدی، قلعه‌نی آلدی! سنی کور قوش کیمی، باسیب قفسه!

My inside is murmuring to myself:
You have died! You are in the grave!
Your wife? She has died for ten years!
Your spouse died, your daughters wed and left you alone!
Old age arrived, took the fort,
It pushed you in the cage like a blind bird!

This metaphor is grounded on the cruel identity of the invader, whose

incredibly enormous power is supposed to attack the weaker people. The poet cannot repel the invader. Old age can also be seen as a wild animal, whose incredibly enormous power is supposed to imprison the poet. Accordingly, meaning in this stanza is conveyed through mental deterioration and invasion metaphors simultaneously to the readers of the poem.

4.7. OLD AGE IS BLAND

Table 23.

Shahriar's poem on OLD AGE IS BLAND

Latin script	Perso-Arabic script
Qırx ildi dustağam, qala bilməz o yağlı səs, Yağsızsa da, qəbul elə məndən yavan səsi.	قیرخ ایلدی دوستاغام، قالا بیلمز او یاغلی سس یاغسیزساداً، قبول ائیله مندن یاوان سسی

I am imprisoned for forty years; My melodious voice could not survive.
If you find my voice a little bland, accept it!

Poem (23) was written when Shariar was seventy. At first glance, the metaphor mentioned cannot be immediately understood from the poem. However, it should be noted that Shahriar uses *yağlı* (which means 'greasy, rich, well-to-do, effective, a great deal': see Behzadi, 1999: 1098) to represent youth. For instance, he visited his homeland after 35 years at the end of his life, filled with regret. He remembered his childhood friends-some of whom had died, while those he saw were old and very skinny. To conceptualize old age, he uses 'people who are not *yağlı*' and writes 'Dirilərdən də daxi yağ əriyibdir, dəri boş' (which literally translates to 'but the oil of the survivors (who escaped from death)'s body has been melted and their skin is empty'; *Survivors have less flesh on their bodies; they are skinny!*).

In the same vein, in this poem, he uses *yavan,* which is the opposite of *yağlı*, to describe old age. In Turkish, *yavan* means bread without any yogurt (Behzadi, 1999). Poor people eat *yavan çörək* (just bread), whereas the rich have *yağlı çörək* (literally 'greasy bread', pragmatically means delicious and/or enormous meal). In one of his poems, Shahriar, refers to the financial problems of his people and addresses the baker:

Table 24.

Shahriar's poem on financial problems of his people

Latin script	Perso-Arabic script
Kasıbın qisməti yox yağlı pilov döşləməyə, Bu yavan səngəyi bir qoy sahalıb sellənsin.	کاسیبین قیسمتی یوخ یاغلی پیلوو دؤشلەمەیە بو یاوان سنگکی بیرقوی ساحالیب سئللنسین

The poor are not that lucky to have the greasy pilaf!
Bake this bland sangak well in large amounts then!

Pilaf is a rice dish that symbolizes, at least when paired with a greasy, large meal in Azerbaijan which was very common during Charshanba (Çərşənbə) festival. In contrast to Pilaf, sangak (a type of bread) when collocates with *yavan* (bland) symbolizes a small meal that represents the staple food of the poor. In this poem (24), the voice of the poet is seen as *yavan* (bland) which shows OLD AGE IS YAVAN BREAD. A 'bland voice' can be interpreted in relation to the LIFE IS ANORMOUS MEAL metaphor, which in this specific context gives rise to the specific instantiation OLD AGE IS SMALL MEAL. It can be argued that this source-to-target domain mapping in conceptual metaphor is based on socio-economic factors.

4.8. OLD AGE IS THING OF LITTLE VALUE

Sometimes, old age is conceptualized in terms of a low-quality shop where bargain hunters buy used goods at cheap prices-a metaphor that is not religion-oriented. This metaphor is seen in the following poem:

Table 25.

Shahriar's poem on OLD AGE IS THING OF LITTLE VALUE

Latin script	Perso-Arabic script
Qoca əcəl malıdır Köhnəni simsar alı.	قوجا اجل مالی‌دیر کهنەنی سیمسار آلی

An elderly is the client of death,
Second-hand goods are bought by junk shops.

In this poem, old age is represented as something of little value. It's buyer is death. Old age is compared to used goods sold at cheap prices. Junkers buy and sell it. In other words, OLD AGE IS THING OF LITTLE VALUE.

4.9. DEATH IS A JUNKER.

Despite being culturally specific, death is also a religious term in Western civilization (Uberman, 2016: 172). The linguistic manifestation of OLD AGE IS DEATH in English employs euphemistic expressions, such as *this sooner-rather-than-later inevitable event*, *the end*, *sign off* or even *to be gone* (Holyk, 2021: 16). Similarly, *Ajal* is a euphemistic term employed by poets in Azerbaijani culture to conceptualize old age.

The conclusion to be drawn is that old age metaphors using death as the source domain are culture-specific. Moreover, death is a religious concept in both Azerbaijani and English cultures.

5. Discussion

The evidence from this study suggests that poets in Azerbaijani Turkish tend to write about old age metaphorically, using a variety of source domains to elucidate the target domain. Examples of these source domains include *loser champion, autumn, winter, bland, deterioration, invader, soldier, destroyed castle, skinny person, and withering* all of which are grounded on human experiences. Some of these metaphors are culture-specific, while others are universal.

There is a tradition-specific metaphor based on specific source domains, such as OLD AGE IS LOSER CHAMPION. In contrast, some metaphors arise from socio-economic factors, as seen in OLD AGE IS BLAND, while others arise from religious teachings, such as OLD AGE IS HUMAN who sounds the death knell. But why is OLD AGE IS LOSER CHAMPION culture-specific? The answer lies in two factors. First, it is related to a Turkish proverb. Second, it relates to a traditional and cultural activity.

There are some proverbs about wrestling in Turkish. A proverb is considered to be a conventional saying, transmitted orally, and reflective of

cultural values (Dinh Te. 1962). While some dictionaries fail to distinguish between proverbs and other prefabricated expressions (Akbarian 2013), proverbs are deeply 'part of the language and culture'. They are described as 'traditional' (smith 1985) and 'folklore items' (Gramley and Pätzold 1992: 77), requiring considerable cultural sensitivity to grasp their full meaning (Yankah 2001: 201-202). In Azerbaijani culture, proverbs are called *Atalar sözü* (which means 'the sayings of the ancestors'). One such proverbs regarding wrestling is 'iki güləşənin biri yıxılar' (literally, 'one of the two wrestlers loses').

From a traditional perspective, *güləş* (wrestling) refers to 'folk wrestling' practiced in most Turkic regions including Azerbaijan. Beyond its connection to proverbs in Turkish, the LOSER CHAMPION metaphor also draws on wrestling and *pahlavani* martial art in Azerbaijan. In the discussed poem, the poet metaphorically wrestles (güləşdi) with time and is likened to a *yıxılan pəhləvan* (a defeated pahlavan or champion). It should be noted that *pahlavan*, an integral part of *pahlavani* martial arts or zourkhaneh rituals, refers to the traditional system of athletics in Iran, originated during the Safavid era. This tradition has since spread to the Azerbaijan Republic, Afghanistan, and Iraq (Iranica 2023). In this specific example, the metaphor is touched by cultural influences of the poet.

In the same vein, the DEATH ANNOUNCER metaphor refers to Israfil, the angel in Islamic tradition who blows the trumpet to signal the Day of Judgment or death. Moreover, some verses in the data suggest metaphors of deterioration or death as the source domain, based on the biological nature of the old age. These metaphors are universal since the human body is universal, and the metaphors derived from it are potentially universal as well (Kövecses, 2005: 285). They are not related to any specific culture, as all humans who age experience it. Thus, these metaphors are not culture-specific.

The findings of this study prove that some metaphors are shared across cultures, especially metaphors related to deterioration which are based on bodily experiences. On the other hand, other metaphors are more based on the Azerbaijani culture of the poets and highly influenced by customs, traditions, religion, and economy. The evidence provided here show that some

metaphors obtained from the study are touched by cultural influences while other metaphors are not. The findings also suggest that despite examples of old age as deterioration metaphor, in some intriguing cases the poet's poetic intelligence does not deteriorate with age. That is, despite the poet's physical deterioration, his mental ability is high and he pursues his romantic passion.

One motivation for physical rather than mental deterioration metaphors in describing old age, may be because they are imbued with human life cycle rooting. As we age, our bodies start to wear out. Treating old age as physical deterioration helps the reader to understand the poem easier since physical deterioration is concrete and through conceptual metaphors may provide a primary basis for understanding the abstract concept of old age. That is, physical deterioration rather than mental deterioration is an ideal source domain, since it is clearly delineated and people believe that they know it well.

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Research Article

Affixoids: Evidence from Persian

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Abstract

Some evidence from Persian supports the existence of constituents that show properties of affixoids or what might be referred to as semi-affixes. These constitutes can stand independently but, in combination with certain nouns, show a rather notable distribution and, in that context, behave like a derivational affix. In such contexts, there is a semantic change in the derived form when an affixoid is added to a base. Regarding the frequency of affixoids in Persian, it is observed that their usage is also very frequent in sentences and phrases as independent words. There are several affixoids attested in Persian but only a few will be discussed here as representative examples. It can be argued that affixoids hold an independent status in linguistic literature as a semi-category. In this paper, some affixoids from Persian will be discussed as they might be prefixoids or suffixoids. All examples are from spoken and written Persian.

Keywords: affixoid, Persian, semi-affix, affix, word

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1. Introduction

An affixoid bears an intermediate status between an affix and a single word. It functions as an affix or even as a stem in complex and derived words. Derived words are connsidered complex words, while in other contexts, an affixoid might be part of a phrase, or stand alone as a single lexeme. Affixoids are typically content words, since they have a clear lexical meaning. Nevertheless, they add new meanings to the meaning of the derived words to boot. In this case, they behave as derivational affixes. The distinguished features of affixoids might be interesting for linguists to explore and study the possible affixoids in different languages through comparative studies.

An affixoid is an affix-like constituent which derives new words by adding at least a new meaning to the base. However, it is an independent lexeme in some contexts. Therefore, an affixoid can be regarded an affix-lexeme unit, if we may call it that. Affixoid can be considered a frequently used word attached to different bases, and playing the role of a derivational affix which results in a derivational word. These linguistic elements are morphologically independent but over time, they may evolve into affixs through grammaticalization[1]. Different evidence for affixoids has been found in Germanic languages namely English, German, Dutch, Swedish, as well as French and Hungarian.

In this paper, some affixoids from New Persian will be examined to determine whether they are prefixoids or suffixoids. With more evidence from Persian, it is argurd that affixoids are independent categories -or more precisely, semi-categories- with their specific linguistic characteristics. It can be a matter of language morphological type as Kastovsky (2009) suggests if a language's morphology is stem based or word based. Comparable with Greek, in Persian, we can also distinguish affixoids from stems and also from affixes.

All examples in this study have been gathered from existing written or spoken corpora of Persian, supplemented by the authors' intuitions. This paper

1. Spite the mentioned similiraities the affixoids portray in different languages, it is noteworthy to mention that according to Rally (2020) affixoids can vary within the same language, depending on several factors, as for instance, the original items affixoids come from (Greek affixoids may emerge from lexemes or affixes), the word-formation process which gives birth to them, or the occurrence of a grammaticalization or a degrammaticalization process.

primarily focuses on synchronic data, except in cases where diachronic changes are relevant to the discussion.

In the next section a brief definition of affixoids will be presented, followed by evidence from Persian to support the analysis. It is worth noting that there are several affixoids attested in New Persian, but only a few will be discussed here as representative samples.

2. Review of the Literature

There have been several discussions among linguists regarding whether affixoids should be recognized as an independent category, distinct from both roots and full affixes. Schmidt (1987:98) raises the question of why it is necessary to set up a new category alongside roots and affixes. Some linguists, such as Booji (2010), consider affixoids as words with affix-like behavior, which participate in compounds with a special bound meaning, while the other constituents in compounds have non-bound meanings.

However, Kenesi (2007) and Elsen (2009) suggest that there is a need for a distinct category of morphemes for affixoids. They see affixoids as an intermediate category that sits below the level of a word, ranging from roots/stems to affixes. Kastovsky (2006) argues that the existence of affixoids is independent of language since the input to morphological processes is not homogenous.

What most linguists agree on is the diachronic importance of affixoids. From this perspective, Stevesns (2005:4) suggests that an affixoid is diachronically useful and conceptually important, since in a grammaticalization process, developing an affix out of a lexeme it shows how an intermediate step is taken and it shows the gradualness of the process.

Research on affixoids has been centered on Germanic languages like German, Dutch, and Swedish (Ascoop and Leuschner, 2006; Booij, 2005; Booij and H¨uning, 2014; Norde and Van Goethem,2014).

Ralli (2020) studies some affixoids including *mata-* in Greek. He suggests that there is a case of debounding regarding this case, as also defined by Norde (2009), whereby a bound morpheme, namely, the affixoid *mata-*,

becomes the free adverb *máta.* The debonding of the prefixoid *mata-* does not involve any change in the meaning, but only a shift in stress placement on the penultimate syllable (adverb *máta*). It is also worth noting that the examination of *mata-* demonstrates that a cyclic development in the evolution of items is possible: as shown in this section, the Ancient Greek preverb *meta* (originating from a free adverb *metá* according to Humbert 1972) was grammaticalized into the prefix *meta-*, which, in turn, became degrammaticalized into the prefixoid *mata-* the latter being further degrammaticalized into the free adverb *máta*. Example from Ralli (2020):

Mazaika,		Kalavryta		area		(Peloponnese)
áma	se	ðíro	θa	to	kámis	máta?
if	you	beat.1SG	will	it	do.2SG	again

'If I beat you, will you do it again?'

There are several studies on affixoids in different languages, including Stevens (2000, 2005), Ascoop & Leuschner (2006), Kenesei (2007), Decroos Leuschner (2008), Elsen (2009), Leuschner (2010), Van Goethem (2010,2016), Lightfoot (2011 a,b), Booij and Huning (2014), Hartmann (2016), and Ralli (2020) among others. In Persian, however, only a few studies have been conducted on affixoids, including Naghzguy-Kohan & Davari[1] (2012) and Zahab Nazoori et al (2019).

3. Method

In this research, a selection of affixoids from Persian (both written and spoken) will be analyzed. Several examples for each affixoid, drawn from spoken and written Persian, will be discussed and examined in detail. As it was mentioned earlier, diachronic explanation will be avoided in this paper.

One of the affixoids that will be considered here is *sarâ* 'place, house'

1. Regarding the considerable number of affixoids in Persian, Naghzguy-Kohan and Davari (2012) argue that the two critera namely predictability and productivity can be regarded to differentiate affixoids from lexical items and the criterium of independency to differentiate affixoids from affixes. They strongly believe that meaning predictability and productivity are among the crucial features of the grammatical units compared to lexical ones. Therefore, portraying a predictable meaning by the affixoids in certain contexts and the degree to which the speakers use the affixoids through the particular word formation process of affixoidation leading to form significant semi-derivational words demonstrate that the affixoids are moving in the road of grammaticalization from idiosyncratic lexical units toward predictable and productive grammatical units.

which appears as an independent form in some contexts and as a suffixoid in other contexts. The second affixoid is *namâ* 'appearance, facet', which occurs in both stem and affixoid forms. The third affixoid is *sar* 'head, above, higher' which functions both as a stem and a prefixoid. The fourth affixoid is *piš* 'before' which is added to a noun as a suffixoid, while it appears also as a stem form. The fifth affixoid is *miyân* 'between' which is used both as a suffixiod and as a stem. The last affixoid which will be presented is *xoš* 'good' which is basically an adjective yet found attached to some stems as an affixoid.

Although there are several other affixoids in Persian, this article focuses on the six affixoids mwntioned above, providing examples and detailed analysis. Both prefixoids and sufixoids are among the selected data from Persian. All affixiods studied in this paper are attached to a noun base and not to a verb or to any other categories.

4. Disscussion

In this section, a brief definition of the term *affixoid* will be discussed. An affixoid is basically considered an affix that also shows the status of a lexeme. There are many studies in morphology regarding lexemes and affixes (e.g. Scalise1884, Booij 2000, Stevens 2000, Katamba 1993 among many). Through a comparison of lexemes and affixes, we could find out a separate semi-category as affixoid, which is different from both affixes and lexemes, but there are some properties in common. As suggested by Ralli (2020), lexemes are abstract lexical units whose meaning cannot be understood from their internal components (Bona et al., 2018). According to Ralli, the surface realization of affixoids in languages can be roots, stems, or even words (see also Ralli 1988, Kastovsky 2009).

In contrast to lexemes, affixes have a more abstract meaning or function. All affixes are bound forms as it is clear from the term, while stems can be free and they can stand as words. In some languages, such as Greek, stems are bound forms but with a sort of inflectional affixes they become free forms. When it comes to compounding, lexemes and stems or roots can combine together to form a compound noun or adjective but affixes cannot

combine together to create longer constituents without presence of a root or lexeme.

Kenesei (2007:268) aligns with Marchand (1969:356) who differentiates suffixes, such as *-able, -dom, -less* from what he calls 'semi-suffixes', e.g.,*-like, -worthy, -monger,* saying that they are "midway between full words and suffixes. Some of them are used only as second-words of compounds, though their word character is still clearly recognizable". There has been considerable debate regarding the concept of the affixoid -weather it exists at all, or if it is a sort of "bound words" (Fabb,1998). However, the terminology is not the focus of this paper.

Stevens (2000, 2005:3) suggests five properties for affixoids by using data mainly from German which are well summarized in Ralli (2020) and are as follows:

a) Affixoids can productively participate in new formations.

b) Affixoids exist alongside a formally identical, and usually free, 'parent' morpheme.

c) The meaning of an affixoid is more generalized and abstract than that of its parent morpheme.

d) In the original morphological formation that gave birth to an affixoid, there has been a semantic shift in the relationship between the two parts of the formation.

e) An affixoid is in competition with or in complementary distribution with, an affix.

As evident from the above-mentioned properties, affixoids have their own status regardless of affixes and lexemes. It can be further discussed that an affixoid is a semi affix between an affix and a lexeme. It is neither an affix nor a lexeme, however, it shares some properties of the both affixes and lexemes such that it is basically a lexeme with a full content, but with an affix- like function. Therefore, it can be claimed that an affixoid can be originally a stem or root, which is result of grammaticalzation and emerges as a word or lexeme. This research is basically a synchronic study although taking a diachronic approach in studying affixoids and their possible evolution into afiixes or vice

versa can bear outstanding results. Accordingly, the data in this paper is gathered from both spoken and written Persian. In the rest of the paper, some samples from Persian will be discussed.

5. Findings

Old Persian[1], the ancestor of New Persian, was an inflectional language. However, its tendency toward inflectionality began to change toward an analytical language from the Middle Persian onward the New Persian.. The dominant typological tendency in New Persian is an analytical morphological language type. However, affixation is very productive in Persian.

In the following section, each affixoid will be analyzed with a few examples. Each affixoid will be presented in its role as part of a word (as an affixoid) and, where applicable, as a standalone word in phrases or sentences. The data used in this study is derived from Standard Persian, the official language of Iran, mainly spoken in Tehran. There will be no diachronic analysis in this psaper, although it matters a lot when it comes to the study of affixoids and affixes.

5.1. sarâ

Sarâ means 'house', 'guest house', 'inn', and 'a general place to stay or rest' as an independent word. It is also used to drive several words with a similar meaning when functioning as an affixoid. However, *sarâ* is a standalone lexeme which appears as a simple word in phrases such as:

(1) *sarâ=ye farsh*
house=of carpet
'The house of carpet'

(2) *sarâ=ye mobl*
house=of mobel
'The house of mobel'

1. Old Persian is one of the two directly attested Old Iranian languages (the other being Avestan) and is the ancestor of Middle Persian. It appears primarily in the inscriptions, clay tablets and seals of the Achaemenid era (c.600 BCE TO 300 BCE. Old Persian is one of the oldest Indo-European languages which are attested in original texts.

However, in several words in Persian, we find –*sarâ* which acts as a suffixoid, and it adds a new or complementary meaning of 'a place' or 'house' to the derived word as in (3) to (5):

(3) *ketâb-sarâ*
book-house
'Book house' (A place for selling and reading books)

(4) *farhang-sarâ*
culture-house
'Culture house' (A place for doing cultural activities)

(5) *kabab-sarâ*
kabab-house
'Kabab house' (A restaurant specific for baking Kabab)

When they translated into English, all the above-mentioned affixoid constructions often ecome noun phrases. Actually, -*sarâ* has a rather wide distribution as affixoid in Persian. Interestingly, as it seems to become an affixoid, and affix-like, one might suggest that it is the semantic head of the complex word if we consider it an endocentric compound word. In this regard, one might conclude that –*sarâ* is just a stem, and not an affixoid. However, -*sarâ* is not used as an independent or a single word in New Persian anymore, but as an affixoid, appearing in a combination with a noun or an adjective in a phrase, and functioning as a so-called proper phrase as in (6):

(6) *sarâ=ye* *omid*
house=of hope
'The house of hope'

Therefore, *sarâ* is not expected to be used as a single word semantically in New Persian (out of a phrase)- it might seem rather unacceptable or outdated- and it is just found in a phrase, or as an affixoid with other nouns. It might be a reason why we could suggest that *sarâ* is an affixoid. It tends to be used more and more as an affixoid with other words, while it is not a full affix because it has a single form and there are several phrases with *sarâ* as the above mentioned examples proved. Moreover, *sarâ* is not an affix since it has a strong semantic content and does not function as an affix does in

making new grammatical categories or in changing, for example, a noun to an adjective or vice versa.

To summarize, *sarâ* has two features: it is a content word which could be found as a single lexeme in different noun phrases, and it acts as a suffixiod with the same meaning which is bound to a root. As a consequence, we can find complex words, such as *ketâbsarâ*, *jâmesarâ, kabâbsarâ, farhangsarâ, pârchesarâ, golsarâ*, etc. With regards to the referred words, *sarâ* is argued to be the semantic head with its lexical content and, as a result, the foregoing words can be proposed to be endocentric compound nouns because their semantic head is -*sarâ*. However, we do not find *sarâ* as a single word, and it cannot stand on its own, and it is suggested that -*sarâ* is an affixoid in the aforesaid complex words. For example, *ketâbxâne* 'library' is a compound noun made of *ketâb* 'book', and *xâne* 'house'. However, *xâne* is not an affixoid since it has a wide distribution as an independent and single word, it is context-free and general, and it is attached to another noun as an affix and the complex word has a single stress which falls on the last syllable.

5.2. namâ

Namâ basically is a noun which means 'front' and 'outside of a building' or 'façade' when it is used in a phrase or even alone in Persian as in:

(7) *namâ=ye sâxtemân*
façade=of building
'The façade of bulding'.

However, *namâ* has a second relevant meaning which is derived from the verb *namâyândan* which means 'to show' and 'to present' or even 'to pretend'. In this usage, it could be found to act as an affixoid:

âb-namâ
water-show
'Fountain'

(8) *tamâšâgar-namâ*
viewer-pretender
'Pretending to be viewer'.

(9) *pesar-namâ*
boy-affixoid
'Pretending to be boy'

Namâ is more affixoid than *sarâ* since it is not a semantic head in the above-mentioned complex words. However, it is not an affix either, because it has a single lexical form and bears a lexical content. Moreover, the complex nouns in (8) to (10) can be considered endocentric nouns since *namâ* here is not a semantic head and the complex word is not a type of *namâ*. Pesrian is left-headed in compounds, and in cases with *namâ,* it appears in the position of a head in complex nouns, but it does not function as a head. This fact further supports that *namâ* is a prefixoid in Persian.

5.3. sar

Sar is a productive lexeme which basically means 'head' as a body part in Persian. At the same time, it is a polysemous word with additional meanings such as 'top', 'above', 'chief', 'beginning', etc. It is similar to its equivalent word in English "head" which acts very similarly in the same way. On this account, certain words and concepts are potentially selected to become affixoids.
Sar, as part of the body meaning 'head', is a single word which stands by itself in a sentence, especially when it refers to the body part as illustrated in (11) and (12):

(10) *sar=aš šekas-t*
head= 3SG break.PST-3SG
'S/He broke her/his head'.

(11) *ba sar be zamin xord*
with head to the ground fall.PST.3SG
'S/He fall on the ground with head'.

However, as affixoid, it combines with other nouns to imply those figurative meanings mentioned as 'top', 'chief', 'above', and 'high', as we can find several complex words with *sar*, such as: *sarderaxti* 'the fruits on the tree branches', *sarketâb* 'fortune', *saršâxe* trimmings of a tree', *sarâqâz* 'in the beginning', *sarlašgar* 'major general'. In all these words, *sar* is written

separately with a half-space. However, the /r/ never attaches to its root, similar to many sounds in Persian. Many Persian alphabets have two forms -one for separate writing and one for attached writing- as seen with letters like /b/, /m/, /k/, /g/, and /n/, among others.

(12) *sar-panâh*
head.shelter
'A shelter with walls and roof'

(13) *sar-parastâr*
head-.nurse
'Head nurse'

(14) *sar-šir*
top-milk
'The creamy layer on top of the milk'

Sar is very productive and general in Persian, as it is in English. It is found in many complex words, phrases, and on its own in different contexts. It is not an affix since, in certain contexts, it is used as a single word. Again, it might be claimed that *sar* is a modifier or a dependent unit, while the other element is actually the head, and the word does not carry a prefixoid but consists of two different roots. For example, *sarparastar* ('head nurse') is suggested to be an endocentric compound, which refers to a type of nurse.

Semantically speaking, such a discussion might be reasonable. However, this kind of semantic relation does not necessarily make a compound noun out of a complex word, even if we consider that *sar* is being applied here through a kind of metaphorical extension process, which encodes a figurative meaning that "head" as a body part does not. In this usage, it becomes more frequent and rather more general. In some cases, *sar* seems to function as a stem, as one cannot simply derive it from the word by analogy: *sarmâye* 'invest', *sarbâz* 'soldier', *sarâmad* 'top', *sarpuš* 'cover', *sargord* 'major', *saršenâs* 'famous'.

5.4. piš

Piš in Persian is an adverb which means 'before', 'ahead', or 'forward', in contrast to *pas in* Persian, which means 'backward'. Another meaning of *piš* is

'between two persons', with *beyn* as its synonym. The equivalent of *piš* as an adverbial affix in English is said to be "pre". It is found as an independent lexeme in phrases and sentences in Persian, where it mostly bear an adverbial function:

(15) *piš az zohr biâ*
before from noon come
'Come before noon!'

In this usage, there is an obligatory *az* 'from' between *piš* and its following noun. For the second meaning, there are sentences such as (17) and (18):

(16) *piš=e xod=emun be-mun-e.*
between=of self=1PL SUBJUNCT- remain-3SG
'Let it be between us!'

(17) *piš be samte šomâl.*
forward to drirection north.
'Let's (move) forward to the north'.

However, we can find several evidence in which *piš* functions as a prefixoid frequently attached to different nouns. It is noteworthy that, in Persian writing, it is still written, in most cases, separately but very close to the noun (via inserting a half space between the two parts, namely the prefixoid *piš* and the noun), as in the following examples:

pišxarid 'prebuy', *pišnamâyeš* 'preview', *pišxorâk* 'appeitizer', *pišband* 'apron', *pišqaza* 'starter', *pišnevis* 'draft', *pišdarâmad* 'prologue', *pišsâxte* 'prefabricated', *pišbarnâme* 'prearrange', *pišdânešgâhi* 'preuniversity', *pišniâz* 'prerequrement', *pišbahâ* 'prepaid', *pishgoftar* 'preface', *pišraft* 'progress', *pišbord* 'proceed/progress', *pišâpiš* 'in advance', *pišpardâxt* 'prepaid',

Furthermore, there are some derived words with *piš* in which the roots are verbs, including: *pišbini* 'forecast', *pišguyi* 'to predict', *piâmad* 'consequence', *pišraft* 'progress'. For example, *pišguyi* 'to predict', which is a complex word of the noun category, is composed of *piš* and *guyi*. *Gu* 'say' is the verb root of the infinitive *goftan* 'to say' and the suffix *–yi* is used to change it into a new noun.

To reject the idea of affixhood, we can refer to the word *pišniâz,* as an example among others, meaning 'pre-requirement'. In Persian, *pišniâz,* is

written separately such that there is a half space between *piš* and *niâz*. This stands as a proof that *piš* is not a prefix since a prefix cannot be isolated from a root. In other cases, with *piš*, we find again the same pattern in writing. For example, *piš* is written separately in *pišxarid* 'pre-buying', *pišsâxte* 'pre-built)', and *pišpardâxt* 'pre-payment'.

Semantically, *piš* does not always mean 'pre'. There are several exampleas in Persian including: *pišnamâz* 'which refers to a person who stands ahead of others in a mosque to conduct praying' and *pišgu* 'a person who predicts and can be regarded as a fortune teller'. The verb form will be the *compound verb pišgu?i kardan* 'to predict'. However, *pišgoftar* refers to a preface. Moreover, all cases of *piš* have some degrees of polysemy. Interestingly, words with affixoids in Persian might have a prefixed or even simple word equivalent in English (for example, fortell,forcast,forsee and predict). As in Persian, it could be argued that *for-* in those English verbs are prefixoid rather than a prefix.

5.5 miyân

Miyân means 'between/among' in Persian, and it is found both in phrases as a single word and with roots as a prefixoid. It is basically an adverb which implies time and distance. In the following examples, *miyân* is part of a phrase:

(18) *miyân=**e*** *man=o* *to*
between=of me and you.
'Between me and you'

(19) *miyân=**e*** *ruz =o* *šab*
between=of day and night.
'Between day and night'.

(20) *miyân=**e*** *Rom* *va* *Pâris*
between=of Rome and Paris
'Between Rome and Paris'

Miyân has a synonym, *beyn,* with the same meaning, but *beyn* is more frequent in spoken Persian, whereas *miyân* is more frequently found in written

Persian. However, compared to *beyn*, *miyân* is seen more in the form of an affixoid. The following words illustrate the affixoid usage of *miyân*, though they are written with a half space from the root in persian writing:

(21) *miyân- barname*
between -program
'break/fill up'

(22) *miân-rešte*
between-dicipline
'interdisciplinary'

(23) *miyân-namâyeš*
between.play
'mid-show'

In the above mentioned words, *miyân* acts as a prefixoid. However, *miyân* is written separately with a half space from the root in Persian writing, which shows its semi-independence. In other words, if it were a prefix, it would be fully attached to the root and it could not stand on its own. When an affix-like morph is found in phrases as an independent word and, at the same time appears next to different roots, it can be suggested that it is an affixoid. Meanwhile, there is no sentence in which *miyân* could possibly appear as a single word out of phrase. This would be evidence which shows that an affixoid is not a full-fledged word like a noun, or verb, or an adverb.

5.6 xoš

xoš is an adjective which means 'good/fun/happy' and it can stand by itself in a sentence or phrase. It's opposite with the same fuction is *bad* which has the same meaning as 'bad' in English. *xoš* is an independent adjective in the following examples including both sentences and phrases:

(24) *xoš bâš!*
fun be
'Have fun!'

(25) *xoš be-gozar-e.*
fun SUBJ-pass-3SG

'Have fun!'

(26) *ruz=â=ye xoš*
day=PL=of happy
'Happy days'

However, *xoš* can functionn as a prefixoid and it can be attached to the beginning of a stem which is a noun and it adds its meaning as an adjective to the derived word:

(27) *xoš -lebâs*
good-cloth
'Good –wearing (A person who wears well)'

(28) *xoš -sohbat*
good-talking
'Good talking (A person who talks well and attractive)'

(29) *xoš -bin*
good-see
'optimistic'

(30) *xoš -raftâr*
good-behaviuor
'Good behaveing (A person who behaves well)'

As it can be seen from the examples above, the derived words refer to a person who has that adjective in some way. However, there may be cases that do not represent the same situation. Nevertheless, the above-mentioned examples demonstraite the status of *xoš* as an affixoid in Persian, while its independent form can still be observed in some sentences and phrases.

6. Conclusion

There are many affixoids found in Persian, but a few were presented and analyzed here. It is predictable that in a long period of time some affixoids will become affixes, while others may disappear from the language. The rest may remain, functioning both as independent words (e.g., nouns or adverbs) and as affixoids at the same time. In the case of *xoš*, it is observed that an adjective act as an affixoid. Therefore, an affixoid can function as a noun, an

adverb, or an adjective.

In supporting this argument, Ralli (2020:233) believes that first of all, affixoids display properties that are not shared by either stems or affixes. Second, the properties of affixoids as a whole cannot be attributed exclusively to one category (stems or affixes) on synchronic grounds. Third, it is impossible to predict when a stem or an affix will turn into an affixoid, or whether and when an affixoid will become an affix or a stem/lexeme. Fourth, languages may have categories that are not clearly discrete. Ralli refers to Turkish, where there is no distinction between nouns and adjectives. He concludes that intermediate categories can be a reality, even in syntactic terms. However, for him, the existence of affixoids is language-dependent (Ralli, 2020:233).

All affixoids discussed in this paper have both an independent status as a lexeme, which might have low distribution, and an affix-like form as an affixoid. The main distinction between an affix and an affixoid in Persian examples is that an affixoid simoultanously has a free form that is used as a single word in a phrase or a sentence. Affixoids that function as independent lexemes can be found in noun phrases in which they are the head of the phrase as in *sarāy=e omid* '. It is very interesting that a lexeme, which could be the head of a phrase in other contexts, is found to be dependent and functions as affixoids. Persian affixiods show the same pattern when it comes to phrases. They can easily be found in phrases (usually noun phrases). As it was evident from the samples like *sarâ, namâ, sar, piš*, and *miyân,* all of these might have a head noun function in a phrase. However, *sarâ, namâ,* and *sar* are nouns, while *piš* and *miyân* are adverbs. In the case of *xoš* or other ajectives, there is no phrase in Persian in which *xoš* is the head, but there are several cases in which *xoš* functions as an adjective. When we have noun or adverb phrases in Persian, there is a an Ezafe marker in the form of an enclitic between the head and its dependent. Sometimes, a /y/ is added to act as a hiatus to preserve the CVCC pattern in Persian:

(32) *sarâ=ye* *omid*
house=of hope
'The house of hope'

(33) *namâ=ye xâne*
facade=of house

(34) *sar=e xiyâbân*
head=of street
'The end of the street (or block)'

On the other hand, if a phrase begins with an adverb, it could be followed by *az* 'from/of' which functions the same as /y/ in Persian:

(35) *piš az zohr*
before of noon
'before noon'

(36) *piš az šab*
before of night
'before night'

(37) *piš=e =mân*
close (or between)=of=1PL
'close to (or between) us'

(38) *piš e Maryam*
with of Maryam
'With Maryam'

As in the following sentence, *miyân* is not followed by *az* 'from/of' though it is an adverb or even a noun as nouns in Persian are followed by of(az) in a noun phrase:

(39) **miyân az ruz*
middle of day
'Middle of the day'

(40) *miyân=e ruz*
middle=of day
Middle of the day'

It might be possible that *miyân* is followed by *az* 'from/of' in Dari language which is spoken in Afghanistan as well as in the Classical Persian but there is no such a structure in New Persian. Interstingly, *sarâ* is just found within a phrase in a sentence and does not have any independent usage in New

Persian anymore:

(41) *dirooz raf-t-am sarâ=ye farsh.*
yesterday go-PST-1SG house=of carpet
'Yesterday, I went to the house of carpet'

(42) *namâ=š xarâb=e!*
facade=3SG mess=is
'Its facet is a mess!'

(43) *az sar=e kuče tâ injâ dav-id-am!*
from beginning=of alley to here run-PST-1SG
'From the beginning of the alley I ran to here!'

(44) *kâr-ha xub piš mi-r-e?*
work-PL well forward PROG-go-3SG?
'Does every thing work well?'

(45) *bâ man dar miyân gozâš-t!*
with me in between put-PST
'He/she let me know about it!'

Regarding the frequency of affixoids in Persian, their usage is observed to be very frequent in sentences and phrases as independent words. However, not all of them stand as a single word out of a phrase or a sentence. This indicates that some of the affixoids in Persian are structure dependent, and they need a stem to be attached to as affixoids. This structure can be a sentence, a phrase, or a root when it comes to being an affixoid.

In other words, it can be argued that when a word is more structure-dependent, it has the potential to develop into an affixoid in the language over time. One more point is the diachronic aspect of affixoids as Ralli (2020) claims that admittedly, the process of becoming an affixoid is a diachronic one, interacting with a morphological system allowing stems and affixes as input to word-formation processes, that is, to compounding and derivation.

To summarize the findings of this paper it can be suggested that:

-As an affixoid, the investigated morphs attach to a root and behave as a derivational morphemes in Persian.

-The affixoide-derived word is, in some cases, similar to a compound

word, and an endocentric one.

-All affixoide-derived words in Persian have just one stress which falls on the last syllable.

-There can be found both suffixoid and prefixoid forms in Persian.

-An affixoid adds a specific meaning to the root to which it is attached, therefore, it may be regarded as a derivational affix. However, there is no evidence to show that the affixoids mostly can change the word's part of speech as the derivational affixes do. On this basis, it might be concluded that they are typically inflectional. But there are counter evidence as xos by which a nonu changes to an adjective.

All affixoids in a historical change and through grammaticalization, may finally evolve into an affix. This progress can be visualize as a cline, where an affixoid occupies an intermediate position:

Independent word affixoid affix

This cline also represents the semi-status of an affixoid, as it stands between a word and an affix. In other words, on one side, there is a free form, and on the other side, there is a bound form. An affixoid is bound in its own structure when functioning as an affixoid. When it is used as a free word, it is no longer categorized as an affixoid.

An affixoid is a distinct category, or a semi-category with a semantic content and adds certain meaning to the base to which it attaches.The derived form typically has a meaning that is compositional but distinct from the base . In some cases, the affixoid seems to be the core meaning of the derived form, and it might be claimed to be the head noun of the complex word.

While an affixoid shares similarities with an affix, it remains distinct and cannot be regarded as the same category. An affixoid has the potential to change gradually into an affix or it may remain in the language solely as an affixoid.

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Research Article

The effect of processing-based and output-based instruction on the acquisition of present simple tense of EFL learners

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Abstract

This study investigated the effects of processing-based instruction (PI) and output-based instruction (OI) on learners' development in comprehension and production of the English present simple tense. The findings contribute to the ongoing debate on the effects of PI versus OI. Among 70 EFL learners at a private language center in Iran, 40 pre-intermediate learners were assigned to the PI group, and 20 learners were assigned to the OI group (n=20). The PI group received structured processing input activities, while the OI group engaged in structured output activities. Descriptive and analytical statistics revealed that participants in the PI group significantly outperformed the participants in the OI group in receptive knowledge of the target structure. However, both instructional methods affected the participants' productive understanding of the present simple tense, and the difference between the efficacy of these two types of instruction on participants' productive knowledge was not significant.

Keywords*:* processing instruction; output-based instruction; productive knowledge; receptive knowledge; present simple tense

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1. Introduction

In Second Language Acquisition (SLA), input has received considerable attention as it plays a fundamental role in second language (L2) learning. Consequently, SLA research has recently demonstrated a need for classroom activities that encourage both receptive and productive knowledge of language, with a focus on form in L2 classrooms (Ellis, 2016; Long, 2015). One way to promote such opportunities is through instructional tasks that encourage the processing received input while simultaneously providing opportunities to focus on form during production activities. Farahian and Avarzamani (2018) stated that researchers have been searching for a version of Focus on Form (FonF) that is more beneficial and practical than others. The answer to their quest is processing instruction as an input-based instruction which, in this study is compared with an output-based approach.

Processing Instruction (PI) is a type of focus-on-form input enhancement proposed and updated by VanPatten (2004). Rasuki (2017) defines PI as a unique form of input-based grammar instruction that helps learners acquire grammar through brief provision of input and guides them to mentally process and use the structure. Rassaei (2012) descibes the concept as a context where learners demonstrate that they have learned the target structure by providing either a verbal or non-verbal reply. What all these definitions have in common is that PI aims to raise or incidentally draw learner's attention to a linguistic feature while their attention is engaged in another task.

To accomplish this goal, PI must provide learners with explicit information regarding the target form that they are learning and the processing strategy that may influence how they process that target form during comprehension. Additionally, PI includes comprehension practice (structured input activities) designed to require learners to process the target form in the input and to make form-meaning connections. PI offers a more powerful practice (through organized input practice) to equip learners with the tools to convert input to intake.

In contrast to input-based instruction, output has also been assigned a

major role in SLA. As noted by Rassaei (2012), proponents of output do not refute the role of input. Instead, they reject the notion that an input-alone hypothesis is sufficient. This viewpoint suggests that both input and output are essential for the development of comprehension and production skills (DeKeyser & Botana, 2014). The output hypothesis, as proposed by Swain and Lapkin (1995), suggests that even though input is crucial to SLA, output may also result in mental processes that directly and indirectly affect acquisition. In accordance with the argument that both input- and output-based instruction are beneficial for SLA, various studies have sought to compare the two using various research designs (Farley & Aslan, 2012).

To summarize, the debate between the dichotomy of the comparative contribution of input-based and output-based instruction remains ongoing. This study focuses specifically on research comparing the effects of PI to OI and to widen horizons regarding the roles attributed to PI and OI.

2. Review of literature

There are different interpretations of focus on form but Farahian and Avarzamani (2018) argue that "among various forms of the FonF instruction, PI, as an input-based instruction, has been compared with output-based approaches such as traditional grammar instruction (TI)" (p. 90). Patra et al. (2022) believe that PI in grammar is, in fact, an input-based approach, and output-based instruction is another factor for ELT learners.

Benati and Lee (2015) point out that the rationale behind processing instruction is that learners require input for acquisition, a major problem in acquisition might be the way in which input is processed by learners, and that we might be capable of making effective input enhancement or focus on form to assist acquisition of formal features of language if we can understand how learners process input. VanPatten (2015) has claimed a positive role for grammar instruction in the acquisition process since, as he maintains, instruction can make certain grammatical forms more salient in the input. He identifies the essential role of input in L2 acquisition and takes the viewpoint that grammar instruction provided through the input phase of the acquisition

process can be advantageous. Haghani and Rashtchi (2023) conducted research to examine the PI component responsible for its positive effects and whether EFL learners with different learning styles benefit similarly from PI components.

Tran (2023) analyzed the effects of processing instruction in the online learning of the past perfect tense among Vietnamese learners. The study revealed that learners exposed to PI acquired significantly better results than the traditional group in comprehension tasks, while both groups performed similarly in production tasks. What is noticeable is that most of the research in this area focuses on either processing instruction or output-based instruction, but this article applies both through a comparative approach. Further research is required to elucidate the effectiveness of output-based instruction compared to PI. Furthermore, such additional research might address the theoretical issue of output within the broader scope of SLA.

The major inspiration for the present investigation is to examine whether output-based instruction and practice could, alongside input, result in syntactic improvement and to compare this linguistic advancement, if any, to that of PI for the English present simple tense. Such a study considers the role of input in SLA in a meaningful setting and under the PI system. To this end, the following research questions were formulated to address the issues at hand:

1. Is there any significant difference between processing instruction and output-based instruction in promoting pre-intermediate EFL learners' receptive knowledge of the English present simple tense as measured on an interpretation task?
2. Is there any significant difference between processing instruction and output-based instruction in promoting pre-intermediate EFL learners' productive knowledge of the English present simple tense as measured on a production task?

3. Method

3.1. Participants

The participants were 40 pre-intermediate EFL learners randomly

selected from among 70 EFL learners at a private language center in Iran. They were all male, ranging from 13 to 19 years. They were considered pre-intermediate level learners according to the language institute's standards and the placement tests that they had taken. To ensure the participants' homogeneity, the Oxford Placement Test (OPT) was administered and scores within one standard deviation above and below the mean were selected. The mean score and standard deviation of the participants were 36.21 and 6.87 respectively.

3.2 Target structure

The English present simple tense was selected as the target structure of this study. This choice was based on the justification that Iranian students usually have problems distinguishing present tenses and when they translate, there is often overlap in translation. In other words, sometimes they translate two different present tenses with the same Farsi translation or sometimes the same Farsi sentence can be translated into quite different tenses, namely present and past. The sentence *(man raftam)* can be translated either as *I went* or *I have gone*. Therefore, it was felt that tenses are the bottleneck of language learning and as a result working on the simple tenses can be a starting point for similar research. For instance, in the sentence *Jack gets up at 8 o'clock every day* both the lexical item *every day* and the *-s* verb ending indicate present tense. According to the Lexical Preference Principle, learners will naturally fall back on the lexical item over the verb inflection to obtain semantic information.

3.3. Instrumentation

Multiple-choice recognition test

A multiple-choice recognition test was designed to measure the participants' prior knowledge of and familiarity with the target structure of the study, i.e., the English present simple tense. The mean score and standard deviation of the participants were 2.32 and 1.90, respectively. For homogeneity purposes, participants who obtained scores above the expected chance score were discarded from the study. Following Younesi and Tajeddin (2014), the

chance score was calculated using N/A formula (i.e., the total number of items divided by the number of the Alternatives). Given that the researchers designed a 20-item recognition test (10 target items and 10 distractor items) with each item having four alternatives, the expected chance score was five for the multiple-choice recognition test. Consequently, four students who obtained scores above the expected chance score were excluded from the study.

3.4. Pretest

In this study, two different pretests were administered: (a) an interpretation test to measure the participants' receptive knowledge of the target structure and (b) a production test to measure the participants' productive knowledge of the target structure before the experiment.

3.4.1. *Interpretation test*

An interpretation test was designed to measure the participants' receptive knowledge of the target structure. The interpretation test was an aural test consisting of past and present tense sentences appropriate to the proficiency level of the participants. Given that the target structure of this study was the English present simple tense, the test included 20 sentences, 10 of which were in the English past simple tense, serving as distractors, and 10 were in the English present simple tense, which was the target structure of the study. Based on the guidelines for the construction of structured input activities provided by VanPatten and Sanz (1995), the following considerations were taken into account to minimize the effects of extraneous factors (e.g., time adverbials, repetitions) on students' performance: (a) the sentences did not start with the verb, and (b) adverbial indications of temporal reference, such as *tomorrow* and *every day,* were removed so that the learners could not rely on those elements to assign past or present action. The researchers read the sentences at a normal speed, and the participants were asked to check if the sentences expressed past or present action.

3.4.2 *Production test*

A production test was designed to measure the participants'

productive knowledge of the target structure prior to the experiment. This test was a written picture description task consisted of 10 pictures each depicting an action. The participants were asked to complete a sentence describing what is happening in each picture by producing present simple sentences with the verbs provided in brackets in the infinitive. In both the interpretation and production tests, the raw scores were calculated as follows: incorrect response = 0 point, correct response = 1 point. To validate the data and check the inter-rater reliability of the two pretests, we asked a colleague, who holds an MA in TEFL, to review the data. The inter-rater reliability index, calculated through Pearson Correlation was 0.94 and 0.79 for the interpretation pretest and production pretest, respectively (see Table 1). The index of obtained reliability was significant at the 0.01 level; therefore, it can be claimed that the scoring of the two pre-tests was reliable.

Table 1.

Inter-rater reliability of scoring the pre-test

		Interpretation pretest		Production pretest	
		Rater1	Rater2	Rater1	Rater2
Rater 1	Pearson Correlation	1	.940**	1	.790**
	Sig. (2-tailed)		.01		
	N	40	40	40	40
Rater 2	Pearson Correlation	.940**	1	.790**	1
	Sig. (2-tailed)	.01		.01	
	N	40	40	40	40

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

3.4.3. Posttest

To guard against the participants' improvement from pretest to posttest due to the memory and learning effect not because of the treatment effect a split-block design was used in test administration: similar versions of the pretests were developed to be used as the posttests. For each interpretation and production tests, two versions were developed. The two versions (A & B) were the same in terms of the format, test tasks, the overall length, the number

of target and distractor items, the instructions, the vocabulary, and timing. Items like the subject, verb, and object were changed in each version. The order of the items in two versions was also changed, thus, the participants could not do the tasks in the same order in two versions.

The researchers followed the same procedures for validating, and checking the reliability of the posttests, as those used for the pre-tests: to validate the data and to check the inter-rater reliability of the post-tests, we asked a colleague to review the data. The inter-rater reliability index was calculated through Pearson Correlation. The indices of obtained reliability (0.96 and 0.83) were significant at the 0.01 level; therefore, it can be claimed that the scoring of the two post-tests was reliable.

3. 5. Procedure

The data collection was carried out within six sessions, three of which were devoted to administering the homogeneity tests, the pretests, and the posttests, and the other three weeks were dedicated to the treatment phase of the study. In the pretest which was conducted two weeks before the instructional treatment sessions, two different tests were administered: (a) an interpretation test to measure the participants' receptive knowledge of the target structure, and (b) a production test to measure the participants' productive knowledge of the target structure. These two pretests were designed to ensure the comparability of the participants in terms of their receptive and productive knowledge of the target structure.

Based on guidelines and the samples available in the literature (e.g., Benati, 2005), two separate packs of materials were developed: a pack for PI group, and a pack for OI group. The two packs of materials were balanced in terms of activity types, use of visuals, and vocabulary during the instructional period. The researchers used vocabularies which were roughly the same across the groups. Participants in the PI group received a package which included: (a) an explicit information sheet, including metalinguistic information about the form and function of English present simple sentences via the participants' L1, i.e., Persian; (b) structured input activities, with the aim of prompting the

learners to make form–meaning mappings. In fact, the aim of providing affective activities was to present more exemplars of the target forms in the input by engaging learners in processing information about the real world.

Participants in the processing instruction received the explicit information sheet followed by the researchers' brief explanation about English present simple sentences. After that, they engaged in structured input activities. Based on the guidelines for the construction of structured input activities provided VanPatten and Sanz (1995), in PI activities of this study, lexical markers including temporal adverbs were removed. Participants in the OI group also received a package which included: (a) the same explicit information sheet in PI packet, including the same metalinguistic information about the form and function of present simple sentences, through the participants' L1, i.e., Persian; (b) structured output activities of two types, i.e., referential, and affective. The structured output activities which were used in OI group were developed following the guidelines provided by.

Just like the participants in the processing instruction, the participants in the output-based instruction group received the explicit information sheet followed by the researchers' concise explanation about present simple sentences. After that, they engaged in structured output activities, which required them to produce the target linguistic feature. In fact, in the activities which were developed for the OI group, the participants practiced producing the correct English present simple sentences. In the post-test phase of this study, conducted in the last session of the experiment, the researchers administered similar versions of the tests designed for the pretest, i.e., an interpretation test and a production test. Given that a split block design was used for test administration, the two versions of the tests were administered in the following manner: in the pretest session, the processing instruction group received version A and the output-based instruction group received version B; yet, in the posttest session, the processing instruction group received version B and the output-based instruction group received version A.

3. 5. Data Analysis

Considering the nature of the variables and the fact that the researcher

was seeking the impact of two independent variables, i.e., processing-based, and output-based instruction on dependent variable which was English grammar, specifically present simple tense, descriptive and analytical statistics were used. Two paired-samples t-test were used to compare the pretest and posttest of production. In addition to the paired-sample t-test, independent t-test was also run to compare the improvement from pretest to posttest of the two groups.

4. Results

To answer the first research question and to see if there is a difference between receptive knowledge of the target feature in PI and OI groups on posttest, two paired-samples t-tests were run. The descriptive statistics for the two paired-samples t-tests are displayed in Table 2.

Table 2.

Descriptive statistics for pretest and posttest of interpretation in processing instruction and output-based instruction groups

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
PI, Interpretation	Pretest	4.0000	20	1.71679	.38389
	Posttest	7.5500	20	2.52305	.56417
OI, Interpretation	Pretest	3.9500	20	1.57196	.35150
	Posttest	5.5500	20	2.23548	.49987

As displayed in Table 2, the mean scores for the pretest and posttest of interpretation in processing instruction group are 4.00 and 7.55, respectively. The mean scores for the pretest and posttest of interpretation in output-based instruction group are 3.95 and 5.55, respectively.

Table 3 illustrates the results of the two paired-samples t-tests, which were performed to reveal the difference between receptive knowledge of the target structure, measured by the interpretation test, in PI and OI groups on posttest.

Table 3.

Paired-samples t-test for pretest and posttest of interpretation in processing instruction and output-based instruction groups

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
PI, Interpretation	Pretest – Posttest	3.55000	2.08945	.46721	2.57211	4.52789	7.598	19	.000
OI, Interpretation	Pretest – Posttest	1.60000	1.18766	.26557	1.04416	2.15584	6.025	19	.000

As it is shown in Table 3, the t-observed value for receptive knowledge of the target structure of participants in PI and OI groups are 7.59 and 6.02, respectively. These amounts of obtained t-value at 19 degrees of freedom are higher than the critical t-value of t, i.e., 2.09 for both processing instruction group and output-based instruction group. Based on these results, it can be safely concluded that there is a significant difference between the mean scores for receptive knowledge of English present simple tense of participants in both PI and OI groups.

To determine whether there is a difference between participants' receptive knowledge of the targeted feature, measured by the interpretation test, the gained score of the participants in PI and OI groups were calculated, and then an independent t-test was run to compare the improvement from pretest to posttest for these two groups. The descriptive statistics for gained scores of receptive knowledge of the target linguistic feature in the PI and OI groups are illustrated in Table 4.

Table 4.

Descriptive statistics for gained score of interpretation in processing instruction and output-based instruction groups

Independent t-test Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
Gained Score	Processing Instruction	20	3.5500	2.08945	.46721
	Output-based Instruction	20	1.6000	1.18766	.26557

As indicated in Table 4, the mean gained score for PI and OI groups were 3.55 and 1.60, respectively. Table 5 illustrates the results of the independent t-test, which was performed to compare the improvement from pretest to posttest for receptive knowledge of the target feature, measured by the interpretation test, in PI and OI groups.

Table 5.

Independent t-test for gained score of interpretation in processing instruction and output-based instruction groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Gained Score	Equal variances assumed	7.500	.009	3.628	38	.001	1.95000	.53742	.86206	3.03794
	Equal variances not assumed			3.628	30.117	.001	1.95000	.53742	.85263	3.04737

As shown in Table 5, the t-observed value is 3.62. This t-value, at 38 degrees of freedom, is higher than the critical t-value of 2.04. Based on these results, it can be claimed that there is a significant difference between participants' receptive knowledge of the English present simple tense of between participants in the PI and OI groups from pretest to posttest, i.e., their gained scores.

To address the second research question and determine whether there is a difference in the productive knowledge of the present simple tense between participants in the PI and OI groups on the posttest, two paired-samples t-tests were conducted. The descriptive statistics for the two paired-samples t-tests are shown in Table 6.

Table 6.

Descriptive statistics for pretest and posttest of production in processing instruction and output-based instruction groups

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
PI, Production	Pretest	2.4000	20	1.46539	.32767
	Posttest	5.2000	20	2.28496	.51093
OI, Production	Pretest	2.5500	20	1.57196	.35150
	Posttest	5.0000	20	2.91999	.65293

As indicated in Table 6, the mean scores for the pretest and posttest of production in processing instruction group are 2.40 and 5.20, respectively. The mean scores for the pretest and posttest of production in output-based instruction group are 2.55 and 5.00, respectively. Table 7 illustrates the results of the two paired-samples t-tests, which were run to reveal the difference between productive knowledge of present simple tense, measured by the production test, in PI and OI groups on posttest.

Table 7.

Paired-samples t-test for pretest and posttest of production in processing instruction and output-based instruction groups

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
PI, Production	Pretest – Posttest	2.80000	1.57614	.35244	2.06234	3.53766	7.945	19	.000
OI, Production	Pretest – Posttest	2.45000	1.66938	.37329	1.66870	3.23130	6.563	19	.000

As displayed in Table 7, the t-observed value for productive knowledge of the target feature in PI and OI groups are 7.94 and 6.56, respectively. These amounts of obtained t-value at 19 degrees of freedom are higher than the critical t-value of t, i.e., 2.09 for both PI and OI groups. Based on these results, it

can be safely concluded that there is a significant difference between the mean scores for productive knowledge of present simple tense of participants in the both groups.

To see if there is a difference between participants' productive knowledge of English present simple tense, the gained score of the participants in both groups were calculated, and then an independent t-test was run to compare the improvement from pretest to posttest for these two groups. The descriptive statistics for gained scores of productive knowledges measured by the production test, in the PI and OI groups are demonstrated in Table 8.

Table 8.

Descriptive statistics for gained score of production in processing instruction and output-based instruction groups

Independent t-test Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
Gained Score	processing instruction	20	2.8000	1.57614	.35244
	output-based instruction	20	2.4500	1.66938	.37329

As it is shown in Table 8, the mean gained score for PI and OI groups were 2.80 and 2.45, respectively. Table 9 illustrates the results of the independent t-test, which was conducted to compare the improvement from pretest to posttest for productive knowledge in both groups.

Table 9.

Independent t-test for gained score of production in processing instruction and output-based instruction groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Gained Score	Equal variances assumed	.346	.560	.682	38	.500	.35000	.51337	-.68927	1.38927
	Equal variances not assumed			.682	37.875	.500	.35000	.51337	-.68938	1.38938

As shown in Table 9, the t-observed value is 0.68. This t-value, at 38 degrees of freedom is lower than the critical t-value of 2.04. Based on these results, it can be claimed that there is no significant difference between the participants' productive knowledge of the target feature in the PI and OI groups from pretest to posttest, i.e., their gained scores.

According to the results of the study, the significant main effect found for the factor of instruction (i.e., processing instruction and output-based instruction) in promoting learners' receptive knowledge of the target feature led to an affirmative answer for the first research question: "There is a significant difference between processing instruction and output-based instruction in promoting EFL learners' receptive knowledge of English present simple tense as measured on an interpretation task". However, as the results of the study did not find a main effect for the factor of instruction, i.e., processing instruction and output-based instruction, in promoting learners' productive knowledge of sentences containing the targeted structure, the answer to the

second research question was negative: "There is no significant difference between processing instruction and output-based instruction in enhancing EFL pre-intermediate learners' productive knowledge of English present simple tense sentences as measured on a production task".

The findings of the study suggest that providing process instruction is significantly more effective in improving participants' receptive knowledge of the English present simple tense than providing output-based instruction. In fact, participants in the processing instruction group significantly outperformed those in the output-based instruction group in terms of their receptive knowledge of the target structure. However, as the results revealed, when it comes to learners' productive knowledge of the targeted feature, there is no significant difference between the efficacy of processing instruction and output-based instruction. In fact, both types of instruction significantly affected the participants' productive knowledge of the English simple present tense.

5. Discussion

This study set out to examine the comparative effects of processing instruction and output-based instruction on EFL leaners' receptive and productive knowledge of English present simple tense. For the first research question, it was found that there was a significant difference in participants' receptive knowledge of the target feature. The results of the statistical analysis clearly indicated that the PI group significantly improved (from pre-test to post-test) on the interpretation task. The PI treatment was more effective than the OI treatment in helping students interpret sentences containing the present simple tense. The outcomes of the sentence-level task concerning the interpretation of English present simple tense sentences corroborate previous findingd in PI research, which have shown PI is effective in modifying learners' default processing strategy. The findings of the present study align with those of previous studies by Swain and Lapkin (2001), and Benati (2005) in that the PI group outperformed the output-based group on interpretation. Likewise, the results on the interpretation task are comparable to those obtained in Farley's (2004) study carried out on the acquisition of Spanish subjunctive. In this study

processing instruction and meaning-based output instruction were compared, and although processing instruction was overall more effective than meaning-based output instruction, the output group performed as well as the processing instruction group on the interpretation task.

The second question focused on the impact of the two treatments on the production of sentences containing the target structure. The results indicated that PI and OI led to equal improvement (from pre-test to post-test) on the production task (sentence-level task). In this case, the findings from the present experiment align with those of previous studies by Izumi (2002) and Morgan-Short and Bowden (2006), who concluded that, in addition to input instruction, meaning-based output instruction can significantly contribute to the development of productive knowledge of language.

Despite the supportive research in SLA literature, a review of the studies by Benati (2005) and Farley (2004) shows that their findings are not fully supported by the results of the present study. These studies indicated that processing instruction was superior to meaning-based output instruction in the interpretation task but led to similar performance to the meaning-based output instruction in the production task. The results of the current study may be attributed to the nature of the targeted linguistic structure and the challenges this structure makes for learners from a different L1 (specifically the Iranian subjects). The OI treatment, which involved a higher proportion of meaning-based activities, was not beneficial in generating positive impacts (i.e., modifying the processing problem) on learners' performance.

6. Pedagogical implications and limitations of the study

The findings have pedagogical implications in EFL context. To be more effective, grammar instruction should offer learners many opportunities to engage in both receiving and producing the L2. Nassaji and Fotos (2011) emphasize that the use of such combinations of input, output, and interactive activities ensure the maximal effectiveness. L2 practitioners can incorporate a variety of input-based and output-based strategies in their practice. In a similar vein, a combination of input and output activities may help learners to

consciously reflect on the language to be learned, and form hypotheses about the rules underlying its structures, and test these hypotheses. Consequently, the shift from meaning-focused materials to form-focused materials seem indispensable in designing instructional materials.

Although we made every effort to avoid some of the measurement and analytical inadequacies, some limitations need to be acknowledged. First, the sample size of this research is small (40 participants) and limited to a single language center. Therefore, the study would need to be replicated before drawing more definite conclusions about the generalizability of its results. However, the similarities between the findings of this experiment and those of previous empirical studies on the effects of processing instruction lend validity to the current study.

Another limitation concerns the nature of the production task employed, which primarily engages learners' conscious knowledge. A production test that incorporates time pressure and does not permit students to monitor their responses might have yielded different results. Finally, despite the findings of the present study, the long-term effects of the variables under investigation needs to be re-examined, as delayed post-tests were not included.

7. Conclusion

First, the main outcome of this study reaffirmed the positive effects of PI in modifying learners' processing strategies and its subsequent positive impacts on learners' developing systems. The results of the current study clearly indicate that PI is a successful instructional treatment, as it helps learners make form-meaning connections for acquisition. The evidence collected in the present study shows that PI is a more effective instructional treatment compared to OI. The OI treatment is not as successful in bringing about effects like those achieved by PI.

Secondly, this study has contributed to the view that, in language teaching, input practice should precede output practice. Research on PI has clearly indicated that input-based approach offers more instructional benefits than output practice. The fact that the PI group performed better than the OI

group on the interpretation task clearly indicates that structured input activities are the contributing factor to the enhanced performance of learners as both groups received the same amount and type of explicit information.

Although the findings of the present study suggest that output practice does not result in acquisition, we agree with VanPatten (2004), who assigns a possible role to output in acquisition. As VanPatten states, "may be the effect it has on the task demands. Interaction may make input more manageable by creating shorter sentences for learners to process by repeating information so that the demands to get meaning are lessened, by moving elements into more salient positions, and so on" (p. 26).

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Abstracts
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فصلنامه علمی زبان‌پژوهی دانشگاه الزهرا(س)
سال شانزدهم، شمارهٔ ۵۳، زمستان ۱۴۰۳، صفحات ۱۹۳-۱۷۳
مقاله پژوهشی

تأثیر آموزش پردازش محور و برونداد محور بر فراگیری زمان حال ساده زبان‌آموزان انگلیسی

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چکیده

پژوهش حاضر با هدف بررسی دقیق تأثیر آموزش پردازش محور و برونداد محور بر رشد فراگیران زبان انگلیسی در درک و تولید زبان حال ساده انگلیسی انجام شد. نتایج حاصل از این مطالعه به بحث پایان‌ناپذیر در مورد تأثیرات آموزش پردازش محور (PI) در مقایسه با آموزش برونداد محور (OI) کمک کرده است. به منظور مطالعه حاضر از بین ۷۰ زبان‌آموز زبان انگلیسی در یک مرکز زبان خصوصی در ایران ۴۰ زبان آموز پیش از متوسط زبان انگلیسی در گروه PI و ۲۰ شرکت‌کننده در گروه OI قرار گرفتند. شرکت‌کنندگان در گروه آموزشی پردازش محور، فعالیت‌های ورودی پردازشی را دریافت کردند، در حالی‌که شرکت‌کنندگان در گروه آموزشی مبتنی بر خروجی، فعالیت‌های خروجی ساختار یافته را دریافت کردند. نتایج آمار توصیفی و تحلیلی نشان داد که اگرچه شرکت‌کنندگان در گروه آموزش پردازش محور از نظر دانش دریافتی در ساختار مورد نظر، یعنی زمان حال ساده، به‌طور قابل‌توجهی از شرکت‌کنندگان در گروه آموزش مبتنی بر خروجی بهتر عمل کردند، اما هر دو نوع دستورالعمل به‌طور قابل‌توجهی تأثیر مثبتی بر دانش تولید جملات زبان حال ساده شرکت‌کنندگان داشتند و تفاوت بین اثربخشی این دو نوع آموزش بر دانش مولد شرکت‌کنندگان معنی‌دار نبود.

کلیدواژه‌ها: آموزش پردازش محور، آموزش برونداد محور، حال ساده، دانش تولید.

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مقاله پژوهشی

شبه‌وندها: شواهدی از زبان فارسی

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چکیده

شواهد و نمونه‌هایی در زبان فارسی مشاهده می‌شود که می‌توان این سازه‌ها را شبه‌وند یا نیمه‌وند و یا وندواره نامید. در حالی‌که این سازه‌ها در فارسی به تنهایی نیز به‌کار می‌روند و کاربرد مستقل دارند در الصاق به واژه‌های دیگر مانند وندهای اشتقاقی عمل می‌کنند و تغییر معنایی حاصل می‌شود. این شبه‌وندها به هر پایه‌ای الصاق نمی‌شوند و پایه به لحاظ معنایی لازم است واجد شرایطی باشد که پذیرای شبه وند باشد. این شبه‌وندها زمانی که به‌عنوان تکواژ آزاد یا واژه‌ای مستقل در جملات و عبارات به‌کار می‌روند بسامد بیشتری دارند و محدودیت فوق در سطح گروه و جمله اعمال نمی‌شود. تعدادی از شبه‌وندهای پرکاربرد فارسی در این مقاله بررسی می‌شود اما این پژوهش شامل همه شبه وندهای موجود در فارسی امروزی نیست. پژوهش حاضر از نوع همزمانی است و تغییرات تاریخی را بررسی نمی‌کند با این پیش فرض که محتمل است این شبه‌وندها در مسیر تغییرات زبانی مبدل به وند شوند. نمونه‌های این مقاله غالباً از فارسی گفتاری هستند و شامل هر دو پیش شبه‌وندها و پس شبه‌وندها می‌شوند. و در واقع در فارسی هر دو نوع مشاهده می شوند. پژوهش حاضر وجود شبه وندها را با ویژگی‌های مختص به خود در فارسی امروزی مانند برخی از زبان‌های دنیا به اثبات می‌رساند سازه‌هایی که جایگاه بینابینی واژه از یکسو و وند از سوی دیگر دارند در حالی‌که هر دوی آنها را شامل می‌شوند.

کلیدواژه‌ها: شبه‌وندها، زبان فارسی، وند، واژه

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چکیده

پژوهش حاضر با استفاده از نظریهٔ استعارهٔ مفهومی لیکاف و جانسون در تلاش است تا انعکاس پیری در شعر ترکی آذربایجانی را بررسی نماید. پیکرهٔ زبانی پژوهش پیش روی شامل اشعار ترکی آذربایجانی شهریار (۱۹۸۸-۱۹۰۶) و هفت شاعر دیگر است. پنجاه بیت شعر ترکی آذربایجانی در مورد قوجالیق (پیری) به‌عنوان پیکرهٔ زبانی این پژوهش انتخاب شد. در گام نخست، تمامی استعاره‌ها از پیکرهٔ زبانی استخراج شده و آن‌گاه نگاشت‌های مربوطه ارائه شد. در نهایت، حوزه‌های مبدأ در استعاره‌های قوجالیق استخراج و گزارش شد. نتایج این مقاله نشان می‌دهد که سالمندی با چهارده استعارهٔ برجسته در شعر ترکی آذربایجانی بیان می‌شود. علاوه بر این، پژوهش حاضر نشان می‌دهد که برخی از استعاره‌ها بین فرهنگ‌ها مشترک‌اند، به ویژه استعاره‌های مربوط به زوال که مبتنی بر تجربیات بدنمند انسان‌اند. این در حالی است که استعاره‌های دیگر بیشتر مبتنی بر فرهنگ آذربایجانی شاعران بوده و بسیار متاثر از آداب، سنت‌ها، دین و اقتصاد آنان است. همچنین، زوال جسمانی، و نه زوال روحی، یک حوزه ایده‌آل برای مفهوم‌سازی شاعر است، زیرا این حوزه به وضوح مشخص بوده و مردم معتقدند که آن را به خوبی می‌شناسند.

کلیدواژه‌ها: استعارهٔ مفهومی، شعر ترکی آذربایجانی، پیری، بین-زبانی، ترجمه منظوم شعر

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سال شانزدهم، شمارهٔ ۵۳، زمستان ۱۴۰۳، صفحات ۱۱۸-۹۷
مقاله پژوهشی

تحلیل خطاهای تلفظی خوشه‌های همخوان توسط زبان‌آموزان عراقی زبان انگلیسی براساس نظریه بهینگی

زهره‌سادات ناصری[۱]، فاطمه احمدی‌نسب[۲]، رواء کاظم جواد[۳]

تاریخ دریافت: ۱۴۰۳/۰۵/۱۵ تاریخ پذیرش: ۱۴۰۳/۰۷/۲۲

چکیده

این پژوهش، به بررسی خطاهای تلفظی خوشه‌های همخوان انگلیسی در بین زبان‌آموزان عراقی زبان انگلیسی با رویکرد نظریه بهینگی می‌پردازد. به‌این‌منظور، ۴۰ دانشجوی سال اول دانشگاه در رشته‌های مختلف با سن ۱۸ تا ۲۵، براساس نمره‌هایشان در آزمون تعیین سطح آکسفورد از سطح مبتدی و متوسطه پایین انتخاب شدند. با استفاده از ابزارهای گوناگون مانند آموزش خواندن و آزمون روخوانی با صدای بلند و همچنین با آگاهی از مقوله مشکلات اصلی تلفظ توسط زبان‌آموزان عربی ارائه‌شده توسط یاوش (Yavas, 2011)، تحلیل بهینگی در پژوهش به کار گرفته شد. یافته‌ها نشان داد که در تلفظ خوشه‌های آغازه با دو همخوان، COMPLEX onset* به‌عنوان محدودیت مرتبه بالا در عربی عراقی اغلب نقض می‌شود، زیرا در عربی عراقی واژه‌های بسیاری با #CCV شروع می‌شوند. همچنین، #CCC* هرگز در عربی عراقی نقض نمی‌شود و شرکت‌کنندگان سعی در شکستن خوشه داشتند و مرتبه این محدودیت در انگلیسی و عربی عراقی متفاوت است. در تلفظ خوشه پایانه دو همخوان، اگرچه CCcoda* هرگز در عربی عراقی نقض نمی‌شود، مرتبه این محدودیت در گفتار زبان‌آموزان تغییر نمی‌کند. ولی، برای تلفظ واژه‌ها با ساختار #VCCC(C)، رتبه‌بندی دو محدودیت CCCCcoda* و CCCcoda* در گفتار زبان‌آموزان، مرتبه بالا خواهد داشت، درصورتی‌که رتبه این دو محدودیت در انگلیسی پایین است.

کلیدواژه‌ها: خطاهای تلفظی، خوشه‌های همخوان، نظریه بهینگی، زبان‌آموزان عراقی، رتبه‌بندی محدودیت‌ها

استناد به مقاله:

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مقاله پژوهشی

انتخاب استراتژی‌های عذرخواهی در آزمون تکمیل گفتمان: مطالعهٔ ترک‌زبانان تبریز

جاوید فریدونی[۱]، کوثر خیری[۲]، نفیسه تدین چهارطاق[۳]

تاریخ ارسال: ۱۴۰۳/۰۶/۰۷ تاریخ پذیرش: ۱۴۰۳/۰۸/۱۴

چکیده

مقالهٔ حاضر به مطالعهٔ کاربرد راهکارهای عذرخواهی توسط ترک زبانان شهر تبریز می پردازد. صد و بیست شرکت‌کننده (۶۰ مرد و ۶۰ زن) ترک‌زبان تبریزی که به صورت تصادفی انتخاب شده بودند، در یک آزمون تکمیل گفتمان شرکت کردند. این آزمون شامل ۲۰ سناریو بود که در آن از ۱۰ راهکار عذرخواهی استفاده می شد. به این ترتیب، ۲۴۰۰ راهکار عذرخواهی به دست آمد. راهکارها بر اساس دسته‌بندی بلوم-کولکا و اولشتاین (۱۹۸۴) تحلیل شدند. این دسته‌بندی شامل ابزار نشان دادن کنش منظوری، برعهده گرفتن مسئولیت، توضیح، پیشنهاد جبران، قول تکرار نکردن، نگرانی برای شنونده و استراتژی‌های غیرکلامی است. یافته‌ها نشان دادند که پرکاربردترین استراتژی‌ها در میان شرکت‌کنندگان توضیح و پیشنهاد جبران بوده است. همچنین، در برخی سناریوها بین سن، جنسیت و سطح تحصیلات و انتخاب راهکار عذرخواهی ارتباط معنی‌داری وجود دارد. برای مثال، در تعامل با خویشاوندان هم سطح با شرکت‌کننده و در ارتباط کودک و بزرگسال که در آن شرکت‌کننده در جایگاه بالاتری قرار دارد. یافته های این تحقیق نشان می دهد که افراد در بافت های مختلف از راهکارهای متفاوتی برای عذرخواهی استفاده می کنند.

کلیدواژه‌ها: آزمون تکمیل گفتمان، تبریز، ترکی آذربایجانی، عذرخواهی، کارگفت‌ها

استناد به مقاله:
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مقاله پژوهشی

رمزگذاری موضوع در محمول تجربی «*تمشا کردن*» در کردی گروسی

محمد دبیرمقدم[۱]، معصومه زارعی[۲]

تاریخ دریافت: ۱۴۰۳/۰۵/۱۰ تاریخ تصویب: ۱۴۰۳/۰۸/۳۰

چکیده

«تمشا کردن» محمولی تجربی در کردی گروسی است که ساخت موضوعی و رویدادی آن به صورت یک محمول مرکب فعل‌یاری بیان می‌شود. این پژوهش به جستار چگونگی رمزگذاری موضوع‌ها در ساختار محمول-موضوع «تمشا کردن» بر اساس منظر رده‌شناختی کرافت (۲۰۲۲) می‌پردازد. هدف آن بررسی این است که «تمشا کردن» از چه راهبردهایی برای بیان نقش شرکت‌کننده‌هایش بهره می‌جوید، بخش‌های سازنده‌ی آن میزبان کدام کارکردهای دستوری و معنایی هستند و چگونه ساخت رویدادی این محمول در راستای ساخت موضوعی‌اش بازنمایی می‌یابد. بدین منظور، پژوهشی میدانی صورت گرفت و ۳۰ گویشور بومی کردی گروسی مصاحبه شدند. فیلم «داستان گلابی» ولس چیف بستر گرداوردی داده‌ها واقع شد و روایت‌های کردی ضبط شدند. ۸۸ نمونه‌ی دارای محمول «تمشا کردن» از پیکره‌ی گفتمانی فوق، برای بررسی راهبردهای رمزگذاری موضوع استخراج شدند. مشاهده شد که این محمول مرکب تجربی در رمزگذاری موضوع شرکت‌کننده‌ها و نوع رویدادی که بیان می‌کند دارای بازنمایی‌های گوناگونی بود. اساساً از راهبرد تجربه-محور بهره می‌جست و تجربه‌گر را به صورت یک عبارت موضوعی فاعلی بیان می‌کرد. اما موضوع محرک آن در کاربرد راهبرد رمزگذاری تنوع قابل ملاحظه‌ای را نمایان می‌کرد و به صورت‌های عبارت موضوعی مفعولی، عبارت موضوعی متممی، و عبارت موضوعی بند متممی بازنمایی می‌یافت. از میان ۸۸ نمونه از محمول «تمشا کردن»، تنها ۱۶ مورد ساخت موضوعی فاعلی-مفعولی داشتند. پربسامدترین راهبرد رمزگذاری موضوع، راهبرد رمزگذاری فاعلی-متممی شناسایی شد که دارای محرک مکانی/هدف بود. این محمول مرکب همچنین مشاهده شد که به صورت یک زیررویداد در ساخت فعل پیاپی شرکت می‌جست و در برخی موارد با ساخت رویدادی متفاوتی بیان می‌شد.

کلیدواژه‌ها: رویداد تجربی، ساخت موضوعی، محمول مرکب، فعل یار، فعل پیاپی

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مقاله پژوهشی

الگوهای ریتمیک بین زبانی در گویشوران دوزبانه فارسی-انگلیسی: کاربردهایی برای شناسایی گوینده

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تاریخ دریافت: ۱۴۰۳/۰۸/۰۷ تاریخ پذیرش: ۱۴۰۳/۰۹/۱۲

چکیده

این پژوهش به بررسی الگوهای ریتمیک در گفتار دوزبانه‌های فارسی-انگلیسی پرداخته و معیارهای مبتنی بر زمان را در گروهی از دوزبانه‌های دیرآموز مرد مورد مطالعه قرار داده است. تفاوت‌های بین زبانی، ثبات فردی و پتانسیل شناسایی گوینده با استفاده از چندین معیار ریتمیک شامل سنجه‌های همخوانی و واکه‌ای، مورد تجزیه و تحلیل قرار گرفت. نتایج نشان‌دهنده تفاوت‌های معنادار میان فارسی (زبان اول) و انگلیسی (زبان دوم) بود؛ در حالی‌که معیارهای همخوانی ثبات بیشتری را نشان دادند. همبستگی‌های بین‌زبانی برای معیارهای همخوانی قوی‌تر از معیارهای واکه‌ای بود که بیانگر ثبات فردی بیشتر در زمان‌بندی همخوان‌هاست. شناسایی گوینده از طریق تحلیل تشخیصی خطی با معیارهای همخوانی بالاترین دقت را نشان داد و عملکرد بهتری در زبان اول نسبت به زبان دوم داشت. این یافته‌ها نشان می‌دهد که اگرچه گویندگان دوزبانه الگوهای ریتمیک زبان اول خود را با نیازهای زبان دوم تطبیق می‌دهند، برخی ویژگی‌های فردی خود، به‌ویژه در زمان‌بندی همخوان‌ها، را حفظ می‌کنند. این نتایج می‌تواند در زمینه تولید گفتار دوزبانه‌ها و شناسایی گوینده مورد توجه قرار گیرد.

کلیدواژه‌ها: دوزبانگی، ریتم گفتار، فردویژگی گوینده، فارسی، انگلیسی.

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فهرست مطالب

بسم الله الرحمن الرحیم

فصلنامهٔ علمی

زبان‌پژوهی دانشگاه الزهرا(س)

سال شانزدهم، شمارهٔ ۵۳، زمستان ۱۴۰۳

معاونت پژوهشی دانشگاه

مجلهٔ زبان‌پژوهی دانشگاه الزهرا(س) از انتشارات معاونت پژوهشی.
مجلهٔ زبان‌پژوهی به‌موجب نامهٔ شمارهٔ ۳/۱۱/۱۰۵۶ مورخ ۱۳۸۸/۶/۲۳ وزارت علوم، تحقیقات و فناوری از نشریهٔ علمی علوم انسانی جدا گردید.

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انجمن زبان‌شناسی ایران

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