Assessing Mutual Intelligibility between Kurmanji and Zazaki

Spoken in Elâzığ at Text Level

Bilgit Sağlam[1] Fatih Özek[2] Ahmet Buran[3] Charlotte Gooskens[4]

ORCID: [1]0000-0003-0025-6375, [2]0000-0002-7766-293X, [3]0000-0002-8430-1008, [4]0000-0002-0958-3682

[1]*Firat University, Department of Turkish Language and Literature, 23200, Elâzığ, Türkiye*

[2]*Firat University, Department of Turkish Language and Literature, 23200, Elâzığ, Türkiye*

[3]*Firat University, Department of Turkish Language and Literature, 23200, Elâzığ, Türkiye*

[4]*University of Groningen Theoretical and Empirical Linguistics, 9712, Groningen*

[1]*bsaglam@firat.edu.tr*, [2]*fozek@firat.edu.tr*, [3]*aburan@firat.edu.tr*, [4]*c.s.gooskens@rug.nl*

ABSTRACT: This study examines the mutual intelligibility between Kurmanji and Zazaki. The research area selected for this study is the province of Elâzığ, where both languages are spoken. Participants consist of middle and high school students aged between 14–19 from nine district centers where Kurmanji or Zazaki is spoken as native language. The study included a total of 243 participants, with 27 individuals selected from each district. The participants' intelligibility levels of the test language were assessed through text-based tests designed at the B1 proficiency level. The study measured participants' perceived intelligibility of the test language by asking how much they understood and examined extralinguistic factors that might influence mutual intelligibility. In this context, the participants' exposure to the test language and their attitudes toward it were assessed using a Likert scale. The findings indicate that mutual intelligibility between Kurmanji and Zazaki remains below 40% for both languages. Furthermore, no significant difference was found between participants' attitudes toward the test language and their functional test

results. However, a significant correlation was identified between exposure to the test language and functional test scores.

Keywords: Kurmanji, Zazaki, mutual intelligibility, recorded text testing

Elâzığ'da Konuşulan Kurmançça ve Zazaca Arasında Metin Düzeyindeki Karşılıklı Anlaşılabilirlik

ÖZ: Bu çalışma, Kurmançça ve Zazaca arasındaki karşılıklı anlaşılabilirliği incelemektedir. Araştırma sahası olarak, her iki dilin birlikte konuşulduğu Elâzığ ili seçilmiştir. Katılımcılar, Kurmançça veya Zazacanın ana dil olarak konuşulduğu 9 ilçe merkezinde öğrenim gören, 14-19 yaş arası ortaokul ve lise öğrencilerinden oluşmaktadır. Her ilçe merkezinden 27 katılımcı olmak üzere toplamda 243 kişilik bir örneklem grubu oluşturulmuştur. Katılımcıların test dilini anlama düzeyleri, B1 seviyesine uygun metinlerle hazırlanan testler aracılığıyla metin düzeyinde değerlendirilmiştir. Çalışmada ayrıca, katılımcıların test dilini ne kadar anladıkları sorularak algısal anlaşılabilirlikleri (perceived/estimated intelligibility) ölçülmüş ve karşılıklı anlaşılabilirliği etkileyebilecek dil dışı faktörler incelenmiştir. Bu bağlamda, katılımcıların test diline maruz kalma düzeyleri ve bu dile yönelik tutumları Likert ölçeği kullanılarak ölçülmüştür. Sonuçlar, Kurmançça ve Zazaca arasındaki karşılıklı anlaşılabilirliğin her iki dil için de %40'ın altında kaldığını göstermiştir. Ayrıca, test diline yönelik tutumlarla işlevsel testlerden elde edilen sonuçlar arasında anlamlı bir fark bulunmazken, test diline maruziyet ile işlevsel test sonuçları arasında anlamlı bir ilişki tespit edilmiştir.

Anahtar sözcükler: Kurmançça, Zazaca, karşılıklı anlaşılabilirlik, kaydedilmiş metin testi.

1   Introduction

Türkiye hosts a rich linguistic diversity, reflecting its profound cultural heritage and ancient history. Although about 85% of Türkiye's population speaks Turkish as their mother tongue, many minority languages—including Arabic, Albanian, Armenian, Bosnian, Circassian, Georgian, Hamshen, Kurmanji, Ladino, Laz, Pomak, Romeyka, Syriac, and Zazaki—are also spoken across the country (Buran & Yüksel Çak, 2012; Uzun, 2012; Simons & Fennig, 2017). However, despite this diversity, the number of speakers has been steadily declining (Ethnologue (EGIDS)). Therefore, the need for further research on Türkiye's local languages is crucial. One area that has received limited attention is mutual intelligibility (MI) between closely related local languages in Türkiye.

Although MI has been a focus of linguistic research globally in various language pairs (see Gooskens, 2024), research in this field remain limited in Türkiye, despite the country's rich linguistic diversity. Several studies have addressed MI between Turkish and other Turkic languages (e.g., Öztürk 2008; Tekin 2012; Sağın-Şimşek & König 2012; Sağın-Şimşek 2014; Sağın-Şimşek, Ünlü & Akkuş, 2017; Sağın-Şimşek & Ünlü, 2019; Akkuş & Sağın-Şimşek 2021), but research on MI between local languages in Türkiye is still rare. The first of these was conducted by Abulmuttalip Arpa, who examined the ability of Zazaki speakers to understand Kurmanji at the sentence level. In the study, 10 native Zazaki speakers with no prior exposure to the test language listened to eight Kurmanji sentences, and their comprehension levels were determined through semi-structured interviews. Despite the sentences being commonly encountered in everyday life, the Zazaki speakers' comprehension of Kurmanji was found to be quite low. Additionally, participants were asked whether they followed Zazaki visual and written media, and it was observed that they showed little interest in broadcasts in their native language (Arpa, 2012, p. 553). Although the study had limitations such as the one-sided intelligibility between Kurmanji and Zazaki, the number of participants, and the data set, it is significant as it is the first study to address the topic.

In 2019, a TÜBİTAK-funded research project titled "Mutual Intelligibility of Closely Related Local Languages in Elâzığ" (118K203) was initiated to examine the MI between Kurmanji and Zazaki through tests conducted at the word and text levels. As a result of this project, Özek, Sağlam, and Gooskens (2021) published a study providing empirical data on the extent of MI between Zazaki and Kurmanji. In this study, MI between Kurmanji and Zazaki varieties was measured through a word translation task with participants from two randomly selected Kurmanji villages and two randomly selected Zazaki villages. Face-to-face interviews were conducted with a total of 69 participants, including 33 Kurmanji and 36 Zazaki speakers. Participants were asked to provide the meanings of 41 nouns and 41 verbs in the test language. The study also addressed linguistic and non-linguistic factors that could affect MI between the two languages, finding a significant correlation between exposure to the test language and MI rates. Except for Zazaki male speakers (20.7%), the average MI rate in all other groups remained below 15%. Together, these two previous studies provide a preliminary understanding of MI between Kurmanji and Zazaki. However, their focus remains limited, leaving text level unexplored.

This study is another output of the same project. In this study, we aim to contribute to our understanding of MI between Kurmanji and Zazaki by examining how well speakers of each variety understand the other at the text level. By conducting tests at the text level, we aim to assess overall MI and to see if there is a difference between word-level and text-level intelligibility between the two languages. Compared to the study by Özek et al. (2021), our

research includes a larger number of participants (N= 243) and a wider range of varieties (N=9). Another key difference lies in participant selection. In the previous study, participants were randomly selected from four villages where Kurmanji and Zazaki is spoken. These participants mostly had low or no formal education and were older, with an average age range of 48.8 years. As a result, there were significant differences in their exposure to the test language. In this context, Özek et al. (2021) found that Kurmanji-speaking females outperformed Zazaki-speaking females, whereas Zazaki-speaking males outperformed their Kurmanji counterparts. These differences were attributed primarily to varying levels of exposure to the tested varieties, and to a lesser extent, to participants' attitudes toward the varieties (for general discussions on the influence of extralinguistic factors on intelligibility, see Gooskens & Swarte, 2017; Gooskens, 2024).

In the present study, on the other hand, we focus specifially on young participants, as they represent the future generation of speakers. MI in this group thus provides insight into the vitality and future prospects of these. By selecting younger participants with presumably more similar educational backgrounds and comparable exposure to the test language, we aimed to minimize confounding variables related to education and language exposure.

By changing both the method used for the functional tests and participant selection criteria, we seek to address overall MI between the two languages and non-linguistic factors affecting it from different perspectives. This approach allows for a more comprehensive understanding of how such factors influence MI between Kurmanji and Zazaki speakers.

1.1   *Languages under investigation: Kurmanji and Zazaki*

Kurmanji and Zazaki are the two relatively largest local languages in Türkiye. Although Kurmanji and Zazaki have the highest number of speakers, both languages are assigned as 6b 'threatened' on EGIDS scale (Lewis & Simons, 2010), which poses a significant challenge to their long-term viability.

Although there are no up-to-date official records regarding the number of Kurmanji and Zazaki speakers in Türkiye, it is estimated that the number of Kurmanji speakers ranges between 8 and 14 million (Ethnologue; Heper, 2007; Buran & Yüksel Çak, 2012), while Zazaki speakers are estimated to number between 3 and 6 million (Ethnologue; Andrews, 2002; Keskin, 2010). Kurmanji is predominantly spoken in the southeastern and eastern regions of Anatolia, with significant concentrations in Diyarbakır, Şanlıurfa, Mardin, Van, Hakkâri, and their surroundings. Zazaki, on the other hand, is primarily spoken in the upper basins of the Euphrates and Tigris rivers, encompassing the provinces of Bingöl, Elâzığ, Tunceli, Erzincan, and Diyarbakır, as well as being scattered across

regions such as Sivas, Erzurum, Malatya, and Adıyaman (Arslan, 2018) (see Figure 1).

Both languages are primarily used as spoken languages, and their number of speakers is declining, similar to other local languages in Türkiye, due to their lack of official status and the use of Turkish as the medium of instruction in education (Öpengin, 2010; Keskin, 2010). After significant changes in Türkiye's language policy in 2001, initiatives such as broadcasting in Kurmanji and Zazaki on TRT Kurdî, offering elective courses in schools, and establishing Zazaki departments at universities were introduced to preserve these languages (Varol, 2017). However, passing these languages on to younger generations has become increasingly difficult, as they lack sufficient proficiency in their mother tongues (Öpengin, 2010).

Beyond issues of language transmission, another important dimension concerns the linguistic classification of these two languages. Kurmanji and Zazaki belong to the Northwestern Iranian branch of the Indo-European language family (see Gippert, 1996; Paul, 1998; Aratemür, 2011; Koç, 2011). While researchers agree that Kurmanji is a dialect of Kurdish, the linguistic status of Zazaki has remained a subject of debate. In recent years, it has generally been accepted that Zazaki is not a dialect of Kurdish but rather a distinct language within the Northwestern Iranian branch. However, in a limited number of studies, Zazaki is classified as a dialect of Kurdish without sufficient linguistic justification (see Sheyholislami, 2017). The blurred relationship between the two languages has been influenced by geographical proximity, the long-standing linguistic impact of Kurmanji on Zazaki through interaction, and the tendency of Kurmanji speakers to identify Zazaki speakers ethnically within the Kurdish identity (Kehl-Bodrogi, 1998, p. 116; Özek et al. 2021:1439). Although the primary aim of this study is not to determine the linguistic statuses of these two languages, the use of MI studies as an important criterion for distinguishing languages and dialects (Gooskens, 2018; Gooskens, 2024) reinforces our belief that this article can contribute to the discussion on the relationship between Kurmanji and Zazaki.

1.2   Research Area

The province of Elâzığ has been selected as the research area since it has a heterogeneous structure in terms of linguistic diversity. Located at the intersection of the Eastern and Southeastern Anatolia regions, Elâzığ is a province with a high concentration of both Kurmanji and Zazaki native speakers.

Kurmanji is spoken in the districts of Baskil, Karakoçan, Keban, Kovancılar, and Sivrice, while Zazaki is spoken in the districts of Alacakaya, Arıcak, Maden, and Palu (Özek et al. 2021). As seen in Figure 1 below, both languages are spoken alongside Turkish in most of the province and have a significant number

of native speakers. The two languages share adjoining linguistic boundries and there are even Kurmanji language islands in the Zazaki-speaking areas and vice versa. This geographical overlap makes it easier for speakers of both languages to be naturally exposed to each other's languages. At the same time, the concentration of speakers in distinct regions within the province offers an ideal setting to investigate the impact of geographical distance on MI.

Figure 1: Languages spoken in Elâzığ (Özek et.al. 2021)
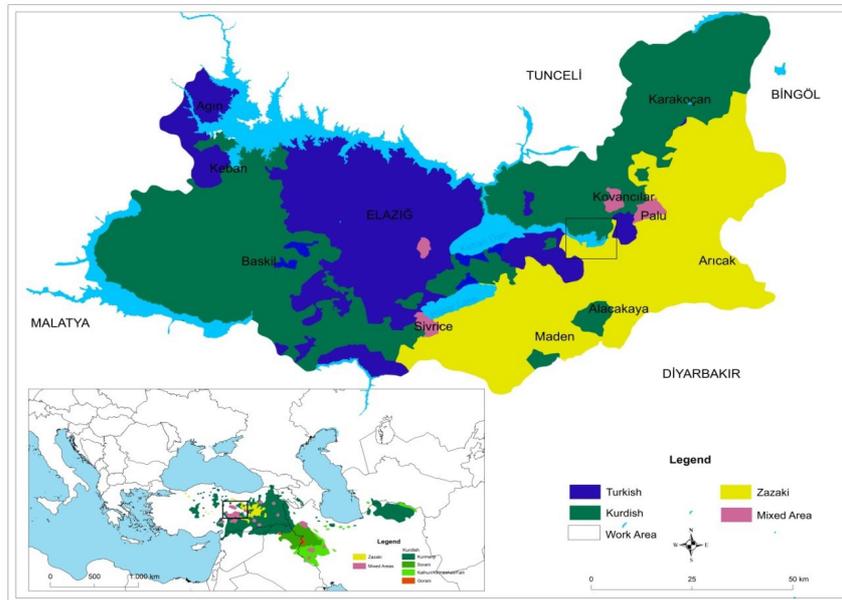
2   Method

Different tests have been used to measure MI between closely related languages (For detailed information about these tests, see Gooskens, 2024). Depending on the aim of the research, MI tests can be word, sentence or text level. In word-level tests, because participants' understanding of words independent of context is measured, these tests are more difficult than sentence and text-level tests. Nevertheless, word-level tests have often been the preferred method as they provide clear results in identifying factors that affect MI (such as cognacy, false friends, etc.) between the test languages. In sentence and especially text-level tests, the fact that participants can draw on the context while answering questions

makes it easier for the participants. However, considering the importance of context in the everyday use of language the results obtained from sentence and text level tests are more consistent with real-life language use compared to word-level tests.

For this study, we decided to use text-level tests to measure MI between Kurmanji and Zazaki. This preference is based on two primary reasons. First, as noted above, text-level tests provide data that closely resemble the natural use of language, offering a more general and comprehensive perspective. Second, previous studies on Kurmanji and Zazaki have utilized tests at the word level (Özek et al., 2021) and sentence level (Arpa, 2012). Therefore, using a text-level method allows us to build on previous research while addressing the need for more general and comprehensive evaluation of MI between Kurmanji and Zazaki.

2.1 *Selection of the Texts*

The most important aspect to consider in tests is the level of the texts. Texts that are excessively easy or overly challenging may unduly influence the results (Golubović & Gooskens, 2015; Gooskens, 2013). Considering this, we used the Common European Framework of Reference for Languages (CEFR) to determine the difficulty level of the selected text. The CEFR provides standardized measurements of language use through different classifications and criterias (Işısağ and Demirel, 2010). It defines language proficiency levels as follows: basic user (A1, A2), independent user (B1, B2), and proficient user (C1, C2) (see Council of Europe, 2001). B2, C1, and C2 represent sufficient advanced proficiency for academic work, while A1 and A2 levels defines more limited language structures. Therefore, texts at the B2, C1, and C2 levels are considered excessively difficult, while those at the A1 and A2 levels overly simplistic for participants who are not learners of the test languages (Golubović & Gooskens 2015). Accordingly, the texts used in this study were selected based on the B1 language proficiency level. A B1-level text focused on "understanding" typically includes topics such as education, books, movies, current events, or leisure activities. It encompasses fundamental tense structures, modals, simple passive constructions, basic adjectives, adverbs, as well as essential collocations.

In this study, for the selection of the texts the considerations outlined by Nahhas and Kirkland (2007) were taken into account. Nahhas and Kirkland (2007) evaluate the aspects to be considered in preparing texts for tests under four main headings:

a) *Length*: While excessively long texts may cause participants to lose focus, overly short texts can negatively limit the variety of content questions (Nahhas and Kirkland 2007). Therefore, the common practice is to use texts that range

between 250-300 words in length (Golubović & Gooskens 2015; Gooskens 2007).

b) *Topic*: Texts addressing remarkably familiar topics may lead participants to answer questions without fully understanding them, which can result in misleading scores (Nahhas and Kirkland 2007).

c) *Cultural sensitivities*: Texts containing potentially controversial topics such as religion or politics may negatively influence participants' responses (Kluge, 2007).

d) *Reference language*: To minimize potential effects arising from the translation process, it is essential that the selected text originates in a language other than the test languages. Consequently, the text should be composed in a "reference language" that is distinct from the test languages (Gooskens, 2013).

In line with these considerations, the texts used in this study were composed in Turkish as the reference language, ranged between 185 to 225 words in length, focused on culturally neutral topics, and were designed to align with the B1 proficiency level. The prepared texts were translated into the nine variants under investigation (5 Kurmanji and 4 Zazaki) by native speakers from each respective district. Each translated text was recorded by native speakers in a professional soundproof studio at Fırat University.

2.2   Recorded Text Testing (RTT)

Following the preparation of the texts, another critical aspect requiring consideration for the study was the method of presenting the texts. The texts could be presented to participants either in written form or as recorded audio delivered through a computer interface. Conducting the tests in written form was considered unsuitable, as it would require participants to have knowledge of the orthography of the test languages. Furthermore, since the study aimed to test the comprehensibility of different variants of Kurmanji and Zazaki, participants would also need to be familiar with the transcription used in the texts. Therefore, we decided to record the texts as audio, and to conduct the tests in a computer-based environment. Since the participants were middle and high school students with basic computer skills, they had no difficulties in completing the tests in a computer-based environment. This method, called Recorded Text Testing (RTT), is based on participants listening to a text and then answering questions about its content. First developed in the 1950s by Voegelin and Harris (1951), Hickerson et. al. (1952), and Pierce (1952) to measure MI between Native American languages, RTT has become one of the most widely used methods in MI studies (Gooskens, 2024).

The responses to the questions designed for RTT can be either open-ended or multiple-choice. In open-ended responses, researchers are required to differentiate answers based on varying levels of accuracy, such as "completely

correct," "partially correct," and "incorrect," which can lead to partially subjective evaluations. Therefore, having participants choose from a limited set of options appears to be a more objective solution (Gooskens, 2024). In addition, multiple-choice questions allow researchers to easily evaluate responses, either manually or automatically. Based on these considerations, multiple-choice questions were prepared for RTT in this study.

2.3   Questionnaire

Before the RTT, participants were asked to fill in a demographic survey, answer questions about exposure to the test language, perceived intelligibility, and attitudes. Participants were asked questions regarding their socio-geographical and socio-economic backgrounds, including their age, gender, educational level, and the number of years they had lived within and outside their village (see Appendix-1). Perceived intelligibility was assessed by asking participants to rate their understanding of the test language on a scale from 1 ("I understand nothing") to 5 ("I understand everything"). After completing the intelligibility test, participants were asked to evaluate the test language using five different five-point attitude scales: beautiful–ugly, polite–rude, friendly–unfriendly, normal–strange, and modern–old-fashioned (see Appendix-1). These scales represent various attitudinal dimensions identified by Zahn and Hopper (1985) and have been previously employed (e.g., Schüppert et al., 2015) to explore the relationship between intelligibility and attitudes toward test languages.

2.4   Participants

Since the study aimed to test the younger generation's understanding of Kurmanji and Zazaki variants, participants were selected from among 14–19-year-old students attending middle and high schools in the respective district centers. All participants were born and raised in settlements within the district where they were studying and had spent the majority of their lives there. The primary criteria for participant selection were that they spoke their local language as their native language and had not formally learned the test language. All participants were proficient in Turkish in addition to their native language. Participants who had a family member who spoke the test language or who had not acquired the local language of their district as their native language were excluded from the study. The study included 27 participants from each district, with a total of 243 participants: 135 from the five districts where Kurmanji is spoken and 108 from the four districts where Zazaki is spoken. While the overall gender distribution was similar in the Kurmanji and Zazaki groups, the Zazaki group exhibited a predominance of male participants. In terms of educational level, the majority of the participants in both groups were attending middle school; however, the

Kurmanji group (11.1%) showed a slight advantage over the Zazaki group (10.2%) in the proportion of participants attending high school. Among Kurmanji participants, 47.4% were female and 52.6% were male, with 88.9% attending middle school and 11.1% attending high school. Among Zazaki participants, 39.8% were female and 60.2% were male, with 89.8% attending middle school and 10.2% attending high school. Details of the participants' demographic and educational backgrounds are presented in Figure 2.

Table 1: Background of the participants

Kurmanci Participants		Baskil		Kovancilar		Karakocan		Keban		Sivrice		Total	
		n	%	n	%	n	%	n	%	n	%	n	%
Gender	Female	13	48.1	19	70.4	8	29.6	10	37.0	14	51.9	64	47.4
	Male	14	51.9	8	29.6	19	70.4	17	63.0	13	48.1	71	52.6
Studying at	Middle school	22	81.5	17	63.0	27	100	27	100	27	100	120	88.9
	High school	5	18.5	10	37.0	0	0.0	0	0.0	0	0.0	15	11.1

Zazaki Participants		Alacakaya		Arıcak		Maden		Palu		Total	
		n	%	n	%	n	%	n	%	n	%
Gender	Female	10	37.0	10	37.0	8	29.6	15	55.6	43	39.8
	Male	17	63.0	17	63.0	19	70.4	12	44.4	65	60.2
Studying at	Middle school	27	100.0	16	59.3	27	100.0	27	100.0	97	89.8
	High school	0	0.0	11	40.7	0	0.0	0	0.0	11	10.2

2.5   Procedure

Before the experiment, the research leaders informed the participants about the content and the purpose of the study and emphasized that they were free to discontinue their participation at any time during the testing session. Then, participants were informed about the experiment design. They were told that they would listen to a recorded text, which the system allowed them to play twice. After listening, they were expected to answer five multiple-choice questions

related to the text. Before submitting, participants could return to any question to review or change their answers.

Figure 2: A secreen shot of the LMS module
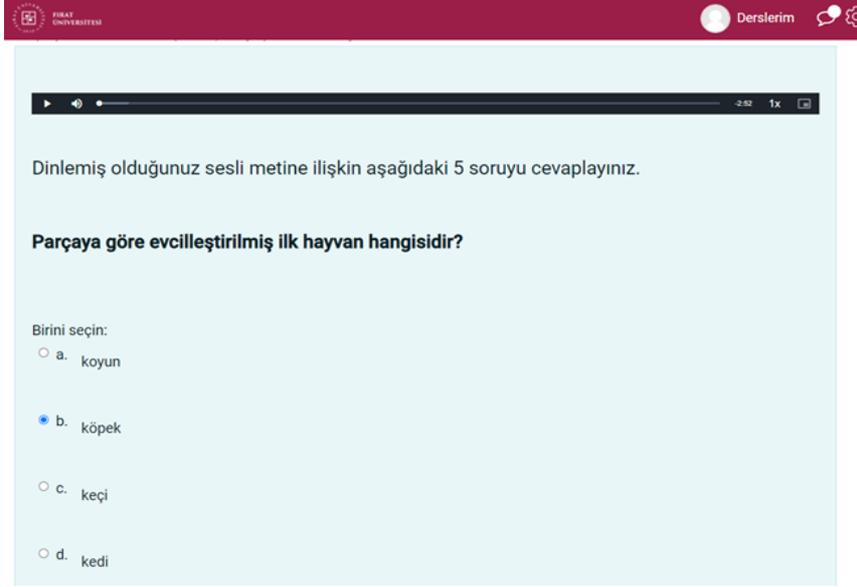
The entire experiment was conducted online through a custom-made web application 'LMS' provided by Firat University and primarily used for distance education (see Figure 3).

Participants started the experiment by filling out a socio-demographic questionarie. After completing the questionnaire, participants proceeded to the listening and comprehension tasks. Each session lasted approximately 15 minutes, including the time allocated for listening, answering questions, and completing attitude evaluations. To address any technical issues that might arise during the testing sessions, the research leaders were present in the exam room and provided immediate assistance as needed, ensuring that participants could complete the test without interruptions.

*Figure 2: Pictures from the experiment in Keban distric.*

3   Results

Section 3.1 presents the intelligibility scores obtained from the functional test (RTT) administered to Kurmanji and Zazaki participants, both in general and by gender. Section 3.2 reports the findings from the perceived intelligibility survey, conducted before participants took the RTT, and evaluates the relationship between perceived intelligibility and RTT results. Section 3.3 focuses on extralinguistic factors affecting MI, presenting findings on exposure to the test language (3.3.1 *Exposure*) and attitudes toward the test language (3.3.2 *Attitude*), and evaluates how these factors relate to intelligibility outcomes.

3.1   Functional Intelligibility

Figure 3 shows the percentage of correct answers in the RTT test for Kurmanji and Zazaki participants, categorized by gender. The results indicate that the intelligibility rates are relatively close (the average score for Zazaki participants is 37.9%, compared to 34.5% for Kurmanji participants). The highest intelligibility rate was observed among Zazaki women (39% correct), while the lowest was among Kurmanji men (34.08% correct). All average scores for correct answers remain below 40%.

Figure 3: Mean percentage of correct answers, broken down for gender and language
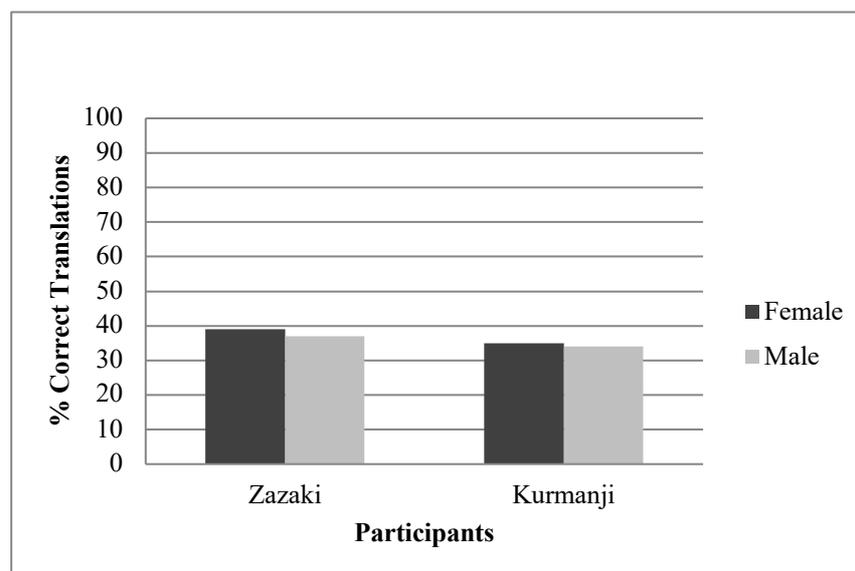
A two-way ANOVA test was conducted to examine the effect of gender and the participants' native language on intelligibility levels. The analysis revealed no statistically significant difference between Zazaki participants (37.7% correct) and Kurmanji participants (34.5% correct) (F = 1.837, p > 0.05). Similarly, there was no statistically significant difference in correct answers between male participants (35.4% correct) and female participants (36.6% correct) (F = 0.361, p > 0.05). Furthermore, no statistically significant interaction was observed between the effects of gender and functional intelligibility scores (F = 0.058, p > 0.05).

   Although Zazaki female participants (39% correct) performed better than Kurmanji female participants (35% correct), the results of the independent samples t-test indicates that this difference was not statistically significant (t = 1.080, p > 0.05). Similarly, difference between Zazaki male participants (36.9% correct) and Kurmanji male participants (34.1% correct) was also not found to be statistically significant (t = 0.836, p > 0.05).
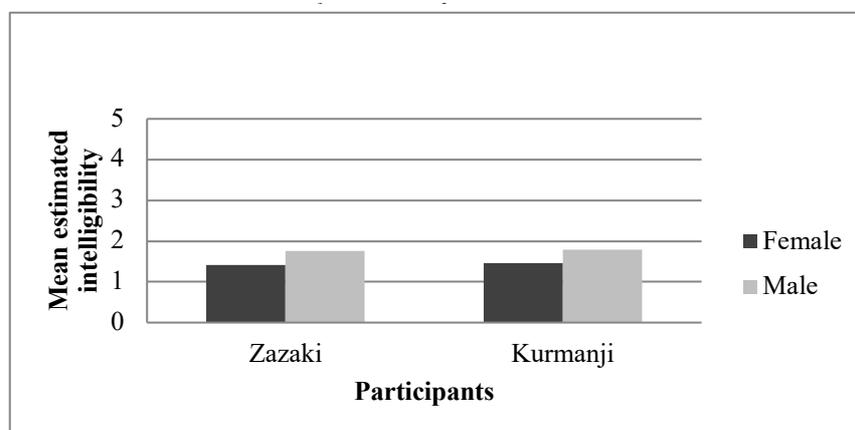
3.2   Perceived Intelligibility

In MI studies, it has been observed that participants are generally capable of evaluating how well they can understand a closely related neighboring language (e.g., Tang & van Heuven, 2009; Gooskens & van Heuven, 2017). In this study,

Zazaki and Kurmanji participants were asked to estimate their ability to understand the test language on a five-point scale prior to taking the functional test (1: "I understand nothing" - 5: "I understand everything"). The results are presented in Figure 5.

As shown in Figure 5, the perceived intelligibility scores are notably low. All average perceived intelligibility scores are below 2. The highest average score was observed among Kurmanji male participants (1.78), while the lowest average score was recorded for Zazaki female participants (1.41).

Figure 4: Mean estimated intelligibility scores on a scale from 1 'I do not understand a word' to 5 'I understand everything' broken down for gender and

A two-way ANOVA analysis was conducted to examine the effects of gender and participants' perceived intelligibility of the test language. The analysis revealed no statistically significant difference between the perceived Zazaki intelligibility of Kurmanji participants (mean 1.63) and the perceived Kurmanji intelligibility of Zazaki participants (mean 1.62) ($F = 0.111$, $p > 0.05$). Male participants (mean 1.77) held a more favorable perception of their ability to understand the test language compared to female participants (mean 1.44). This difference was statistically significant at the 0.01 level ($F = 10.388$, $p < 0.05$). However, no interaction was found between gender and language on perceived intelligibility scores ($F = 0.000$, $p > 0.05$).

According to the perceived intelligibility scores, independent samples t-test showed that Kurmanji men (mean 1.78) scored slightly higher than Zazaki men (mean 1.75), but this difference was not statistically significant ($t = -0.247$, $p > 0.05$). Similarly, Kurmanji women (mean 1.45) scored slightly higher than Zazaki women (mean 1.41), but this difference was also not statistically significant ($t = -0.243$, $p > 0.05$).

3.3. Extra-Linguistic Determinants of Intelligibility

The ability of participants to understand closely related languages is not determined only by linguistic differences. Extralinguistic factors also play a role in influencing intelligibility. This section examines two factors known to have significant effects on functional tests in MI studies, as well as in the previous study on Kurmanji and Zazaki (Özek et al. 2021): participants' exposure to the test language and their attitudes toward it.

3.3.1   Exposure

In MI studies, the most important extralinguistic factor influencing participants' intelligibility of a non-native language is reported to be their level of exposure to the test language. The more exposure participants have to the test language, the more they begin to recognize phonetic correspondences between their native language and the test language and learn some of its vocabulary (see Gooskens, 2024, p. 69-70). Accordingly, many MI studies have found a strong correlation between exposure to the test language and the intelligibility of a closely related language (e.g., Gooskens & van Heuven, 2019).

The level of exposure can be measured in various ways (see Gooskens, 2024, pp. 79–83). In this study, we opted for a scale commonly used in MI studies. On this scale, participants from each group were asked to indicate their level of exposure to the test language on a scale from 1 ("none") to 5 ("almost every day").

As can be seen from Figure 6, all exposure scores were below 2. The highest exposure score was observed among Zazaki men (1.86), while the lowest was among Zazaki women (1.46). The other scores were similarly close: 1.66 for Kurmanji men and 1.65 for Kurmanji women.

Overall, participants had limited exposure to the test language despite living within the same provincial boundaries. Zazaki participants were exposed to Kurmanji slightly more than Kurmanji participants were exposed to Zazaki (average exposure score of 1.7 vs. 1.65). However, a two-way ANOVA analysis indicated that this difference between Kurmanji participants (1.65) and Zazaki participants (1.7) was not statistically significant ($F = 0.001$, $p > 0.05$). Similarly, no statistically significant difference was found between male participants (1.75) and female participants (1.57) ($F = 2.120$, $p > 0.05$). Additionally, no statistically

significant interaction was observed between the effects of gender and language on exposure scores ($F = 2.001$, $p > 0.05$).

Figure 5: Mean exposure scores broken down for gender and language of the participants on a scale from 1 'never' to 5 'almost every day'
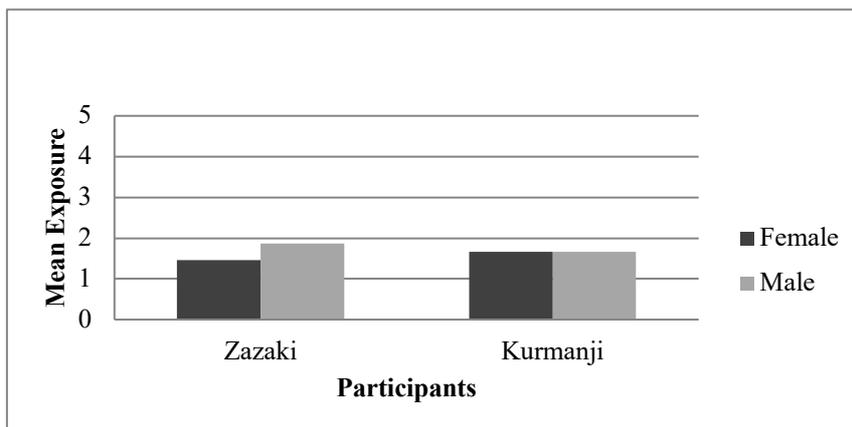
Exposure scores are slightly higher for Zazaki men (mean 1.86) compared to Kurmanji men (mean 1.66). However, according to the independent t-test, this difference is not statistically significant ($t = 0.276$, $p > 0.05$). Similarly, Kurmanji women (mean 1.65) scored slightly higher than Zazaki women (mean 1.46), and this difference was also not statistically significant ($t = -1.015$, $p > 0.05$).

No significant correlation was found between the average intelligibility scores and exposure scores for all participants ($r = 0.021$, $p > 0.05$).

3.3.2   Attitude

In the literature, attitudes toward the test language are frequently highlighted as a significant variable influencing test results. Positive attitudes toward the test language improve participants' motivation to understand, leading to higher performance, while negative attitudes weaken motivation and result in lower test scores (see Delsing & Lundin Åkesson, 2005; Gooskens, 2006; Schüppert et al., 2015). Therefore, after the functional intelligibility test, an attitude scale was administered to measure participants' attitude toward the test language. The scale was structured on a five-point scale, where 1 represented the "most positive" attitude and 5 represented the "most negative" attitude. The results of the five-point scale are presented in the table below. As shown, the average attitude scores of all participants are below 3. The most positive group is Zazaki men, with an

average score of 2.96, while the most negative group is Kurmanji women, with an average score of 2.48.

Figure 6: Mean attitudes (from 1 = most positive to 5 = most negative) across all scales as a function of gender for the Zazaki and the Kurmanji participants
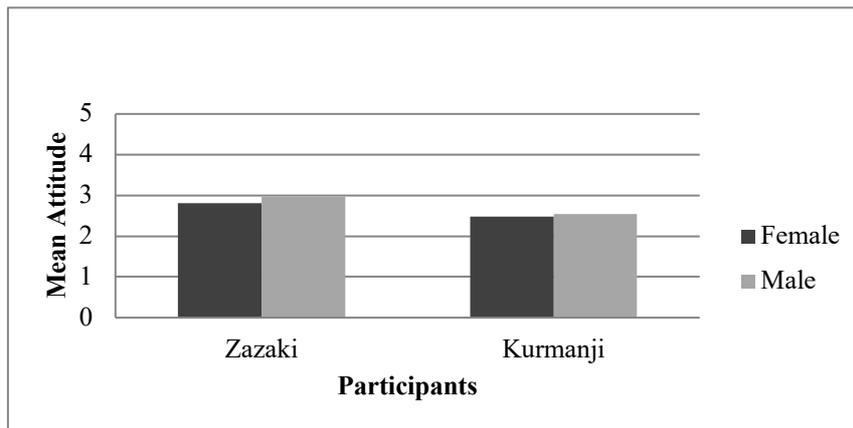
Zazaki participants have a more positive attitude toward the test language compared to Kurmanji participants (mean 2.89 vs. 2.51). According to a two-way ANOVA analysis, this difference is statistically significant ($F = 9.420$, $p < 0.05$). However, the slightly more positive attitude of male participants (mean 2.74) compared to female participants (mean 2.61) was not found to be statistically significant ($F = 0.800$, $p > 0.05$). Additionally, no statistically significant interaction was observed between the effects of gender and language on attitude scores ($F = 0.160$, $p > 0.05$).

Kurmanji men (mean 2.54) have slightly lower attitude score than Zazaki men (mean 2.96). An independent samples t-test showed that this difference was statistically significant ($t = 2.565$, $p < 0.05$). Similarly, Kurmanji women (mean 2.48) have slightly lower attitude score than Zazaki women (mean 2.80), but this difference was not statistically significant ($t = -1.842$, $p > 0.05$).

A correlation analysis was conducted to examine the relationship between functional intelligibility scores and attitude scores, but no significant correlation was found for all participants ($r = 0.004$, $p > 0.05$). While it might be expected that participants with more negative attitudes would score lower on the intelligibility test, this was not supported by the results. The most positive participants (Zazaki men) did not achieve the highest intelligibility scores, and the most negative participants (Kurmanji women) did not have the lowest intelligibility scores.

We also examined whether there was a relationship among perceived intelligibility, exposure, and attitudes for all participants. The results revealed a

strong positive correlation between perceived intelligibility and exposure scores for all participants (r = 0.640, p < 0.01). Additionally, a weak positive correlation was found between perceived intelligibility and attitude scores toward the test language (r = 0.159, p < 0.05), as well as between exposure and attitude scores (r = 0.172, p < 0.05).

These results seem to indicate that participants with more exposure and more positive attitudes to the test language tend to perceive higher intelligibility. Furthermore, participants with more exposure to the test language developed more positive attitudes toward it. However, it should be noted that correlation coefficients do not imply causation. It is also possible that higher perceived intelligibility fosters more positive attitudes and a greater willingness to engage with the varieties, and that positive attitudes encourage increased exposure.

4   Conclusion and Discussion

In this study, using two methods we measured the MI between Kurmanji and Zazaki speakers living within the borders of Elâzığ, a region located at the intersection of Eastern and Southeastern Anatolia. Participants were asked to listen to a recorded text and answer five multiple-choice questions. Prior to the functional test, they were also asked to estimate how well they understood the other language and to indicate their attitudes and level of exposure using a five-point scale.

Zazaki participants outperformed Kurmanji participants on functional tests. Both male and female Zazaki participants answered more questions correctly on the RTT compared to their Kurmanji participants. However, this difference between Kurmanji and Zazaki participants was not statistically significant (F = 1.837, p > 0.05). Similar results were also found in Özek et al. (2021), which conducted a word-level test. In that study, both Kurmanji and Zazaki participants scored below 15%. However, the results of the present study (Zazaki 37.9% vs. Kurmanji 34.5%) are higher in percentage compared to those obtained in Özek et al. (2021). This difference can be explained by the use of different tests and different participant profiles. As mentioned in section 2.2, participants tend to get lower scores on word-level tests because they cannot benefit from contextual clues. In Özek et al. (2021), the participants were generally older and had lower levels of education. This lack of familiarity with the test format may have influenced their performance, contributing to the lower scores. Indeed, it is frequently emphasized in the literature that participants with different socio-demographic features may get varying results in tests (see Gooskens, 2024, p. 95–96). Therefore, it can be claimed that students aged 14–19 are generally familiar with multiple-choice tests, and this may have given them an advantage.

Another finding of the study is that functional intelligibility scores were similar for both Kurmanji and Zazaki participants when categorized by gender

(ranging between 34% and 39%), indicating that gender did not have an effect on MI results. This finding also differs from that of Özek et al. (2021), where Zazaki women had the lowest intelligibility scores, while Zazaki men had the highest. However, the same difference was not observed among Kurmanji participants. The differences between the two findings appear to be influenced by the social dynamics of the participants in Özek et al. (2021), it was reported that Zazaki women interacted with people outside their community only in limited situations, generally remaining in their villages and having minimal contact with individuals from outside. In the present study, the Zazaki women, like all other participants, were continuing their education and had more opportunities to interact with people outside their community, which likely contributed to their performance.

The perceived intelligibility results were low for both groups, with all average scores below 2 out of 5 (Kurmanji 1.63 > Zazaki 1.62). Considering that the overall functional intelligibility scores for all groups were below 40%, these findings align with other studies in the literature (e.g., Tang & van Heuven, 2009; Gooskens & van Heuven, 2017), indicating that participants were successful in estimating how well they understood the test language. In Özek et al. (2021), however, no significant correlation was found between perceived intelligibility and functional test scores. Kurmanji men were just as positive as Zazaki men about their ability to understand the other language, even though their test scores were lower than those of Zazaki men and Kurmanji women. They suggested that the reason for this might be that many Kurmanji speakers perceive Zazaki as a dialect of Kurdish. As a result, when asked to estimate their understanding of Zazaki, some may not fully recognize how distinct this language is from their own (Özek et. al. 2021, p. 1439). Considering the age differences between the participants in the two studies, it can be suggested that the younger participants in our study approached the linguistic status between the two languages more objectively.

Participants had limited exposure to the test language despite living in the same region. However, when compared on gender basis, male participants generally perceived themselves as better at understanding the test language (average 1.77) compared to female participants (average 1.44). Similarly, male participants reported slightly higher exposure to the language (1.75) than their female counterparts (1.57). These findings suggest that greater exposure to the test language may lead to higher perceived intelligibility, even though it could also be the case that high perceived intelligibility results in higher exposure. Indeed, when examining the relationship between perceived intelligibility and exposure, a strong positive correlation was found between the perceived intelligibility and exposure scores of male participants ($r = 0.653$, $p < 0.01$). The same applies to all other participants. ($r = 0.640$, $p < 0.01$).

The differences on functional intelligibility scores between the groups can generally be explained by variations in their levels of exposure. In the study, Zazaki participants had higher intelligibility scores compared to Kurmanji participants (Zazaki 37.7% > Kurmanji 34.5%). Zazaki participants, who had higher functional intelligibility scores, were also slightly more exposed to Kurmanji (Zazaki 1.7 > Kurmanji 1.65). This difference was not statistically significant ($F = 0.001$, $p > 0.05$). However, a strong positive correlation was found between perceived intelligibility and exposure scores for all participants in the study ($r = 0.640$, $p < 0.01$). As participants were more exposed to the test language, their perceived intelligibility scores increased.

In conclusion, this study demonstrates that MI between Kurmanji and Zazaki is generally low. Although MI is not the sole criterion for determining linguistic status of a closely related language, low level intelligibility favors the claim that Kurmanji and Zazaki should be regarded as separate languages. Future research should investigate MI between Kurmanji and Zazaki using diverse methods and participant profiles to capture a wider range of intelligibility factors. To date, no MI studies have been conducted on other closely related local languages in Türkiye. Extending such research to these languages would not only fill an important gap in the literature but also provide valuable insights for language policy and planning in the country's multilingual context.

Appendix: English translation of the questionnaire

A. Demographic Information
1. Name _____
2. Age _____
3. Gender (1) Woman (2) Man
4. Graduated from_____
5. How many years have you been living in this village? _____
6. Duration, if lived outside the village: _____
7. Which language(s) do you speak? (1) Turkish (2) Kurmanji (3) Zazaki (4) Others
8. Which language do you use in daily life? (1) Turkish (2) Kurmanji (3) Zazaki (4) Others
9. Which language does your father speak? (1) Turkish (2)Kurmanji (3) Zazaki (4) Others
10. Which language does your mother speak? (1) Turkish (2) Kurmanji (3) Zazaki (4) Others

B. The Pattern of Language Use

	I can speak	I can understand
Zazaki		
Kurmanji		

C. Exposure to Test Language

Grade your exposure to Kurmanji/Zazaki between 1 (never) and 5 (almost every day).

Never	1 2 3 4 5	Almost every day

D. Estimated Intelligibility

Which degree do you think you understand Zazaki/Kurmanji? Please grade between 1 to 5.

I don't understand a word	1 2 3 4 5	I understand perfectly

E. Attitude Toward the Test Language (After the Listening Test)

How does the language you just heard sound? Please grade between 1 to 5

a) nice	1	2	3	4	5	bad
b) kind	1	2	3	4	5	rude
c) friendly	1	2	3	4	5	unfriendly
d) normal	1	2	3	4	5	weird
e) modern	1	2	3	4	5	old-fashioned

References

Akkuş, M. & Sağın Şimşek, Ç. (2021). Interjections as signals of mutual intelligibility in Turkish-Azeri receptive multilingual communication. *Turkic Languages* 25(2), 191 – 209.

Aratemür, Y. (2011). Arkaik kaynaklardan modern kaynaklara Zazaca ve Zazalar. In Murat Varol (Ed.), *I. Uluslararası Zaza Dili Sempozyumu* (pp. 270–285). Bingöl Üniversitesi Yayınları.

Arpa, A. (2012). Zazaca'nın Kürtçe'yi anlama yeterliliği. In Murat Varol (Ed.), *II. Uluslararası Zaza Tarihi ve Kültürü Sempozyumu* (pp. 541–554). Bingöl Üniversitesi Yayınları.

Arslan, İ. (2018). Zaza dilinde lehçe farklılıkları. *Bingöl Üniversitesi Yaşayan Diller Enstitüsü Dergisi* 7(4). 51–66.

Andrews, P. A. (2002). *Ethnic groups in the Republic of Turkey*. Dr. Ludwig Reichert Verlag.

Buran, A. & Yüksel Çak, B. (2012). *Türkiye'de Diller ve Etnik Gruplar*. Akçağ Yayınları.

Delsing, L. & Lundin-Åkesson, K. (2005). *Håller språket ihop Norden? En forskningsrapport om ungdomars förståelse av danska, svenska och norska [Does the language keep together the Nordic countries? A research report of mutual comprehension between young speakers of Danish, Swedish and Norwegian]*. Nordic Council of Ministers.

Gippert, J. (1996). Die hsitorische Entwicklung der Zaza-Sprache. Ware. Pêseroka Zon u Kulturê Ma: Dımıli-Kırmanc-Zaza 10, 148–154.

Golubović, J. & Gooskens, C. (2015). Mutual intelligibility between West and South Slaviclanguages. *Russian Linguistics* 39(3), 351-373.

Gooskens, C. (2006). Linguistic and extra-linguistic predictors of inter-Scandinavianintelligibility. In Jeroen van de Weijer & Bettelou Los (eds.), *Linguistics in the Netherlands* 23, 101–113.

Gooskens, C. (2007). The Contribution of Linguistic Factors to the Intelligibility of Closely Related Languages. *Journal of Multilingual and Multicultural Development*, 28(6), 445–467.

Gooskens, C. (2013). Experimental methods for measuring intelligibility of closely related language varieties. In R. Bayley, R. Cameron, & C. Lucas (Eds.), *The Oxford handbook of sociolinguistics* (pp. 195–213). Oxford University Press.

Gooskens, C. (2018). Dialect intelligibility. In Charles Boberg, John Nerbonne & Dominic Watt (eds.), *Handbook of dialectology* (pp. 204–218). Wiley-Blackwell.

Gooskens, C. (2024). *Mutual Intelligibility between Closely Related Languages*. De Gruyter Mouton.

Gooskens, C. & van Heuven, V. J. (2017). Measuring cross-linguistic intelligibility in the Germanic, Romance and Slavic language groups. *Speech Communication* 89, 25–36.

Gooskens, C. & van. Heuven, V. J. (2019). How well can intelligibility of closely related languages in Europe be predicted by linguistic and non-linguistic variables? *Linguistic Approaches to Bilingualism* 10(3). 351–379.

Heper, M. (2007). *The State and Kurds in Turkey: The question of assimilation*. Palgrave Macmillan.

Hickerson, H., Turner, G. D. & Hickerson, N. P. (1952). Testing procedures for estimation transfer of information among Iroquois dialects and languages. *International Journal of American Linguistics* 18(1), 1–8.

Işısağ, K. U. & Demirel, Ö. (2010). Diller İçin Avrupa Ortak Başvuru Metni'nin Konuşma Becerisinin Gelişiminde Kullanılması. *Eğitim ve Bilim*, 35(156), 190-204.

Kehl-Bodrogi, K. (1998). "Wir sind ein Volk!": Identitätspolitiken unter den Zaza (Türkei) in der europäischen Diaspora. *Sociologus Neue Folge / New Series* 48(2), 111–135.

Keskin, M. (2010). Zazaca üzerine notlar. In *Herkesin bildiği sır: Dersim – Tarih, Toplum, Ekonomi, Dil ve Kültür* (pp. 1–16). İletişim Yayınları.

Kluge, A. (2007). RTT Retelling Method: An Alternative Approach to Intelligibility Testing. *SIL Electronic Work Papers 2008*.

Koç, S. (2011). Zazacanın dünya dilleri arasındaki konumu ve yeri. In Murat Varol (Ed..), *I. Uluslararası Zaza Dili Sempozyumu Bildiri Kitabı* (pp. 497–502). Bingöl Üniversitesi Yayınları.

Lewis, M. P. & Simons, G. F. (2010). Assessing endangerment: Expanding Fishman's GIDS. *Revue Roumaine de Linguistique* 55(2), 103–120.

Nahhas, R. W. & Kirkland, C. (2007). *The Steps of Recorded Text Testing: A Practical Guide*. Payap University

Öpengin, E. (2010). Türkiye'de Kürtçe'nin durumuna toplumdilbilmsel bir bakış ve anadilinde egitim. *Birikim* 252, 28–36.

Özek, F., Saglam, B. & Gooskens, C. (2021). Mutual intelligibility of a Kurmanji and a Zazaki dialect spoken in the province of Elazığ, Turkey. *Applied Linguistics Review*, 14(5), 1411-1449.

Öztürk, R. 2008. Dil, lehçe ve karşılıklı anlaşılabilirlik denemesi üzerine. In *Prof. Dr. Ahmet Bican Ercilasun armağanı*, 386–393. Akçağ Yayınları.

Paul, L. (1998). The position of Zazaki among West Iranian languages. In Nicholas Sims-Williams (Ed.), *Proceedings of the 3rd European Conference of Iranian Studies* (held in Cambridge, 11–15th September 1995). *Part I, Old and Middle Iranian Studies* (pp. 163–176). Wiesbaden.

Pierce, J. E. (1952). Dialect distance testing in Algonquian. *International Journal of American Linguistics* 18, 208–218.

Schüppert, A., Hilton, N.H. & Gooskens, C. (2015). Introduction: Communicating across Linguistic Borders. *Linguistics* 53 (2), 211–17.

Sheyholislami, J. (2017). Language status and party politics in Kurdistan-Iraq: The case of Badini and Hawrami varieties. In Zeynep Arslan (Ed.), *Zazaki – Yesterday, today and tomorrow: Survival and standardization of a threatened language* (pp. 55–76). Wien Kultur.

Sağın-Şimşek, Ç. & König, W. (2012). Receptive multilingualism and language understanding: Intelligibility of Azerbaijani to Turkish speakers. *The International Journal of Bilingualism* 16. 315–331.

Sağın-Şimşek, Ç. (2014). Receptive multilingualism in Turkish-Turkmen academic counseling sessions. *Applied Linguistics Review* 5. 195–210.

Sağın-Şimşek, Ç. & Antonova Ünlü, E. (2019). A hearer-based analysis of Turkish-Azerbaijani receptive multilingual communication. *Internatıonal Journal of Bilingualism* 23(4), 843-855.

Sağın Şimşek, Ç. & Antonova Ünlü, E. & Akkuş, M. (2017). Türkçe-Kazakça algısal çok dilli iletişim üzerine bir inceleme. In N. Büyükkantarcıoğlu, Işıl Özyıldırım ve Emine Yarar (Ed..), *45. Yıl Yazıları* (pp. 329-340) Hacettepe Üniversitesi Yayınları.

Simons, G. F. & Fennig, C. D. (2017). Ethnologue (Languages of the world 17). SIL International.

Tang, C. & van Heuven, V.J. (2009). Mutual intelligibility of Chinese dialects experimentally tested. *Lingua* 119(5), 709–732.

Tekin, T. 2012. Türkçe ile Kazakça arasında karşılıklı anlaşabilirlik. In Emine Yılmaz & Nurettin Demir (eds.), *Makaleler 3: Çağdaş Türk dilleri*, 247–254. Ankara: TDK Yayınları

Uzun, N. E. (2012). Türkçenin dünya dilleri arasındaki yeri üzerine. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Türkoloji Dergisi* 19(2), 113–132.

Varol, M. (2017). Üniversitelerdeki Zazaca araştırmalarına dair bir inceleme. In Gürhan Bilen Mehmet, Fuat Veysel İstemi & Bayram Kanarya (Eds.), *Uluslararası Sosyal Bilimler Kongresi* (pp. 593–597). Şarkiyat Vakfı.

Voegelin, C. F. & Harris, Z.S. (1951). Methods for determining intelligibility among dialects of natural languages. *Proceedings of the American Philosophical Society 95(3)*, 322–329.

Zahn, C. J. & Hopper, R. (1985). Measuring language attitudes: The speech evaluation instrument. *Journal of Language and Social Psychology* 4(2), 113–123.