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FIRST LANGUAGE ATTRITION AMONG RUSSIANS LIVING IN HUNGARY

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Introduction

The language use of Russian-paired bilinguals living in different countries is increasingly attracting the attention of linguists (Gürel, 2004, 2008; Pavlenko, 2010). The intensive growth of Russian diasporas in different parts of the world has made them an object of study in the era of globalization and large-scale interethnic migrations. People who have left their homeland generally try to maintain kinship, cultural, and friendship ties. Maintaining L1 skills requires effort, especially if that effort is not supported by the environment. However, if effort is not exerted to maintain the L1, language attrition happens. The effect of the second language (L2) on the L1 is studied in several areas of linguistics, such as psycholinguistics, neurolinguistics, and sociolinguistics, therefore, several terms are used to describe the weakening of language skills either at the individual or the societal level: language regression, language attrition, language loss, language shift, code-mixing, code-switching, and language death (Gürel, 2008). Language attrition studies focus on the individual level and connect psycholinguistic and sociolinguistic processes by looking at the weakening of L1 skills at every language level, and take extralinguistic factors (such as attitudes, education level, frequency of language use in different domains, length of residence) into account.

After an individual moves to an L2 environment, the L1 may become unstable, "wobbly", and recalling particular structures and vocabulary may become difficult, which is manifested in the loss of fluency and/or decrease in lexical diversity (de Bot & Weltens, 1995; de Bot, 1996; de Leeuw et al., 2018; Jarvis, 2019; Kroll et al., 2006; MacWhinney, 2019a, 2019b; Opitz, 2013; Köpke & Schmid, 2004; Schmid & Köpke, 2017). So far, there has been a very small number of studies on the effects of attrition, not only among the Russian community in Hungary, but also in general, which is surprising especially in the light of theories about cross-linguistic influence, which implies changes in the L1, too. Systematic research on language attrition has started only at the first years of the 21st century (e.g. Schmid, 2002) and most of it has been in terms of small-scale studies bearing small statistical power and finding no real effect of any extralinguistic variables (Schmid, 2020). Overview and handbook articles urge carrying out attrition studies that include at least 50 participants and use the methodological framework developed for L1 attrition studies for comparability. The present study addresses this gap in the literature and aims to contribute to empirical findings by studying the L1 of Russians living in Hungary.

The presence of Russian communities in various countries started to be visible after the collapse of the Soviet Union, when moving abroad to the west and east became an option for the larger population. Migration of Russians in the post-Soviet period targeted the post-Soviet countries, the United States, Europe and Israel, in particular. Nowadays a new kind of

migration, educational migration is starting to play an increasingly important role (such as, with the help of the Stipendium Hungaricum scholarship). The history of Russians in Hungary started in the Soviet period when the Soviet Army's Southern Group of Forces numbering about 60 thousand people was stationed in Hungary. Soviet specialists were involved in large Hungarian enterprises, for example, Ikarus or the nuclear power plant in Paks. After the collapse of the Soviet Union, an overwhelming number of specialists returned to their homeland, but a small number remained in Hungary and many of them married Hungarians (Ryazantsev et al., 2020). Furthermore, due to the aforementioned migration, the number of Russians increased in the last three decades. The fact that the Russian community in Hungary has not been studied from a linguistic point of view is one of the aspects of significance of this study.

Another important point is that L1 attrition takes place in the context of emigration which often entails the re-assessment of identity, group membership, etc. (Schmid, 2004a). Language use and proficiency are markers of identity which can be controlled by the individual. As the social status of the immigrant becomes lower than his/her status in the country of origin (Yagmur, 1997), assimilation can be a desired state for which the native language has to be rejected and a high proficiency in the L2 acquired. However, if the individual wishes to be perceived as a member of the immigrant community, she/he will maintain the L1. In both cases, attitudes seem to play an important role and should be investigated in the framework of language attrition.

This study is focused on attrition at the lexical and grammatical levels and investigates the relation of extralinguistic variables and language attrition with the use of the following instruments: a social personal background questionnaire, personal interviews, verbal fluency (semantic and letter fluency) tests, story-telling, and a future tense formation task.

The goals of the study are as follows:

- to find out the effect of extralinguistic factors on the extent of language attrition;
- to explore the level of L1 maintenance by Russians living in Hungary (based on the frequency of use and attitudes towards the L1) according to the questionnaire data and account it for language attrition;
- to find differences between attrited and non-attrited (monolingual) groups in lexical access and lexical diversity;
- to find differences in the temporal and performance-related measures of speech fluency between the attrited and the non-attrited (monolingual) groups;
- to find differences in performance and use of simplified forms between the attrited and the non-attrited (monolingual) groups;
- to find the extent to which the Russian and Hungarian languages and cultures contribute to the identity formation of Russians in Hungary.

Russians in Hungary

Russian emigration in different periods of history was caused by various factors that affected emigrants' attitudes to the homeland, language, and culture. Emigrants had different attitudes to the preservation of the Russian language, which depended on the reasons of migration, the life, attitudes and priorities of the emigrants themselves. Four waves of Russian emigration can be distinguished (Andrews, 1999): the first, during the revolution of 1917; the second, during and after World War II; the third, in the 1970's, the bulk of the emigrants were Jews who were allowed to emigrate to Israel and the USA, and dissidents expelled from the country; and the fourth, beginning with the late 1980s in perestroika period, and after the fall of the "iron curtain" – the period after 1991.

The migration of Russians to Hungary started after the WWI and accelerated after the Russian civil war (1917–1922). According to the census in 1920, 3777 Russian-born males and 1085 females lived in Hungary and by 1930 it changed to 2435 males and 1798 females (Tarján, 2016). The next period, as it was mentioned in Chapter 1, was after the WWII, when some members of the Russian troops and later specialists involved in building the Paks power plant decided to stay in Hungary. However, the vast majority of Russians in Hungary came to the country as a result of the migration processes taking place in the 20th century and even today (Papp, 2018).

According to the official data provided by the Hungarian Central Statistical Office (KSH), the number of Russians in Hungary has increased between 1990 and 2011 (see Table 1.)

Table 1. Russians in Hungary according to mother tongue and nationality, 1990–2011 (Központi Sztatisztikai Hivatal, 2011)

Mother tongue			**Language used in the family, with friends**		**Cultural affiliation**	**Nationality**		**Belong to nationality**	
1990	2001	2011	2001	2011	2001	2001	2011	2001	2011
3092	3257	7382	3942	10231	2893	2341	6170	5512	13337

The first thorough micro-census in 2016 (Központi Sztatisztikai Hivatal, 2016) focused on non-official minorities – such as the Korean, Vietnamese, Chinese, Arabic, and Russian minorities. The survey included questions about social satisfaction, occupational prestige, and international migration. The Dwelling Questionnaire and the Personal Questionnaire included questions about age, marital status, educational attainment, citizenship, and economy activity. According to the census results, 21,518 people considered themselves Russian based on three factors: nationality, mother

tongue and language use (Figure 2). It is 0.2% of the whole population of Hungary, and 1.6% of these people speak Russian. One third (7,118) of the Russian population considered themselves Russian based on three factors altogether, and 5,661 people identified themselves as Russian based solely on language use. A large part of the Russian-speaking population is not ethnically Russian, according to their responses, even though the numbers are very diverse in terms of the length of residence, citizenship, the use of the Russian language in the family, etc.

Literature review

Any phenomena that arise in the native language of a sequential bilingual as the consequence of the con-activation of languages, crosslinguistic transfer or disuse, at any stage of second language (L2) development and use, as *language attrition* (Schmid & Kopke, 2017: 637). The first milestone in language attrition studies was a conference followed by an edited volume *The Loss of Language Skills* (Lambert & Freed, 1982), in which topics about language shift, language attrition, and language maintenance can be found. Soon after, several attempts have been made to differentiate between terms, such as language shift, attrition, loss, etc. which were often used interchangeably before (Cohen, 1986; de Bot & Weltens, 1995; de Bot, 1996). Language loss is now used as an umbrella term to refer to both shift and attrition and language shift is used at the societal (generational) level and attrition at the individual level (Schmid, 2011b).

As the theoretical and methodological understanding of the phenomenon had grown, the definitions became more successful in specifying the affected population (sequential bilinguals) and the changes in the L1. One of the latest definitions was proposed by Schmid and Köpke (2017), and it is adopted as the working definition in this study:

> *We refer to any of the phenomena that arise in the native language of a sequential bilingual as the consequence of the co-activation of languages, cross-linguistic transfer or disuse, at any stage of the second language (L2) development and use, as language attrition. First language (L1) attrition is therefore considered to be the process by which a) pre-existing linguistic knowledge becomes less accessible or is modified to some extent as a result of the acquisition of a new language, and b) L1 production, processing, or comprehension are affected by the presence of this other language.* (Schmid & Köpke, 2017: 637-638).

Language attrition affects the lexical, morphological, syntactic, and phonetic levels of the native language, but at the same time, the development of linguistic experience in L2 occurs. As a result, cross-linguistic influence is present at each language level and is bidirectional, affecting both the L1 and L2. Languages of a bilingual do not function in a balanced manner, and the balance tends to shift towards the language spoken more often.

The pace, depth, and type of LA are affected by various extralinguistic factors. A number of studies (Köpke & Schmid, 2004; Bylund, 2009; Paradis, 2007) tested how language attrition is influenced by age, frequency of use, length of residence, education and attitudes. Based on several studies with adopted children (Isurin, 2000; Glenne & Masters, 2002) Bylund (2009) proposed that the language is more vulnerable if migration to another country happens during the pre-puberty period and less likely to be affected in the post-puberty period (Schmid, 2012). This was explained partly by the critical period hypotheses, that is, brain flexibility at a young *age* allows for language acquisition and at the same time for attrition too (MacWhinney, 2019a) and partly by a social effect, that is, the new social environment of the child supports L2 acquisition but not L1 maintenance (e.g., Au et al., 2002). One would expect that *attitude* towards L1 directly influences language maintenance or attrition, as the positive attitude towards L1 can facilitate positive development (Schmid & Mehotcheva, 2012), however, only a few studies could find a direct link. This can be explained by the fact that attitude as a variable is difficult to separate from other factors (Opitz, 2011) and there is also a lack of a clear-cut definition (attitude towards the L1 or attitudes towards maintenance?). Paradis (2007) suggested that the *frequency of use* leads to language attrition if insufficient. He proposed a detailed explanation in the 'Activation Threshold Hypothesis,' claiming that the stability of mental representation is based on the frequency and recency of its activation.

It has been found that the likelihood of LA reduces with higher *education*, due to metalinguistic consciousness (Paradis, 2007), i.e., highly educated individuals tend to learn the L2 to an advanced level but at the same time maintain their L1.

The main research questions of the dissertation are the following:

1. To what extent do extralinguistic variables (age, education, frequency of use, and length of residence) associate with the level of L1 attrition of Russians living in Hungary?

Besides, several sub-questions are added to the research:

1a. To what extent is the L1 maintained by Russians living in Hungary based on the frequency of use and attitudes towards the L1?

1b. Is there any difference between the attrited and the non-attrited (monolingual) groups in lexical access and lexical diversity?

1c. Is there any difference in the temporal and performance-related measures of speech fluency between the attrited and the non-attrited (monolingual) groups?

1d. Is there any difference in solving the future tense formation task between the attrited and the non-attrited (monolingual) groups?

1e. To what extent do the Russian and Hungarian languages and cultures contribute to the identity formation of Russians in Hungary?

The hypotheses that will be tested are as follows:

1. Russians living in Hungary have a generally positive attitude towards their L1 and use the L1 frequently with family members, relatives and friends.
2. The attrited group will show the signs of L1 attrition in verbal fluency tasks in comparison to the control group and will show poorer lexical diversity.
3. The monolingual control group performs at a faster speech rate and articulation rate and has less disfluencies.
4. The attrited group will show poorer performance in the future tense formation task in comparison to the control group.
5. Age and length of residence will be negatively related, while frequency of use and attitudes will be positively related to lexical access, lexical diversity and to speech rate/articulation rate.
6. The length of residence and the language environment will affect the identity of the attrited group, and L1 and L2 languages and cultures are integral components of the identity.

Method

This dissertation aims to explore the language attrition phenomena among 50 participants, currently living in Hungary continuously and comparing the results to a control group, consisting of 50 participants as well.

The main selection criteria for participants in the two groups were the following:

- For the control group – to be monolingual residents in the L1 environment with low or no exposure to any L2 in any circumstances.
- For the target group a minimum of seven years of residence in Hungary.

For all participants, Russian is the L1, which is standardized across their homeland, Russia. Dialectal phonetic and vocabulary differences were not tested in this study. However, to note that the majority of the regions, the participants originally are coming from, include the dialect *Surzhyk,* due to close interaction with Ukrainian language and relatively close borders. The impact of the dialect was not reported by the participant in their questionnaire, making it clear that the main language of use with family, at work and other domains **is** strictly Russian for the control group, and **was** for the target group.

To collect the data, the **Social Personal Background Questionnaire (SPBQ)** was used in the study (retrieved from www.languageattrition.org). The original questionnaire was compiled by Schmid (2004b) to study the language attrition of bilingual immigrants. It is part of the Language Attrition Test Battery (Schmid,

2011b), which is targeted to elicit dependent variables and independent variables. It is suggested by Schmid (2011b) that variables should be reduced to a smaller set of factors by calculating average values over a set of variables for each individual, so the questionnaire results were decoded with the help of the "coding" book developed by Schmid in addition to SPBQ. The coding book was used in order to build up statistical data to analyse the progression of language attrition and find correlations and significance between the tests results and extralinguistic variables. In addition, Cronbach Alpha testing shall be conducted to calculate the internal reliability of the scale, in order to achieve a valid set of predictors. The reliability and internal consistency of the two factors are good and moderate, respectively: FOU (13 items), Cronbach α=.86; language attitude (10 items) Cronbach α=.6.

FOU proved to be reliable, so the internal consistency of the scale is good, while the reliability of attitude is quite low, which could be explained by the fact that it is not a stable factor but rather dynamic, and, as such, it is difficult to capture and measure it in different contexts.

Interviews were conducted with the informants to have a deeper insight about their attitudes towards Russian language and culture. The interview was conducted using social platforms or in a personal meeting, for example, in a café. The length of the interview ranged between 15 and 30 minutes. The purpose was for the interviewee to elaborate and expand on the questionnaire elements. The recordings were transcribed and analysed in order to find out the extent to which language is used not only for communication but to construct identity among Russians living in Hungary.

A **story-telling task** was administered to measure the lexical diversity and language fluency of the participants. It was based on the story “frog story” in which a boy and his puppy searching for an escaped frog, whom they befriended the night before who had run away from them. The original idea for the cartoon is coined by Mercer Mayer (1969) "Frog, where are you?". The advantage of using story-telling task lays within the same stimuli, which can be applied for any age group to elicit the spoken information for further research. Such task allows the participants to construct narratives, for instance as discursive actions – basically speech accomplished in every day. This task was chosen to elicit fairly free-spoken data with controlled content. The choice of vocabulary and the style is expected not to be homogeneous across the illustration, thus in this research lexical diversity is expected.

A verbal fluency task (VFT) was used to measure the time for lexical access under restricted time frame; how the mental lexicon has been affected by language attrition. For this research VF task was divided into two formats, phonemic and semantic; was used to investigate the mental lexicon and differences between the attriter and the control group. Both groups were instructed about the tasks and were presented with the stimuli to each of the category and it had to be performed in the participants’ L1. The participants were

given the choice which task to start with, as the particular order was not relevant for the research. The time for the each of the task included 60 seconds. All of the repeated words were excluded from the final count. The testing was conducted with the use of audio recording and subsequent transcribing and calculating of the elicited words.

The **future tense formation task** included 10 sentences with a blank space to fill in with a verb conjugated in the future form. The participants were expected to fill the spaces with one word in the perfective aspect, as it was required by the given sentences.

Comparative analysis of the future tense is simplified due to system of verbal forms being theoretically determined and fixed. In the base of the tense formation in both Russian and Hungarian lays the idea connection the moment of action, determined by verbal phrase, and the moment of speaking. Both of the languages have identical number of tenses: past, present and future. As for the experiment we are conducting, the future tense formation is the most preferable to observe.

Findings and Discussion

The focus of this study has been lexical and grammatical attrition, and it has aimed to investigate the relationship between extralinguistic variables and the extent of language attrition with the help of research instruments: social personal background questionnaire, personal interviews, verbal fluency (semantic and letter fluency), story-telling, and future tense formation task. This study has explored the degree of language attrition of people who left Russia for different reasons and at different times and identifies the characteristic signs of Russian-speaking immigrants' language living in Hungary. In the following, the main findings of this research will be discussed in relation to the research questions, hypotheses and the literature.

The main question of this study has been to answer to what extent extralinguistic variables (such as age, education, frequency of use, length of residence) have an impact on the level of L1 attrition of Russians living in Hungary. Several sociolinguistic factors were inspected in their relation to language attrition: age at immigration, length of residence in Hungary, level of Hungarian proficiency, exposure and use of Russian and Hungarian, and attitudes towards Russian and Hungarian. In order to answer the main question of the study, several sub-questions were created and hypothesis were generated.

The first question of the study has addressed the extent of Russian language maintenance based on the frequency of use and attitudes towards the L1. Based on previous studies with attriters, it was hypothesized that Russians living in Hungary will maintain a general positive attitude towards their L1, and use of L1 will be rather frequent with their family and relatives. The data were elicited by the Social Personal Background Questionnaire (Schmid, 2004b), including 79 questions and personal interviews with the

participants. The knowledge of English as an additional language for some participants was found out during the data collection process and it was impossible to change the design halfway which is a limitation and shortcoming of the research. The results have shown that the main factor for migration to Hungary was mainly a Hungarian spouse, and less frequently a job opportunity. To explore the extralinguistic factors, the SPBQ was used and besides demographic data, the frequency of L1 use and attitudes towards the L1 were assessed. The group averages were not high on any of the measures (FOU = 0.52, attitude = 0.56) and the analyses of the individual items revealed the reasons for the low ratings. In terms of FOU, the participants have mainly used Russian to keep in touch with relatives but in Hungary the language used in the family and with friends is predominantly Hungarian. Their attitude toward Russian has been generally positive but language transmission to the next generation is only moderately important to them, which is not surprising as in most voluntary migrant groups total language shift happens in three generations (Lieberson, 1980). A positive significant correlation has been found between attitudes and FOU which means that more positive attitudes to Russian are related to more frequent use of the language. The hypothesis of the study has been only partly confirmed by the results as the attitudes are positive but the language used in the family is more often Hungarian than Russian.

The second question of this study has been related to find out the difference between the attrited and the non-attrited groups in lexical access and lexical diversity. It was hypothesized that the attrited group will show some signs of L1 attrition in verbal fluency tasks and show poorer lexical diversity. The two verbal fluency tasks have been used for this research, letter fluency <c> and semantic category “animals” (Schmid, 2004). The participants were under a strict time-limit of 60 seconds, and they had to produce as many words as possible in the given period. As expected, the control group significantly outperformed the target group on both letter and semantic fluency measures which coincides with previous results, however, the performance of the attrited group was found to be unrelated to the frequency of exposure, length of residence or attitudes. It has not been clear to what degree the poorer performance of the target group is the outcome of general bilingualism effect or language attrition. Most studies focusing on the relationship between extralinguistic variables and verbal fluency could not find a direct link. Only a few studies with small samples found links to attitude (Cherciov, 2011) and length of residence (Bátyi, 2020). In the present study, the attrited group has performed more heterogeneously in both tasks than the control group which is usually found in bilingual groups; however, the variation could not be explained by any of the variables. Opposing the previous findings using the semantic and the letter fluency task, this research has showed that both the control and the target group

produced significantly more elements in the latter according to the paired samples t-test (t(19) = -10.368, p .000), target (t(16) = -6.59, p .000).

The control group has significantly outperformed the attrited group on both verbal fluency tasks which coincides with previous results (e.g. Schmid & Jarvis, 2014) and proves that lexical access is affected by the change in language dominance, hence the participants produced fewer words in their L1 than monolingual controls. The lexical diversity of the participants has been operationalized by the sophisticated type-token ratio and it was found that the control group performed better and the difference was marginally significant. These findings confirm the second hypothesis and are in line with previous results showing that even L1 maintainers in an L2 environment are outperformed by non-attriters (Schmid, 2007).

The results of the study have shown that L1 lexical retrieval is less effective among the Russian-Hungarian bilingual group than among Russian monolinguals which is in line with previous bilingual studies. Finally, the correlations between the extralinguistic variables and outcome measures has shown that age is negatively and non-significantly related to lexical diversity (STTR), i.e. lexical diversity in the L1 decreases by age. The length of residence shows no relationship with the lexical measures. Frequency of L1 use positively and significantly has correlated with letter fluency, while attitudes towards the L1 has shown significant positive relationship with letter fluency.

The third hypothesis of the study has proposed that the monolingual control group have faster speech rate and articulation rate and less disfluencies. The control group has been slightly faster in their speech and articulation rate, while the attrited group has performed more hesitation markers, however, none of these differences has been significant which does not convincingly confirm the third hypothesis. Besides, frequency of L1 use positively and non-significantly has correlated with a phonation-time ratio and negatively with the number of silent pauses per minute. Attitudes have positively and significantly correlated with phonation-time ratio and negatively and significantly with the number of silent pauses per minute. Finally, the length of residence has negatively and significantly correlated with the articulation rate. None of the extralinguistic factors have explained the variability in the outcomes according to the multiple regression analyses. Phonation-time ratio is a good indicator of speech fluency (Kormos, 2006) and in a language attrition context it changes due to changes in attitudes and language use.

The next question was whether the participants would show any difference in future tense formation task. It has been hypothesized that the attrited group will show poorer performance in future tense formation task. The last test has included the conjugation of the verb into the future tense, to test the implicit knowledge of grammar

of our participants. As expected, the control group has outperformed the target group in the testing, the latter performed more heterogeneously in the given task. while the monolingual group has been more homogeneous. The attrited group has achieved the mean score of 7.84 out of 10, and the participants were not able to recognize their mistakes and correct them. However, the variation of the target group has not been confirmed by Pearson correlation analysis. Consequently, the relation between extralinguistic variables and correct results has not been found. The results coincide with Baladzhaeva (2013) who also could not find the direct influence of extralinguistic variables.

Hungarian influence has been observed in the grammatical choice of the future tense aspect of the verb. The simple constructions and the choice of imperfect aspect of the verb has been present in the attrited group, whereas the control group has used more sophisticated constructions, perfect aspect of the verb to create a future tense. It corresponds with the findings by Gürel (2008), who claims the complex L1 forms do not correspond with L2 forms, thus can be processed with difficulties due to L1 attrition, especially in relation to the difference between Russian grammatical forms and Hungarian ones. The tendency to replace the complex form of the future tense has been explained by the desire to simplify the structure of future tense formation. On the other hand, the simplification may be defined by the insufficient use of L1.

After analyzing the results of the future tense formation task, the attrition has been observed as a complex process. It corresponds with findings by Pavlenko (2003) who concluded the drastic decrease of the grammar aspect of verb of motion in Russia-English bilinguals. The participants proved a clear tendency to simplify the construction and use more of imperfective constructions. However, the data is not sufficient to conclude whether one area of grammar attriters faster than others or is immune to attrition. It is suggested to have more studies that would focus specifically on attrition of different areas of grammar in the Russian language, to obtain more specific data concerning this matter. In this particular research I did not test the language aptitude, thus we cannot conclude the correlation between the language aptitude and L1 attrition as it was suggested by Bylund et al. (2010). They concluded that the higher level of language aptitude can function as the compensation in L1 attrition, helping to maintain higher language proficiency in the L1 with a lack of exposure (Bylund et al., 2010).

Age at immigration has not correlated, even if there was a slight correlation, it was weak and non-significant with the grammar judgment task. We concluded, according to verbal fluency tasks and lexical measures that older participants have less diverse vocabulary. The correlation has been negative, that is the older the participants were, the worse results they accomplished. Reduced lexical *production* in L1 has sometimes been associated with the effect of ageing, and not with L2-caused attrition (Goral et al.,

2007), which is partially supported by the results of the current study. In addition, the weak effect of the age on the grammaticality judgment of future tense formation has supported the claim that in these tasks worse performance of the immigrants should be ascribed to L1 attrition.

In contrast to most studies on L1 attrition (Ammerlaan, 1996; Tsimpli et al., 2004; Brown, 2001; de Bot & Clyne, 1994; Gurel, 2002), the relationship between length of residence and the results of attrition has been found, particularly in the speech fluency testing and it was associated with articulation rate. Laufer (2003) found correlation of length of residence in Israel with the results of the participants; however, in her study two different waves of immigrants were compared.

Further factors that has been examined were frequency of use and attitude towards Russian and Hungarian languages in the study. Generally, all the immigrants have had more positive attitudes towards Russian rather than towards Hungarian. However, contrary to other studies on L1 attrition (Schmid & Dusseldorp, 2010; Waas, 1996), correlation has been found between the language attitudes and the results of the tasks, for instance, between number of silent pauses and phonation time in speech fluency testing. In addition, the language choice also correlated with the number of silent pauses. However, neither frequency of use nor attitude have correlated with the grammar results of future tense formation.

The questions related to what is happening to Russians' identities living in Hungary, including the process of integration to the new community, attempts to integrate and maintain the Russian language and culture at the same time, was discussed. Their life experiences have been expressed through their opinions and views on their new home country's life and culture. The significance of the study is that it shows how diverse bilingual identities can be in the context of another culture. The model and strategies proposed by Berry (2007) were used to identify the four strategies in identity development and social integration. According to elicited data, the participants are not fully integrated into Hungarian society. All subjects consider themselves bilingual and associate their bilingualism with the fact that they have different personalities when they speak different languages. This result is in line with Pavlenko's (2006) findings, who found that bilinguals perceive the world differently, making gradual changes based on their language. Some believe that they have successfully combined two cultures and become part of a new society, fully integrating into it. Others, not wanting to move away from their Russian roots, could not accept a foreign culture, although they do consider themselves bilingual. Some subjects are trying to integrate into Hungarian society, maintaining their Russian culture and language. However, they all have expressed that another language leaves its mark on the personality, whether they like it or not. The participants reported the shift in their identity, which can be explained by a change in the

environment, such as work/home. The findings are in line with Grosjean's (2010) claims that the change is not caused by the influence of language but the environment and context. The qualitative data reports low diversity in the participants' answers. They emphasise the necessity to switch the language at their workplace or other public places and as a consequence their identity changes and it is due to the environment. An interesting pattern of identity change has emerged from the interviews, that is, personality may exert an impact on one's identity (e.g. integration for a sociable person is easier). It goes along with Fogle's (2012) claim that identity changes occur based on the interlocutor's perceptions of the person in a language-use situations.

Based on the empirical results it is apparent that the studied Russian group in Hungary show no dramatic signs of attrition, their fluency seems to be intact. The participants of the study are post-puberty migrants and as such they seem to be protected against considerable changes in their L1 proficiency (Pallier et al., 2003; Pierce et al., 2014). Speech slows down with a prolonged length of residence and the frequency of L1 use and positive attitudes toward the L1 contributes to lexical access.

Conclusions

This study has investigated first language attrition among first generation Russian immigrants in Hungary who moved to the country in the 80/90s for various reasons, the main motivation factor being married to a Hungarian. The main questions of the study were (i) to what extent the attriters differ from the monolingual Russian group in lexical access, lexical diversity, speech fluency and grammatical future-formation, and (ii) what are the main extralinguistic variables that cause more attrition in one individual than in another. In order to give a theoretical and methodological context and framework for the study, before the presentation of the results, the relevant literature was reviewed in Chapter 1, followed by the description of the research instruments and design in Chapter 2. Being a relatively new research area, it was important to discuss the main conceptual definitions of language attrition, to present the short historical overview of the developments in the field, to separate it from related concepts, such as language shift, language loss, heritage language attrition and second/foreign language attrition and to list some of the models and theories that were found to account for language attrition. In chapter 1 the main extralinguistic variables assumed to be associated with language attrition were also discussed. The main methods of the study were a questionnaire (SPBQ) which collected data about the background variables, two verbal fluency tasks which measured lexical access and a story-telling task operationalizing lexical diversity and speech fluency. An interview was also made with the participants to dig deeper into how their identity have changed and what is the role of their languages in their identity formation.

As expected, the control group has outperformed the target group in almost all measure and the bilingual group performed more heterogeneously in the given tasks which is usually the case in bilinguals (Kroll et al., 2012). Significant differences has been found between the two groups in how they access words (VFT results) and their lexical diversity which coincides with previous assumptions that the lexicon is the most vulnerable to attrition. Very few studies focused on the speech fluency in the L1 and the present study have found no significant difference either between attriters and non-attriters. This shows that even after a considerable time spent in an L2 environment, speech fluency remains unaffected. No significant difference has been found between the two groups in the future formation task either which confirms the resistance of grammar to language attrition. Some of the extralinguistic factors were found to be associated with the performance on the tasks, but none of the correlations were outstandingly strong. Frequency of use seems to play a role in letter fluency, which confirms previous findings with bilinguals, namely that the bilingual experience enhances inhibition of non-relevant items and at the same time activation of target items.

The participants reported the shift in their identity, which has been explained by a change in the environment, such as work/home. The findings are in line with Grosjean's (2010) claims that the change is not caused by the influence of language but the environment and context. The qualitative data reports low diversity in the participants' answers. They emphasize the necessity to switch the language at their workplace or other public places and as a consequence their identity changes and it is due to the environment. A pattern of identity change has emerged from the interviews, that is, personality may exert an impact on one's identity (e.g. integration for a sociable person is easier), which coincides with Fogle (2012). These results underscore the self-reports from the interview and the questionnaire, that is L1 is maintained while the proficiency in L2 increased and it is connected to the changes in their identity. The role of the identity in language attrition is vague, as it is impossible to research the identity of the present-day attrited group linking to their past identity and require longitudinal study. However, the value of the further studies between attrition and identity are undisputed.

Publications related to the findings

Gnitiev, S. (2021). "Because two languages live in me at the same time." The relationship between language and identity among Russian immigrants in Hungary. *Alkalmazott Nyelvtudomány*, XXI. évfolyam, 2021/2. szám, 80–95. doi:http://dx.doi.org/10.18460/ANY.2021.2.006 Publication - article
Gnitiev, S. & Bátyi, Sz. (2022). The role of extralinguistic factors in verbal fluency performance among Russian-Hungarian bilingual. In Tóth, József (eds.), *Jövőformáló humán tudományok* Budapest, Hungary: Akadémiai Kiadó Publication - article
Gnitiev, S. (2022). Morphological attrition among Russians in Hungary. *Suvremena Lingvistika, issue no. 94*/2022- Publication - article
Gnitiev, S. & Bátyi, Sz. (2022). Lexical access, lexical diversity and speech fluency in first language attrition. Strani Jezici, 52(2). Publication - article

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