Case and Copular Sentences in Heritage Speakers of Russian

by

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Abstract

This thesis investigates the language abilities of heritage speakers of Russian (those who learned Russian at home, but later switched to English as their primary language, such as children of immigrants) regarding predicate case alternation in copular sentences. In Russian, predicates of copular sentences can only be in the Nominative case in the present, but can appear in either the Instrumental or Nominative in the past and future tenses, alternating based on semantic context. This thesis poses two questions: first, can heritage speakers of Russian use case grammatically in all possible configurations? Second, when two cases are available, do they select one over the other based on semantic context? This study did find a difference between heritage and native speakers, which means that case in copular sentences can be targeted as an area for improvement for heritage speakers who wish to strengthen their Russian language skills.
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Chapter 1

Introduction

In the past several decades, a particular group of people with a particular relationship to language has garnered increasing interest in the linguistic sphere. They are most commonly referred to as “heritage speakers”, a term that dates back to the mid-90s, having mostly replaced earlier labels such as “semi-speakers”, “incomplete acquirers”, and “generation 1.5” (Polinsky 2007:2). What makes this kind of person unique is that the heritage language they speak is the language of their predecessors (be it their parents or other relatives), but is not the dominant language of their region of residence, and it is not (or is no longer) the primary language of the individual. In essence, heritage speakers are able to speak a minority language - either endangered indigenous languages, or common world languages spoken abroad - but also have native-like fluency in the language used by the broader society they live in, which is just as or more important to their existence (Valdez, 2005:411).

The language variety spoken by heritage speakers is different from both native speakers and second language learners, though it shares some characteristics with both (Rakhilina et al 2014). Many existing studies on the topic focus on lower-proficiency heritage speakers, as they exhibit the most deviations from the norm of the language in question. This thesis, however, explores the linguistic abilities and knowledge of higher-proficiency heritage speakers, specifically with regards to the phenomenon of predicate case alternation in Russian copular sentences.
The Russian copular verb быть/б’т’ ‘to be’ has a phonologically null form in the present tense, which selects a Nominative case predicate, and overt past and future forms, which take an Instrumental predicate by default, but can also take a Nominative predicate in certain contexts. The contrast between the Instrumental and Nominative predicates is used to differentiate semantic context - an Instrumental predicate is associated with a temporary or changeable property, while a Nominative one is associated with a permanent or inherent property. Correctly using the appropriate case in these constructions is the kind of language skill that may prove to be difficult for heritage speakers. The present study, which tested 40 participants (10 of whom were heritage speakers) on their selection of case in copular sentences, seeks to answer this question about the differences between heritage and native speakers in this particular intersection of syntax and semantics.

Chapter 2 of this thesis provides background information on heritage speakers, heritage language, the Russian case system, copular sentences, and how copular sentences work in Russian, including the alternation of predicate case. Chapter 3 goes over the methodology of the study. Chapter 4 presents the results. Chapter 5 discusses the main findings, as well as the study’s limitations and directions for future research, and concludes the thesis.
Chapter 2

Background

This chapter gives a brief overview of the key concepts relating to this thesis. Section 2.1 covers heritage speakers and heritage language, Section 2.2 outlines the Russian language and case system, Section 2.3 summarises the various types of copular sentences, and Section 2.4 discusses how copular sentences are constructed in Russian. Section 2.5 states once more the research questions that this study seeks to answer.

2.1 HERITAGE SPEAKERS

While there is agreement among linguists surrounding the general notion of heritage speakers, there are nonetheless some differences in how authors choose to define and use the term. In the broad sense, “heritage speaker” can be used to refer to any individual who has a personal or cultural connection to a minority language. The narrow definition, popularised by Maria Polinsky (2007, etc), specifies that the speaker’s heritage language must have been first in order of acquisition (L1), but was later supplanted by a different language as the speaker’s primary language (Polinsky 2008b:149). The “primary language” is distinguished by prevalence of usage rather than time of acquisition - that is, the language that has the most importance and is spoken predominantly in an individual’s adult life (Polinsky 2007:176).
This stipulation excludes those who did not acquire the language in childhood, but sought to learn the language later in life as a second (or third, etc) language (L2). While they may have a personal connection to the language, and may be motivated in part by their cultural heritage, it is nonetheless more useful from a formal linguistic approach (as opposed to socio-linguistic) to categorise them separately due to their language history and abilities aligning more closely with other adult second language learners. Throughout the rest of this paper, the term “heritage speaker” will be used to refer exclusively to speakers who acquired the heritage language (in our case, Russian) in childhood, and switched to the dominant language (typically English) later on. Similarly, “native speaker” is used to collectively refer to non-heritage, fully fluent native speakers of Russian. This nomenclature is not intended to devalue the experiences of heritage speakers or exclude them from using the term “native” to describe their connection to their first language and culture, but simply for the purposes of easily referring to and contrasting two groups with unique experiences and language abilities.

It is important to note that even within the limits of the narrow definition of heritage speaker, there is significant variation in each individual’s proficiency in their heritage language. Polinsky & Kagan (2007) liken this linguistic variation to other proposed continuous sociolinguistic dimensions, such as the creole continuum, which ranges from the variety closest to the lexifier language (the acrolect) to the variety farthest from it (the basilect), with varieties called mesolects in the middle (Kouwenberg and Singler, 2008:12). In heritage language terms, the lexifier language equivalent would be the baseline variety of the language that the speaker was exposed to in the home - not
necessarily the standard dialect, but the dialect of the adults the heritage speaker grew up
around. The language abilities of heritage speakers can then be placed on a continuum
from acrolectal, or most native-like and high-proficiency, to basilectal, or lowest-
proficiency and maximally removed from native attainment (Polinsky & Kagan 2007:6).

While other authors may focus more on basilectal heritage speakers who contrast
most visibly with fully-fluent native speakers, this paper focuses on higher-proficiency
acrolectal heritage speakers, who have a fairly strong grasp on the basics of Russian
grammar, but who may still differ in some ways from native speakers when speaking
their heritage language. In addition, while it is true that each individual’s language
abilities should actually be compared to the specific variety of the language they were
exposed to, such an analysis is not possible with the limitations on the format of this
study (see Chapter 3). Determining the baseline for each individual participant would
require a more exhaustive questioning process to follow up the basic background
questionnaire, which would endanger the participants’ anonymity. Therefore, it is
necessary to make assumptions which treat standard modern Russian as the baseline for
all participants, and the reference point for the data analysis.

2.1.1 CHARACTERISTICS OF HERITAGE LANGUAGE

Studies of heritage speakers’ abilities have focused mainly on comparisons
between heritage languages and the standard language, and the way the former deviates
from (or “lags behind” as Polinsky (2008b:158) puts it) the latter. Heritage speakers’
strong suit in their heritage language is aural comprehension, with even basilectal speakers sounding native-like, or with only a slight ‘accent’ (Polinsky & Kagan 2007:17). Significant obstacles start to crop up, however, when looking at their morphological and syntactic capabilities. Morphological paradigms are often over-regularized. In Russian, this affects most notably tense and aspect marking on verbs, and case and gender marking on nouns (Aleeva 2012:21). More broadly, heritage speakers often have a more rigid word order than standard Russian and tend to prefer simpler sentences with fewer embedded clauses, and when speaking, heritage speakers tend to have a much slower speech rate and shorter average utterance length than native speakers (Polinsky 2008b:152). All of this shows that there are specific areas of language that can be particularly difficult for heritage speakers.

Depending on the speaker’s individual situation, maintaining the heritage language can also be especially difficult. As an adult who lives in a society where the heritage language is rarely or never used, it can be easy to forgo use of the heritage language in favour of the dominant one. This can result in heritage language attrition, for which Polinsky (2007:175) defines as “[either] first language loss as a result of forgetting the language system by a nonaphasic speaker, [or] the process whereby a given grammar system undergoes a significant reduction (under conditions of immigration) when it is passed from one generation to the next”, though the latter is better known as incomplete acquisition. For high-proficiency heritage speakers, the ‘forgetting’ type of attrition is more common, though it is not impossible for them to show evidence of incomplete acquisition as well. In either case, these factors (among others) can negatively affect a
heritage speaker’s language ability and result in them being less fluent in the language than native speakers.

For many heritage speakers, fluency in their heritage language is directly tied to one’s sense of identity and its evolution over time. In a case study of several heritage speakers’ attitudes towards their use of Russian, Venturin (2019:255) notes that a perceived sense of attrition of the heritage language “may lead to the desire to revitalize one’s connection with one’s native country, its population and the original identity”, and that “[fluency in the heritage language] appears to be a means through which these connections become possible”. Therefore, while this paper does not advocate for a prescriptivist view of heritage language as something that needs to be “fixed”, it is nonetheless useful to describe the parts of the language that are particularly difficult for heritage speakers, in order to provide those who wish to improve their language skills with more direction in which to do so. The subject of this paper, the grammatical case of predicates in copular sentences, is one such area of interest.

2.2 THE RUSSIAN LANGUAGE

Russian is an East-Slavic Indo-European language with a relatively high level of inflectional morphology (Dryer & Haspelmath 2013). This section provides a brief overview of the Russian nominal case system, which is necessary for the research questions posed in Section 2.5.
2.2.1 THE RUSSIAN CASE SYSTEM

With some exceptions, all nouns and noun phrases (NPs) in Russian decline to indicate grammatical case, just as they do for gender and number. There are at least six different cases in Russian, with some others being proposed as distinct variants and possibly separate cases. The six universally accepted cases are Nominative (NOM), Accusative (ACC), Genitive (GEN), Dative (DAT), Prepositional (PREP, sometimes also called Locative), and Instrumental (INST). Of these six, the Nominative is considered to be the least marked and is used as the “default” case when one is needed (for instance, in dictionary definitions), while the other cases can contrastively be referred to as oblique (ie., non-nominative) cases (Pereltsvaig 2007:110).

Each case serves a number of functions - for instance, the core function of the Instrumental case is instrument, but it can also be used to indicate agent, temporal adverbial, and path (Schwartz and Minkov, 2014:56). Case can be assigned structurally, based on the position of an NP in a sentence, or lexically, based on a lexical item such as a verb or preposition which arbitrarily selects a specific case for its complement. Either way, an utterance with an NP declined for a case that it has not been assigned is considered ungrammatical in standard Russian (Bailyn & Rubin, 1991:99).

Each Russian noun belongs to one of three major declension classes. The class dictates which ending the noun receives based on its grammatical case, gender (masculine, feminine, or neuter), number (singular or plural), and in some cases, animacy (animate or inanimate), as well as the phonological form of the root to which the ending attaches (Cubberley 2002:111). The paradigm of possible noun endings is full of
syncretism, which is further complicated when the endings are unstressed and thus phonetically reduced (non-salient). This non-transparency of the case system and the many exceptions and irregularities can make differentiation of cases difficult in some contexts, particularly for non-native or non-adult listeners (Schwartz and Minkov, 2014:59). Throughout this paper, the case of relevant nouns in example sentences is indicated in subscript, and NPs with multiple words are enclosed in square brackets, with the case of the head noun (and thus the overall NP) in subscript.

2.2.2 CASE IN HERITAGE SPEAKERS

For many heritage speakers, especially those whose primary language does not have as robust a case-marking system as Russian, this six-case system can present a particular challenge. Studies on case acquisition in monolingual children show that they start developing inflectional systems early, but may take years to acquire full control of them, particularly when faced with irregular, non-transparent, and non-salient forms, as is common in the Russian case system (Schwartz and Minkov, 2014:53). Cases are generally acquired in a particular order, with Nominative and Accusative appearing first - around the age of two in monolingual Russian children - then Genitive and Dative, and finally Prepositional and Instrumental by three years, though the nominal declension system continues developing until about six or seven (Schwartz and Minkov, 2014:60). In comparing monolingual and simultaneous bilingual children of similar age groups, Schwartz and Minkov’s (2014:82) study found that both groups made similar types of
errors, but the latter made them more frequently, and had more variation in their error rates in oblique case production.

This long period of acquisition - even longer in bilingual children - means that many speakers who switch to a different language as their primary language as children may not fully acquire the normal Russian case system. Indeed, Polinsky (2007, 2008b) has conducted several studies on lower-proficiency heritage speakers which found them to have a simplified case system. In the most extreme cases, they exhibited only two cases; Nominative and Accusative, with the latter supplanting all other oblique cases, while the use of the Nominative is broadened to cover more positions than standard Russian (Polinsky 2008b:153).

The degree of reduction depends on the speaker’s level of proficiency, as well as the frequency and perceptual salience of the structures in which certain cases appear. For instance, Montrul (2008:171) states that the Genitive case is often preserved in genitives governed by a numeral, but lost in other structures (such as lexically governed genitive, genitive of negation, or genitive of possession) where it is instead replaced by the Accusative or Nominative. Even in higher proficiency heritage speakers who have all six cases available, these kinds of errors can occur, whether due to heritage language attrition, or negative transfer from the dominant language (see Aleeva 2012). This is especially common when the dominant language has a relatively “shallow morphology”, such as English (Polinsky 2018:198).
2.3 COPULAR SENTENCES

A copular sentence is one in which an element known as the copula links the subject to a complement or predicate which says something about the subject. The copula can take a variety of forms depending on the language - it can be a verb (or verb-like element), it can be some sort of affix, or it might not be expressed overtly at all, appearing as a phonologically null morpheme (indicated by the $\emptyset$ symbol). In some languages, the copula may have multiple forms depending on how or where it is used (Citko 2011: 756).

Regardless of form, copulas tend to differ from full verbs in behaviour and function. They are semantically light or empty, carrying little or no meaning of their own other than the link between the subject and predicate (Arche et al 2018:3). In languages with overt case marking, the predicate of copular sentences is usually marked with either the same case as the subject (known as Case-agreement), or with a specific predicate case, such as the Instrumental in Russian (Matushansky 2010:6). Structurally, the copula is “generally assumed [at least in the] literature on Russian syntax” to be a representation of a functional category Pred (Predication), which is used for a variety of small clauses, including copular sentences (Bailyn 2012:181).

Copular sentences are often used to describe the identity, existence, or property of the subject of the sentence. Higgins (1979) classifies copular sentences into four categories: predicational, specificational, equative, and identificational. Higgins provides the following examples of each category:
(1) a. John is a lawyer. Predicational, the predicate is an NP
   b. John is smart. Predicational, the predicate is an AP
   c. John is in court. Predicational, the predicate is a PP
(2) The best student is Mary. Specificational
(3) Cicero is Tully. Equative
(4) That place is Boston. Identificational

In the predicational sentences like (1), the complement assigns some property to a referential subject, and can be a Noun Phrase (1a), Adjectival Phrase (1b), or Prepositional Phrase (1c). In specificational sentences like (2), the subject is a non-referential domain and the complement is a referential member of that domain. Equative sentences like (3) establish a shared identity between two individuals as equally referential NPs. Finally, identificational sentences like (4) are used to point out or teach the identity of someone/something, where a demonstrative provides the referent and the second NP provides the referent’s identity (Arche et al 2018:6).

2.3.1 ALTERNATIVE TYPOLOGIES

Higgins’ (1979) proposed typology of copular sentences has been greatly debated, with some authors arguing for additional distinctions and sub-categories, while others advocate for a simplified system of just two or three categories, or question the usefulness of these distinctions at all (Citko 2011:756). For instance, Mikkelsen (2005)
argues that what Higgins calls identificational clauses should be split into two different sub-categories and grouped with either specificational or equative clauses. This results in a three-way classification where the difference lies in the type of arguments each clause takes. In formal semantics terms, where \( <e> \) is an entity (a specific individual) and \( <e,t> \) is a predicate (a function which returns true if the entity belongs to a given domain), predicational clauses take a subject of type \( <e> \) and complement of type \( <e,t> \), specificational clauses take an \( <e,t> \) subject and an \( <e> \) complement, and equative clause takes two \( <e> \) arguments (Mikkelsen 2005:50).

Mikkelsen’s (2005) three-way classification of copular sentences is just one of many proposed alterations to Higgins’ typology (Arche et al 2018:7). This paper will not take any firm stance on how copular sentences should be discussed or categorised, beyond the fact that some distinction, specifically (following the analyses of Pereltsvaig (2007) and others) between predicational and equative sentences and the types of arguments they take, is useful in analysing a particular phenomenon in Russian copular sentences, as we will see in Section 2.4.1 below.

2.4 THE COPULA IN RUSSIAN

The Russian copula is the verb быть/byt’ ‘to be’, which has a past form (был/-byl-, with suffixes that depend on gender and number) and a future form (буд-/bud-, suffixes depend on number and person) but is phonologically null (Ø, orthographically written as “–”) in the present. The verb быть/byt’ also has a number of other uses,
including existential, locative, possessive, and auxiliary. The verb has an overt present form (‘yest’) for some of these functions, but here we will focus specifically on the copula function of быть/byt’ ‘to be’, which can be used in either a predicational or equative manner, in past, present, and future sentences. Some examples of copular sentences from popular culture (the lyrics of classic rock band Kino, each song’s title is in parentheses) are given below. (5a) and (b) are in the past tense, (c) and (d) are in the present tense, and (e) and (f) are in the future tense. The short form adjective in (b) is an exception to case marking rules in Russian and is unmarked for case.

(5) a. Когда-то ты был битником

Kogda-to ty byl bitnikom

‘You were a beatnik once’

b. И вечер в гостях был так приятен

I vecher v gostyah byl tak priyaten

‘And the evening visit was so pleasant’

c. Война — дело молодых

Voina — delo molodyh

‘War is the business of the youth’

d. Все люди — братья

[Vse lyudi] — bratya

‘[All men] are brothers’
2.4.1 PREDICATE CASE ALTERNATION

While the subject of a copular sentence (like most verbal sentences) is always Nominative in Russian, the case of the predicate is more complex. In the present tense, with the null copula, the predicate can only appear in the Nominative (agreeing in case with the subject), as shown in (6):

(6)  a.  Саша( NOM) ∅ писатель( NOM)
    Sasha ( NOM) ∅ pisatel’ ( NOM)
    ‘Sasha ( NOM) is a writer ( NOM)’

b.  *Саша( NOM) ∅ писателем ( INST)
    *Sasha ( NOM) ∅ pisatel’em ( INST)
    ‘Sasha ( NOM) is a writer ( INST)’

When an overt copula is present, the default predicate case is the Instrumental, which is why the majority of past and future copular sentences (such as (5a), (e), and (f)
above) have an Instrumental predicate (Matushansky 2010:6). However, alternation between Instrumental and Nominative predicates is allowed for contrastive purposes. In isolation, an Instrumental predicate in a copular sentence is unmarked and semantically neutral. When the Nominative and Instrumental alternate, their juxtaposition indicates an additional semantic difference between the two predicates, which is discussed in more detail in the following section. Therefore, while there is a difference in how they are used, grammatically, both Nominative and Instrumental predicates are acceptable in past and (to a lesser extent) future tense copular sentences. Many authors, including Pereltsvaig (2007), refer to these constructions as NOM-NOM and NOM-INST, respectively. Both types of past tense constructions in (7) are well-attested in standard Russian, and while the future tense with a Nominative predicate (8a) is rarely discussed in the literature, it is nonetheless acceptable for some native speakers.

(7)  a. Саша(NOM) был писатель(NOM)
    Sasha(NOM) byl pisatel’(NOM)
    ‘Sasha(NOM) was a writer(NOM)’

    b. Саша(NOM) был писателем(INST)
    Sasha(NOM) byl pisatel’em(INST)
    ‘Sasha(NOM) was a writer(INST)’

(8)  a. ?Саша(NOM) будет писатель(NOM)
    ?Sasha(NOM) budet pisatel’(NOM)
    ‘Sasha(NOM) will be a writer(NOM)’
Given that the Instrumental is the unmarked predicate case, it is not surprising that it is significantly more frequent than the Nominative. While an in-depth corpus study is beyond the scope of this paper, this tendency can be seen in a cursory look at the Russian National Corpus (ruscorpora.ru), which consists of more than three million syntactically tagged words. When searching for a Nominative noun, followed by a past or future tense copula, followed by a Nominative or Instrumental noun, the combination of past tense and Nominative yields 10,275 samples, past tense and Instrumental has 17,701, future tense and Nominative has 371, and future tense and Instrumental has 1,177. While these results are likely skewed, given that they do not account for intervening modifying phrases or changes in word order, they nonetheless uphold the claim made by Bailyn & Rubin (1991:120) that the Instrumental case is “much more common” in copular constructions, though both are possible. This is consistent with the fact that the Nominative only appears in contrast to the Instrumental, when an additional semantic distinction is needed, while the Instrumental can appear at any time.

Of particular note here is the nebulous position of future NOM-NOM constructions, as in (8a), which is easily the least common combination of tense and case. Individual speakers of Russian may vary as to how acceptable they find this construction, though the three native speakers who were consulted throughout the writing of this thesis...
agreed that it is acceptable, albeit highly limited. In literature on predicate case alternation in Russian, this seems to be something of an oversight, as many authors do not discuss the possibility at all (ex, Bailyn 2001, Matushansky 2010) or simply dismiss it as ungrammatical (Markman 2008:188). In this paper, future copular sentences with Nominative predicates will be treated as grammatical, though infrequent, and requiring particularly strong motivation to occur (see Section 2.4.2 on reasons for selecting the Nominative).

All of the grammatical options discussed in this section are summarised in Table 1 below. The result is a defective paradigm where the predicate can appear in either of the two cases, except in the present tense, where only one is grammatical. The mechanics of how each of these cases is assigned are not fully understood. Various authors have proposed morphological, syntactic, and semantic frameworks for explaining the differences between the two structures. Interested readers can find examples of some possible analyses in Bailyn (Baily & Rubin 1991, Bailyn & Citko 1998, Bailyn 2001, Bailyn 2012), who claims that the predicator is overt in one case and empty save for the case features in the other; Richardson (2003, 2007), for whom INST is a manifestation of a morphological feature of boundedness; Pereltsvaig (2007), who argues that the predicate is a bare NP in one case and a DP (Determiner Phrase) in the other; and Geist (2007), who proposes an ident-type shift operator which applies to different elements of the sentence, among others. Regardless of the specifics, there is a marked difference between constructions with Instrumental versus Nominative predicates, which is discussed in the following section.
2.4.2 SEMANTIC REPERCUSSIONS OF CASE ALTERNATION

If both cases are grammatically acceptable for past and future predicates, the question then arises of what the difference between them is, and why a speaker would specifically choose the Nominative when the Instrumental is considered the default, at least in copular sentences (though Pereltsvaig (2007:124) goes even further and argues for the Instrumental being the default inherent case overall).

The primary distinction, described in Bailyn and Rubin (1991) and others, is semantic/pragmatic. The two types of predicates are interpreted differently in relation to the subject: an instrumental predicate is associated with a property that is more temporary, transient, or changeable, while a nominative predicate is associated with one that is more inherent or permanent. Thus, a contrast between the two can be used to emphasise the temporariness or permanence of the property that the predicate denotes. As
Markman (2008:188) states, “[w]hile these labels are vague and subject to counterexamples (see Pereltsvaig 2007: 96-97 for discussion), they do capture native speakers' intuitions concerning the meaning of Nom-Inst and Nom-Nom constructions”.

This can be clearly seen in examples such as (9) below, taken from Bailyn & Rubin (1991:120). In (9a), the predicate женщина высокого роста/zhenshina vysokogo rosta ‘tall woman’ is understood as being an inherent property of the subject, unlikely to change over time, and the past tense of the sentence is not interpreted as implying that this condition was only true at some point in the past. In (9b), on the other hand, the predicate студенткой/studentkoj ‘student’ is a property that was true of the subject at some time in the past, but no longer is, which is further supported by the temporal modifying phrase в прошлом году/v proshlom godu ‘last year’. As expected, the predicate in (9a) is Nominative, and the predicate in (9b) is Instrumental.

(9)  

a. Татьяна Илинична Овсяникова была [женщина высокого роста]_{NOM}.
    Tatjana Ilinichna Ovsjanikova byla [zhenshina vysokogo rosta]_{NOM}.
    ‘Tatjana Ilinichna Ovsjanikova was [a tall woman]_{NOM}.’

b. В прошлом году Татьяна была студенткой_{INST}.
    V proshlom godu Tatjana byla studentkoj_{INST}.
    ‘Last year, Tatiana was a student_{INST}.’

While both cases may be grammatical in either construction, the choice between them often comes down to which is more appropriate in a particular context.
Matushansky (2010:8) even shows that one of the readings can be ruled out with the use of context. The context given for (10) positions the occupations being discussed (carpenter and merchant) as primarily being a means of making money, rather than a property inherent to the subject or a major part of their identity. As a result, the Nominative case is infelicitous for the predicate in this context.

(10) Context: And how did they earn their living?

Iисус был #плотник\textsubscript{NOM}/плотником\textsubscript{INST}, a Магомет был #купец\textsubscript{NOM}/купцом\textsubscript{INST}.

‘Jesus was a carpenter\textsubscript{NOM/INST} and Mohammed was a merchant\textsubscript{NOM/INST}.’

For Pereltsvaig (2007), this distinction comes back to types of copular sentences and arguments therein. In NOM-INST constructions, where the Instrumental complement of the copula denotes a temporary property, the element in question is an argument of an \(<e,t>\) type, resulting in a predicational copular sentence - the subject, of type \(<e>\) (entity), is said to belong to a domain \(<e,t>\). In the example in (11a) below (from Pereltsvaig 2007:7), the gnomes are an entity with an understood referent (fictional or not), and they belong to the domain of laborious creatures (along with any other laborious entities in the world). In contrast, in NOM-NOM constructions, the
complement of the copula is another entity, which is understood as referring to the same referent (in this case, the individual Vladimir Ulyanov Lenin).

(11)  a. Гномы были [существами работящими] (INST) Predicational

Gnomy byli [sushchestvami rabotjashimi] (INST).

‘(The) gnomes were laborious creatures.’

b. Ленин был [Владимир Ульянов] (NOM) Equative

Lenin byl [Vladimir Uljanov] (NOM)

‘Lenin was [Vladimir Ulyanov].’

This distinction, while not always as straightforward as the examples in (11), can be applied to Russian copular sentences in general. Take the examples where the predicate is писатель/pisatel’ ‘a writer’, repeated below:

(12)  a. Саша был писатель (NOM)

Sasha byl pisatel’ (NOM)

‘Sasha was a writer (NOM)’

b. Саша был писателем (INST)

Sasha byl pisatel’em (INST)

‘Sasha was a writer (INST)’

In (12b), the copular complement is the domain of writers to which the subject (Sasha) happens to belong, but Sasha’s being a writer is just one property of the
individual, not necessarily a major part of Sasha’s identity. In (12a), however, the concept of a writer is presented as an entity of its own - an individual for whom writing is the main defining characteristic which is a key part of the identity. Sasha is then equated with this entity, showing that being a writer and being Sasha are inextricably linked.

This can, in fact, be quite common in the domain of professions and occupations, where the subject is an individual (ex, Sasha) and the copular complement is a job or hobby that that person does (ex, writing). In these situations, a subject’s attitude to their profession (or the perception of an observer) can determine how relevant the property is to the individual being discussed. Most people will, in their lives, experience both types of work - work that feels temporary, just something one must do for money or some other practical reason, versus work that feels inherent, something one wants and is driven to do because it is in their nature. In other words, a temporary context (one where we would expect the instrumental case) could be used for jobs and hobbies that the subject does casually, passively, with a level of detachment between what they’re doing at that moment and who they are in the larger sense. However, an inherent context (where the nominative case could be used) would refer to jobs and hobbies that are central to a person’s identity, things they feel called to do and do with a passion because it’s part of who they are. One can be a writer (писателем/pisatel’em, INST) by necessity, someone who finds themselves in positions where they do a lot of writing, or one can be a writer (писатель/pisatel’, NOM) by nature, someone who can’t help but write and considers themself a writer even when it’s not required of them, and for whom “writer” is a key part of their identity. This is the type of distinction that will be used to test heritage
speakers’ and native speakers’ use of NOM-NOM and NOM-INST constructions in the rest of this thesis. Limiting the predicates of all of the stimuli sentences to nouns denoting professions or occupations minimises the possible influence of different noun categories on the use of predicate case alternation. That being said, there is still one element necessary to complete the paradigm of possible constructions, which involves the use of a copula-like verb.

2.4.3 COPULA-LIKE VERBS

In addition to быть/byt’, there are other verbs in Russian that function similarly to the copula. Most similar is являться/javlyat’ sa ‘to be’, which is fully synonymous with быть/byt’ but is stylistically associated with a higher register and has a restricted distribution (Geist 2007:81). Pereltsvaig (2007:125) lists a number of other copula-like verbs, but notes that “[a]n exhaustive list […] is difficult to compile due to an unclear divide between copula-like and fully lexical verbs”. The degree to which these verbs differ from the copula быть/byt’ in function and meaning varies, but the majority of them are used to link the subject and predicate and take Instrumental complements, including являться/javlyat’ sa ‘to be’. There are only a few exceptions that can also take Nominative complements (стать/stat’ ‘to become’ in colloquial speech, and называться/nazyvat’ sa ‘to be called’ when the complement follows the verb), which once again supports the idea of the Instrumental case being the default for copular(-like) constructions.
One particular verb, *рабомать/rabotat* ‘to work as’, can be directly contrasted with the specific type of copular construction discussed above. In both NOM-NOM and NOM-INST constructions discussing professions and occupations, the predicate is describing what a person does (whether it’s for a living or in their spare time), but the difference is the subject’s attitude (or perceived attitude) towards the thing they are doing, and how important it is to the life they live. In other words, the context of what that profession or occupation means to the individual who is the subject of the copular sentence. This use of the copula is synonymous with the verb *рабомать/rabotat* ‘to work as’, but the verb takes Instrumental complements in all tenses, which means that this verbal sentence can be used to fill in the blank cell (temporary property, present tense) in Table 1 above. The updated version of the table can be seen below. This is useful for the experimental portion of this study, as it allows the stimuli to be balanced across the three tenses and two types of context (see Section 3.2 on the construction of the stimuli).

<table>
<thead>
<tr>
<th>Past tense</th>
<th>Semantic context: inherent property</th>
<th>Semantic context: temporary property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Саша был писатель(NOM)</td>
<td>Саша был писателем(INST)</td>
<td></td>
</tr>
<tr>
<td>Sasha byl pisatel’(NOM)</td>
<td>Sasha byl pisatelm’em(INST)</td>
<td></td>
</tr>
<tr>
<td>‘Sasha was a writer(NOM)’</td>
<td>‘Sasha was a writer(INST)’</td>
<td></td>
</tr>
<tr>
<td>Present tense</td>
<td>Саша ∅ писательINST(∗ pisatelm(NOM))</td>
<td>Саша работает писателем(INST) (∗ pisatel(NOM))</td>
</tr>
<tr>
<td>Sasha ∅ pisatel’(NOM)</td>
<td>Sasha rabotaet pisatel’em(INST) (∗ pisatel(NOM))</td>
<td></td>
</tr>
<tr>
<td>(∗pisatel’em(INST))</td>
<td>(∗pisatel(NOM))</td>
<td></td>
</tr>
<tr>
<td>‘Sasha is a writer(NOM ∗ INST)’</td>
<td>‘Sasha works as a writer(INST ∗ NOM)’</td>
<td></td>
</tr>
</tbody>
</table>
2.5 RESEARCH QUESTIONS

This study aims to find out the following about high-proficiency heritage speakers of Russian:

a) Can heritage speakers use the correct (grammatically acceptable) cases in all of the constructions shown in Table 2?

b) In structures where either Nominative or Instrumental case is acceptable (ie, in past and future copular sentences), do heritage speakers use context to decide between them in the same way as native speakers?

Given the existing literature on the topic of heritage speakers, it is not unreasonable to expect that there will be a difference between heritage and native speakers. If this is indeed found to be the case, that would serve to show that case alternation in copular sentences is an area of difficulty for many heritage speakers, which can then be targeted for improvement in those who wish to develop their Russian language skills. Additionally, this paper contributes to the literature on heritage speakers as a whole, which is still a relatively new field of study, and where research focusing on high-proficiency heritage speakers in particular is still somewhat rare (Aleeva 2012, Peirce 2018). Finally, this question of the abilities of heritage speakers to alternate case

Table 2: Updated paradigm with five copular constructions and one verbal construction

<table>
<thead>
<tr>
<th>Future tense</th>
<th>Саша будет писатель( NOM)</th>
<th>Саша будет писателем( INST)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Саша будет писателем(NOM)</td>
<td>Саша будет писателем(INST)</td>
</tr>
<tr>
<td></td>
<td>‘Sasha will be a writer(NOM)’</td>
<td>‘Sasha will be a writer(INST)’</td>
</tr>
</tbody>
</table>
based on semantic context can shed light on a wider area of their linguistic competence -
that of semantic and pragmatic differences between certain types of constructions. It is
one thing to test a group’s grammatical knowledge, which can be done with
grammaticality judgements or a number of other tasks where there is a “correct”
(grammatical) and “incorrect” (ungrammatical) option; it is quite another to ask them to
select between correct forms based on less salient factors such as pragmatics, and such
studies are rarer than those on morphology and syntax (Polinsky 2018:291). Therefore,
this and other similar studies can contribute to a deeper understanding of heritage
language in less obvious areas of linguistic knowledge.

The next chapter covers the methodology of the present study. The data was
gathered from 40 participants in the form of a grammaticality judgement task with
multiple-choice options.
Chapter 3
Methodology

This chapter discusses the format of the stimuli items and fillers (Section 3.1), the method of constructing the stimuli (Section 3.2), the process of recruitment and data gathering (Section 3.3), and the criteria of participant evaluation used to classify participants as heritage or native speakers (Section 3.4).

3.1 FORMAT

This study tests participants’ language knowledge using a grammaticality judgement task in a multiple-choice format. Participants were presented with a number of sentences and asked to select the case form of the predicate that they felt best fit the rest of the sentence. They were given three options for the predicate - Nominative case, Instrumental case, and a third case (usually Accusative, except for instances where the Accusative is syncretic with the Nominative, in which a distinct case such as the Genitive was used instead). All Russian sentences were constructed by the researcher and reviewed by three native Russian speakers to ensure that the stimuli were well-formed and relatively naturalistic. The study protocol received approval from Carleton University Research Ethics Board A.
3.1.1 GRAMMATICAL SUBJECT

All of the sentences in the study were about professions. The subject of each sentence is a fictional individual, identified only by a common Slavic given name, such as Катя/Katya, Гриша/Grisha, or Артём/Artyom. These names are generally gendered and are considered informal but not overly familiar according to the rules surrounding given names in Russian. Many formal Russian names have a standardised short form (also called a half-name) which is considered stylistically neutral (ex: Павел/Pavel → Паша/Pasha, Татьяна/Tatya → Таня/Tanya, Геннадий/Gennadiy → Гена/Gena), while other (usually two-syllable) names can still be used in full in informal settings (ex: Андрей/Andrei, Игорь/Igor, Вера/Vera). In select cases, the shortened form is ambiguously gendered due to the possibility of being derived from both male and female formal names (ex, Александр/Aleksandr or Александра/Aleksandra → Саня/Sanya) but this can be disambiguated by using a personal pronoun co-indexed with the name (Chichagov, 1959). Using either a standard short form or a two-syllable full name reinforces to the reader that the subject is not intended to resemble any specific real individual, but just an abstract idea of a person to be discussed. In some cases, there was a preceding sentence that provides context and also mentions the person’s name, so the subject of the copular clause was replaced by an anaphoric pronoun to avoid redundancy.
3.1.2 PREDICATE

The predicate of each sentence was a noun indicating a profession or occupation, such as athlete, janitor, or translator. Some of these are considered common nouns that are always grammatically masculine, and were historically assumed to be male, but can now refer to a person of any gender (ex, архитектор/архитектор ‘architect’, инженер/инженер ‘engineer’, профессор/профессор ‘professor’). Conversely, some historically female professions are always grammatically feminine (ex, балерина/балерина ‘ballerina’, медсестра/медсестра ‘nurse’) (Vlasova, n.d.). Some professions have a masculine and a feminine form where the feminine is denoted by an additional suffix which is stylistically neutral (ex, писатель/pisatel’ - писательница/pisatel’nitsa ‘writer’, студент/student - студентка/studentka ‘student’, актёр/актёр - актриса/актриса ‘actor/actress’). Unfortunately, there are also cases where the feminine suffix carries a negative connotation, implying an attitude of derision towards the female subject (ex, директор/dиректор - директорша/dиректорша ‘director’, врач/врач - врачиха/врачиха ‘doctor’). (Martynova & Antonova 2015:3) In these cases, the connotation was avoided by using the neutral masculine form regardless of the subject’s gender.
3.2 STIMULI

A total of thirty-six stimuli were created, equally split between the tenses (twelve each for past, present, and future), gender of the subject (eighteen traditionally feminine given names, and eighteen traditionally masculine ones), and semantic context (eighteen with an inherent context and eighteen with a temporary one). The latter was the most complex part, given the subjectivity of a participant’s interpretation of just a few written sentences, but was done carefully and systematically. The stimuli consisted of 30 copular clauses (all past and future tenses, and the inherent present tense) and 6 verbal clauses with the verb рабо́тать/rabotat ‘to work as’ (the temporary present tense) to complete the paradigm (see Table 2 in Section 2.4.3). All of these items are listed in Appendix A, along with the filler sentences in Appendix B. A sample of six items is given below in (13), showing multiple combinations of tense, gender of subject, and context, including how the context is indicated (see Section 3.2.1 below for more details). (13a)-(c) have an inherent context, and (13d)-(f) have a temporary one. (13a) and (d) are past tense, (13b) and (e) are present tense, and (13c) and (f) are future tense. (13a), (c), and (e) have a male subject, and (13b), (d), and (f) have a female subject.
(13) a. Inherent context (adjective and modifying phrase), past tense, male subject

Боря(NOM) был [настоящий учёный](NOM) / [настоящим учёным](INST) от рождения.

Borya(NOM) byl [nastoyashiy uchyonyi](NOM) / [nastoyashim uchyonym](INST) ot rozhdeniya.

‘Borya(NOM) was [a real scientist](NOM/INST) from birth.’

b. Inherent context (sentence and adjective), present tense, female subject

У Даши золотой голос. Она(NOM) [талантливая певица](NOM).

U Dashy zolotoy golos. Ona(NOM) [talantlivaya pevitsa](NOM).

‘Dasha has a golden voice. She(NOM) is [a talented singer](NOM).’

c. Inherent context (sentence and modifying phrase), future tense, male subject

Рома обожает читать детективы. Он говорит, что когда вырастет,

он(NOM) будет [следователь](NOM) / [следователем](INST).

Roma obozhaet chitat’ detektivy. On govorit, chto kogda vyrastet,

‘Roma (NOM) will be [a detective](NOM) / [a detective](INST).’
‘Roma loves reading detective novels. He says that when he grows up,

he\textsubscript{NOM} will be a detective\textsubscript{NOM/INST}.’

d. Temporary context (sentence and adjective), past tense, female subject

Маша владела двумя языками, но плохо переключалась с одного на другой. Она\textsubscript{NOM} была [слабой переводчицей]\textsubscript{INST} / [слабая переводчица]\textsubscript{NOM}.

‘Masha spoke two languages, but couldn't switch between them easily.

She\textsubscript{NOM} was [a poor translator]\textsubscript{INST/NOM}.’

e. Temporary context (modifying phrase and adjective), present tense, male subject

Уже несколько лет Тёма\textsubscript{NOM} работает [сезонным водителем]\textsubscript{INST}.

‘For a few years now, Tyoma\textsubscript{NOM} has worked as [a seasonal driver]\textsubscript{INST}.’
f. Temporary context (sentence and modifying phrase), future tense, female subject

Саниному Дяде нужна помощь в его новой булочной.

По выходным, она( NOM) будет [пекарем](INST) / [пекарь](NOM).

Saninomu Dyade nuzhna pomosh’ v ego novoi bulochnoi.

Po vyhodnym, ona(NOM) budet [pekarem](INST) / [pekary](NOM).

‘Sanya's uncle needs some help in his new bakery. On the weekends, she(NOM) will be a baker(INST/NOM).’

3.2.1 INDICATING SEMANTIC CONTEXT

Semantic context is indicated in the stimuli using three types of additional content, though only two are used for each item in order to keep the stimuli to a reasonable length. All three types follow the assumption laid out in Chapter 2 that a profession or occupation can be inherent or temporary based on the subject’s attitude towards it and its importance in their life. For an inherent context, words and phrases were added that emphasise the work being important to the subject, being something they’re passionate about, naturally inclined to do (and talented at), or something they put a lot of time and effort into, all of which increase the likelihood of it being an inherent

34
part of their identity. For the temporary context, the opposite was the case, with the added
words and phrases minimising the importance of the work to the subject’s life and
identity. Some of the sentences also used more overt temporal frames of reference,
describing work as having been done for a long time/the subject’s whole life (inherent
context), or only for a specific period of time/under certain conditions (temporary). This
ties into the idea of identity in the sense that work that is important to the subject is likely
to be something they spend a lot of time on and are willing to do regardless of
circumstances, without the need for specific incentives other than the work itself. The
three types differ in the syntactic position of the added elements, which affects how they
are declined.

The first type of added content consists of adjectives modifying the noun of the
predicate, which immediately precede the head noun and must agree with it in gender,
number, and case. For the inherent context, this included subjective judgements about the
subject’s talent (прекрасный/prekrasnyi ‘wonderful’, выдающийся/vydayushiy ‘outstanding’, потрясающий/potryasayushiy ‘incredible’) or a statement about some
high status or prestige that the subject holds in the field (потомственный/potomstvennyi ‘hereditary’, опытный/opytnyi ‘experienced’, высокооплачиваемый/vysokooplachivaemyi ‘high-earning’). For the temporary context, adjectives were used to
indicate a lack of talent (ленивый/l’enivyi ‘lazy’, слабый/slabyi ‘poor’, скромный/skromnyi ‘unassuming’), or, more simply, the temporary nature of the position (сезонный/sezonnyi ‘seasonal’, новый/novyi ‘new’, сменный/smennyi ‘replacement’). In the example stimuli items above, (13a) and (b) have inherent-leaning adjectives (настоящий/nastoyashiy ‘real’ and талантливая/talantlivaya ‘talented’), and (13d) and (e) have temporary ones (слабая/slabaya ‘poor’ and сезонный/sezonnyi ‘seasonal’).

The second type encompasses other types of modifying phrases, including Adverbial Phrases (AdvP) and Prepositional Phrases (PP). These modifying phrases do not decline with the predicate, and can appear in a number of positions in the sentence, including the beginning (before the subject), the end (after the predicate), or even in between the subject and the verb. Many of these expressions are metaphorical and hard to translate directly. Modifiers for the inherent context included statements about the subject suitability or inclination for the profession, like по характеру/po harakteru ‘by temperament’, от бога/ot boga ‘god-given’, and по призванию/ro prizvaniyu ‘by vocation’, as well as assertions of the speaker’s certainty of the subject’s identity, like неудивительно, что../neudevitel’no, chto… ‘it’s no surprise that…’, несомненно/nesomnenno ‘undoubtedly’, and всем ясно, что../vsem yasno, chto… ‘everyone can tell that…’. Modifiers for the temporary context were mostly temporal,
such as в молодости/в molodosti ‘in their youth’, в летние каникулы/в летние каникулы ‘during the summer breaks’, теперь/teper ‘now’, в этом году/в этом году ‘this year’, and по совместительству/по совместительству ‘at the same time (as)’. In the examples above, (13a) and (c) have inherent-leaning modifying phrases (от рождения/от рождения ‘from birth’ and он говорит, что когда вырастет…/он говорит, что когда вырастет… ‘he says that when he grows up…’), while (13e) and (f) have temporary ones (уже несколько лет/уже несколько лет ‘for a few years now’ and по выходным/по выходным ‘on the weekends’).

The third type is an additional sentence which precedes the copular sentence. This is the most varied category of the three, both in length and content, due to being tailored specifically to each profession. For the inherent context, these sentences would often discuss a trait or skill that is relevant to the profession, or their interest in an aspect of the job, along the lines of ‘[Name] has always been good at/interested in [this skill]’, to reinforce the subject’s suitability for the job. For the temporary context, sentences could provide a condition under which the subject would undertake a particular job, or a specific reason for them doing it, such as ‘[Name] used to work elsewhere but switched jobs recently’, or ‘[Name] needs to earn money/help a relative/etc’. Some examples of inherent-leaning context sentences are in (13b) and (c), while temporary context
sentences are in (13d) and (f). For the full list of context sentences, as well as the other types of additional content, see the list of stimuli in Appendix A.

In addition, the choice of profession or occupation for the predicate of each sentence was not made randomly, but rather based on the likelihood of it representing a trait that would be central to someone’s identity, according to the researcher’s judgement. In effect, this meant that the inherent stimuli was dominated by professions relating to the arts (музыкант/muzykant ‘musician’, писательница/pisatel’nitsa ‘writer’, поэт/poet ‘poet’, художница/hudozhnitsa ‘artist’) and to academia (учёный/uchyonyi ‘scientist’, студентка/studentka ‘student’, профессор/professor ‘professor’), along with other professions that take a lot of study and dedication (врач/vrach ‘doctor’), or that are connected to a certain lifestyle (спортсменка/sportsmenka ‘athlete’) or outlook (следователь/sledovatel’ ‘detective’, журналистка/zhurnalistka ‘journalist’). The temporary context included menial labour (грузчик/gruzshik ‘mover’, дворник/dvornik ‘street sweeper’, уборщица/uborshitsa ‘janitor’), customer service (официантка/ofitsantka ‘waitress’, продавщица/prodavshitsa ‘salesperson’), administrative work (секретарша/sekretarsha ‘secretary’, налоговый инспектор/nalogovyi inspektor ‘tax inspector’), and other trades (механик/mehanik ‘mechanic’, электрик/elektrik ‘electrician’, пекарь/pekar ‘baker’) - all admirable and
valuable professions, but somewhat less likely to be pivotal to an individual’s personality and sense of self. Of course, this is all subjective, and the majority of the work of indicating semantic context was done by the three types of additional content described above.

3.2.2 FILLERS

The 36 stimuli sentences were mixed with 36 filler sentences (listed in Appendix B), also split equally by tense and gender of subject, and similar to the stimuli in length, but with a verb other than the copula or the present tense of работать/rabotat’ ‘to work as’. Due to the variety of verbs in these sentences, the expected (grammatical) case for the predicate could be any of the three options (nominative, instrumental, or accusative/other). To the extent of the researcher’s knowledge (and as confirmed by the three native Russian speaking consultants), each of these sentences had only one grammatical option, making a distinction based on semantic context superfluous, though some context (including sentences, adjectives, and modifying phrases) was nonetheless added to increase the resemblance between fillers and non-fillers.
3.3 DATA GATHERING

This study was conducted using Qualtrics experience management software. Participants first completed the background questionnaire, followed by the language task, with the order of the sentences randomised for each participant. Instructions and language background questions were provided in both Russian and English, and the Russian sentences of the language task could be viewed in Cyrillic script or, for participants less confident in their Russian reading skills, transliterated into the Latin alphabet, so that they would be able to sound out the words without needing to be familiar with the Cyrillic alphabet.

3.3.1 RECRUITMENT

Participants were recruited by word-of-mouth from the researcher’s personal acquaintances and via a recruitment invitation posted to the researcher’s Facebook. This allowed the link to circulate among a community of immigrant families based in Halifax, Nova Scotia, many of which include heritage speakers in the younger generations. Additional recruitment was done through the reddit board r/Russian, which is an international but English-speaking online community of Russian speakers from a variety of backgrounds. In both cases, the recruitment post specified the need for participants
who speak Russian and English, and who learned Russian from a young age, which includes both heritage and native speakers, and excludes those learning Russian as an L2 in adulthood. Participants were encouraged to share the survey with any family members or acquaintances who would also fit the above requirements.

3.4 PARTICIPANT EVALUATION

Each anonymous participant was first categorised as a native or a heritage speaker based on their responses to the language background questionnaire. They were not asked to self-identify as a heritage or a native speaker, since it could not be guaranteed that everyone would be familiar with these terms and define them in the same way as they are defined in this paper. Participants were, however, asked to self-evaluate their general Russian language skills, and answer a number of questions about their personal language history. These questions included whether or not Russian is the dominant (official) language of where they live and grew up, what language(s) they spoke at home in their childhood, whether or not they received instruction in the Russian language at any point, and what their use of the Russian language is like today. The full list of the background questions is provided in Appendix C.
Based on the above information, the researcher made a judgement on whether a given participant was classified as a native speaker or a heritage speaker, or not classified as either (and excluded from further analysis). While individual experiences may vary greatly, and, as discussed in Chapter 2, there is not always a clear division between who is or isn’t a heritage speaker, it is nonetheless useful for the purposes of this study to treat all participants as belonging to one of two binary categories - native or heritage speakers. Only participants whose responses clearly fit one of the two categories were counted in the results, and the identification of heritage speakers was done based on the assumed commonalities in the experiences of heritage speakers as defined in Chapter 2.

Participants did not have to answer all of the above questions in the expected way, but if enough of their responses aligned with what is typical of heritage speakers, then they were classified as such.

Heritage speakers of Russian are expected to have spent a significant period of their early lives in a region where Russian is not the dominant language. In the case of this study, participants were recruited who speak (to some degree) Russian and English, targeting heritage speakers for whom English is the dominant language of their locale. Crucially, they must have had some exposure to Russian in childhood, likely spoken at home with the family (Polinsky 2018), though not necessarily to the exclusion
of the dominant language of the region (English). As such, the responses to questions 7 to 11 of the background questionnaire (see Appendix C) contributed the most to their classification, though the other answers were taken into account as well.

Heritage speakers are unlikely to receive the same level of education in Russian that is typical of native speakers. Depending on when their family moved out of their original Russian-dominated region, they may have had some formal education in Russian, but not to the same extent one would expect if the relocation hadn’t occurred. It is common for heritage speakers to have what would be considered an incomplete education in the language, according to the standards of the region(s) where the language is dominant (Aleeva 2012:19). There are other possibilities for Russian language instruction, which include homeschooling by the parents/guardians, employment of private tutors, or community-organised schooling in regions where there are enough immigrant families to call for such a thing. However, while these can be beneficial for the speaker’s language abilities, they rarely equal the level of education that is typical for native speakers due to the time and effort required to get such results, as studies on Korean and Chinese Sunday schools have suggested (Polinsky, 2007a:16).

Finally, asking about an adult heritage speaker’s language in their everyday life can help identify the possibility of language attrition. Depending on how often they have
occasion to use their heritage language, a particular heritage speaker’s Russian skills may be stronger or weaker than those of a different individual, even with a similar background and level of exposure to the language in childhood. Of the language background questions in this study, this factor is the least relevant to the results, as language attrition is a topic beyond the scope of the present study.

After sorting through the submissions based on the above criteria, a total of 10 heritage speakers and 30 native (control) speakers were identified. The following section provides some demographic and descriptive information about these participants.

3.4.1 PARTICIPANT INFORMATION

Both groups of participants were very similar in terms of age and gender. For heritage speakers, the average age was 31.4, ranging from 19 to 47. For native speakers, the average was 35.1, ranging from 18 to 67. The heritage speaker group included 4 men and 6 women, while the native speakers included 11 men, 18 women, and one participant who did not indicate their gender, resulting in both groups being 60% female.

The responses to the language background questionnaire, which were used to place participants in one of the two groups, can be used to characterise the differences in their experiences with Russian. All of the heritage speakers stated that Russian is not the
dominant/official language of where they currently live, and most (80%) did not grow up with Russian as an official language either. On the other hand, all of the native speakers grew up where the official language is either Russian (90% of the native speakers) or a closely related Slavic language such as Ukrainian (10%), and the majority (60%) still live in such areas. In cases where a move from a Russian-speaking area to a non-Russian speaking area was made, the move happened earlier for heritage speakers (10-12 years) than for native speakers (30 years on average, with the youngest at 17 years). Both groups started by speaking Russian (or, for one heritage and two native speakers, Ukrainian) at home from birth to about 10 years of age, though some heritage speakers (30%) started using a mix of Russian and the dominant language around 10 years.

In terms of education, 50% of heritage speakers and 90% of native speakers received some formal education in Russian, and the native speakers’ education tended to last longer (on average, from the ages of 7-18, while heritage speakers either ended earlier or started later). When participants experienced additional types of education, it was most commonly homeschooling for heritage speakers, and community programs or private tutors for native speakers. At present, heritage speakers self-evaluated their language skills slightly lower than native speakers, with the average scores (out of 5) for oral production, oral comprehension, written production, and written comprehension.
being 4.4, 4.9, 3.4, and 4.4 for the heritage speakers, and 4.9, 5, 4.9, and 4.9 for native speakers. Finally, in terms of their current language use, the groups differed in both how frequently they speak Russian (for heritage speakers, 60% use it daily and 40% use it weekly, while for native speakers, 96% use it daily and 4% use it weekly) and in what contexts (native speakers listed a larger variety, including work and school/university, while heritage speakers usually limited their response to speaking Russian with family, sometimes friends, and special occasions).

All of the above findings align with the definitions of heritage and native speakers discussed in Chapter 2, and with what one would expect of a typical Russian heritage speaker (that is, children of Russian-speaking immigrants). The differences between the groups set apart heritage speakers, for whom Russian is no longer the primary language in their lives, from native speakers who may speak English often by necessity, but would still not consider it their primary language. The (limited) access to formal education and high self-evaluation scores show that the heritage speakers participating in this study are relatively high-proficiency (acrolectal) speakers. The results of these participants are discussed in Chapter 4.
3.4.2 OUTLIERS

Several partial responses and outliers were removed from the analysis. For the former, the analysis excluded 39 participants who left the study without answering at least 50% of the stimuli, as it becomes increasingly difficult to gather any meaning from so few responses. 10 other participants were excluded based on their answers to the language background questionnaire not being clear enough to make a judgement about their status as a native or a heritage speaker, whether the responses were simply too vague, or seemed to not be taken seriously. In some cases, the responses seemed to describe a situation on the brink between a heritage and a native speaker, making the participant’s classification difficult without the opportunity to ask follow-up questions.

Finally, one outlier was excluded for their responses to the stimuli, which showed an unusual distribution pattern compared to everyone else who responded to the survey. For all other participants, the Instrumental case was the most frequently selected, followed by the Nominative case, with the third case option selected least frequently (see Figure 1). This makes sense, given that Instrumental is a grammatical option for a majority of the sentences (30 of 36 stimuli, 20 of 36 fillers), while the third case is only grammatical in some of the fillers (12 of 36). For the outlying participant, however, the frequency of Instrumental and other case answers were reversed. As Figure 1 shows,
their Nominative answers were normal (19, in the upper quartile, 1.2 standard deviations from the mean of 14.9), but their Instrumental answers were far below the average (17, which is -5.3 standard deviations from the mean of 47.37), and their other case answers were far above (36 is 6.8 standard deviations from the mean of 9.31).

![Average distribution of answers (stimuli and fillers)](image)

Figure 1: Average distribution of case across all answers (72 items, stimuli and fillers) for all participants who completed more than 50% of the questions (50 participants in total). Dots indicate the outlier.

This may have been caused by incomplete acquisition of the Russian case system, as Instrumental is typically one of the last cases to be fully acquired. For children and lower-proficiency heritage speakers, the 6-case system described in Chapter 2 may be simplified, with all non-Nominative case forms merging into a single Oblique case
(Polinsky 2008b:153). It’s possible that the outlying participant favoured the Accusative and Genitive forms of the third option because they were more familiar than the Instrumental forms, while all other participants (heritage and native) were proficient enough to have the full Russian case system at their disposal. Regardless of the reasoning behind their performance, the results of the outlier shown in Figure 1 were removed from further analysis.
Chapter 4

Results

This chapter contains the results of 40 participants (10 heritage speakers and 30 native speakers) responding to 36 stimulus items each (evenly split between the variables of tense and context). Section 4.1 discusses the variables that were used in the data analysis. Section 4.2 presents a descriptive analysis of the data, including the frequencies of Nominative and Instrumental answers from both groups of participants, in total, and broken down by tense and context. Section 4.3 provides the results of the mixed effect logistic regression analysis that was used to model the data.

4.1 VARIABLES

The outcome (dependent) variable is the participant's selection of either Instrumental or Nominative case for the predicate. There were six potential predictor (independent) variables, though only three are significant enough to be used in the analysis. The variables used are the tense of the sentence (past, present, or future), the context for the sentence (inherent or temporary), and the type of speaker (heritage or native). The tense and context variables are balanced in the stimuli, with each participant
responding to 18 items each for the inherent and temporary contexts, and 12 items for each of the three tenses, in a random order.

The three other independent variables (the grammatical gender of the subject of the sentence, the age of the participant, and the participant’s gender), were not found to have a significant effect on the model. This exclusion is corroborated by the results of a backward stepwise linear regression (likelihood ratio) which eliminated these variables based on the criterion of a p-value > 0.1.

4.2 DESCRIPTIVE ANALYSIS

The frequencies of Nominative and Instrumental answers from both groups of participants were compared using a cross-tabulation analysis and bar graphs (based on percentages). The contingency table and bar graph for the overall results are presented in Section 4.2.1 below. These results are then broken down by tense (Section 4.2.2) and context (Section 4.2.3) of the stimuli. Section 4.2.4 discusses the range of variation in participant responses.

4.2.1 ANSWERS BY TYPE OF SPEAKER

The results in Table 3 and Figure 2 show that across all tenses and contexts, heritage speakers selected the Nominative case slightly more often than native speakers.
(26.9% of the time compared to 20.4%). The average across all participants is 22% Nominative and 78% Instrumental. This difference is not, however, statistically significant (see Table 8 for fixed effect results). The overall preference for the Instrumental in past and future sentences is due to the fact that it is the default predicate case for copular sentences. The frequency of Instrumental predicates does not necessarily indicate that participants interpret all of them as semantically temporary or changeable, as in many cases, they may not have found the given context significant enough to require the extra emphasis that is provided by case alternation.

<table>
<thead>
<tr>
<th>Type of Speaker</th>
<th>Nominative answers</th>
<th>Instrumental answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage speakers</td>
<td>Count</td>
<td>97</td>
<td>263</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>26.9</td>
<td>73.1</td>
</tr>
<tr>
<td>Native speakers</td>
<td>Count</td>
<td>220</td>
<td>860</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>20.4</td>
<td>79.6</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>317</td>
<td>1123</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>22.0</td>
<td>78.0</td>
</tr>
</tbody>
</table>

Table 3: Contingency (crosstabulation) table showing the proportion of Nominative and Instrumental answers in the two groups of speakers
Given that the main topic of interest for this study is the case alternation found in past and future copular sentences, it is also pertinent to look at the results for just those conditions and exclude the instances where one case is obligatory. These results are given in Table 4 and Figure 3 below. In comparing this to the data in Table 3, we can see that the proportion of Nominative answers is diminished (from 22% to 7.9% in total). It is still the case that heritage speakers selected Nominative more often than native speakers (15.4% compared to 5.4%), though again, this is not statistically significant (see Table 8). This is further broken down by tense in the following section.
<table>
<thead>
<tr>
<th>Type of Speaker</th>
<th>Nominative answers</th>
<th>Instrumental answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage speakers</td>
<td>Count: 37</td>
<td>203</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>%: 15.4</td>
<td>84.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Native speakers</td>
<td>Count: 39</td>
<td>681</td>
<td>720</td>
</tr>
<tr>
<td></td>
<td>%: 5.4</td>
<td>94.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>Count: 76</td>
<td>884</td>
<td>960</td>
</tr>
<tr>
<td></td>
<td>%: 7.9</td>
<td>92.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4: Contingency table for the answers in the two groups of speakers in the past and future

![Bar graph comparing answers for the two participant groups in the past and future](image)

Figure 3: Bar graph comparing answers for the two participant groups in the past and future
4.2.2 ANSWERS BY TYPE OF SPEAKER BY TENSE

Table 5 and Figure 4 show that which case is selected is affected by the tense of the stimulus. In the present tense, where only one case is grammatical in either context, the results are nearly even (50-50% for heritage speakers, and 50.2-49.8% for native speakers). In both past and future tense, where either case is permissible, the Instrumental is still much more common. This difference is more pronounced for the native speakers (90.3% and 98.9%, compared to 80.8% and 88.3% for heritage speakers) and in the future tense (96.3%, compared to 87.9% in the past). Table 8 shows that while the interaction of past and present tense is not significant, the interaction of past and future tense is (P-value: 0.0158). A linear visualisation of the interaction of tense with type of speaker is shown in Figure 5.

<table>
<thead>
<tr>
<th>Tense</th>
<th>Type of Speaker</th>
<th>Nominative answers</th>
<th>Instrumental answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past tense</td>
<td>Heritage speakers</td>
<td>Count: 23</td>
<td>97</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%: 19.2</td>
<td>80.8</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Native speakers</td>
<td>Count: 35</td>
<td>325</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%: 9.7</td>
<td>90.3</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Count: 58</td>
<td>422</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%: 12.1</td>
<td>87.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

55
<table>
<thead>
<tr>
<th>Tense</th>
<th>Heritage speakers</th>
<th>Native speakers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>%</td>
<td>Count</td>
</tr>
<tr>
<td>Present</td>
<td>60</td>
<td>50.0</td>
<td>60</td>
</tr>
<tr>
<td>Future</td>
<td>14</td>
<td>11.7</td>
<td>106</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>3.8</td>
<td>462</td>
</tr>
</tbody>
</table>

Table 5: Contingency table for the answers in the two groups of speakers across the three tenses
Figure 4: Bar graph comparing answers for the two participant groups and the three tenses

Figure 5: Linearization of the interactions of tense (past and future) and type of speaker
4.2.3 ANSWERS BY TYPE OF SPEAKER BY CONTEXT

Table 6 and Figure 6 show that the selection of case is also affected by context. The Nominative was selected much more often when the context was inherent as opposed to temporary (40.6% compared to only 3.5%). Here, again, heritage speakers are more likely to select Nominative than native speakers in both contexts (45% and 8.9%, compared to 39.1% and 1.7%). The interaction of type of speaker and context was also found to be significant (P-value: 0.0364, see Table 8). A linearised visualisation of this interaction is given in Figure 7.

<table>
<thead>
<tr>
<th>Context</th>
<th>Type of Speaker</th>
<th>Nominative answers</th>
<th>Instrumental answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inherent Context</td>
<td>Heritage speakers</td>
<td>81</td>
<td>99</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>45.0</td>
<td>55.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Native speakers</td>
<td>211</td>
<td>329</td>
<td>540</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>39.1</td>
<td>60.9</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>292</td>
<td>428</td>
<td>720</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>40.6</td>
<td>59.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Temporary Context</td>
<td>Heritage speakers</td>
<td>16</td>
<td>164</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>8.9</td>
<td>91.1</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Native speakers</td>
<td>9</td>
<td>531</td>
<td>540</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>1.7</td>
<td>98.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 6: Contingency table for the answers in the two groups of speakers across the two contexts

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>695</th>
<th>720</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>25</td>
<td>3.5</td>
<td>96.5</td>
</tr>
</tbody>
</table>

Figure 6: Bar graph comparing answers for the two participant groups and the two semantic contexts
Figure 7: Linearised interaction of context and type of speaker

The results are somewhat less striking when the present tense is once again removed, though a difference can still be seen in Table 7 and Figure 8. In past and future tenses, where either case is grammatically acceptable, all of the participants are more than twice as likely to select the Nominative when the context given is inherent (10.8% Nominative in the inherent context, compared to 5% in the temporary). This difference is more pronounced in the native speakers, though the numbers overall are smaller (for native speakers, the inherent 8.6% is nearly four times the temporary 2.2%, compared to the heritage speakers, where the inherent 17.5% is about 1.3 times as many as the temporary 13.3%).
<table>
<thead>
<tr>
<th>Context</th>
<th>Type of Speaker</th>
<th>Nominative answers</th>
<th>Instrumental answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Count</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Inherent</td>
<td>Heritage</td>
<td>21</td>
<td>17.5</td>
<td>120</td>
</tr>
<tr>
<td>Context</td>
<td>speakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>99</td>
<td>82.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Native</td>
<td>31</td>
<td>8.6</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>speakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>329</td>
<td>91.4</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>52</td>
<td>10.8</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Temporary</td>
<td>Heritage</td>
<td>16</td>
<td>13.3</td>
<td>120</td>
</tr>
<tr>
<td>Context</td>
<td>speakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>104</td>
<td>86.7</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Native</td>
<td>8</td>
<td>2.2</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>speakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>352</td>
<td>97.8</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24</td>
<td>5.0</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7: Contingency table for the answers of the two groups of speakers for the two contexts in the past and future tense
Figure 8: Bar graph comparing answers for the two participant groups and the two semantic contexts in the past and future

In sum, though the Instrumental case may be more common in copular (or synonymous verbal) constructions, the Nominative is still selected nearly a quarter (22% in Table 3) of the time, including 7.9% (in Table 4) of the time in constructions where it is optional rather than obligatory. When looking specifically at those instances of the Nominative, it seems that the tense (Table 5) and context (Tables 6 and 7) do play a part in the participant’s choice of case. Nominative appears more often in sentences with an inherent context than a temporary one, and more often in past sentences than in future ones. The results in this section thus support the hypothesis that heritage and native
participants differ in behaviour, though a proper examination of these differences will require a regression analysis, which is provided in Section 4.3.

4.2.4 RANGE OF VARIATION

In past and future tenses, where case alternation is possible, there is some variation within the groups as to how often the Nominative was actually used. Figure 9 shows that 18 native speakers and three heritage speakers did not use the Nominative at all. In addition, one heritage speaker used the Nominative in 16 sentences, which is far more than expected, considering only 12 of the 24 stimuli items included an inherent context. Nonetheless, this participant did seem to show some preference for Nominative in past and/or inherent sentences, suggesting that they did not chose between Nominative and Instrumental randomly. This participant’s results were not excluded from the analysis, but may have some effect on the heritage group’s overall performance.

Otherwise, the variation is as expected, given that the Nominative is not obligatory, so some participants do not use it at all. Participants who do use the Nominative generally don’t use it in all of the inherent context stimuli, due to the effectiveness of the given context varying between stimuli items, with some items being better than others at eliciting a Nominative predicate.
Figures 10 and 11 below show the distribution broken down by tense and context respectively. Again, the results are as expected. The participants who do use the Nominative use it more in the past than the future, and more in inherent contexts than temporary ones, with the difference more noticeable for the native speakers than the heritage speakers. The heritage speaker who used the Nominative 16 times in total still uses it more in past and inherent contexts: 10 past uses compared to 6 future, and 9 inherent uses compared to 7 temporary.
Figure 10: Graph showing the distribution of optional Nom answers by both groups in past and future sentences

Figure 11: Graph showing the distribution of optional Nom answers by both groups in inherent and temporary contexts
4.3 LOGISTIC REGRESSION ANALYSIS

The data was analysed using a generalised mixed effect logistic regression model in R, using the function glmer. The goal of this model is to predict, based on a number of factors (type of speaker, tense, and context), which case a participant is more likely to select. For Table 8 below, the model calculates the log odds of the instrumental case being selected in a given situation.

4.3.1 RESULTS

Table 8 shows the fixed effects of the variables and interactions in the logistic regression model. Because Tense has three possible levels (past, present, and future), it is split into two binary variables. Tense 1 distinguishes between past and present, and Tense 2 distinguishes between past and future. For each variable, one value is taken as the reference from which probability of deviation is calculated - heritage speakers for Type of speaker, inherent for Context, and past for Tenses 1 and 2. The intercept is a random variable which is different for each respondent, which accounts for the differences in each participant’s individual performance but is not meaningful on its own.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate (Beta)</th>
<th>Standard Error</th>
<th>Significance (P value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Intercept (constant)</td>
<td>1.88219</td>
<td>0.67511</td>
<td>0.0053</td>
</tr>
<tr>
<td>2 Type of speaker</td>
<td>0.62924</td>
<td>0.79560</td>
<td>0.4290</td>
</tr>
<tr>
<td>3 Context</td>
<td>0.46083</td>
<td>0.55200</td>
<td>0.4038</td>
</tr>
<tr>
<td>4 Tense 1</td>
<td>-21.69547</td>
<td>2056.05962</td>
<td>0.9916</td>
</tr>
<tr>
<td>5 Tense 2</td>
<td>0.82263</td>
<td>0.58080</td>
<td>0.1567</td>
</tr>
<tr>
<td>6 Type * Context</td>
<td>1.57864</td>
<td>0.75428</td>
<td>0.0364</td>
</tr>
<tr>
<td>7 Type * Tense 1</td>
<td>0.96780</td>
<td>2135.78830</td>
<td>0.9996</td>
</tr>
<tr>
<td>8 Type * Tense 2</td>
<td>2.39697</td>
<td>0.99346</td>
<td>0.0158</td>
</tr>
<tr>
<td>9 Context * Tense 1</td>
<td>41.53421</td>
<td>5042.10779</td>
<td>0.9934</td>
</tr>
<tr>
<td>10 Context * Tense 2</td>
<td>-0.02786</td>
<td>0.85970</td>
<td>0.9742</td>
</tr>
<tr>
<td>11 Type * Context * Tense 1</td>
<td>-18.91286</td>
<td>5075.14165</td>
<td>0.9970</td>
</tr>
<tr>
<td>12 Type * Context * Tense 2</td>
<td>-2.01180</td>
<td>1.47518</td>
<td>0.1726</td>
</tr>
</tbody>
</table>

Table 8: Fixed Effects of the mixed effects logistic regression model. * indicates interactions.

As Table 8 shows, there are two statistically significant factors, aside from the intercept. The interaction of Type of Speaker and Context has a P-value of 0.0364, and the interaction of Type of Speaker and Tense 2 (which accounts for the difference between past and future) has a P-value of 0.0158. This shows that both context and tense have a different effect on the two groups of participants. Specifically, native speakers are less likely to select Nominative when the tense is future and the context is temporary,
which is the same finding as was noted in Section 4.2. The implications of these results are discussed in the following chapter.

The lack of significant main effect of Type of speaker indicates that the two groups behave similarly in the reference situation (past tense and inherent context). The lack of significant main effects of Context and Tense indicate that these factors alone did not have an effect on the reference group (heritage speakers). The lack of significant three-way interactions indicates that the effects of context and tense are additive and not super-additive or sub-additive.
Chapter 5

Discussion

The aim of this study was to investigate how heritage speakers of Russian compare to native speakers when it comes to alternating predicate case in copular sentences. The results from the previous chapter show that there are indeed differences between the two groups, and that the factors of tense and context have different effects on the choice of case made by either group. This supports the idea presented earlier in this paper that predicate case alternation is a potential area of difficulty for high-proficiency heritage speakers of Russian. The following sections go into more detail regarding how each variable affects the results and the implications thereof, with all of the significant findings summarised in Section 5.2. Section 5.3 discusses potential limitations of this study, and Section 5.4 provides suggestions for further research.

5.1 EFFECT OF TYPE OF SPEAKER ON CASE SELECTION

When comparing the overall performance of heritage versus native speakers (Section 4.2.1), a rather surprising observation can be made regarding the frequency of Nominative case in past and future copular sentences. Heritage speakers are overall more likely to select the Nominative than native speakers, even when the Instrumental is a grammatical option (15.4% for heritage speakers compared to 5.4% for native speakers in Table 4). This is somewhat unexpected, given that in these constructions (past and
future copular sentences) the Instrumental is generally the default (Bailyn & Rubin, 1991), and the Nominative is seen as a special case which appears only for the purpose of emphasising the inherent nature of the property in question. Given that the Nominative case in copular constructions is optional and relatively rare, it would make sense for native speakers to be the ones to make more use of this variation, while heritage speakers persist in using the Instrumental regardless of the Nominative’s availability. However, that is not the case.

The fact that heritage speakers do use the Nominative in past and future tenses, and the absence of erroneous uses of case (such as using the Accusative in any of the stimuli, or the ungrammatical case in the present tense), implies that they are overall aware of the availability of both Nominative and Instrumental in these tenses. Even then, it is unclear why heritage speakers make use of Nominative predicates more often than native speakers. One possible explanation for this data could be that they show a tendency towards the Nominative, or against Instrumental, based on a number of factors: they are, respectively, among the first and last cases to be acquired (Schwartz & Minkov, 2014:60), the Nominative is more common than the Instrumental as a whole, and the Nominative is less marked (Pereltsvaig 2007:110). Thus, when presented with a construction where they know both to be acceptable, they tend to select the Nominative,
despite the Instrumental being more common in this particular type of construction. This is supported by Polinsky’s (2008, 2018) studies on the simplification of the Russian case system in low proficiency heritage speakers, although not many similar studies exist which focus specifically on higher proficiency speakers. Further research would be needed to support such a hypothesis about the overall use of Nominative by heritage speakers. This study can, however, demonstrate some of the factors that contribute to the selection of one case over the other, regardless of overall frequency; namely, tense and context.

5.1.1 INTERACTION OF TENSE AND TYPE OF SPEAKER IN CASE SELECTION

The most obvious consequence of tense (see Table 5 and Figure 4) is that of the present tense, where the availability of only one case supersedes all else. Given that half of the present stimuli consists of null-copula constructions where the predicate must match the Nominative case of the subject, and the other half consists of verbal sentences with "работа"/"rabotat’ ‘to work as’ which selects an Instrumental complement, it follows that the results would be evenly split, and that the majority of the Nominative answers come from this section (for heritage speakers, this includes 60 of 97 (61.8%)
uses of the Nominative, while for native speakers, it is 181 of 220 (82%). That being said, this is not a particularly exciting result, as it simply means that (aside from singular performance errors), both groups have a good understanding of which cases are and are not grammatical in certain constructions.

The more interesting comparison to be made here is that of the past and future tenses. Recall from Chapter 2 that Nominative predicates are overall much more frequent in the past tense than the future. It seems that this objection to future Nominative constructions is at play in native speakers’ responses, as there were only four such responses (1.1%), as opposed to the heritage speakers’ 14 (11.7%), more than ten times as frequently. The difference between the two groups is less drastic in the past tense, where the heritage speakers used the Nominative twice as frequently as the native speakers (19.2% compared to 9.7%). While both groups used the Nominative more in the past than in the future, the difference is significantly greater for native speakers. This same interaction can be seen in the logistic regression model (Table 8, Section 4.3.1), where Type of Speaker * Tense 2 (past versus future) has a P-value of 0.0158 (estimate: 2.39697, standard error: 0.99346). This finding is not directly related to the research question posed in this study, which focuses on semantic context rather than tense, but is interesting nonetheless.
5.1.2 INTERACTION OF CONTEXT AND TYPE OF SPEAKER IN CASE SELECTION

The most direct answer to the research questions posed at the end of Chapter 2 lies in the interaction between Type of Speaker and Context. As Table 8 shows, this interaction is indeed significant (P-value: 0.0364, estimate: 1.57864, standard error: 0.75428), albeit not as significant as Type of Speaker and Tense. Regardless, the predictive model generated through mixed logistic regression shows that native speakers show a stronger likelihood to select Instrumental case when the context is temporary.

While both groups use the Nominative more in inherent contexts (from Table 7: heritage speakers use the Nominative 17.5% of the time in inherent contexts compared to 13.3% in the temporary, while native speakers use it 8.6% in inherent contexts and only 2.2% in the temporary), this correlation is stronger in native speakers than heritage, which indicates that heritage speakers take context into account to a lesser degree than native speakers.

5.2 SUMMARY OF FINDINGS

The major findings of this study are 1) that high-proficiency heritage speakers do use Nominative case in past and future copular sentences, 2) that they do so even more
frequently than native speakers, and 3) that their selection of case is less dependent on factors such as tense and context than it is for native speakers, though there is still correlation present in both groups. This supports the hypothesis presented in this thesis that this kind of linguistic knowledge - the semantic and pragmatic reasons for alternating case - is not as easily accessible to heritage speakers (who may have experienced incomplete acquisition and/or attrition) as it is to native speakers.

5.3 LIMITATIONS

The above results are based on a sample size of only ten heritage speakers and thirty native (control) speakers, and there was some variation in individual performances (see Section 4.2.4). This means that the results are less reliable than if they had been based on a larger group. The format of the study also limited the potential accuracy of the results. In constructing the survey for data gathering, the accessibility to participants was prioritised over the depth of gathered data. A written survey with mostly multiple-choice questions takes less time, effort, and commitment on the part of the respondent than an in-person (face-to-face or virtual) interview with the researcher, but it also generates less useful data. In particular, the background questionnaire, used to determine the type of speaker of each participant, would have been much more effective and informative if it
were done through conversation where the initial responses could be followed up by clarifying questions. Finally, as discussed in the chapter on methodology (Section 3.2), it is difficult to accurately convey semantic context with only a few written sentences. The effectiveness of various combinations of contextual sentences, adjectives, and modifying phrases likely varied significantly from item to item. Indeed, there were some specific items that seemed to prompt a certain case reasonably well (for instance, Items (3) and (6) in Appendix A), while others (such as (15) or (21)) failed to elicit the expected result in some cases. Nonetheless, the hope is that the number of stimuli items (six for each combination of tense and context) compensated for this variation to some extent. Even so, the limitations of this study must be taken into account when considering the results.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

Section 5.1 above shows that the overall frequency of various cases in constructions where multiple are grammatically possible is a topic for future research. One could, for instance, look at verbs like простить/prostit’ ‘to forgive’, which can take either a Dative or an Accusative complement depending on the construction. Other cases of alternation, not necessarily just of case, are similarly interesting, but beyond the scope of this study. As suggested at the end of Chapter 2, the choice between two
grammatically acceptable, yet in some way different forms is one that can produce very interesting results regarding a particular group’s language knowledge.

Most importantly, this study shines a light on the question of heritage speakers’ semantic and pragmatic knowledge in their heritage language. While the general concepts that are being expressed may be (to some degree) universal, the way a given language expresses them certainly is not. Most native speakers of Russian may have an awareness, or at least an intuition, that the difference between a Nominative and Instrumental predicate has to do with the inherentness of the property being discussed, but this is likely not as common knowledge among those who speak Russian as a heritage (or second) language. Further research into what kind of knowledge heritage speakers may lack at all levels of proficiency is useful in directing those who wish to improve their Russian language skills. Overall, the ways heritage speakers do (or do not) understand and convey semantic nuances in their heritage language is a broad area of mostly untapped research which would contribute greatly to the understanding of heritage languages and those who speak them.
5.5 CONCLUSION

The results of this study demonstrate that heritage speakers do differ from native speakers when it comes to predicate case alternation in copular sentences. While both groups performed similarly well in the present tense, in past and future tenses where Nominative and Instrumental are both grammatical, the heritage speakers had a higher frequency of Nominative answers, and took factors like tense and context into account to a lesser degree than native speakers. Beyond this particular phenomenon in copular sentences, this could point to other areas of potential difficulty for heritage speakers, such as the grammatical encoding of semantics and pragmatics, which can vary greatly between languages and can affect even those with high proficiency in other areas of the language.
References


Matushansky, O. (2009). Some cases of Russian. À Paraître Dans Les Actes De Formal Description. let.uu.nl


Venturin, B. (2019). "I Don't Fit in Here and I Don't Fit in There:" Understanding the Connections between L1 Attrition and Feelings of Identity in 1.5 Generation Russian Australians. 10.46538/hlj.16.2.6.
Vlasova, Н./Власова, Н. (н.д.). Род существительных, которые обозначают профессию или должность [Gender of nouns denoting profession or job position]. Ruspeech.
https://www.ruspeech.com/learning/5064/
APPENDIX A

Stimuli

For each item, the Russian sentence is given in the Cyrillic alphabet in (a), transliterated into the Latin alphabet in (b), and translated into English in (c). The table below lists each item’s context, tense, gender of subject, and method of indicating context.

<table>
<thead>
<tr>
<th>Context</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherent</td>
<td>(1)-(18)</td>
</tr>
<tr>
<td>Temporary</td>
<td>(19)-(36)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tense</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>(1)-(6), (19)-(24)</td>
</tr>
<tr>
<td>Present</td>
<td>(7)-(12), (25)-(30)</td>
</tr>
<tr>
<td>Future</td>
<td>(13)-(18), (31)-(36)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender of subject</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>(1)-(3), (7)-(9), (13)-(15), (19)-(21), (25)-(27), (31)-(33)</td>
</tr>
<tr>
<td>Female</td>
<td>(4)-(6), (10)-(12), (16)-(18), (22)-(24), (28)-(30), (34)-(36)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method of indicating context</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjective and modifying phrase</td>
<td>(1), (4), (7), (10), (13), (16), (19), (22), (25), (28), (31), (34)</td>
</tr>
<tr>
<td>Sentence and adjective</td>
<td>(2), (5), (8), (11), (14), (17), (20), (23), (26), (29), (32), (35)</td>
</tr>
<tr>
<td>Sentence and modifying phrase</td>
<td>(3), (6), (9), (12), (15), (18), (21), (24), (27), (30), (33),</td>
</tr>
</tbody>
</table>
For items where the predicate case alternates, the second grammatical form of the predicate is given in parentheses. When taking the survey, stimuli would appear with the predicate replaced with a blank in the sentence, and participants would be prompted to select one of three case forms for the predicate (Nominative, Accusative/Genitive, and Instrumental). Examples of the survey formatting can be seen in Appendix E.

(1a) Боря был настоящий учёный (настоящим учёным) от рождения.
(b) Borya byl nastoyashiy uchyonyi (nastoyashim uchyonym) ot rozhdeniya.
(c) Borya was a real scientist from birth.

(2a) Все в Пашеной семье сочиняли музыку. Он был потомственный композитор (потомственным композитором).
(b) Vse v Pashenoi semye sochinyali muzyku. On byl potomstvennym kompozitor (potomstvennym kompozitorom).
(c) Everyone in Pasha's family composed music. He was a hereditary composer.

(3a) Даже в старости Гена любил танцевать под любую музыку. Он был танцор (танцором) от бога.
(b) Dazhe v starosti Gena lyubil tantsevat' pod lyubuyu muzyku. On byl tantsor (tantsorom) ot boga.
(c) Even when he was old, Gena loved to dance to any kind of music. He was a god-given dancer.

(4a) По характеру, Катя была старательная студентка (старательной студенткой).
(b) Po harakteru, Katya byla staratel'naya studentka (staratel'noi studentkoi).
(c) By temperament, Katya was a diligent student.
(5а) Хотя она давно умерла, Любины рассказы до сих пор популярны. Люба была потрясающая писательница (потрясающей писательницей).
(b) Hot’ ona davno umerla, Lyubiny rasskazy do sih por populyarny. Lyuba byla potryasayushaya pisatelnitsa (potryasayushей pisateln'itsей).
(c) Though she died long ago, Lyuba's stories are still popular. Lyuba was an incredible writer.

(6а) Каролина всегда любила всех развлекать своими пародиями на знаменитости. Она была актриса (актрисой) по призванию.
(b) Karolina vsegda lyubila vseh razvlekat’ svoimi parodiymy na znamenitosti. Ona byla actrisa (actrisoi) po prizvaniyu.
(c) Karolina always liked entertaining people with her celebrity impressions. She was an actor by vocation.

(7а) По складу ума, Миша настоящий поэт.
(b) Po skladu uma, Misha nastoyashiy poet.
(c) By temperament, Misha is a real poet.

(8а) Когда мне надо идти в эту поликлинику, я всегда записываюсь к Игорю. Он самый опытный врач.
(b) Kogda mne nado idti v etu polekliniku, ya vsegda zapisyvas’ k Igoryu. On samyi opytnyi vrach’.
(c) When I need to go to this clinic, I always sign up to see Igor. He is the most experienced doctor.

(9а) Андрею всегда подходила академическая жизнь. Неудивительно, что теперь он профессор.
(b) Andreyu vsegda podhodila akademicheskaya zhizn’. Neudavitelno, chto teper’ on professor.
(c) Andrei was always suited to academic life. It's no surprise that now he is a professor.

(10а) Судя по этой стене с призами, Надя выдающаяся спортсменка.
(b) Sudya po etoi stene s prizami, Nadya vydayushayasya sportsmenka.
(c) Judging by this wall of trophies, Nadya is an outstanding athlete.
(11a) У Даши золотой голос. Она талантливая певица.
(b) U Dashy zolotoi golos. Ona talantlivaya pevitsa.
(c) Dasha has a golden voice. She is a talented singer.

(12a) Иногда Пола работает в детском саду, а иногда в начальной школе. По призванию, она учительница.
(b) Inogda Polya rabotaet v detskom sadu, a inogda v nachal'noi shkole. Po prizvaniyu, ona uchitel'nitsa.
(c) Sometimes Polya works at a daycare, and sometimes at an elementary school. By vocation, she is a teacher.

(13a) Всем ясно, что Ярослав будет виртуозный музыкант (виртуозным музыкантом).
(b) Vsem yasno, chto Yaroslav budet virtuoznyi muzykant (virtuoznym muzykantom).
(c) Everyone can tell that Yaroslav will be a master musician.

(14a) Гришины родители распланировали всю его карьеру. Он будет высокооплачиваемый доктор (высокооплачиваемым доктором).
(b) Grishiny roditeli rasplanirovali vsyu ego karieru. On budet vysokooplachivaemyi doktor (vysokooplachivaemym doktorom).
(c) Grisha's parents have planned out his whole career. He will be a high-earning doctor.

(15a) Рома обожает читать детективы. Он говорит, что когда вырастет, он будет следователь (следователем).
(b) Roma obozhaet chitat' detektivy. On govorit, chto kogda vyrastet, on budet sledovatel' (sledovatelem).
(c) Roma loves reading detective novels. He says that when he grows up, he will be a detective.

(16a) Я почти уверена, что Настя будет прекрасная художница (прекрасной художницей).
(b) Ya pochti uverena, chto Nastya budet prekrasnaya hudozhnitsa (prekrasnoi hudozhnitsi).
(c) I'm almost certain that Nastya will be a wonderful artist.
(17a) Аня усердно репетирует главную роль в новом спектакле. Она будет ведущая балерина (ведущей балериной).
(b) Anya userdno repetiruet glavnuyu rol' v novom spektakle. Ona budet vedushaya balerina (vedushei balerinoi).
(c) Anya trains hard for her main role in the new show. She will be the lead ballerina.

(18a) Света любит докапываться до правды и писать. Несомненно, она будет журналистка (журналисткой).
(b) Sveta lyubit dokapyvatsa do pravdy i pisat'. Nesomnенно, ona budet zhurnalistka (zhurnalistkoi).
(c) Svetelikes digging for the truth and writing. Undoubtedly, she will be a journalist.

(19a) Честно говоря, Костя был ленивым дворником (ленивый дворник).
(b) Chestno govorya, Kostya byl len'ivym dvornikom (len'ivyi dvornik).
(c) Honestly, Kostya was a lazy street sweeper.

(20a) Мы с Юрой жили в одной деревне до того как он уехал. Юра был местным почтальоном (местный почтальон).
(b) My s Yuroi zhyli v odnoi derevne do togo kak on uehal. Yura byl mestnym pochtalyonom (mestnyi pochtalyon).
(c) Yura and I lived in the same village until he moved away. Yura was the local post carrier.

(21a) Илья любил писать детские стихи, но мало на этом зарабатывал. По совместительству он был грузчиком (грузчик).
(b) Ilya lyubil pisat' detskiye stihi, no malo na etom zarabatyval. Po sovmestitelstvu on byl gruzshikom (gruzshik).
(c) Ilya liked to write children's poems, but didn't earn much from them. At the same time, he was a mover.

(22a) В молодости Галя была скромной секретаршей (скромная секретарша).
(b) V molodosti Galya byla skromnoi sekretarshei (skromnaya sekretarsha).
(c) In her youth, Galya was an unassuming secretary.
(23a) Masha vladela dvumya yazykami, no ploho perekluchalas' s odnogo na drugoi. Ona byla slaboj perevodchitsy (slabaya perevodchitsa).
(b) Masha владела двумя языками, но плохо переключалась с одного на другой. Она была слабой переводчицей (слабая переводчица).
(c) Masha spoke two languages, but couldn't switch between them easily. She was a poor translator.

(24a) Kogda Milena uchilas' v universitete, ei nado bylo zarabatyvat' na uchyobu. V letnie kanikuly, ona byla uborshitsy (uborschitsa).
(b) Когда Милена училась в университете, ей надо было зарабатывать на учёбу. В летние каникулы, она была уборщицей (уборщица).
(c) When Milena was attending university, she had to work to afford tuition. Over summer breaks, she was a janitor.

(25a) Uzhe neskolko let Tyoma rabotaet sezonnym voditelem.
(b) For a few years now, Tyoma has worked as a seasonal driver.
(c) Недавно Шура устроился на работу в новую финансовую фирму. Он работает налоговым инспектором.
(b) Nedavno Shura ustroilsya na rabotu v novuyu finansovuyu firmu. On rabotaet nalogovym inspektorom.
(c) Recently Shura got a job at the new finance firm. He works as a tax inspector.

(26a) Papa Danyi nauchil ego razbiratsa v mashynah. Teper' Danya rabotaet mehanikom.
(b) Папа Дани научил его разбираться в машинах. Теперь Дания работает механиком.
(c) Danya’s dad taught him his way around cars. Now, Danya works as a mechanic.

(27a) Tanya rabotaet novoi konduktorshei i lovit bezbiletnikov.
(b) Таня работает новой кондукторшей и ловит безбилетников.
(c) Tanya works as the new conductor and catches stowaways.
(29a) У Наталии много опыта общения с клиентами. Наталя работает главной продавщицей в магазине.
(b) U Natalyi mnogo opyta obsheniya s klientami. Natalia rabotaet glavnoi prodavshitei v magazine.
(c) Natalia has lots of experience working with customers. Natalia works as the head salesperson at the store.

(30a) Люда ушла с работы на заводе. Теперь она работает официанткой.
(b) Lyuda ushla s raboty na zavode. Teper' ona rabotaet ofitsantkoi.
(c) Lyuda left her job at the factory. Now, she works as a waitress.

(31a) Пока главный электрик в отпуске, Даниил будет сменным электриком (сменный электрик).
(b) Poka glavnyi elektrik v otpuske, Daniil budet smennym elektrikom (smennyi elektrik).
(c) While the head electrician is on vacation, Daniel will be the replacement electrician.

(32a) Никита представительный человек, хоть и не имеет опыта руководства. Никита будет неплохим менеджером (неплохой менеджер).
(b) Nikita predstavitel'nyi chelovek, hot' i ne imeet opyta rukovodstva. Nikita budet neplohim menedzherom (neplohoi menedzher).
(c) Nikita is a personable man, despite not having experience in management. Nikita will be a decent manager.

(33a) Каждым летом, Витя изучает новое в лагере. В этом году, он будет тренером (тренер).
(b) Kazhdyom letom, Vitya izuchaet novoee v lagere. V etom godu, on budet treinerom (treiner).
(c) Every summer, Vitya learns a new skill at camp. This year, he will be a trainer.

(34a) Если вдруг кто-нибудь в её команде вступит в конфликт, Злата будет беспристрастным посредником (беспристрастный посредник).
(b) Esli vdrug kto-nibut' v eyo komande vstupit v konflikt, Zlata budet bespristrastnym poserdnikom (bespristrastnyi poserdnik).
(c) If anyone on her team were to come into conflict, Zlata will be an impartial mediator.
Первый режиссёр этого фильма ушёл с проекта из-за творческих разногласий. Вера будет новым режиссёром (новый режиссёр).

Саниному Дяде нужна помощь в его новой булочной. По выходным, она будет пекарем (пекарь).

The original director of this film left the project due to creative differences. Vera will be the new director.

Sanya's uncle needs some help in his new bakery. On the weekends, she will be a baker.
For each item, the Russian sentence is given in the Cyrillic alphabet in (a), transliterated into the Latin alphabet in (b), and translated into English in (c). The table below shows each filler item’s tense and gender of subject (context is not relevant for fillers).

<table>
<thead>
<tr>
<th>Tense</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>(1)-(6), (13)-(18), (25)-(30)</td>
<td>(7)-(12), (19)-(24), (31)-(36)</td>
</tr>
<tr>
<td>Present</td>
<td>(13)-(24)</td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>(25)-(36)</td>
<td></td>
</tr>
</tbody>
</table>

When taking the survey, stimuli would appear with the predicate replaced with a blank in the sentence, and participants would be prompted to select one of three case forms for the predicate (Nominative, Accusative/Genitive, and Instrumental). Examples of the survey formatting can be seen in Appendix E.

(1a) В детстве Тимур мечтал быть космонавтом.
(b) V detstve Timur mechtal byt' kosmonavtom.
(c) As a kid, Timur dreamed of being an astronaut.

(2a) В девятом классе, Михаил сыграл заглавную роль в спектакле «Отелло».
(b) V devyatom classe, Mihail sigral zaglavnuyu rol' v spektakle «Otello».
(c) In ninth grade, Mihail played the title role in the play "Othello".

(3a) Лёша в нашей компании всегда готовит плов. Он работал поваром.
(b) Lyosha v nashei kompanii vsegda gotovit plov. On rabotal povaram.
(c) Lyosha is always making pilaf for our group. He used to work as a cook.

(4a) Станко никогда не хотел брать на себя ответственность. Он был счастлив играть вспомогательную роль.
(b) Stanko nikogda ne hotel' brat' na sebya otvetstvennost'. On byl' shasliv igrat' vsyomogatelnuyu rol'.
(c) Stanko never wanted to take responsibility. He is happy in a supportive role.

(5a) Андрею очень не подходила карьера телепродавца, так что тепер' он бариста.
(b) Andreyu ochen' ne podhodila kariera teleprodavtsa, tak chto teper' on barista.
(c) Andrei was not suited to a career as a telemarketer, so now he's a barista.

(6a) Неудивительно, что Серёжа работает в аэропорту. В детстве он играл в самолётики.
(b) Neudevitelno, chto Seryozha rabotaet v aeroportu. V detstve on igral v samolyotiki.
(c) It's no surprise that Seryozha works at the airport. As a kid, he played with toy planes.

(7a) Лада была волонтером в приюте для животных перед тем как её наняли ветеринарной помощницей.
(b) Lada byla volontorom v priyute dlya zhivotnykh pered tem kak eyo naneli veterinarnoi pomoshnitsyi.
(c) Lada was a volunteer at the shelter before she was hired as a veterinary assistant.

(8a) Мария часто помогала маме в огороде.
(b) Maria chasto pomogala mame v ogorode.
(c) Maria often helped her mother in the garden.

(9a) В начальной школе Саша быстрее всех научилась читать книги.
(b) V nachalnoi shkole Sasha bystree vseh nauchilas' chitat' knigi.
(c) In elementary school, Sasha was the first to learn to read books.

(10a) Надя много лет работала медсестрой до выхода на пенсию.
(b) Nadya mnogo let rabotala medestroi do vyhoda na pensiyu.
(c) Nadya worked for many years as a nurse before retiring.

(11a) В университете Даша подрабатывала туристическим гидом.
(b) V universitete Dasha podrobatyvala turesticheskim gidom.
(c) In university, Dasha earned extra cash as a tour guide.

(12a) В детстве Вера хотела быть пиратским капитаном.
(b) V detstve Vera hotela byt' piratskim kapitanom.
(c) As a kid Vera wanted to be a pirate captain.

(13a) Юра стал художником неожиданно для всех. Только в тридцать лет друзья узнаяли о его таланте.
(b) Yura stal hudozhnikom neozhydanno dlya vseh. Tolko v tridsat' let druzya uznali o ego talante.
(c) Yura became an artist very unexpectedly. Only in his thirties did his friends discover his talent.

(14a) Рома - чемпион нашего штата. Он бегает на короткие дистанции.
(b) Roma - chempion nashego shtata. On begaet na karotkie distantsii.
(c) Roma is our state champion. He runs sprints.

(15a) Фёдор увлекался авиамоделированием с детства. Он выучился на авиаконструктора.
(b) Fyodor uvlekalsya aviamodelirovaniem s detstva. On vyuchilsya na aviakonstruktora.
(c) Fyodor has loved aeromodeling since he was a child. He has trained to be a aircraft designer.

(16a) Гриша стремится быть адвокатом.
(b) Grisha stremitsa byt' advokatom.
(c) Grisha is hoping to become a lawyer.
(17a) Автандил перепробовал чуть ли не все экстремальные виды спорта. У него адреналиновая зависимость.
(b) Avtandil pereproboval chut' li ne vse extremal'nye vidy sporta. U nego adrenalinovaya savisimost'.
(c) Avtandil has tried out nearly every type of extreme sport. He's an adrenaline junkie.

(18a) Костя отдыхает за рулем. Он подрабатывает таксистом.
(b) Kostya otdyhaet za rulyom. On podrabatyvaet taksistom.
(c) Kostya likes being behind the wheel. He moonlights as a taxi driver.

(19a) Света учится, чтобы стать архитектором.
(b) Sveta uchitsa, chtoby stat' arhitektorom.
(c) Sveta is studying to become an architect.

(20a) В прошлом году Лана устроилась на работу в туристическое агентство.
(b) V proshlom godu Lana ustroilas' na rabotu v turisticheskoe agentstvo.
(c) Last year Lana got a job at a tourist agency.

(21a) В последнее время, Жанна занимается скалолазанием со своими друзьями..
(b) V poslednee vremya, Janna zanimaetsa skalolazaniem so svoimi druzyami.
(c) Lately, Janna has been going rock climbing with her friends.

(22a) Эльвира увлекается исторической реконструкцией.
(b) Elvira uvlekaetsa istoricheskoi rekonstruktsyei.
(c) Elvira enjoys historical reenactment.

(23a) Во всей фирме, Зария лучше всех понимает людей и может с ними легко общаться.
(b) Vo vsei firme, Zariya lytshe vseh ponimaet lyudei i mozhet s nimi legko obshyatsa.
(c) In the whole firm, Zariya understands people best of all and can connect to them easily.

(24a) По ночам, когда ей не снится, Софья сочиняет великолепные песни.
(b) Po nocham, kogda ei ne snitsa, Sofya sochinaet velikolepnye pesni.
(c) At night, when she can't sleep, Sofya writes wonderful songs.

(25a) Ted очень общителен. Ему стоит попробовать себя рекламным агентом.
(b) Ted ochen' obshitelen. Emu stoit poprobovat' sebya reklamnym agentom.
(c) Ted is very personable. Heshould try being an advertising agent.

(26a) Vadim собрался стать инженером, как и его отец.
(b) Vadim sobralsya stat' inzhinerom, kak i ego otets.
(c) Vadim is going to be an engineer, just like his father.

(27a) Damir начал с работы простым таксистом. Он мечтает дорасти до директора автопарка.
(b) Damir nachal s raboty prostym taksistom. On mechtaet dorasti do direktora avtoparka.
(c) Damir started work as a simple taxi driver. He dreams of working his way up to being the fleet manager.

(28a) Artyom увлекается наполеоновскими войнами. Ему суждено стать историком.
(b) Artyom uvlekaetsa napoleonskimi voinami. Emu suzhdeno stat' istorikom.
(c) Artyom is interested in the Napoleonic wars. Heis destined to become a historian.

(29a) Pasha знает где у компьютера вход и выход. Не иначе как станет программистом.
(b) Pasha znaet gde u kompyutera vhod i vyhod. Ne inache kak stanet' programmistom.
(c) Pasha knows his way around a computer. It's most likely he will become a programmer..

(30a) Gosha планирует подать документы на реаниматолога..
(b) Gosha planiruet podat' dokumenty na reaminatologa. .
(c) Gosha plans to submit his application for being an EMT..

(31a) Когда-нибудь Тания хочет заняться коммерцией на интернете.
(b) Kogda-nibut' Tanya hochet zanyatsa kommertsiei na internete.
(c) Someday Tanya wants to do business on the internet.
(32a) Когда Люда окончит музыкальную школу, она станет дирижёром.
(b) Kogda Lyuda okonchit muzykalnuyu shkolu, ona stanet dirizhorom.
(c) When Lyuda finishes music school, she will become a conductor.

(33a) У Наташи эффектная внешность. В будущем Наташа станет фотомоделью.
(b) U Natashi effektnaya vneshnost'. V budushem Natasha stanet' fotomodelyu.
(c) Natasha has a spectacular appearance. In the future, Natasha will become a model.

(34a) Катя у нас пока на побегушках. Но с завтрашнего дня она выходит на работу чертёжницей.
(b) Katya u nas poka na pobegushkah. No s zavtrashnego dnya, ona vyhodit na rabotu chertyozhnitsei.
(c) Right now, Katya is still running errands for us. But starting tomorrow, she begins her work as a designer.

(35a) Оксана агитирует, чтобы её выбрали в председатели школьного совета.
(b) Oksana agitiruet, chtoby eyo vybrali v predsedateli shkolnogo soveta.
(c) Oksana is campaigning to be accepted onto the school board.

(36a) Марина знает толк в вине. Она учится на дегустатора.
(b) Marina znaet tolk v vine. Ona uchitsa na degustatora.
(c) Marina knows a lot about wine. She is training to be a wine taster.
APPENDIX C
Language Background Questionnaire

Questions are given below in English, followed by the Russian. Multiple choice options are listed in square brackets, a blank line indicates a textbox in which participants could write their answers. For questions (13) and (15), participants could select as many options as applied to them.

1. Age (years) [ ____ ]

2. Gender [ ____ ]

3. How well do you speak Russian? [Not at all / A little / Adequately / Fairly well / Very well]

4. How well do you understand spoken Russian? [Not at all / A little / Adequately / Fairly well / Very well]

5. How well do you write Russian? [Not at all / A little / Adequately / Fairly well / Very well]

6. How well do you read Russian? [Not at all / A little / Adequately / Fairly well / Very well]

7. What is the dominant language of the area (ex, town, city) you currently live in? (Language of schools, government, etc) [Russian / English / Other ____ ]

8. Was this also the dominant language of the area you grew up (spent your childhood) in? [Yes / No ]

8a. If no, what was the dominant language of the area you grew up in? [Russian / English / Other ____ ]
8b. At what age did you move to your current area of residence? [ ____ ]

9. What was the primary language that you spoke in the home up to the age of 5 (before attending school)? [Russian / English / A mix of Russian and English / Other ____ ]

10. What was the primary language that you spoke in the home between the ages of 6-10? [Russian / English / A mix of Russian and English / Other ____ ]

11. What was the primary language that you spoke in the home after the age of 10? [Russian / English / A mix of Russian and English / Other ____ ]

12. Did you receive formal (government-funded and regulated) schooling in the Russian language as a child/teenager? (ex, public, private, or charter school) [ Yes / No ]

12a. If yes, what is the approximate age range during which you received this schooling? [ ____ ]

13. Did you receive any other type of language instruction? [Yes, community programs / Yes, private tutors / Yes, homeschooling by parents/guardians / I pursued independent study of the language / No / Other ____ ]

13a. If yes, what is the approximate age range during which you received this instruction? [ ____ ]

14. How often do you generally speak Russian in your current day-to-day life? [Every day / Once a week / Once every few weeks / Once a month / Once every few months / Once a year / I don’t speak Russian]

15. In which contexts do you regularly speak Russian? [With family / With friends/neighbours / At work / At school (university/etc) / Online / At special events (community meet-ups, holiday celebrations, etc) / Other ____ ]
16. Any other comments about your Russian language background (education, proficiency, usage, etc)? [ _____ ]

1. Возраст (сколько вам лет) [ _____ ]
2. Пол [ _____ ]


7. Какой язык наиболее распространен в месте, где вы живете (город, деревня)? (Имеется в виду официальный язык школ, государственных учреждений и т.п.) [Русский / Английский / Другой _____ ]

8. Был ли этот язык основным в том месте, где вы провели свое детство? [Да / нет]

8a. Если “нет”, какой язык был наиболее распространен в месте, где вы провели свое детство? [Русский / Английский / Другой _____ ]

8b. В каком возрасте вы переехали в место, где вы сейчас проживаете? [ _____ ]
9. На каком языке вы разговаривали дома в раннем детстве, до 5 лет (до того, как пошли в школу)? [Русский / Английский / Смесь русского и английского / Другое ___ ]

10. На каком языке вы в основном разговаривали дома в возрасте 6-10 лет? [Русский / Английский / Смесь русского и английского / Другое ___ ]

11. На каком языке вы в основном разговаривали дома после 10 лет? [Русский / Английский / Смесь русского и английского / Другое ___ ]

12. Получили ли вы формальное (утвержденное и оплачиваемое государством) образование на русском языке в детстве или юности? (Например, в общеобразовательной, частной или чартерной школе) [Да / нет]

12a. Если “да”, в каком возрастном диапазоне вы получили это образование? [ ____ ]

13. Изучали ли вы русский язык каким-то иным способом? [Да, через общественную программу / Да, с частным преподавателем / Да, дома с родителями или заменяющими их лицами / Да, занимались самостоятельно / Нет / Другое ___ ]

13a. Если “да”, в каком возрастном диапазоне вы изучали русский язык? [ ____ ]

14. Как часто вы разговариваете по-русски в своей обычной жизни? [Ежедневно / Раз в неделю / Раз в несколько недель / Раз в месяц / Раз в несколько месяцев / Раз в году / Я не говорю по-русски]

15. В каких ситуациях вы обычно говорите по-русски? [С семьей / С друзьями или соседями / На работе / В школе (университете и т.п.) / В интернете / При особых обстоятельствах (встречи в обществе, общие празднования и т.п.) / Другое ___ ]

16. Хотите что-нибудь добавить о вашем опыте русского языка (образование, умение, использование, и т. д.)? [ ____ ]

100
APPENDIX D
Consent Form

The consent form is presented below in English, followed by the Russian.

__________________________________________________________

Letter of Informed Consent

**Study Name:** Language knowledge in speakers of heritage Russian
Clearance number: 119521

**Contact Information:** If you have any questions about the research or your involvement, please feel free to contact the researcher or supervisor in the School of Linguistics and Language Studies at Carleton University, Ottawa, Canada.

Researcher:
Eugenia Kirsanova
Master’s student, Linguistics
eugeniakirsanova@cmail.carleton.ca

Supervisor:
Dr. Kumiko Murasugi
kumiko.murasugi@cmail.carleton.ca

**Purpose of the study:** This study aims to investigate the language skills of both heritage speakers of Russian (those who grew up and live in an area where Russian is not the dominant language, but learned Russian from their parents/guardians) and fully fluent native speakers of Russian.
What are you asked to do? The main task is a Russian language questionnaire consisting of short sentences (in cyrillic or romanized Russian) and with multiple choice options. Before beginning the task, you will also be asked some questions on your personal language background.

What are the benefits? The results of the study may identify potential areas of difficulty for heritage speakers of Russian, which can then be targeted for improvement in heritage speakers who wish to strengthen their Russian language skills.

What are the risks? There are no anticipated risks or discomfort from your participation, although some participants may feel hesitant or embarrassed about their language attitude or usage.

Compensation for participation: Upon completing the study, you will have the opportunity to enter into a draw for a 50$ Amazon gift card. The contact information you provide will be stored separately from your answers to the questionnaire and will not be used for any other purpose.

Withdrawal: Your participation in this study is voluntary and you can choose to stop participating at any time prior to submitting your questionnaire answers. If you choose to stop participating, it will not affect your relationship with the researcher or any other individual involved with this project. Once you submit your results, they cannot be withdrawn because they will not be associated with your identity.

Use of information: Your name and identifying information will not be attached to the results of the questionnaire or language background questions.

Confidentiality: All information you supply will be held in confidence. Only the primary researchers will have access to the files containing your survey responses. These files will be stored indefinitely on a password-protected computer and USB stick. Confidentiality will be provided to the fullest extent possible by law.
**Rights of participants:** If you have any questions regarding your rights as a participant, please contact:
Carleton University Research Ethics Board A
Phone: (613) 520-2600, ext. 2517
Email: ethics@carleton.ca

Письмо об информированном согласии

**Название исследования:** Языковые знания носителей русского языка
Номер разрешения: 119521

**Контактная информация:** Если у вас есть какие-либо вопросы о данном исследовании или вашем участии в нем, обращайтесь к исследователю или научному руководителю Школы лингвистики и языковых исследований Карлтонского университета в г. Оттава, Канада.

Исследователь:
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Руководитель:
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**Цель исследования:** Данное исследование направлено на изучение языковых навыков как носителей русского языка (тех, кто вырос и живет в местах, где русский язык не является доминирующим, но научился русскому языку от своих родителей или опекунов), так и свободно владеющих русским языком.
Что вам нужно будет сделать? Основная задача – заполнить русскоязычную анкету, состоящую из коротких предложений (на кириллице или латинизированном русском языке) с несколькими вариантами ответов. Прежде чем приступить к выполнению задания, вам также нужно будет ответить на вопросы о своем языковом опыте.

В чем заключается выгода данного исследования? Результаты исследования могут выявить потенциальные области трудностей для традиционных носителей русского языка, которые затем могут быть использованы для того, чтобы помочь им улучшить свои языковые навыки.

Каковы риски? Ваше участие не сопряжено с каким-то рисками или дискомфортом, хотя некоторые участники могут чувствовать нерешительность или смущение по поводу своего отношения к языку или его использованию.

Вознаграждение за участие: По завершении исследования у вас будет возможность принять участие в розыгрыше подарочной карты Amazon на $50. Предоставленная вами контактная информация будет храниться отдельно от ваших ответов на вопросы анкеты и не будет использоваться для каких-либо других целей.

Отказ от участия: Ваше участие в этом исследовании является добровольным, и вы можете отказаться от участия в любое время до отправки ответов на вопросы анкеты. Если вы решите прекратить участие, это не повлияет на ваши отношения с исследователем или любым другим лицом, участвующим в этом проекте. После отправки результатов их нельзя будет отозвать, поскольку они не будут связаны с вашей личностью.

Использование информации: Ваше имя и идентифицирующая информация не будут привязаны к результатам анкеты или вопросам по языковому фону.

Конфиденциальность: вся предоставленная вами информация будет храниться в тайне. Только основные исследователи будут иметь доступ к файлам, содержащим ваши ответы на опрос. Эти файлы будут храниться неограниченное время на защищенном паролем
компьютере и USB-накопителе. Конфиденциальность будет обеспечена в максимально возможной степени по закону.

Права участников: Если у вас есть какие-либо вопросы относительно ваших прав в качестве участника исследования, пожалуйста, обращайтесь в Совет по этике Карлтонского университета:

Carleton University Research Ethics Board A
Phone: (613) 520-2600, ext. 2517
Email: ethics@carleton.ca
APPENDIX E
Survey Screenshots

The following screenshots from the survey show how it appeared in desktop mode (left) and mobile mode (right).

Image 1: First page with language selection

Image 2: Instructions for the language task in English (only appears if “English” is selected at the start)
Инструкции:

Вам будут показаны некоторые из предложений, и вы должны выбрать соответствующий вариант из предложенных. Вы должны выбрать тот вариант, который вы считаете наиболее верным в контексте предложения.

Для каждого предложения вы можете выбрать из предложенных вариантов, чтобы вам было проще понять, какое слово должно быть дополнено. Этот текст не является тестом на правильность и знание, а исследовательский проект, развивающийся язык. Просто отвечайте, насколько можете!

Image 3: Instructions for the language task in Russian (only appears if “Russian” is selected at the start)

Image 4: Stimuli selection in English
Image 5: Stimuli selection in Russian

Image 6: Post-task feedback section in English

Image 7: Post-task feedback section in Russian
Image 8: Cyrillic example stimulus (number 20 in Appendix A), before selecting any options

Image 9: The same page, after clicking on the drop-down menu in desktop mode
Image 10: The same page, after selecting one of the options from the drop-down menu

Image 11: Transliterated example stimulus (number 11 in Appendix A), before selecting any options
Image 12: The same page, after clicking on the drop-down menu in mobile mode

Image 13: The same page, after selecting one of the options from the drop-down menu