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Deverbal verbalizers in Finnish

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Deverbal verbalizers in Finnish

Master thesis

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Luja tahto vie läpi harmaan kiven. ("A strong will takes you through the grey stone.")

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Abstract

This thesis investigates deverbally verbalized forms in Finnish. The main research question is as follows: What is the variety and function of the most common deverbally verbalizers in Finnish? This thesis will attempt to answer this by the hand of several sub-questions: Firstly, how is the choice of a morpheme determined when a speaker can choose between multiple morphemes within one category of deverbally verbalizers? Secondly, what is the difference between using a deverbally verbalizing suffix and using a construction that circumvents the use of such a suffix? Thirdly, which deverbally verbalizing suffixes derive meaning (partially) from the stem it attaches to and which suffixes contain meaning independently from the stem?

A self-designed anonymous survey was conducted with 22 native speakers to answer the first question, whereas two structured self-designed tests were conducted with four and three informants respectively to answer the second and third question.

The author's survey and tests show that when there are different morphemes with the same function, the choice of morpheme for a verb is determined by context, pragmatics, creative use of language, and the variety of Finnish that the informant speaks. The tested suffix usually amends the semantic value of the attested form to some degree.

The difference between the use of a deverbally verbalizing suffix and the use of a circumventing construction is also based on context and pragmatics. The variant that circumvents the use of deverbally verbalizer stresses the action more, whereas the deverbally verbalized verb gives the sentence a special semantic shade.

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List of abbreviations

This is a list of abbreviations that are used in the grammatical glosses used throughout the examples in this thesis.

INF	Infinitive
MOM	Momentaneous
CAUS	Causative
1	First person
SG	Singular
PROX	Proximal
DEM	Demonstrative
NOM	Nominative
PERF	Perfective
REP	Repetitive
GEN	Genitive
PL	Plural
ACC	Accusative
INT	Intensifier
3	Third person
LOC	Locative
PREP	Preposition
VBLZ	Verbalizer
CONT	Continuous
PART	Partitive
2	Second person
PRO	Pronoun
INE	Inessive
FREQ	Frequentative
REF	Reflexive
ALL	Allative
ABL	Ablative
NOMZ	Nominalizer
INST	Instrumental
AG.N	Agent noun
ADV	Adverb
TEMP.DISTR	Temporal distributive
POSS	Possessive

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1. Introduction

This thesis is about deverbial verbalizers in Finnish. Finnish is a synthetic agglutinative language, and therefore is rich in morphology, deverbial verbalizers are just one of such morphological processes. They are suffixes that are amended onto verbs to form new verbs with a related yet distinct meaning. Deverbial verbs are cross-linguistically rare and not very well-researched, making this a suitable topic for a thesis.

This thesis answers several questions in regards to how deverbial verbalizers operate. The main research question is as follows: How can deverbial verbalizers be described in Finnish and how do they operate and interact with other aspects of the grammar? Deverbial verbalizers are cross-linguistically rare (see section 3.2 for an elaboration on this), and have not been researched often in general, let alone specifically in Finnish. Therefore, it is a linguistically interesting topic with much untapped potential. This thesis describes this construction using several sub-questions as a guiding structure. These are: When there are different morphemes that have the same function, what determines the choice of a morpheme for a verb? Secondly, what is the difference between using a suffix and using a different type of construction to express a similar meaning? And lastly, which deverbial verbalizers derive their meaning (partially) from the stem and which have it completely encoded within? In this thesis you may find a description of how deverbial verbalizers are formed, using data to support the claims put forward herein. This data will be mainly collected through self-designed and –conducted tests from native speaker informants, which will be supplemented with data gathered from formerly published resources by other linguists.

A detailed overview of deverbial verbalizers is given at a later point in this thesis, but for now two brief examples of deverbial verbalizers in Finnish are given. In example (1) the suffix *-ahta* (A brief note here that Finnish has vowel harmony – in this thesis only to the form that is relevant for the stem will be referred to if applicable) conveys a momentaneous meaning on the verb *istua* “sit” becoming *istahtaa* “to perch, sit for a moment”:

(1) istu-a	ist-ah-ta-a
sit-INF	sit-MOM-INF
“to sit”	“to perch, sit for a moment” (Hakulinen, 1961, p.174)

In example (2) different suffix *-ta* is presented, which conveys a causative meaning. Here the verb *nousta* “to rise” becomes *nostaa* “to lift” as a result of this suffix.

(2) noust-a	nos-ta-a	
rise-INF	rise-CAUS-INF	
“to rise”	“to lift”	(Hakulinen, 1961, p.181)

These examples illustrate the way that deverbial verbalizers interact with a stem to create a new verb, *-ahta* and *-ta* are suffixed to make a momentaneous and causative version of a verb respectively.

The thesis is structured as follows. Section 2 centers around the discussion of deverbial verbalizers and giving the basic definitions needed to contextualize this work. Topic for discussion in section 2 are word formation and the difference with inflection, a working definition of deverbial verbalizers in Finnish, deverbial verbalizers typologically and deverbial verbalizers cross-linguistically. In section 3 the research methodology is discussed, the research questions are more specifically detailed and reasons why Finnish specifically has been studied are given. Section 4 is dedicated to data collection and analysis, the results and a discussion related to different aspects of the research, which are the

following: Determining morpheme choice and the survey designed to test this (section 4.1); using or circumventing deverbal verbalizers and the sentence pair test (section 4.2) and the inherent meaning of deverbal verbalizing suffixes and the pseudo-verb test (section 4.3). Finally, section 5 is centered around a final discussion and the conclusion of this thesis. A brief summary and discussion on deverbal verbalizers in Finnish is given here as well. Problems encountered during the conducting of the tests are discussed as well as opportunities for further research. A list of the works cited as well as an unabbreviated appendix of the tests are found at the end of this thesis.

2. What are deverbal verbalizers?

This section dives briefly into the theoretical background: Word-formation and the difference with inflection is discussed in section 2.1 and here is also offered a review of the different ways that authors have tried to define this difference, because it is important to understand this difference to understand the definition of deverbal verbalizers. A working definition of deverbal verbalizers in Finnish is given in section 2.2 as well as a look at the exact nature of these processes. Section 2.3 looks at deverbal verbalizers typologically to see how the Finnish case relates to other languages in this regard. Finally, in section 2.4 briefly looks at examples of deverbal verbalizers in other languages that have them, so that we have a point of comparison in relation to deverbal verbalizers in Finnish.

2.1 Word-formation and the difference with inflection

Before getting into deverbal verbalizers, word-formation and inflection must be discussed first. Many linguists have written works on what word-formation entails and how exactly it differs from inflection, as the two processes have differences but also a lot of similarities. Nielsen (2016) names seven characteristics of the way that the difference is defined in many works of literature, such as (Bauer, 1988, Matthew, 1991, Booij, 2006):

1. Grammar versus lexis

Inflection is purely grammatical, while derivation concerns something lexical (p.260).

2. Same lexeme versus new lexeme

Inflection concerns the creation of different forms of the same lexeme, while derivation creates a new form that is also a new lexeme, and therefore not the same lexeme as the source. (p.261).

3. Category preservation versus category change

The category of the word is not changed where inflection is concerned but with derivation, there may be a change of category, e.g., from noun to verb. This means that this definition allows for a derivational process without change of category (p.261).

4. Regularity versus irregularity

The result of inflection is a word with a meaning that is fully regular and predictable, while derivation has the opposite result, where it is irregular and unpredictable (p.261).

5. Productivity and scope of application

Inflection is completely productive, unlike derivation that is either not productive at all or only partially productive (p. 262).

6. Closed set of morphemes versus open set of morphemes

With inflection there is only a limited set of morphemes that cannot be added to, whereas with derivation new items can be added to this category (p.263).

7. Obligatoriness

Inflection can involve the obligatory choice of a certain morpheme at times, whereas derivation is never obligatory (p.264).

Even though there is disagreement about the exact definitions among linguists and the authors cited above already do not agree with each other on ever account (Nielsen, 2016, p. 260), these definitions are applicable cross-linguistically because they are defined fairly broadly. There are some issues with the first definition where Finnish is concerned. Derivation in Finnish, as we will see, does not strictly adhere to this binary, as it can be both a lexical and grammatical process (see also section 2.2 for an elaboration on this point). However, generally, this definition covers the difference and Finnish derivation seems to fit this pretty well. Keeping these definitions in mind, we can now discuss deverbal verbalizers in Finnish.

2.2 Deverbal verbalizers in Finnish

This section contains a definition of deverbal verbalizers in Finnish. There are many conflicting definitions in the existing literature, as many definitions hinge on the difference between inflection and derivation, and the way it is defined in general as well as specifically within the context of deverbal verbs are different and can be conflicting. Therefore, while multiple views are discussed, the final definition will need to stay somewhat open-ended to account for the range of possibilities within Finnish deverbal verbs.

In order to start the process of trying to come to a definition, Kasik (1997) is used as a basis. In it, he mentions several important aspects and these are briefly summarized in the following paragraph: Firstly, these formational affixes are not inherently classified as deverbal or denominal. There is no clear split between these categories except for in its function. The affixes are assigned either deverbal or denominal function based on the part of speech the source word belongs to (p.42). Secondly, derivatives of verbs can be both grammatical and lexical. The categorization of this depends on how much the derivative has idiomatized. Certain types of derivation can be more lexical than others (p.42). There are two types of derivation, of which one can be divided into two further subtypes. These are:

1. modifying derivation. This is lexical and does not change the part of speech of the underlying word.
2. Inflectional derivation. This can be further divided into intracategoric, which does not change the part of speech and intercategory which does change the part of speech (p.42).

As deverbal verbalizers are processes that make a verb out of a verb, we can therefore say that according to Kasik these belong to the categories of modifying derivation or inflectional intracategoric derivation, depending on how much a certain verb form has lexicalized.

Another author shines a different light on the exact nature of deverbal verbs in Finnish. Using Štekauer et al. (2012) it can be stated that in Finnish deverbal verbs are created by either an inflectional or derivational process. Štekauer et al. discusses the inherent “fuzziness” of derivational processes that make use of what are commonly assumed to be aspectual markers (p.28), which is heavily the case in Finnish. This is because there needs to be a distinction between aspect, which is “more or less grammatical” and Aktionsart, which is “more or less lexical”. This difference is also sometimes expressed as lexical aspect and grammatical aspect (Štekauer et al., 2012, p.28). Concepts such as durativity and habituality, fall under the category Aktionsart, whereas a suffix from within the causative category would be more aspectual. Both Štekauer et al. and Kasik seem to deal with the seemingly split nature of deverbal verbalizers in Finnish in different ways.

Looking at these definitions as well as the derivation/inflection definition from Nielsen (2016) in the last section, there seems to be overlap but also disagreement as to how exactly Finnish deverbal categorized. As we will see in the rest of this thesis, the entire process is inherently somewhat fuzzy, and it seems that Finnish eludes the categorization into a specific definition. In general, based on what has been discussed so far, we can say that word formation with deverbal verbalizers in Finnish are:

1. A process that can be either lexical or grammatical
2. A process that can be either inflectional or derivational
3. A process that involves either aspect or Aktionsart

In the rest of this thesis the exact minutiae of this definition will be minimally relevant, if at all, because we will be zooming in on the usage of these deverbal verbalizing suffixes rather than abstract theorizing about their categorization.

Here are now presented a brief overview of the categories of deverbal verbalizers in Finnish and the suffixes that belong to it which for the purpose of this thesis is much more relevant and will be referred to often throughout. I am using Hakulinen's (1961) classification. In his work there are five categories, listed below:

Table 1: Categories and associated deverbal verbalising suffixes

Affix	Category	Notes
-ele/-ile (p.175)	Continuative or frequentative	
-i (p.176)	Continuative or reflexive	Reflexive use only in Eastern dialects, poetry (p.177)
-ise (p.177)	Continuative	Used with onomatopoeias
-aja/-äjä (p.185)	Continuative	Used with onomatopoeias
-itse (p.178)	Continuative	
-sk (p.175)	Frequentative	Not found any more in modern Finnish
-skele (p.175)	Frequentative	Compound of -sk + -ele, distinct
-nt (p.179)	Frequentative	Unproductive
-skentele (p.175)	Frequentative	Compound of -sk + -nt+ -ele, distinct
-o (p.186)	Frequentative	
-ahta/-ähtä (p.174)	Momentaneous	
-alta/-ältä (p.175)	Momentaneous	
-aise/äise (p.184)	Momentaneous or continuative	Rarely continuative
-u~pu/-y~py (p.180)	Reflexive	
-tu/ty (p.188)	Reflexive	
-utu/yty (p.190)	Reflexive	
-tta/-ttä (p.187)	Causative	
-ta~a/-tä~ä (p.181)	Causative	
-utta/yttä (p.189)	Causative	

-elehti (p.186)

Reflexive and momentaneous
and frequentative

Momentaneous and
frequentative senses
secondary

Looking at this table, the categories that express aspect are causative and reflexive while the momentaneous, continuative and frequentative suffixes express Aktionsart.

As the table also illustrates, categorization of these suffixes is not rigid and some suffixes can appear in multiple categories, such as *-o* which can be both used as continuative as well as frequentative (although not at the same time). The opposite is also true, where one suffix can indicate several shades of meaning at once. An example of this is the suffix *-elehti*, which forms words that reflexive but additionally also expresses an additional meaning of momentaneous and frequentative at the same time. This suffix therefore contains elements of all three categories. This suffix can be seen in the verb *ajelehtia* meaning "go to and fro, lounge" which is derived from *ajaa* 'to go' (Hakulinen, 1961, p.186).

2.3 Deverbal verbalizers typologically

Looking at the appearance of deverbal verbalizers typologically, it is actually very difficult to make general observations about this topic. This is because deverbal verbalizers are rare and data was very hard to find. It is much more common for languages to have more nominalizing processes than verbalizing processes. When they do have them, verbalizers tend to be less productive (Aikhenvald & Dixon, 2011, p.246). This is not the case in Finnish, partially due to the fact that the delineation between noun and verb is fuzzier (cf. Kasik (1997)) but also because verbalizers are, with some exceptions, mostly productive. One example of an unproductive deverbal verbalizer in Finnish is *-nt* which appears in such verbs as *oksentaa* "to vomit" and *rakentaa* "to build", where the base verbs are unknown (Hakulinen, 1961, p. 179).

It is also much more common to see word-class changing processes, for instance, it is much more common for a language to have denominal verbalizers – in other words, verbs derived from nouns – than verbs derived from other word-classes. Deverbal verbs tend to be treated as merely a secondary use of some word-class changing verbalizers and not as a category on its own (Aikhenvald & Dixon, 2011, p.244) because of their relative rarity. This is markedly different in Finnish, where deverbal verbs are actually much more common than denominal verbs (Karlsson, 1999, p.239).

Nevertheless, to with the characterization of deverbal verbalizers as they appear cross-linguistically, this section will give some specific examples of deverbal verbalizers as they appear in languages outside of the Uralic language family. One language which contains them is Polish, which makes use of prefixes to form deverbal verbs. All of the examples for Polish were supplied by Pawel Dembowski. In the most prototypical sense, the use of prefixes is employed to express a different aspect. A verb that is unmarked expresses the imperfective, while the perfective is marked by the use of a perfective prefix. As such, see the example below:

- (3) Mus-zę to robi-ć
have-1SG PROX.DEM.NOM.SG do-INF
"I need to be doing it." (imperfective)
- (4) Mus-zę to z-robi-ć
have-1SG PROX.DEM.NOM.SG PERF-do-INF
"I need to do it." (perfective)

The use of prefixes extends beyond just an aspectual expression. In the following aspect, a repetitive prefix is used to express the meaning of “redo” or “change”:

- (5) Mus-zę to prze-robi-ć
 have-1SG PROX.DEM.NOM.SG REP-do-INF
 “I need to redo it/change it.”

This verb can also take other prefixes. For instance, *wyrobić*, using the prefix *wy-* “out” gives the verb the meaning “to develop” or “to produce”, whereas *urobić*, using the prefix *u-* “away” makes the verb mean “to mould” or “to shape”.

Lastly deverbal verbalizers in Polish can have a literal as well as a derived figurative meaning. This in the case of *narobić*, which can mean “to cause”, but also “to make a mess, to poop”. This is demonstrated in the examples below:

- (6) Wiatr na-robił mnóstwo szkód
 Wind INT-make-3SG abundance damage.GEN.PL
 “The wind caused a lot of damage.”

- (7) Kot na-robił na łóżko
 cat INT-make-3SG LOC.PREP bed.ACC.SG
 “The cat pooped on the bed.”

A different way to form deverbal verbalizers is one that is found in multiple varieties of Spanish, and it is by the use of the suffix *-ear*. This is a verbalizing suffix that is mostly deadjectival and denominal but can also be in some cases used as deverbal (Oltra-Massuet & Castroviejo, 2014, p.120). An important difference between Spanish and the other languages discussed in this section, is that Spanish and the other languages discussed in this section, is that *-ear* is a general verbalizing suffix and the meaning of this deverbal verb is quite unpredictable, while in Polish (and Finnish) verbalizing suffixes can be more specifically named for their function. This is why in the examples below the suffix is simply glossed as -VBLZ “verbalizer” (just *-ear* in the original work). Another thing we see is that another morpheme is added between the root and the verbalizer, this is glossed by the original authors as simply the morpheme, and the use of it is not clearly indicated in the source.

Here are then some examples of these deverbal verbs with their root verb attached.

- (8) Bail-ot-ear
 dance-ot-VBLZ
 “To dance about” From *bailar* “to dance”

- (9) Bes-uqu-ear
 kiss-uk-VBLZ
 “to cover with kisses” from *besar* “to kiss”

- (10) Freg-ot-ear
 wipe-ot-VBLZ
 “to mop irregularly” from *fregar* “to wash, to mop” (Oltra-Massuet & Castroviejo, 2014, p.131)

These verbs are all considered to be verbs of manner and “add various kinds of expressive, evaluative or iterative shades of meaning” (Oltra-Massuet & Castroviejo, 2014, p.131).

It is to be noted here that *-ear* is generally slowly becoming the standard verb suffix in various dialects of Spanish that are mostly situated in North and South America, whereas this is not the case in Iberian Spanish. In these American dialects, *-ear* would then not indicate a change of meaning, meaning it is losing its status as a verbalizer (Oltra-Massuet & Castroviejo, 2014, p.138).

3. Research questions and methodology

This section briefly discusses the research questions and the methodology of the conducted tests.

3.1 Research questions

Deverbal verbalizers are cross-linguistically very rare, as word-class changing processes are much more common. However, they appear in abundance in Finnish (see section 2.3). Hence making for relevant research, also in part because not much has been written on it so far.

Finnish in general is also interesting on multiple accounts. It is a morphologically complex language, and many different things are expressed through the use of suffixing, such as case, tense, mood, possession and much more. Finnish also has the fairly unique status of being one of the relatively few non-Indo-European languages on the European continent, and therefore being different from its "neighbors" in many ways. Secondly it is a language that is not very well researched by non-Finnish linguists, the majority of academic works on Finnish are in Finnish. The majority of the works on Finnish that I use (such as Hakulinen and Karlsson) are actually translated works, and it is rare to find research that was originally written in English.

Now I would like to turn to the research questions which are also briefly demonstrated with the use of an example, keeping in mind that this will be discussed in detail in the relevant section of chapter 4, data collection and analysis (section 4.1, 4.2 and 4.3 respectively).

The intended result of this thesis is to give a description of the variety and function of the most common deverbal verbalizers and their characteristics, this is both in a morphosyntactic sense as well as a semantic sense. As a guide in answering this there are also three sub-questions.

1. How is the choice of a morpheme for a verb determined when multiple affixes are available?

In Hakulinen (1961), there are three suffixes that are all described as momentaneous: *-ahta*, *-aise*, and *-alta*. If these are all momentaneous, do they really have the same function? Are they chosen freely or is it context dependent?

2. What is the difference between using a deverbal verbalising suffix and using a construction that circumvents the use of such a suffix?

There are multiple ways to say something similar. There are constructions that, rather than making use of a deverbal verbalising suffix, appear to have a similar meaning, but make use of a completely different construction. Is there a difference in usage, and how is this difference described? For instance, what is the difference between the usage of a causative suffix (*-tta*, *-ta*) and to make someone do X, which is also causative?

3. What is the precise semantic context of verbalising affixes?

Following Kytömäki (1992a, 1992b) as cited in Laakso (1996, p.268) which categorizes deadjectival and denominal verbalizers according to how much semantic content the suffixes contain inherently, I wanted to see whether I could categorize deverbal verbalizers similarly. This would be very helpful in knowing just how much of the total meaning of the resultant verb comes from the suffix and how much is contributed by the root.

3.2 Sources and methods

This section describes the sources used for this thesis. The main existing work used is *The Structure and Development of the Finnish Language* (Hakulinen, 1964) which has an elaborate section on deverbal verbalizers in Finnish. The main source however is original data, gathered by structured tests prior to elicitation with both anonymous and specific consultants.

For testing whether multiple suffixes that carried the same meaning were interchangeable a survey was conducted. The participant was presented with 19 verbs and a simple example sentence with a verb root and a suffix to be tested. The participant was asked to indicate how this verb sounded to them on a five-point scale from very bad to very good, with the option to also indicate that they really did not know and an optional field for comments. The survey collected the age of the participant, the region of Finland they were born in (if applicable) and the region of Finland they currently live in (if applicable) but was otherwise anonymous.

The other two tests were privately undertaken with various native speaker consultants. As they all live a great distance away, the gathering of data from these consultants was undertaken online, by chatting on Facebook Messenger as well as voice chatting with Skype. The verb difference test, was conducted with four people, whereas the second test, the pseudo-verb test, were conducted with three different people.

4. Data collection and analysis

This section discusses the collected data and the various original tests. It is divided into a subsection for each test, which also corresponds to a specific sub-question. At the end, it is the intention that the sum of the data and its analysis will give a good overview of the research topic.

4.1 Morpheme choice (question 1)

This section first discusses the process of designing this survey, before presenting the data and giving an analysis. This survey was designed to answer the first sub question: What motivates the choice for a specific morpheme when multiple are available?

4.1.1 Survey design

As noted previously in section 1.4, Finnish has a very elaborate set of deverbal verbalizers. In order to find out what motivates the choice of a specific morpheme within this large set a survey study was designed. This was done by first selecting specific suffixes to be paired and tested. This was based either on similar forms, or because they occur in similar environments or have something in common otherwise. Another factor that played a role is deciding not only what to include but what to exclude, which were suffixes like *-nt* that in the literature are clearly described as being unproductive or suffixes that give more than one shade of meaning at the same time. This does not mean suffixes like *-ele/-ile* that can be either continuative or frequentative, but rather suffixes like *-lehti* that express reflexive, momentaneous and frequentative at the same time.

This resulted in seven pairs in total, with two pairs for continuative and frequentative, and one pair each for momentaneous, reflexive and causative. They are presented in the table below:

Table 2: Suffixes included in the survey

Suffix pair	Category	Note
-ise and -aja/-äjä	Continuative	Both occur on onomatopoeic verbs.
-itse and -ele/-ile	Continuative	
-skele and -skentele	Frequentative	
-o and -ele/-ile	Frequentative	Can also occur as continuative. Will be tested as frequentative.
-ahta/-ähtä and alta/-ältä	Momentaneous	
-utu/-yty and -u/-y	Reflexive	
-tta/-ttä and -ta/-tä	Causative	

For each suffix an attested form was found. Within one pair, the root that an attested form used was tested with the other suffix within the pair and vice versa. For instance, the verb *vapistaa* 'to tremble' is attested, which contains the *-ise* suffix, so when testing the other member of the suffix pair, *-aja*, it was done by adding it onto the same suffix, resulting in *vapajaa*. In this way it can be tested whether *-ise* and *-aja* are interchangeable or whether there is a perceived difference between the usage of the two suffixes. It is undesirable to use a different root for the tested form, as the other member of the suffix pair may not have a possible form with that root. To determine the correct appearance of the tested form, it was modelled after the attested form when the pair is reversed. So, for instance, the tested form *vapajaa* after the attested form *horajaa* 'to mumble'.

Below one may find all the verbs created in this manner for the survey:

Table 3: Continuative suffixes

Attested form	Suffix attested form	Tested form	Suffix tested form
vapista 'to tremble'	-ise	vapajaa	-aja
horajaa 'to mumble'	-aja	horista	-ise
ajella 'to go driving'	-ele	ajatsea	-itse
ikävöitsea 'to long for'	-itse	ikävöidellä	-ele

Table 4: Frequentative suffixes

Attested form	Suffix attested form	Tested form	Suffix tested form
ammuskella 'to shoot here and there'	-skele	ammuskennella	-skentele
uiskennella 'to swim around, to float'	-skentele	uiskella	-skele
aukoa 'to open'	-o	availla	-ele
haastella 'to address, to interview'	-ele	haastoa	-o

Table 5: Momentaneous suffixes

Attested form	Suffix attested form	Tested form	Suffix tested form
Haukahtaa 'to give a bark'	-ahta	haukaltaa	-alta
kiskaltaa 'to snatch'	-alta	kisahtaa	-ahta

Table 6: Reflexive suffixes

Attested form	Suffix attested form	Tested form	Suffix tested form
Avautua 'to open up oneself'	-utu	Avauta	-u
Rakastua 'to fall in love'	-u	Rakastutua	-utu

Table 7: Causative suffixes

Attested form	Suffix attested form	Tested form	Suffix tested form
Elättää 'To support, provide for'	-ttä	Elätä	-tä
Karistaa 'to shake off'	-ta	Karistattaa	-tta

Using this list as a starting point a survey was created. Participants saw the infinitive of the tested form as well as an example sentence where the tested verb had simple conjugation (i.e no overt tense marking, merely person and number marking) for context. Participants were asked to rate each verb on a 5-point scale from very bad to very good as well as the meaning of this verb. They were never shown the attested form at any point. The tested verbs were checked for consistency and phonological plausibility by a native speaker of Finnish, who afterwards did not do the survey to avoid skewed results.

4.1.2 Survey data demographics

This section briefly discusses the participants and their demographic data. The survey ran from 10th of March until the 28th of March and 22 unique responses were collected. These participants were anonymous, so the only personal information collected was age, the province that they were born in and the province that they live in. This information could not be traced back to specific individuals.

As mentioned above, all the participants were native speakers of Finnish of adult age. From all of the respondents, the youngest participant was 22 while the oldest was 53. The mean age was approximately 31.9 while the median was 29.

Other collected was the place of birth and residence of the participants, and they were asked to select the applicable region on a map. This was done to know roughly what variety of Finnish the participants were likely to speak whenever this was relevant for the analysis.

Looking at the specifics of the place of birth and residence, it can be seen that in terms of where the participants were born, 5 of them were born in Pirkanmaa, 4 of them were born in Uusimaa, 4 of them in Varsinais-Suomi, 3 in Etelä-Karjala, and 1 each in Kymenlaakso, Satakunta, Kainuu, Keski-Suomi, and Pohjois-Pohjanmaa. Lastly one person was born outside of Finland. At present day, eight of the participants live in Pirkanmaa, seven of them in Uusimaa and one each in Pohjanmaa and Varsinais-Suomi. Lastly 5 people do not live in Finland at all. That makes for a significant number of emigrants from Finland, compared to the total set.

The place of birth is a little bit more spread out, although skewed towards the south. This is even more strongly so when looking at the current place of residence. The division of location of the

participants makes it not only skewed towards emigrants in terms of where they live now, but also towards southern and to some extent central Finland dialects, which could possibly color the results somewhat.

4.1.3 Survey results

This section discusses the survey results. As one may view the complete list of ratings by all the participants in the appendix, this section is therefore limited to discussion of the participant comments. The discussion and analysis will be conducted per item in the survey and the end contains any kind of generalizations about the results.

Since this test concerns the difference in usage between several suffixes, only the answers of those participants who marked a certain form as maybe, good or very good were taken into account. This was done because it seems more logical to look at the answers of people who would plausibly use this verb or at least consider the usage of a verb by others correct.

1. Vapajaa (unknown root + *-aja*), attested derivation *vapistaa* 'to tremble' (+*-ise*)

This verb was rated by nine of out 22 participants as at the very least acceptable, with six of the participants marking it as maybe, two participants marking it as good, and one participant as very good.

Most of these participants did not recognize the root that the tested form was derived from. This makes sense as the exact root is unknown and does likely not occur as a standalone verb, which would explain the fairly low number of people who rated this acceptable. In general the onomatopoeic character of this verb makes this and the next entry very distinct from the rest, but it is indeed deverbal, as according to Hakulinen (1961), this is a deverbal verbalizer " [...] on the grounds that there are other derivatives formed from the same by the addition of suffixes which may reasonably be held to be deverbative e.g., *helisee* [sic]= *heläjää ~helähtää*" (Hakulinen, 1961, p.177). Note that Hakulinen in this quote uses the conjugated form of *helistä* "to jingle" here to show the suffix more clearly. Other examples of this root taking deverbal verbalizing suffixes are causative *helisyttää* (+*-utta*) "to cause to jingle" and frequentative *helähdellä* (+*-ele*) "to jingle often" (Suomi Sanakirja, 2021).

In terms of meanings supplied, the participants who marked maybe said that this verb meant to chat, to yearn for freedom, to quake with a feeling to of freedom, to liberate, get free, something related to being free, maybe just spending your leisure time. With the exception of the first answer, the majority of the participants seem to have interpreted the verb as being derived from *vapaa* 'free' or perhaps *vapaus* 'freedom'. One of the participants who marked this verb as good mentioned that the verb sounds like it is derived from *vapa* 'fishing rod'. They said it could be a colloquial term for fishing, perhaps play-fighting with sticks. The one participant who said very good in response to this verb described the meaning as 'be free' or 'go on leave, perhaps in the second case considering it a derivation of *vapaa-aika* 'leisure time', which has some derivations with a j rather than k. We see this in forms such as the *genitive vapaa-ajan*.

There was only one person who recognized the intended derivation: one of the participants who marked this verb as good wrote in their answer that this verb could mean "trembling" or "vibrating".

2. *Horista* (from onomatopoeic *hor+* -*ise*), attested derivation *horajaa* 'to mumble' (+*-aja*)

This was one of the best rated verbs, as this verb was rated by one of the participants as maybe, three participants as good and 18 participants as very good. This means that none of the participants selected bad or very bad.

The answers were mostly along the same lines, they include: "to talk incoherently/rubbish", 'to babble', 'speak incoherently or senselessly' or 'talk'. The semantics of the verb seem to be related to the attested derivation yet clearly distinct. It seems that *horista* is more marked, as *horajaa* 'to mumble' seems to be a more neutral meaning whereas the meaning of *horista* is described with semantics that strongly imply a negative value judgement.

This verb, unlike the last one, was recognized extremely well. It helps that this root is known. In addition, multiple participants explicitly mention in their comments that they either use this verb themselves or have heard it being used by other native speakers, so it is not something that is merely plausible, but also actively in use. It seems based on this and the previous example that the root is extremely important for the derivation and the existence of a similar verb does not help in making the connection between the form to be tested and the attested form.

3. *Ikävöidellä*, from *ikävoidä* 'to miss' (+-ele), attested derivation *ikävöitseä* 'long for' (+-itse)

This verb was only rated by merely nine participants as at least acceptable, as three participants marked this verb as maybe, five participants as good, and one participant as very good. Participants generally recognize it as a derivation of *ikävoidä*. Of the three participants who rated this verb as maybe they said of this verb that it meant 'to miss long-term, slightly miss and to convey a sense of longing in public or in a performative manner. The participants who rated this verb as good gave the following meanings of this verb: "the frequentative of *ikävoidä*", "Some sort of diminished form of missing, not as strong as full-blown missing.", "Embellished form of *ikävoidä*, to miss. Would use it in a context not serious or sad, maybe to sound a little more soft, funny, or cute". All of these three responses have in common that they are rated clearly as being derived but distinct from the neutral underived verb of *ikävoidä*, to the extent where two responses clearly mention the base verb in the answer, meaning that this derivation is recognizable and salient. The other two responses from the pool of people who selected good for this verb were different: one said it was just "missing someone", deeming it therefore to be the same as the base verb *ikävoidä* and one said that it means "to restrict by age" likely an interpretation including *ikä*, 'age.' Lastly the one participant who rated it as very said that it means 'to suffer from (figuratively) long-term missing, or longing'.

This verb is already a lot more marked, which is clear not just by the mixed acceptability, but also the specific descriptions of the verb as "some sort of diminished form of missing" and "would use it in a context not serious or sad". Furthermore, in a separate comment field, the person who rated this verb as very good added a comment that this verb "sounded like it may as well be from a poem.". All in all, this points at this derivation as being creative use, perhaps even archaic.

4. *Ajatsea* from *ajaa* 'to drive' (+-itse), attested derivation *ajella* 'to go driving' (+-ele)

This verb was rated correctly by very little people as only four participants selected maybe, and two participants selected good.

The first thing to note here is that both participants who rated this verb as good, did not recognize the verb it was derived from. One of those participants said that it means 'to harness or to bring something into control', possibly from the base verb for 'to harness', *valjastaa*. The other participant simply said it means 'to think', implying an interpretation based off the base verb *ajatella*.

The people who selected maybe generally recognized the verb it was derived from: Except for one person who did not supply a meaning, answers were "to drive", "slang or colloquial replacement for *ajaa*, meaning the same thing" "to drive, a pastime also comes to mind".

Something additional to note here is that one of the people who rated this verb as maybe mentioned as an additional comment that when they look at the verb alone it could also mean something like "to be driven (by someone else)" implying a more causative meaning rather than the frequentative which is originally intended here. They offered an alternative example sentence, *meitä ajatsellaan ympäriinsä* "we are driven around" as they mentioned that taking the author's example into account they would rate it as bad. The original example sentence that was given in the survey *ajatsemme autossa*, intended to be "we go drive in a/the car". which is not acceptable to this participant.

There is something that is preventing the interpretation of *ajatsea* as a frequentative of *ajaa*. Looking at the comments of the people who rejected this verb, it appears that this is at least to some extent a phonological issue. One person who rated this verb as very bad, said that 'the letter s confuses the meaning completely', One person who rated this verb as maybe said that the verb 'sounds Estonian', in other words, non-Finnish. Two more participants who picked very bad suggested the example sentence '*ajamme autossa*' and '*ajamme autoa*', although that on its own does not explain the interpretation of the infinitive alone. Perhaps it is also the mismatch between the infinitive and conjugation that makes this verb problematic, and this cannot be analyzed in isolation.

5. *Ammuskennella* from *ampua* 'to shoot' (+*skentele*), attested derivation *ammuskella* (+*skele*) 'to shoot around'

This verb was rated by barely half of the participants as acceptable, as four participants selected maybe, four participants good and two very good.

For this item many participants actually commented on the conjugation rather than the meaning. The participants who said maybe mentioned that "The conjugation is off; it could mean shooting around if it was *ammuskelet*" and "*ammuskella* but with some weird twist". This was also the case with one of the participants who said good, saying that it "literally sounds like *ammuskella* (base verb *ampua* + the suffix *-ella* denoting to do something without clear purpose or for fun, but formed with different grammar construction rules. Can only see it meaning the same thing.)". Note that this participant analyses *-ella* as one suffix rather than *-ele*+ the infinitive *-a*. Another one just simply said "*ammuskella*". Even people who offered meanings did comment on the conjugation in the comment field. One of the participants who said maybe also mentioned in their comments that the conjugation should be "*ammua, ammuskella*". This verb is likely interpreted by these people as simply a mistake or a misspelling of the attested variant with *-skele*. Another participant who picked mentioned in the comments "I do not know this word. Every use I can think of for this would already be covered by "*ammuskella*". One of the people who picked good said: "Could you also conjugate it as "*sinä ammuskennelet*"? I would perhaps prefer this." It seems therefore that at least when it comes to form this verb is not considered distinct from *ammuskella*.

When looking at the meanings that were offered, we get various similar responses that include things like: 'to shoot recreationally', 'what the cow says or shooting' (first interpretation likely a derivation from the verb *ammua* 'to moo'), 'Shooting around; sounds like you are just passing the time by casually shooting around (not at people but e.g., shooting at trees in a forest). When it comes to the semantic aspect of this verb, everyone has given a meaning that corresponds well to *ammuskella*. That is also true of the responses not discussed so far: the two participants who rated this verb as very good said "to shoot for a long time, without aiming" and "shoot around", one who said good said "to shoot something, but very laboriously". From all of the meaning of *ammuskennella* to be very close, if not similar to, *ammuskella*. There are not any people who would judge the meaning of this verb to be different from the attested form, and even people who judged this as good interpreted it as either an unmarked variant or of a mistaken conjugation of *ammuskella*.

6. *Uiskella* from *uida* 'to swim' (+-*skele*), attested derivation *uiskennella* 'to swim around, to float' (+-*skentele*)

Similarly to the last verb, it was rated by about half of participants as acceptable, as five participants picked maybe, five picked good and two picked very good.

The responses also follow along the same vein as the previous example, where the responses given were pretty much identical to the attested derivation *uiskennella* or very rarely to the base verb *uida*: a selection from the responses includes: "swimming for a long time, relaxed bathing, to vaguely swim, swimming leisurely, To swim, but not like swimming as a sport or moving from A to B, but rather swimming (or even spending time) in the shallow water on the beach, or playing in the waves etc." Three participants commented somewhere that the "correct" derivation is *uiskennella*. And one participant even made the connection very explicitly, as they said that "as with "ammuskennella", this verb is so close to *uiskennella* (to swim around, to swim without purpose) that I cannot see it having a different meaning."

Taking this and the last verb into account, it does appear to be pretty clear that at least when it comes to the *-skele* and *-skentele* pair, there does not seem to be a particular difference in semantics. Rather there does seem to be particular verbs where one variant does occur and the other one does not. Karlsson (1999) lists these as separate suffixes in his descriptive grammar of Finnish, whereas Hakulinen analyses them as compound suffixes: *-sk+ -ele* and *-sk+ -nt+ -ele* respectively, although he does mention that only these combinations occur in modern Finnish and the historical frequentative *-sk* does not occur alone anymore (Hakulinen, 1964, p.181). Perhaps the *-skele* and *-skentele* suffixes have semantically merged, especially in the 60 or so years after Hakulinen's work has been published.

7. *Availla* from *avata* 'to open' (+-*ele*), attested derivation *aukoa* 'to open repeatedly' (+-*o*)

This is one of the verbs that was rated extremely well by the participants, similarly to *horista* this was rated as acceptable by all the participants. In this case the verb was rated by two participants as maybe, four participants as good, and 16 participants as very good.

Almost all of the participants agreed about the meaning of this verb. Recurring answers were "to open repeatedly" but there was also a continuous interpretation such as "To keep opening, to open continuously or to open carelessly" or "To frequently/constantly open something or open it multiple times". Answers that were different included "to vaguely open something" or "to open a bit absent-mindedly or while not concentrating on it". pointing at both frequentative and continuative interpretations, recall at the very beginning of this section that *-ele* and *-o* are suffixes that can appear both in a frequentative or continuative meaning. It seems that this suffix can fulfill both roles for one and the same verb, at least where this verb is concerned. This broader usage clearly also does not impede understanding or grammaticality. We also see this in terms of usage and a lot of people mentioned that they either have seen this being used or that they use this themselves. A selection from the comments: "just a normal word", "Definitely have seen this verb." "It's a legit word." "Normal word I use." "I use this word a lot!"

Given that the tested verb is clearly very salient, heavily used, and with a very similar meaning to *aukoa* (or with a continuative meaning, where it is likely that *aukoa* also has such a meaning), there is a clear indication that *-ele* and *-o* are suffixes that are interchangeable

8. *Haastoa* from *haastaa* 'to speak' (+-*o*), attested derivation *haastella* 'to address or to interview' (+-*ele*)

Given how well the last verb was received, it is surprising that its counterpart is the verb in the survey that has been rated by the fewest people as at least acceptable or better as this verb was rated by only two participants as maybe, and one participant as good.

The two maybes interpreted this verb as being derived from a dialectal form. One interpreted it meaning the same as *haastaa* whereas the other interpreted it as related to the attested form: "Haastoa = to challenge someone, [...] to speak to someone, not casually but more like "okay let's speak now" (Haaston sinua)."

However, the conjugation of this proposed verb was commented on and not deemed acceptable by multiple people due to mismatched between the presented infinitive and the conjugation in the example sentences. It is very likely that the fact that this verb overall was rated so badly is caused by this fact. The majority of people who rated it bad or very bad just simply said they do not know at all, as it does not make sense at all, so the mismatch in conjugation seems to be interfering with assigning a semantic interpretation to the verb.

Nevertheless, based on the semantic interpretations from this verb and the results from the last verb, this item does not cancel out the interchangeability of *-ele* and *-o*, it can be interpreted as simply the phonological oddities of the tested form that has the effect of a completely different rating as the grammaticality is incredibly influenced by the phonological mismatch.

9. *Avauta* from *avata* 'to open' (+*-u*), attested derivation *avautua* 'to open up oneself' (+*-utu*)

This verb was rated acceptable by about half of the participants, as seven participants chose maybe, three participants good and two participants very good.

One of the types of meanings offered is similar to the attested derivation *avautua*. Some of these are "to open up to someone", "to open up." However these interpretations are pretty sparse compared to the second type, where the semantic interpretation is much more distinct. It is a kind of causative, both in the agent sense "to help someone open up" or "To facilitate someone opening up" as well as in the patient sense "to have something opened" or "get the third person to open you". This causative interpretation can be explained by the fact that multiple people mentioned that they thought this verb was either derived from or a misspelling of *avauttaa*. This is a derivation from *avata* with the causative suffix *-tta* and means 'to have something opened'.

Again, the issue seems to be phonological, although nobody has suggested an alternative form. It is simply confusing for a lot of people, also considering the similarity to an existing form. Even after thorough checking of existing resources and a pre-check of a native speaker, some proposed forms seem to be more phonologically logical than others to the participants, and sometimes it is hard to pinpoint why this is the case. The best possible analysis is that the extreme similarity to *avauttaa* just disallows the use of *-u* with *avauta* whatsoever.

10. *Rakastautua* from *rakastaa* 'to love' (+*-utu*), attested derivation *rakastua* 'to fall in love' (+*-u*)

This verb was rated acceptable by few people, as four participants rated this as maybe, two participants as good and one participant as very good.

Even though generally very few people rated it as acceptable, there seems to be a clear semantic difference from both the attested derivation as well as the base verb, which has not really occurred often yet. Some of the answers include "To be loved, or make oneself loved, or perhaps even to allow oneself to be loved.", "to get wrapped in love", "to shower someone with/immerse someone in love", "conscious falling in love". Furthermore, two people rated it similar to the attested derivation: "to fall in love", "be falling in love with someone'.

Once again, phonological issues were noted, but only in the conjugation in the example. The original sentence said *rakastaudan sinua*, which two participants from the acceptable pool had issues with: one participant said that it "would sound more like a verb as "rakastaudun" whereas another said

that “the sentence isn't comprehensible, I'd say rakastaudun sinuun.” It does not seem that this phonological oddity has influenced the recognizability, but it has almost certainly affected the acceptability of this possible verb.

Based on the results of this item and the previous one, it is hard to say what the exact relationship between these two suffixes is, given that the previous example did not allow for an interchangeable usage, and here there did seem to be a distinct meaning sometimes but overall the results are unclear, so the data is inconclusive.

11. *Elätä* from *elää* ‘to live’ (+*-tä*), attested derivation *elättää* ‘to support, provide for’ (+*-ttä*)
This verb was also not rated very well by many people, as only three participants chose maybe, and two participants chose very good.

In terms of the semantics this is a pretty clear case. One person mentioned that this verb is “close to *elää* (live) and *elättää* (provide livelihood for). Could be a transformed colloquial form of either.” and another said that it means “to sustain someone.” A third said it “maybe means the same as “*elättää*” The fourth is slightly different, but still recognized the link to *elättää*, as they said that it was the “imperative of the verb “*elättää*”. To maintain or to provide for.” It seems to be very clear that the variant with *-tä* seems to be interpreted to be either identical to *-ttä*, or as a variant of the base verb *elää*, in both cases perhaps marked as a non-standard choice, as with the one participant that described it as a “transformed colloquial form”. Perhaps the choice here is motivated phonologically again, this form is just so similar to anything that already exists, that the choice of *-tä* makes the interpretation much more ambiguous and is therefore dispreferred.

12. *Karistattaa* from *karista* ‘to fall’ (+*-tta*), attested derivation *karistaa* ‘shake off’ (+*-ta*)
This verb was rated by merely four participants as maybe and three participants as good, once again being rated as acceptable by a minority of the participants.

Some people seem to offer a meaning that is similar if not identical to the attested *karistaa*. One such participant says: “ Personally I know the word in form of “*karistaa*”. When someone “*karistaa heidät kannoiltaan*” (shakes them off their tail) they mislead the ones coming behind or they manage to avoid them by moving faster or in a way that is difficult to detect.”, “to get rid of someone potentially”, “shake off”, “shake”.

Other participants interestingly seem to interpret this as a causative still, but distinct: “*Karistaa* (to drop something off, to lose off pursuers) combined with the suffix *-attaa* (to have someone do something, to do something by proxy). Thus, to make someone commit the act of dropping something off or losing your pursuers.”. Another said: “the expression “*karistaa kannoiltaan*” has been made into an option that describes ‘have something done.’” or “shake off chasers with help from someone”. This potential verb adds an indirect object that is the agent in this causative construction, whereas in the attested derivation it is the subject that is doing the shaking off.

Once again, we see a pattern where the low number of people who rate this acceptable is due to phonological concerns. Both people who did and did not rate this as acceptable have written comments alluding to this fact, some mention that it should just simply be *karistaa*, or that the form does not work. This does seem to confirm what I mentioned in the previous item, about the extremely similarity making this phonologically and semantically problematic. Perhaps one time historically these forms were more distinct, and now the choice between *-ta* and *-tta* are just fixed categories that native speakers learn, but for which there is not a rule that you can learn as a non-native speaker.

12. *Haukaltaa* from *haukkua* 'bark' (+*-alta*), attested derivation *haukahtaa* 'to give a bark' + (*-ahta*)

This verb was rated by two participants as maybe, five participants as good and two participants as very good, making this acceptable to below half of the participants.

The two responses from the participants who marked this verb maybe were continuative in some sense rather than momentaneous: "bark while underway" and "running and barking at the same time". The suffix *-ahta* is not documented to have continuative meanings, but *-alta* is also classified in a low number of verbs as "miscellaneous" by Hakulinen. Some of these, like *puhaltaa* "to blow" are continuative according to him, even though it historically does have a momentaneous suffix attached (Hakulinen, 1964, p. 175). And indeed, one of the participants did actually mention that "this is a funny word, sounds like archaic Finnish". So perhaps they link this form to some of the words they know that have or historically had *-alta* and based their interpretation based on that.

The people who said good all had a momentaneous interpretation. Some of the answers were "barks, but louder" and "to dive in, begin sprinting". It is unclear on the basis of what that last interpretation could have been made. One of the participants directly made the link to the attested derivation, saying that it " Sounds the same as "haukahtaa", when one barking happens."

One of the semantic interpretations were explicitly phonologically motivated. This person also did explicitly link it to *haukahtaa* but said that this version was clearly different: "Like *haukahtaa* (to make a short barking sound) but sounding softer due to the L. Thus, to make a soft barking sound" it is in this case explicitly something about the phonological quality of this other consonant that affects the semantics, so that the difference is that with this suffix the barking sound that is made is soft.

Lastly both participants who picked very good as answers that combines aspects from the answers above because they combine both a momentaneous and continuative interpretation: they said " a/the dog lets out little barks every now and then." and "barking, less, and at a lower frequency."

13. *Kiskahtaa* from *kiskoa* 'to pull away' (+*-ahta*), attested derivation *kiskaltaa* 'to snatch' (+*-alta*)

This verb was rated by a good number of people as acceptable, as six participants selected maybe, six participants selected good, and two participants selected very good.

It seems that a number of people had trouble linking any meaning to this verb and many people did not offer any. From the people who did manage to name a meaning, a lot of them did not recognize the intended base. Some of the answers were related to train tracks, as one participant said: " Makes me think of train tracks, "kiskot", ja through that it makes me think that it means the people equivalent of the train doing a full emergency stop. So, it could mean something like "to stop completely what one is doing". Another one similarly said: " To get on the rails, like train rails. Let's say I have been having a bad time and I say "minä kiskahdan", it could mean that my life is coming together again, and things are moving along the rails as they are supposed to." Another interpretation was "quickly visit a kiosk", possible based on the nouns *kioski* or *kiska*, both which mean "kiosk". Another interpretation that semantically did not match the base verb at all was " To get angry, mad, lash out" which is interesting because it seems almost the opposite of the base verb and attested derivation. Lastly one of the participants who chose good said that it means " Screams very fast".

The other half of the answers were more clearly recognized as being derived from *kiskoa*. One of them was almost a textbook answer, as one of the participants who said good said that it meant: " To pull something momentarily, quickly, as in quickly pulling a drawer open. *Kiskoa* (pull) + the suffix -

ahtaa, denoting (often) a momentary action.” Here they mention the base verb, the suffix, the fact that it is momentary. Another answer worth mentioning in a bit more detail is one of the people who said maybe, who said that it meant “to pull something quickly, like “kiskaista”. –*aista* is a suffix I did not end up including in the survey due to space concerns, but is also a momentaneous suffix, and it apparently also does carry a similar meaning.

The last category of answers I would like to discuss are answers that are clearly derived from the base but do have a semantic change of some kind. These are most obvious in two participants’ answers, who both chose maybe: “to steal” and “Tearing or teasing, not sure”. Then there are two people who both described it as snatching, but with the notion of directionality attached to it: “Example sentence makes no sense, but in general means 'to have sharply janked to a direction' (as a result of 'kiskominen'” and “yanking something and moving in some direction at the same time” making it similar, yet not completely alike to the attested *kiskaltaa*.

4.1.4 Discussion of survey results

This section so far has presented data meant to answer the question: when there are multiple choices of a deverbal verbalizing suffix, what motivates the choice of a specific morpheme?

In general it can be said that the choice is based on context, pragmatics or creative/humoristic use of the language. Sometimes specific forms are also associated with the use of slang or archaisms. What unites all of these categories is that they are marked. The attested forms are more common and standard, whereas the tested forms are clearly marked and non-standard, and acceptability of these forms differs widely. Semantically the tested forms are usually related to the attested form, but with a slight change in meaning. Meaning that different suffixes within one and the same category of deverbal verbalizers will not give an entirely different meaning to the verb, and the choice of morpheme is based on what shade of meaning the speaker wants to express.

Another thing that factors into the choice of morpheme is whether a specific suffix is permitted to be attached onto the root in the first place. There are not many moments where a suffix cannot occur at all, but it does happen. Some combinations appear to be heavily lexicalized. Those combinations then block the occurrence of other forms that are phonologically extremely similar. Whenever a suffix added onto a root will most often be interpreted the combination of another root and suffix, the combination of that other root with a suffix is most likely lexicalized and the attempt to join it onto the first will always fail. This is unsurprising, as phonology and morphology are heavily intertwined, cf. Torppa et al. (2010), as cited by Borleffs et al. (2019), where it is said that “many of the morphological variations of the same words often differ by one phoneme only” and that it is therefore extremely important that these are accurately specified so that inflection can be used by the speaker successfully. (p.8). This is also very likely the case for derivation.

There were also several notable things. Firstly, when it comes to the rating, the amount of people who marked a verb maybe, good, or very good differs wildly between each verb. This did not seem to be related to the semantics most of the time, because there were many people who wrote down meanings that were similar to those who thought of a verb as acceptable from the pool of people who rated a verb bad or very bad.

This could be due to various reasons: One is that the infinitive of some of the verbs that were proposed do not make sense in relation to the conjugation/example according to the speaker. It almost seems like their interpretation is based on the infinitive and conjugation as a whole. They expected a different conjugation based on the infinitive and that causes confusion. For some, the rating was influenced by the mismatch of forms, with some of the participants explicitly saying so in

their remarks. Another common remark is that the infinitive or conjugation does not phonologically make sense. Even though examples were checked against attested examples, there are certain rules that are fairly ungraspable for non-native speakers. Some of the unexpected interpretations of speakers is probably related to some unspoken phonological rule being violated in the tested form. The question is for both of those scenarios whether more people would rate these forms differently if they were phonologically accepted for those speakers.

This is perhaps also partially the reason why some participants interpreted verbs as existing verbs that are just spelled wrong. Sometimes speakers were completely unresponsive because they rejected a form so strongly they cannot seem to interpret it as meaningful at all. Common comments were also just simply a "correction" of the form they perceive as being an incorrect form or a misspelling. This could be due to the phonological issues discussed above, or just because the verb they propose as a correction is just much more common.

4.2 Using or circumventing deverbal verbalizers (Question 2)

This section will be discussing the test that aims to answer whether there is a difference between using a deverbal verbalizer and a construction that circumvents the use of a deverbal verbalizer altogether. It was conducted with four individual informants. Section 4.2.1 discusses the design of the test, 4.2.2 will present the results and 4.2.3 will present a discussion of these results.

4.2.1 Sentence pair test design

This test was designed by choosing two suffixes for each category of deverbal verbalizer (reflexive, causative, momentaneous, frequentative and continuative). Then an adverb, or in some case, an auxiliary verb was selected in combination with the non-inflected verb to compare against the use of a deverbal verbalizer. In the table below you will find the selected suffixes for each category, as well as the equivalent adverb or auxiliary verb together with the non-inflected verb:

Table 8: Selected reflexive test items

Verb with verbalizing suffixes	Verbalising suffix	Non-inflected verb	Adverb or auxiliary verb
Avautua "to open up oneself"	-u	Avata "to open"	itse "self"
Kouluttautua "to educate oneself"	-utu	Koulutta "to educate"	Itse "self"

Table 9: Selected causative test items

Verb with verbalizing suffixes	Verbalising suffix	Non-inflected verb	Adverb or auxiliary verb
Karistaa "to shake off"	-ise	Karista "to fall"	Saa "to make"
Laajentaa "to expand"	-ta	Laajeta "to expand"	Saa "to make"

Table 10: Selected momentaneous test items

Verb with verbalizing suffixes	Verbalising suffix	Non-inflected verb	Adverb or auxiliary verb
Kiskaista "to snatch"	-aise	Kiskoa "to pull away"	yhtäkkiä "suddenly"
Haukahtaa "to give a bark"	-ahta	Haukkua "bark"	Kerran "once"

Table 11: Selected frequentative test items

Verb with verbalizing suffixes	Verbalising suffix	Non-inflected verb	Adverb or auxiliary verb
Hankiskella "to buy repeatedly, to shop"	-skele	Hankkia "to buy"	usein "often"
Nuoleskella "to lick repeatedly, to suck up"	-skele	Nuolla "to lick"	toistuvasti "repeating"

Table 12: Selected continuative test items

Verb with verbalising suffixes	Verbalising suffix	Non-inflected verb	Adverb or auxiliary verb
Hyppiä "hop/jump (continuously)"	-i	Hypätä "jump"	jatkuvasti "continuing"
Ajella "to drive around"	-ele	Ajaa "to drive"	ympäri "around"

On the basis of these pairs 10 sentence pairs were created. These sentences can be found in the appendix. Each pair only differs in the usage of either the deverbal verbaliser or the usage of a non-inflected verb with an adverb or auxiliary verb. Tests were conducted with individual informants. During the test an informant was presented with each pair of sentences they were asked whether these sentences made sense, if there was a difference in meaning, and if yes, in what way.

The test was conducted with four informants. The sentences underwent slight changes after the first test, as the first informant corrected some minor grammatical mistakes (which did not influence the core of the test, as they had to do with things like number agreement). The other tests made use of these corrected sentences.

4.2.2 Sentence pair test results

This section will discuss the results, going by each sentence pair and looking at similarities as well as differences between the answers of the informants, and see how each pair of examples answers the research question. (How does each pair answer the research question?)

1. *Avautua* (-u) "to open up oneself" versus *avata* "to open" + *itse* "self"

Every informant agrees that the first verb implies some kind of venting. In addition, one of the informants mentions that the form with the suffix is slang for "to blast off, to really speak your mouth about something." They all agree that the second one, while along the same lines, is clearly different. They all describe it in a more intimate way, where the opening up is more vulnerable to the speaker. One of the participants describes it as more poetic.

2. *Kouluttautua* (-utu) "to educate oneself" versus *kouluttaa* "to educate" + *itse* "self"

Most informants agree that the first one implies that the educating is happening through the medium of going to school, except for one participant who says that the first verb does not make the method of self-learning clear, and it could both imply self-study as well as going to school. The second one implies self-education on your own for all the informants.

3. *Karistaa (-ta)* "shake off" versus *karista* "fall" + *saa* "make"

For this pair there are some minor differences in interpretation, although there was quite a bit of overlap. According to two participants the first verb implies an active action, whereas the second implies another agent, in addition one of them also mentions that it sounds a bit redundant. Another gives a similar interpretation with the addition that the first one requires immediate action whereas the second is a statement about the future. The fourth participant has a quite different idea: it is rather a difference in tense. The first one is happening at the moment and the second happens in the future.

4. *Laajentaa (-ta)* "make expand" versus *laajeta* "expand" + *saa* "make"

According to three of the participants the difference is in that the first one implies an active role whereas the second one implies a more passive role. Every participant prefers the second one, either because it is more common or because the darkness cannot be an actor in this sentence and the first one implies a more active relationship.

One of the participants has a different interpretation of the meaning, in that the second one is lengthier and sounds like an explanation whereas the first one is a simple statement.

5. *Kiskaista (-aise)* 'to snatch' versus *kiskoa* 'to pull away' + *yhtäkkiä* "suddenly"

This pair saw a lot of disagreement between every informant. One of them had issues with the verbs chosen here. *Kiskaista* and *kiskoa* did not fit here according to her, and it should be *napata* or *siepata* which also both mean "to snatch", of which there does not exist a counterpart verb (i.e. suffixed with *-aise*). She also did not think that *yhtäkkiä* could be combined with *kiskoa*. According to her the difference is that *kiskoa* is continuous yanking and *kiskaista* is yanking it once. Putting *yhtäkkiä* would combine the suddenness with the continuous sense and it does not make much sense to her.

The issue to another informant is that they both sound like an incomplete sentence, although the first one would be acceptable as a plain statement. The second one is missing a part where it is specifying the source of the book. Other than that, there were no major differences in meaning.

According to the third, the first one is informal whereas the second is more literal. It also sounds a lot more awkward. That is because you emphasize force first and then quickness at the end whereas the first one has both senses at the same time because it is built into the verb.

According to the fourth informant, the difference is more in terms of urgency. *Kiskaista* implies an immediate or urgent action in contrast to *kiskoa* which is not as urgent. *Yhtäkkiä* makes no sense because it implies that something happened suddenly, as if you would come up with pulling a book out on the spot. He would not use either sentence.

6. *Haukahtaa (-ahta)* 'to give a bark' versus *haukkua* 'bark' + *kerran* "once"

According to two of the informants both verbs mean the same thing. One of them mentions that the second one is more uncommon, because *haukahtaa* sounds more formal. To the other, the second verb makes the momentaneous meaning more explicit.

According to the other two participants there is a meaning difference. One of them says that the first verb implies a single soft woof whereas the second one is a more neutral description of barking.

According to the other, the difference is that the first verb implies a single action whereas the second verb implies a continuous action although the adverb negates this, which makes this sentence not

completely correct, but it could be used in the context of telling someone about the behaviour of your dog.

7. *Ostella (-ele)* "to buy repeatedly" or "to shop" versus *ostaa* "to buy" + *usein* "often"

For this pair all the informants were pretty much in agreement. The first sentence implies a casualness about the buying of the bread, as if you were shopping and then randomly decided to pick up a loaf, whereas the second sentence is a neutral way to describe the fact that the bread is bought often. They also all agree that the second sentence in contrast is more common and more standard.

8. *Nuoleskella (-skele)* "to lick repeatedly" or "to suck up" versus *nuolla* 'to lick + *toistuvasti* "repeating"

According to two informants, the first verb implies the licking of a lollipop happening absent-mindedly or casually, whereas the second one implies that it is happening continuously. Another informant disagrees, and says the sentences describe the same thing, but the second one stresses the action more.

The fourth informant has a somewhat different answer, where the first one implies the lollipop licking is happening at the moment whereas the second sentence has more of a habitual meaning where the lolly is being licked at irregular intervals. This is perhaps best illustrated by this description: "I can't get rid of an image of myself of a person having their special lollipop they have on a pedestal in their home which they like to lick from time to time."

9. *Hyppiä (-i)* 'hop/jump (continuously) versus *hypätä* 'jump' + *jatkuvasti* "continuing"

Every participant has a different take on this pair. According to one participant they mean the same thing but the second one sounds awkward. *Hyppiä* on its own implies a continuous action whereas *hypätä* implies jumping once, which is why *jatkuvasti* does not sound good in combination with that verb.

Another has a different interpretation, according to him the difference is that the first one just says someone jumps, whereas the second one says that someone jumps very often, so really stressing the continuative aspect of it.

According to the third, the first one is more common. He says that you would usually add the adverb to the verb variant in the first sentence. There is a difference in meaning: first one implies multiple jumps; second one implies continuous single jumps.

The fourth says that it is clear that the subject is jumping in either sentence, but the use of *hypätä* does not make sense with *jatkuvasti*, he would prefer *toistuvasti* "repeatedly" or *uudelleen ja uudelleen* "over and over again". The meaning for the second sentence is now not clear unlike the first.

10. *Ajella (-ele)* "to drive around" versus *ajaa* "to drive" + *ympäri* "around"

Two participants here against says they are the same thing, just worded differently, while giving a slightly different translation: I am absent-mindedly driving in the evenings versus I am driving around in the evenings implying a more casual meaning in the first sentence. Her preferred version is actually *ajella + ympäri*, so combining verb in the first sentence with the adverb. JK describes it in a similar manner, to him the first sentence feels like a casual evening drive without a destination which sounds more relaxed. Second one technically means the same but in a more hectic manner: "I drive around many places at evenings". JH has a similar sense about the first sentence, to him it feels more natural and describes driving around at night as a habit or a hobby where the car is cruising around

without a destination. He has an issue with the second sentence because the use of *ajaa* implies to a certain destination or using a chosen route, but then *ympäri* implies the exact opposite and he therefore would not use the second sentence because it is conflicting.

The fourth participant describes it the other way around, where the difference is that the first one describes goal-oriented driving, whereas the second one describes driving around in a more aimless fashion.

4.2.3 Discussion of sentence pair test

The informants agreed that in most cases both sentences were possible, at least theoretically, and that they somewhat describe the same event. However, there were often clear differences. Firstly, the variant with the adverb was not always accepted. In those cases, it was because the verb without the deverbal verbalizing suffix, which is normally the standard verb, contain a special shade of meaning which was conflicting with the adverb. Standard verbs usually are unmarked. It could be that due to repeated use the standard verb has come to replace the more morphologically complex verb. When the variant with the adverb does work, it usually stresses the action more than the variant with the deverbal verbalizer. Using the adverb really makes that part of the semantics much more explicit than the deverbal verb, where that meaning is implied.

In this way it is possible to modify a specific aspect of the meaning in more ways than if you were to use the deverbal construction, just because there are more adverbs to choose from. Consider even in English, that a speaker wanting to talk about a walk in a continuative manner could choose to express this as “I take a walk continuously, I take a walk repeatedly, I take a walk over and over” and all of these sentences are clearly similar yet distinct. This is also the case for Finnish, whereas using a deverbal construction really only allows for one or very few meanings.

Most importantly, the use of the deverbal verb gives a special shade of meaning. It is similar to the other, yet distinct, as there is often a difference in context and manner. It was often marked as a result. Hence, in the case of *koulutauttaa*, it is specifically self-education by going to school than just purely self-education and *ajella* implies that there is driving that happens in a casual manner where the subject is cruising around, whereas the variant with the adverb is more goal-focused driving.

Therefore to summarize, the difference in meaning between a construction using a deverbal verb and a construction that circumvents it is that:

1. The use of an adverb or preposition makes the meaning of the utterance more explicit and allows for greater flexibility in expressing a very specific meaning
2. The use of a deverbal verb gives a derived yet distinct meaning from the standard, uninflected verb
3. Sometimes the standard verb has gained a specific lexicalized meaning, this prevents the use of an adverb with it due to it conflicting with point 1.

4.3 The inherent meaning of deverbal verbalizing suffixes (question 3)

This section investigates the inherent meaning of deverbal verbalizing suffixes. This is done by the means of a pseudo-verb test. Section 4.3.1 discusses Kytömäki (1992) framework for categorizing verbalizing suffixes which was used as a basis for this test, then section 4.3.2 discusses the test design, and lastly section 4.3.3 and 4.3.4 contain the results and a discussion of these results respectively.

4.3.1 Kytömäki framework for categorising verbalizing suffixes

Kytömäki (1992a, 1992b) as cited in Laakso (1996, p.268) describes a framework to categorize different verbalizing suffixes in terms of how much semantic content they inherently contain. Within this there exist three categories:

1. Suffixes that contain a semantic content of their own.
These are suffixes that can be understood to mean something even without knowing the meaning of the root.
2. Suffixes whose semantic content is wholly derived from the root.
These are suffixes that are meaningless without the combination with a root.
3. Suffixes that are in-between category 1 and 2.
They do have semantic content to some extent, but it is not as clear as the suffixes that belong to category 1.

This would mean that when suffixes of category 1 are added to pseudo-verbs, they would still be meaningful to some extent, whereas that is not the case at all with suffixes from category 2 and only somewhat with the suffixes from category 3.

Considering this classification, which affixes belong to category 1, suffixes that contain their own semantic content, category 2, suffixes who do not have semantic content and derive it from the root, or category 3, suffixes in between the two previous categories?

4.3.2 Pseudo-verb test design

A test was designed to test the research question. It was done using pseudo-verbs rather than real verbs, as it took other factors out of the equations, and only the suffixes could be tested without the semantic properties of existing roots interfering with the data. For designing these pseudo-verbs, the most common KOTUS patterns were used. KOTUS stands for **Kot**imaisten kielten keskus and is the national institute for the languages of Finland. They categorize verbs based on their general structure and conjugation patterns. Below you can see the fake verb and the KOTUS classification together with an existing example. Patterns 52 and 53 are by far the two most common patterns in the Finnish language, whereas the other three follow them but already occur much less.

Table 13: Fake verb and real verb model for pseudo-verb test

Fake verb	KOTUS pattern	Real example
Mukua	52	Puhua "to speak"
Keistaa	53	Muistaa "to remember"
Sunna	67	Tulla "to come"
Pavata	73	Salata "to conceal"
Kepada	62	Voida "can, to do"

The list of suffixes to be tested were selected on multiple accounts: Some were repeats that also occurred in the survey, but some are unique in the sense that they serve a compound function, such as the three below:

- *-elehti*, "reflexive verbs with an addition [sic]momentaneous frequentative shade of meaning"
ajelehtia 'go to and fro, lounge' (*ajaa* 'go')
- *-tu*, reflexive and translative
runneltua 'become mutilated' (*runnella* 'mutilate')
- *-utta*, curative and causative
odotuttaa 'make wait' (*odottaa* 'to wait for')

The other suffixes as mentioned were selected from the survey list, one for each category of deverbal verbalizers was included:

- *-aja*, continuative
- *-ele*, frequentative (or continuative)
- *-ahta* ->momentaneous
- *-utu* -> reflexive
- *-tta* -> causative

Informants were given a pseudo-verb and a suffix and asked how they would create a verb from them, and then to give a translation of this verb into English. They were instructed to keep the root the same in English, i.e not attempt a semantic translation.

In conducting the test the roots and suffixes were spontaneously switched, as the roots were all equally meaningless and this would account for possible phonological interference.

After the first test and a re-evaluation based on the results, an intermediary form of the test was added. First, a meaning was assigned to a pseudo-root, in order to see whether the participants could complete the task this way. Then, all other items were done in the manner as originally intended. The intention was that the first item would train the participants to be able to do the task, so that they would be able to do it even without a meaning attached to the pseudo-verb.

4.3.3 Pseudo-verb test results

Multiple participants answered in a manner that was unintended for this test, to the point where the majority of answers were specified in one of the following manners:

1. Answers were given based on the closest existing verb

This was both the case with items where the meaning was already specified, as well as items where the meaning was not specified. For example, the unspecified pair *mukua+elehti* was answered as *mukulehtia* "to procrastinate"

2. Responses were unspecified

The root and suffix could be paired but no meaning would be given, because it was too confusing for the participant. For example, *keistaa + -utta* was answered as *keistuttaa* but the meaning otherwise unspecified.

The intermediary form of the test does not seem to influence the results, either way the majority of the results either belong to category 1 or 2. In the below table you may find an overview of how participants answered to items that were given in a particular way:

Table 14: Manner of answers by participants

Participant	Items	Specified answers	Unspecified answers
1	3 without meaning	1 based on an existing verb	2
2	2 with meaning	2 based on an existing verb	0
2	1 without meaning	1 based on an existing verb	0
3	1 with meaning	1 based on an existing verb	0
3	2 without meaning	1 as intended, 1 based on an existing verb	0

The one answer that was given as intended with this test was from participant 3, who gave *pavata + -elehti* as *pavelehtia* and translated this as *paveling* in English.

4.3.4 Discussion of pseudo-verb test

The actual amount of items discussed were very little. This is due to the considerable amount of effort it took to do this test. It took a long time before the participants gave their answers. In some cases near the end of the test before attempts to conduct it were ceased, a real verb and suffix were explained in detail in a last attempt to convey how the participants were expected to answer. This explanation also took a lot of time due to it being very complicated for multiple participants. In all cases this meant that testing was only conducted for 3 pairs.

Speakers did not respond in an expected way. This could be due to phonological or morphological issues. Phonology and morphology are heavily intertwined in Finnish, to the extent that because different morphological forms can often just be differentiated by a single morpheme, (Borleffs et al., 2019, p.8). Test items were not controlled for this prior to the test. I checked these retrospectively with a native speaker who said that these forms did not have any issues that she could think of. Therefore I think when redesigning this task, it should be done in such a way that it is phonologically plausible, yet they do not resemble existing verbs, and this seems like an insurmountable paradox. A more structured approach would also be beneficial, as the as the semi-randomized approach of pairing roots with verbs made it chaotic and also difficult to compare. A larger group size, about twenty or so, would also help, as well as more time to be able to do more items, perhaps in the form of multiple sessions for each participant.

The third sub question unfortunately cannot be answered on the basis of the current dataset. A search for a similar experiment in Finnish in an attempt to answer this question based on existing literature did not yield anything useful either. There is only one prior pseudo-verb test that could be found, *Morfologiatesti: taivutusmuotojen hallinnan mittausmenetelmä lapsille* (Lyytinen, 1988), although a copy of this study seems to be unavailable.

5. Conclusion and discussion

After discussing everything so far, this final section will serve as a conclusion to this thesis. It is structured as followed: Section 5.1 will give a conclusion based on what was discussed so far. Section 5.2 will discuss some of the problems during the research. Finally, section 5.3 will discuss what kind of further research could be done on this or a similar topic.

5.1 Conclusion

This thesis aimed to investigate how deverbal verbalizers can be described in Finnish by specifically zooming in on the questions of whether there is a difference between the use of another suffix within the same category of deverbal verbalizers, whether there is a difference between a deverbal verbalizers and a different construction that circumvents the use of those verbs, and whether deverbal verbalizing suffixes have inherent meaning and which ones do and which ones derive it from the root.

The first sub-question was answered by the use of data collected via a self-designed survey, which 22 anonymous Finnish speakers took part in. Through this it was concluded that when there are different morphemes with the same function, the choice of morpheme for a verb is determined by context, pragmatics, or creative use of language. The verb with the tested suffix usually has a slightly different shade of meaning than the attested form, where it is more intense, more specific or a narrower meaning, while usually still connected semantically. Often the suffixes we tested were interpreted to be usage of slang or a specific dialectal form, heavily pointing to the interpretation that it is marked and less commonly used. Sometimes a lexicalized combinations disallows a specific suffix to be attached onto the root, usually due to that specific combination easily being mistaken for a different root. In that case only the use of another suffix is valid.

The second sub-question was answered with self-designed test of 10 pairs with 4 native speakers. The answer to this is that the difference between using a suffix and using a different construction to say the same thing is that the alternate construction is more flexible and makes the meaning more explicit than the deverbal verb, which usually gives a related meaning that is different but related from the standard verb. In some cases the standard, uninflected verb has lexicalised. In those cases an alternate construction is not possible, because the adverb conflicts with this specialised meaning.

Lastly, the third sub-question that aimed to answer to what extent suffixes have inherent semantic meaning could not be answered because the test was not conducted successfully. This was most likely due to faults in the designing and conducting of the test. The test likely broke phonological rules that made parsing of the different elements by the speaker impossible because phonology is heavily intertwined with morphological analysis in Finnish.

5.2 Problems during research

One of the things that were difficult already early in the process was the lack of existence of academic sources that focused solely or even mainly on deverbal verbalizers in Finnish. A lot of the information that I found about Finnish, were mentioned in passing in papers that were about other languages or about Finnish but mainly describing a different morphological or syntactical phenomenon. Hence this research relied mostly on original data collection. Designing and fine-tuning the tests took up a significant amount of time and slowed down the process of writing this thesis considerably to the point where changing the scope or changing the topic to something similar but more researched was considered, as e.g. denominal verbalizers are much more described in the literature. Eventually this topic was maintained as it is quite unique cross-linguistically. Some of the

tests also did not give the results that I was expecting. The success rate of the tests as well as the quality of the responses varied wildly, which made for a difficult data set to analyze. Even though all these challenges were frustrating and difficult, in the end the process was still very valuable and educational.

5.3 Further research

There are many ways in which the research that has been undertaken in this thesis can be expanded. As the scope was quite small due to time constraints, the major way is by the use of more participants and the conducting of the tests on a larger scale. Tests could be more detailed and corrected for the issues that were encountered during the research process. Furthermore other aspects of deverbal verbalizers could be researched. One of these ideas was actually going to be included into this very thesis, although it eventually was excluded. This section would look at the interaction of deverbal verbalizing suffixes with other suffix, particularly how they stack with each other as well as the order when multiple other suffixes are added onto the same root. Is there free choice in the order in which the speaker adds e.g. person, tense, and verbalizing suffixes onto the verb? Is there one fixed choice or are there multiple options, and in the case of the second, are particular orders more common or implied to mean something else? Given that in the current research a lot of options were motivated around pragmatics, this could be a realistic assumption and it would be interesting to explore that further.

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Appendices

Appendix A: Survey

1. Survey questions

Please validate your age.

Please indicate one of the following statements:

I am a native speaker of Finnish and I consent to this study.

I am not a native speaker of Finnish, or I do not consent to this study.

In which area of Finland were you born?

In which area of Finland do you live?

“We would like you to indicate how good this verb sounds to you. We are not interested in what is technically correct, according to schoolbooks or grammar rules. The important thing is if **you** would use this verb. **There are no wrong answers.** We are interested in playful, inventive, and innovative use of language in an informal way.

The most important thing is that you **do not judge the example sentence.** We are solely interested in the verb. How do you judge this verb? For each of the verbs there will be a chance to indicate this on a scale from very bad to very good. Try and answer to the best of your abilities. If you really don't know, you can also select 'I don't know'.

After you rate each verb we will also ask you what this verb means. Feel free to give a translation or a description.

With every sentence there will also be a possibility to write your own comments, this is optional. It could be an explanation of your rating, a comment on the spelling or on the conjugation of the verb, or anything else that you feel is relevant to know.”

For the actual test portion of the survey, participants were given these fields to fill in for each verb: What does this verb mean? (obligatory) and a field for comments (optional).

(1) Vapajaa

vap	-aja	-a
tremble	CONT	INF

“To tremble continuously.”

Miehet vapajavat.

Mies-t	vap	-aja	-vat
man-NOM.PL	tremble	CONT	3PL

“The men tremble continuously.”

(2) Horista

hor	-ise	-a
mumble-	CONT	INF

“To mumble continuously.”

Mies horisee.
 mies hor -ise -e
 man mumble CONT 3SG
 "The man mumbles continuously."

(3) Ikävöidellä
 ikävöida -ele -a
 long.for CONT INF
 "To long for continuously."

Ikävöitelen sinua.
 ikävöida -ele -n sinä -a
 long.for CONT 1SG 2SG.PRO PART.SG
 "I long for you continuously."

(4) Ajatsea
 ajaa -itse -a
 drive CONT INF
 "To go driving (to drive continuously)."

Ajatsemme autossa.
 ajaa -itse -mme auto -ssa
 drive CONT 1PL car INE
 "We go driving in a car."

(5) Ammuskennella
 ampua -skentele -a
 shoot FREQ INF
 "To shoot here and there."

Sinä ammuskentelet.
 sinä ampua -skentele -t
 2SG.PRO shoot FREQ -2SG

(6) Uiskella
 uida -skele -a
 swim FREQ INF
 "To swim around, to float"

Uiskelen vedessä
 Uida -skele -n vesi -ssä
 swim FREQ 1SG water INE
 "I swim around/float in the water."

(7) Availla
 avata -ile -a
 open FREQ INF
 To open the door often.

Availen ovea.
 avata -ile -n ovi -a
 open FREQ 1SG door PART.SG

(8) Haastoa

haasta -o -a
 speak FREQ INF
 "To address, to interview."

Hauon sinua
 Haasta -o -n sinä -a
 speak FREQ 1SG 2SG.PRO PART.SG
 "I address you."

(9) Avauta

Avata -u -a
 open-REF INF
 'To open up oneself'

Avautan sinua.
 avata -u -n sinä -a
 open REF 1SG 2SG.PRO PART.SG

(10) Rakastautua

Rakastaa -utu -a
 love REF INF
 "To fall in love with"

Rakastaudan sinua.
 Rakastaa -utu -n sinä -a
 love REF 1SG 2SG.PRO PART.SG

(11) Elätä

elää -tä -ä
 live CAUS INF
 "To support, to provide for"

Hän elätä minulle.
 hän elää -tä -ä minä -lle
 3SG.PRO live CAUS 3SG 1SG.PRO ALL
 "He/she provides for me."

(12) Karistattaa

karista -tta -a
 fall CAUS INF
 "To shake off."

Karistaa heidät kannoiltansa.
 Karista -tta he -idät kanta -ilta -nsa
 fall CAUS 3PL ACC.PL heel ABL.PL 3.POSS
 'He/she is shaking them off his heels.'

(13)Haukaltaa

haukkua	-alta	-a
bark	MOM	INF

"To give a bark."

Koira haukaltelee

koira	haukkua	-alta	-e
dog	bark	MOM	3SG

"The dog gives a bark."

(14)Kiskahtaa

kiskoa	-ahta	-a
pull	MOM	INF

"To snatch"

Lapsi kiskahtaa.

lapsi	kiskoa	-ahta	-a
child	pull	MOM	3SG

"The child snatches."

2. Survey demographics



Map 1: English names of the regions of Finland (Fenn-O-ManiC, 2020).

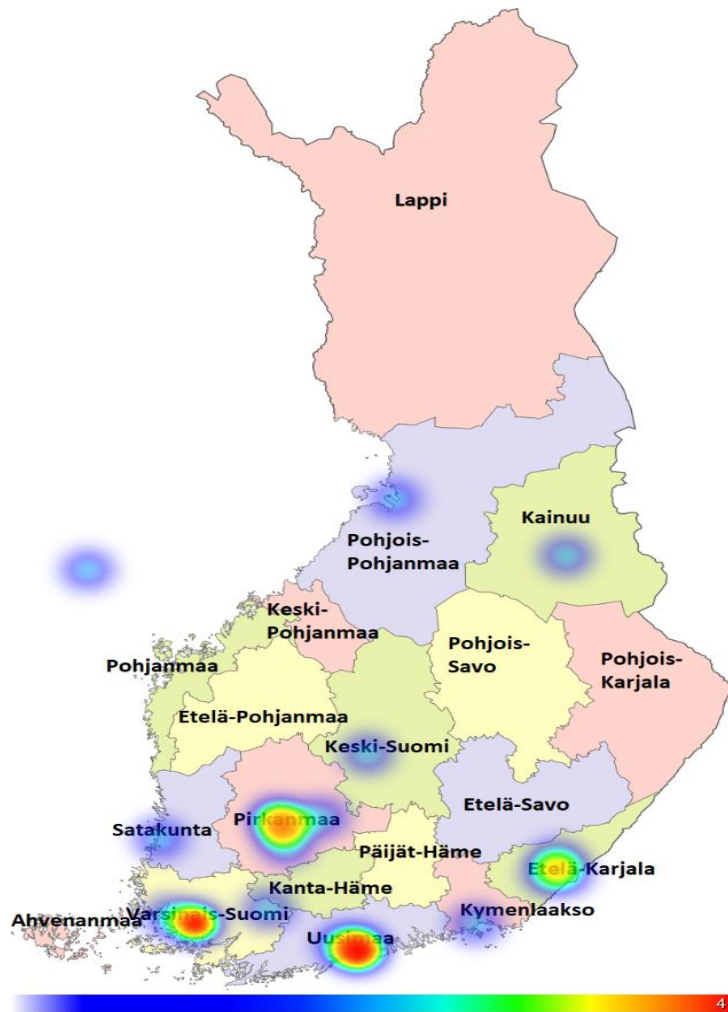
In the following table you can see the place of birth and residence for each participant.

Table 15: Place of birth and residence of participants.

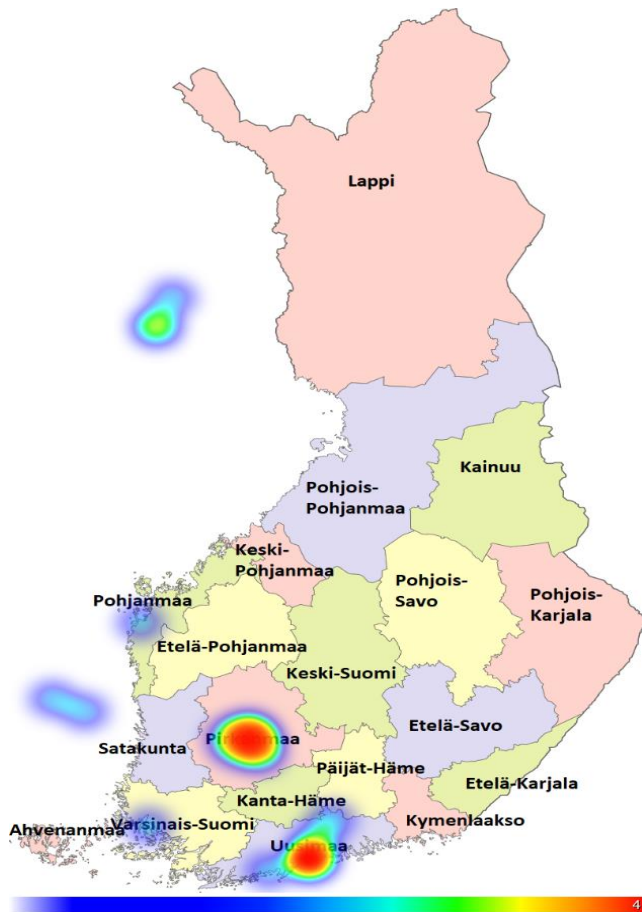
	Place of birth	Place of residence
1	Uusimaa	Not currently in Finland
2	Kymenlaakso	Pirkanmaa
3	Uusimaa	Not currently in Finland
4	Pirkanmaa	Not currently in Finland
5	Etelä-Karjala	Uusimaa

6		
	Etelä-Karjala	Pirkanmaa
7		
	Varsinais-Suomi	Uusimaa
8		
	Uusimaa	Not currently in Finland
9		
	Pirkanmaa	Uusimaa
10		
	Uusimaa	Not currently in Finland
11		
	Satakunta	Varsinais-Suomi
12	Not born in Finland	Pohjanmaa
13		
	Varsinais-Suomi	Uusimaa
14		
	Kainuu	Uusimaa
15		
	Pirkanmaa	Pirkanmaa
16		
	Pirkanmaa	Pirkanmaa
17		
	Varsinais-Suomi	Pirkanmaa
18		
	Varsinais-Suomi	Pirkanmaa
19		
	Keski-Suomi	Pirkanmaa
20		
	Pohjois-Pohjanmaa	Pirkanmaa
21		
22	Etelä-Karjala	Uusimaa
	Pirkanmaa	Uusimaa

I have modified map 1 to show the Finnish names of the regions, and this is the map that was shown to the participants. It was made clickable so that the participants could indicate their regions in that manner. Qualtrics then visualized the responses on a heat map. Therefore, on the following two maps you can see the place of birth and residence visualized on a map of Finland.



Map 2: Place of birth of the survey participants (Fenn-O-ManiC, 2020, changes by author under CC BY-SA 4.0.)



Map 3: Place of residence of the survey participants (Fenn-O-ManiC, 2020, changes by author under CC BY-SA 4.0.)

Appendix B: Individual interviewee demographics

Speaker 1: Speaker is a 28-year-old native speaker who moved from Finland to the United States in February 2019. She was born in Imatra, a small town in Etelä-Karjala, and lived there all her life until moving abroad to Alabama.

Speaker 2: Speaker is a 30-year-old native speaker who was both born in and lives currently in Imatra, Etelä-Karjala.

Speaker 3: Speaker is a 30-year-old native speaker who was born in Imatra, Etelä-Karjala and currently lives in Nokia, Pirkanmaa.

With the following informant I only conducted the verb difference test, mostly due to time constraints:

Speaker 4: Speaker is a 40-year-old native speaker who was born in Rääkkylä, Pohjois-Karjala and is currently living in Helsinki, Uusimaa.

Appendix C: Sentence pair test

1. Test questions

(1) avautua "to open up oneself" versus avata "to open" (reflexive)

Minä avaudun sinulle

minä avata -u -n sinä -lle
PRO.1SG open REF 1SG 2SG.PRO ALL

"I open up myself to you."

Minä avaam itseni sinulle

minä avata -n itse -ni sinä -lle
PRO.1SG open 1SG self 1SG.GEN 2SG.PRO ALL

"I open up myself to you."

(2) Kouluttautua "to educate oneself" versus kouluttaa "to educate" (reflexive)

Minä kouluttaudun

minä kouluttaa -utu -n
PRO.1SG educate REF 1SG

"I educate myself."

Minä koulutan itseni

minä kouluttaa -n itse -ni
PRO.1SG educate 1SG self 1SG.GEN

"I educate myself."

(3) Karistaa "shake off" versus karista "fall" (causative)

Me karistamme heidät kannoiltamme

me karista -ta -mme heitä -t kanta -t -lta -mme
PRO.1PL shake.off CAUS 1PL 3PL ACC heel PL ABL -1PL

"We are shaking them off our heels."

Me saamme heidät karisemaan kannoiltamme

me saada -mme heitä -t karista -maan kanta -t -lta -mme
PRO.1PL make 1PL 3PL ACC fall ILL heel PL ABL PL

"We are shaking them off our heels."

(4) Laajentaa "make expand" versus laajeta "expand" (causative)

Pime -ys laajeta -ta pupilli -n
dark NOMZ expand CAUS pupil GEN

"The darkness makes the pupil expand."

Pimeys saa pupillin laajenemaan

Pime -ys saa ∅ pupilli -n laajeta -maan
dark NOMZ make 3SG pupil GEN expand ILL

"The darkness makes the pupil expand."

(5) kiskaista 'to snatch' versus kiskoa 'to pull away' (momentaneous)

Kiskaisen kirjan

kiskoa -aise -n kirja -an

pull MOM 1SG book ILL

"I snatch the book suddenly."

Kiskon kirjan yhtäkkiä

Kiskoa -n kirja -an yhtäkkiä

pull 1SG book ILL suddenly

"I snatch the book suddenly."

(6) Haukahtaa 'to give a bark' versus haukkua 'bark'

Koira haukahtaa

koira haukkua -ahta -a

dog bark MOM 3SG

"The dog barked once."

Koira haukkuu kerran

koira haukkua -u kerta -n

dog bark 3SG time GEN

"The dog barked once."

(7) ostella "to buy repeatedly, to shop" versus ostaa "to buy" (frequentative)

Ostelen leipää

Ostaa -ele -n leipä -ä

buy FREQ 1SG bread PART

"I buy bread often."

Ostan leipää usein

Ostaa -n leipä -ä usea -in

buy 1SG bread PART many INST

"I buy bread often."

(8) nuoleskella "to lick repeatedly" "to suck up" versus nuolla 'to lick' (frequentative)

nuoleskelen tikkaria

nuolla -ele -n tikku -ari -a

lick FREQ 1SG stick AG.N PART

"I lick the lollipop repeatedly."

nuolen tikkaria toistuvasti

nuolla -n tikku -ari -a tolstuva -sti

lick 1SG stick AG.N PART repeating ADV

"I lick the lollipop repeatedly."

(9) hyppiä 'hop/jump (continuously) versus hypätä 'jump (continuative)

Hypin

hypätä -i -n

jump CONT 1SG

"I am jumping around."

Hyppään jatkuvasti

hypätä -n jatkuva -sti
jump 1SG CONT ADV

"I am jumping around."

(10) ajella "to drive around" versus ajaa "to drive" (continuative)

Ajelen iltaisin

ajaa -ele -n ilta -isin
drive CONT 1SG evening TEMP.DISTR

"I drive around in the evening."

Ajaan ympäriinsä iltaisin

ajaa -n ympäri -in -nsä ilta -isin
drive 1SG around ILL 3SG.POSS evening TEMP.DISTR

"I drive around in the evening."

Appendix D: pseudo-verb test

1. Test questions

How would you make this form?

How would you "translate" it?

2. Fake verbs

Table 13: Fake verb and real verb model for pseudo-verb test

Fake verb	KOTUS pattern	Real example
Mukua	52	Puhua "to speak"
Keistaa	53	Muistaa "to remember"
Sunna	67	Tulla "to come"
Pavata	73	Salata "to conceal"
Kepada	62	Voida "can, to do"

3. Suffixes

1. -elehti, reflexive verbs with an addition momentaneous frequentative shade of meaning
2. -utta, curative and causative
3. -tta, causative
4. -aja, continuative
5. -ele, continuative or frequentative
6. -ahta, momentaneous
7. -tu, reflexive and translative
8. -utu, reflexive