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Dialect Identification of Swedish Dialects by Speakers of Scanian

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Abstract

This study investigates Scanian Swedes' dialect identification ability of seven Swedish regional dialects. Particularly, the study aims to find out whether or not the scientific division of Swedish dialect regions more or less overlap with actual speakers' ability to differentiate between dialects. It also investigates which variables affect dialect identification ability. 22 native Swedish speakers from the Scania region of Sweden were presented with speech samples spanning seven dialect regions of Sweden and asked to perform a dialect identification test by paring the speech samples marked regions of Sweden. The answers were then compiled and accuracy rates were analysed with respect to participants' ages and the dialects featured in the speech samples. The results show that younger speakers tend to be less accurate in their ability to identify the dialects compared to older speakers. It is also found that participants are much more likely to correctly identify dialects that are geographically close to their own. However, whenever listeners incorrectly identify a dialect, their answer is likely to be that of a geographically neighbouring region. The results indicate that ability to identify dialects is likely be tied to experience with the dialect, since age and geographic closeness are major factors. Furthermore the results indicate that the scientific division of these dialects is rather closely tied to speakers' perception of the dialects.

Tillägnad Farfar,

för att du alltid har inspirerat andra med din humor och glädje

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0. Abbreviations

DBL = Dalabergslagen Swedish

EMS = East Middle Swedish

GOT = Gotlandic

NSW = Norrland Swedish

SCA = Scanian

SSW = South Swedish

WMS = West Middle Swedish

1. Introduction

What is a dialect? This is a question that might sound simple on the surface, but is surprisingly difficult to answer. A very basic definition of the term *dialect* is that it is a regional variety of a language with "similar linguistic features" (Bruce, 2010, pp. 15–17). Usually with the distinction that dialects are mutually intelligible while languages are not. However, such a definition immediately poses problems. A simple example of this are languages like Arabic and Chinese. Regional varieties of these languages are usually regarded as dialects, at least politically, while often being highly or completely unintelligible. The opposite situation of this can be found when discussing the Scandinavian languages: Danish, Norwegian and Swedish. These are commonly regarded as separate languages, but are mostly intelligible between languages. That is, speakers of Danish, Norwegian and Swedish could have a conversation, each in their own respective languages, and still understand each other with little difficulty. At the same time, Elfdalian, a language that has little mutual intelligibility with the other three Scandinavian languages, but has historically (and is still politically) considered a dialect of Swedish (Sapir & Lundgren, 2024, pp. xviii, 37)

A similar problem can also occur when discussing dialects of one language, such as Swedish. By simply defining a dialect as a regional variety with similar features, it can still be difficult to determine where one dialect starts and another one ends. This is exemplified by the fact that the literature and the general public often categorise and talk about what is a Swedish dialect differently (Elert, 1994; Teinler, 2016, pp. 259). As such it can be difficult to actually produce a good answer for what is and what is not a dialect of Swedish or where one dialect starts and another ends.

One way to try to figure this out is by looking at which dialect speakers of Swedish find similar and dissimilar and which are easier and more difficult to identify. This can be done by using a dialect identification task, having speakers of the language in question try to identify where another speaker is from. Furthermore by using a language identification task, it is possible to determine which variables affect listeners' abilities to determine which variety is spoken. This is also something that is particularly interesting, since this topic is a topic that seems not to have a

clear answer, as different studies, such as Cunningham-Andersson (1995), Boughton (2006) and Peters et al. (2002), have come to different and sometimes opposite conclusions.

The purpose of this study is to get an insight into how well Swedish speakers from the region of Scania are able to identify and distinguish between different Swedish dialects, to see which dialects are considered similar, and which are more easily distinguished. Furthermore, it is investigated and discussed how this relates to dialect boundaries and whether the perceptions of Swedish speakers match how different dialect regions are actually portrayed in the literature when not prompted by specific names for dialects. Finally, this study also sets out to investigate which factors affect a listener's accuracy in identifying dialects as previous studies have come to opposing conclusions.

To start this paper, an introduction to Swedish dialects will be given. First, by giving an overview of Swedish as a whole and then by going more into detail of where the different dialects are located, as well as how their phonology differs from each other. The choice of dialects which are presented in this section, and discussed throughout this paper is based on a classification by Elert (1994). After this, previous research in dialect identification is discussed. Notably, some opposing views on which variables affect dialect identification will be brought up. Next, the research questions of this paper will be presented, and the reason for choosing them will be explained. The methods used in this study will be discussed next, going through the choice and recruiting of the participants, the choice of stimuli, the procedure of the study itself and ethical considerations. Finally the results of the study will be presented, analysed and then discussed. The research questions will be answered and the study summarised.

2. Background

2.1. Dialects of Swedish

There are several definitions of what constitutes a dialect of Swedish and how these dialects are divided geographically. One such division of the Swedish dialects is a large grain definition, which, according to Bruce (2010, pp. 25–26) and Elert (1994, pp. 215–216), divides the language into three major geographic and historic standard language regions: South Swedish, which contains historical remnants from Danish pronunciation; Finland Swedish, which is spoken mainly in Finland and shares phonetic features with the Finnish language and Central Swedish which spans the majority of Sweden (except for the South). Another division of Swedish dialects is that which Elert calls the genuine dialects, which closely resemble the general public's perception of the Swedish dialects. They are most commonly spoken by people in the countryside, rather than people living in cities. Genuine dialects are often divided up by the different provinces of Sweden or cities such as Stockholm and Gothenburg. Examples of such dialects include Scanian, spoken in the province of Scania (Skåne), and Dalecarlian, spoken in the province of Dalarna.

In reality, though, there are no clean divisions between dialects, such as the borders of the provinces. Instead, each spoken variety of Swedish lies on a continuum between the more local genuine dialects and the more standard forms of the language (Bruce, 2010, pp. 25). As such it makes the most sense to divide the dialects by their phonological and typological features, while still choosing a finer grain size than the standard dialect varieties. One such division is presented by Elert (1994). He divides the Swedish language region into seven dialectal sub regions (see figure 1) based on various dialectal features such as, but not limited to, diphthongisation of long vowels; consonant phonemes, particularly /r/ and /ɧ/ and prosodic features such as clause intonation and realisation of pitch accent (Elert, 1994, pp. 216–219). It is this definition of the Swedish dialects that will be used in this paper. Additionally, the genuine dialect of Scanian, a sub-dialect of South Swedish, will also be relevant.

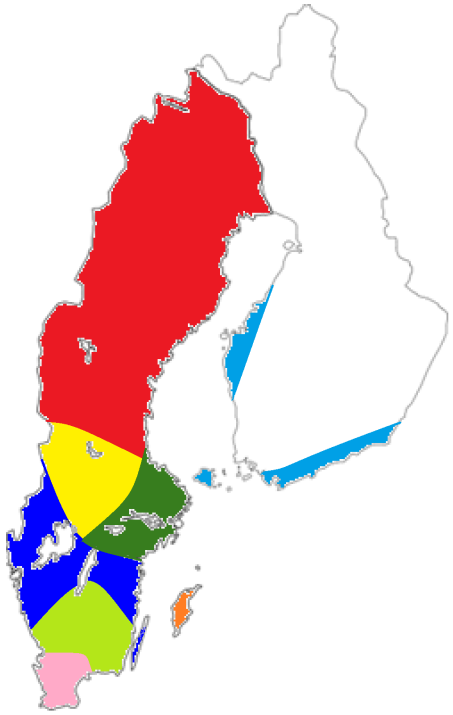

Figure 1. The seven dialectal regions of Swedish as described by Elert (1994, pp. 216–219, 228) as well as the genuine dialect of Scanian (pink).

2.1.1. An overview of Swedish phonology

The Swedish language has, as has been discussed above, a rich spectrum of dialects. To be able to discuss and compare these dialects, a general understanding of the phonological make-up of Swedish is required. Of course, a generalisation of the phonology of Swedish will not fully accurately represent any of the individual dialects. Instead, the purpose of this section is to use a Central Swedish standard as and have it act as a point of reference to describe how the dialects differ.

It is generally agreed upon that the consonant inventory of Swedish contains 18 distinct phonemes (Bruce, 2010, pp. 145–156, 173, 183; Lindblad, 2011, pp. 94, 122). These are the voiceless plosives /p$^{(h)}$, t$^{(h)}$, k$^{(h)}$/ which are aspirated word initially; the voiced plosives /b, d, g/; the nasals /m, n, ŋ/; the fricatives /f, s, ɕ, ɧ, h, v, j/ and the approximants /r, l/, all of which can also be seen in table 1. Out of these 18, /ɧ/, /r/ and /l/ all have large amounts of geographic allophones, as they can be realised as [ɧ ~ ɧ^{w} ~ ɧ^{ʊw} ~ ʂ ~ ɕ], [r ~ ɹ ~ ʁ ~ ʀ ~ ɻ ~ ɻ̝] and [l ~ ɭ ~ ɬ] respectively. Furthermore, as shown in table 1, most dialects of Swedish also contain the

retroflex consonants [ʈ$^{(h)}$, ɖ, ɳ, ʂ, ɭ]. These occur when /r/ precedes one of the dental consonants /t$^{(h)}$, d, n, s, l/ in dialects containing a front-of-the-mouth realisation of /r/.

Table 1. The consonant inventory of Central Swedish based on tables 5.1 and 6.1 in Bruce (2010, pp. 145, 173).

		Labial	**Dental**	**Palatal**	**Retroflex**	**Velar**	**Glottal**
Plosive	**Voiceless**	p$^{(h)}$	t$^{(h)}$		(ʈ$^{(h)}$)	k$^{(h)}$	
	Voiced	b	d		(ɖ)	g	
Nasal		m	n		(ɳ)	ŋ	
Fricative	**Voiceless**	f	s	ɕ	(ʂ)	ɧ	h
	Voiced	v		j			
Approxi-mant	**Vibrant**			r			
	Lateral		l		(ɭ)		

Swedish has almost as many phonemic vowels as consonants, being 18[1] (Bruce, 2010, pp. 118, 172–173; Lindblad, 2011, pp. 66–67). More specifically, there are 9 vowels in Swedish, all of which can be phonemically distinguished using vowel length. These vowels are iː, ɪ, eː, e, ɛː, ɛ, yː, ʏ, øː, œ, ʉː, ɵ, ɑː, a, oː, ɔ, uː, ʊ/. Diphthongs are not phonemic in Swedish, but can appear as a dialectal feature in various dialects (Bruce, 2010, pp. 120–121; Lindblad, 2011, pp. 69).

Lastly, one important feature of Swedish pronunciation is the pitch accent. Swedish has two pitch accents used to distinguish the meanings of words with otherwise equal pronunciation, the acute accent, and the grave accent (also known as accent I and accent II, respectively) (Bruce, 2010, pp. 54–55). The realisations of these pitch accents vary depending on the so called accent type of the dialect region, with there being five different accent types in total (Bruce, 2010, pp. 70–73; Gårding, 1977, pp. 45–50). These melodies are usually referred to as 0, 1A, 1B, 2A and 2B (see figure 2). Type 0 does not distinguish between accent I and accent II; the four remaining accents

[1] Or 17, as short /e/ and short /ɛ/ are usually realised in the same manner, as an intermediate of [e] and [ɛ]. (Bruce, 2010, pp. 173; Lindblad, 2011, pp. 67)

are distinguished between the number of pitch peaks, as well as when the peaks occur (Bruce, 2010, pp. 70–71; Gårding, 1977, pp. 45; Włodarczak et al., 2018). As can be seen in figure 2, when both accent I and II only have one peak, the peak in accent I comes earlier than in accent II. If an accent has two peaks instead of one, that accent will always be accent II. Some examples of minimal word pairs where the pitch accent is the sole difference include *anden* (I), "the duck", and *anden* (II), "the spirit", as well as *tomten* (I), "the property", and *tomten* (II), "the gnome" or "Santa". In most Swedish dialects, compound words are almost exclusively pronounced using the grave accent (accent II) (Bruce, 2010, pp. 175). The five accent types presented in figure 2 also seem to correlate rather closely with which type of clause intonation is used (Bruce, 2010, pp. 87). Therefore, accent type can, along with consonants and vowels, be used as an indication of a specific dialect.

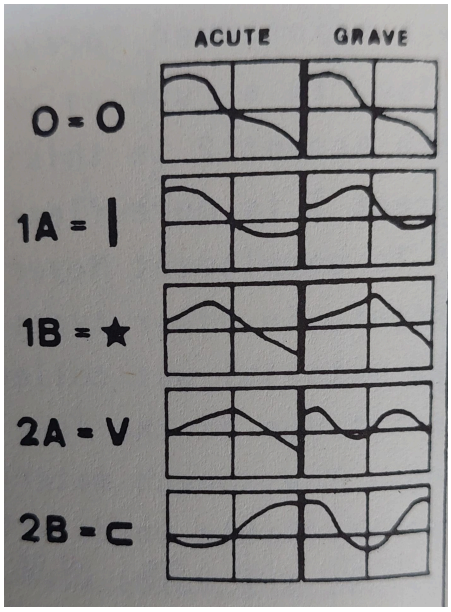

Figure 2. How the acute and grave accents are realised in the five different accent types of Swedish, figure 3.6 in Gårding (1977, pp. 50).

2.1.2. South Swedish and Scanian

South Swedish is a rather distinct variety of Swedish, even compared to most other dialects to be discussed in this chapter. Bruce (2010, pp. 25–26, 174) states that part of its distinct sound can be attributed to the region's long history of being a part of Denmark, as well as Sweden. More specifically, this dialect region encompasses the regions of Halland, Blekinge and Småland, the

light green area of Figure 1, as well as Scania, the pink region in Figure 1 (Bruce, 2010, pp. 174 & Elert, 1994, pp. 228). The Scanian dialect is considered to be a genuine dialect rather than one of the dialect regions proposed by Elert (1994). Despite this, Scanian is particularly distinct from other Swedish dialects, as it has several features that differ from or are not commonly found in other South Swedish dialects (Bruce, 2010, pp. 174). For this reason, those will also be discussed here.

One key feature of the South Swedish dialect is that instead of the front [ɹ] or [r] sounds found many dialects of Swedish, South Swedish dialects instead pronounce the /r/ at the back of the mouth (Bruce, 2010, pp. 174, 178–179; Elert, 1994, pp. 218; Lindblad, 2011, pp. 97). It is most commonly realised as either the voiced uvular fricative [ʁ] or the voiced uvular trill [ʀ], but can also be realised as the voiceless velar fricative [x] next to a voiceless plosive (Lindblad, 2011, pp. 94; Persson, 2010). As the /r/-sound is pronounced in the back of the mouth in South Swedish, this also leads to the dialect not containing the retroflex consonants present in Central Swedish dialects (Bruce, 2010, pp. 150). Instead, these sounds are realised as the combination of two separate sounds, that is [ʁ + t, d, s, n, l].

The sj-sound /ɧ/ in South Swedish is pronounced as the "darker" velar [ɧ] as opposed to the "lighter" retroflex [ʂ] (Bruce, 2010, pp. 178; Lindblad, 2011, pp. 94–95). It is also highly common that the [ɧ] is realised labiodentally with lip rounding, that is, as [ɧ^{ʊw}].

Aside from the unique pronunciations of the r- and sj-sounds found in South Swedish, the Scanian dialect also uses unique allophones for the Swedish plosives, that is, /p, t, k/. In Scania, voiceless plosives become voiced, that is [b, d, g], when appearing after a vowel (Ingers, 1957, pp. 3; Persson, 2010). As such, a word like *mat*, meaning "food", would be pronounced as [mɑːd] instead of [mɑːt] in Scania. It should be noted, however, that these allophones are less common in younger speakers (Persson, 2010).

Another important feature of South Swedish, and particularly Scanian, is the diphthongisation of long vowels. In Scanian, all nine of the long vowels present in Swedish are diphthongised to at least some extent (Bruce, 2010, pp. 177). This diphthongisation of Scanian vowels is

characterised by the movement from a more open vowel, to a more closed one, as well as the initial vowel of the diphthong typically being more centralised than the final one, resulting in diphthongs such as /au/ (Bruce, 2010, pp. 177; Ingers, 1957, pp. 12).

The pitch accent type of South Swedish is almost exclusively 2B which has a late peak on the acute accent and two peaks on the grave accent (Gårding, 1977, pp. 50; Włodarczak et. al, 2018). However, in Scania, accent type 1A, where the peaks are rather early for both the acute and grave accents, is used instead. According to Włodarczak et. al (2018), this is the only place in Sweden where this accent can be found. Furthermore, in Scanian compound words can have either an acute or a grave accent, unlike the rest of Sweden which uses only grave accents for compounds (Bruce, 2010, pp. 175). Usually, in Scanian, the compound word takes on the pitch accent of the first word of the compound. The only exception being if the interfix -s-, so called *foge-s* ("joining-s") in Swedish, is inserted between the two words, in which case it becomes acute. As such, the pitch accent found in Scanian is rather different from the rest of Sweden, even when comparing it to other South Swedish dialects.

2.1.3. Gotlandic

Gotlandic is the dialect spoken on the Island of Gotland, the orange colored region in figure 1 (Elert, 1994, pp. 228). The consonants of the dialect appear rather similar to those of the Central Swedish standard, with the sj-sound being realised as [ɧ] before vowels and [ʂ] postvocalically. Similarly the standard [l] is used in Gotlandic (Bruce, 2010, pp. 148, 183–187). The realisation of /r/ is, however, mostly unique to the dialect as it is pronounced as the retroflex approximant [ɻ].

Six of the long vowels in Gotlandic are diphthongised (Bruce, 2010, pp. 185–186). The vowels /eː, u, ʉː, øː/ are pronounced as closing diphthongs, meaning that the vowels end more closed than they start. /ɛː, oː/ are opening diphthongs, ending up more open than they start. The short vowel /ɵ/ is often realised as [ʊ] and /œ/ as [ɔ]. Furthermore, the long /u/ is often realised as [o] (Elert, 1994, pp. 218).

The pitch accent type found in Gotlandic is exclusively the 1B type, which has an early peak on the acute accent and one late peak for the grave accent (Gårding, 1977, pp. 50; Włodarczak et. al, 2018).

2.1.4. West Middle Swedish

West Middle Swedish, also known as Geatish (*Götiska* in Swedish*)*, is a Swedish dialect spoken in the provinces of Västergötland, Östergötland, Bohuslän, Dalsland and Öland, as well as parts of southern Värmland, and northern Småland and Halland (Elert, 1994, pp. 228). These provinces correspond to the dark blue region of the map in figure 1.

Speakers use both the back and front /r/-sounds [ɹ, ʁ] in complementary distribution, the same being true for [l] and [ɽ] as allophones of /l/ (Bruce, 2010, pp. 194–195). The sj-sound is realised as [ɧ]. One of the more identifying features of West Middle Swedish is the pronunciation of the long å-sound /oː/, which are realised in the dialect as [ɵː] (Bruce, 2010, pp. 117, 193). The pitch accent type found is mainly 2B, with 2A being found in the east (Włodarczak et. al, 2018).

2.1.5. East Middle Swedish

East Middle Swedish, sometimes also called the Mälardalen dialect (*Mälardalska* in Swedish), is the dialect spoken in the dark green region of figure 1 (Bruce, 2010, pp. 198; Elert, 1994, pp. 228). This region encompasses the provinces of Södermanland, Uppland and Närke, as well as the eastern parts of Gästrikland and Hälsingland. With this region being centered around Stockholm, it is rather close to what is considered the Central Swedish standard (Bruce, 2010, pp. 198–201). /r/ usually realised as either [ɹ] or [ɻ] and the sj-sound as both [ɧʷ] and [ʂ]. In most of the East Middle Swedish speaking region /l/ is realised as [ɽ], with [l] being found in only in the greater Stockholm area. The 2A accent type is used, with the acute accent having one early peak and the grave accent having two peaks (Włodarczak et. al, 2018).

A key identifying feature of the Mälardalen dialect is the so-called Viby-i, unique allophones of the i- and y-vowels which can be distinguished by their “buzzing” quality (Bruce, 2010, pp. 132–135, 200–201). The viby-i is often described as being a slightly more open [z]- or [ð], or alternatively as a central [ɨ] with a closing diphthong moving towards [z/ð].

2.1.6. Dalabergslagen Swedish

Dalabergslagen Swedish is the dialect spoken in its namesake region of Dalabergslagen (the yellow region in figure 1) (Bruce, 2010, pp. 195; Elert, 1994, pp, 228). More specifically, this region encompasses the southern part of the Dalarna province, Västmanland as well as parts of Gästrikland, Hälsingland and Värmland.

The consonants found in the Dalabergslagen dialect is rather similar to those of the Central Swedish standard, having the front-r as well as /ɧ/ being pronounced as [ɧ] in front of vowels and [ʂ] postvocalically (Bruce, 2010, pp. 198). However, /l/ is realised as [ɽ] instead. The u-sounds of Dalabergslagen Swedish are also rather distinct, as they are produced further back in the mouth than the standard Swedish /ʉː/ and /ʊ/. These are rather realised as [ʉː] and [ʉ], respectively (Bruce; 2010, pp. 198; Elert, 1994, pp. 219). The pitch accent type found in Dalabergslagen is mainly 1B, setting it apart from most other Central Swedish dialects which use type 2 accents (Włodarczak et. al, 2018).

2.1.7. Norrland Swedish

Norrland Swedish is the dialect spoken in the north half of Sweden historically known as Norrland (the red section of figure 1) (Elert, 1994, pp. 228).

While the standard front-r is used in Norrland Swedish, the “thick” l-sound [ɽ] is used over the more standard [l] (Bruce, 2010, pp. 189–190). Both the “light” [ʂ] and the “darker” [ɧ] can be found in Norrland Swedish. However, unique to this dialect is that /s/ can become [ʂ] when appearing before a voiced consonant. The long /eː/, /øː/, /oː/ and /ɛː/-sounds are commonly realised as the diphthongs [ɛ͡e], [œ͡ø], [ɔ͡o], and [æ͡ɛ], respectively. /ɑː/ can sometimes also be diphthongised as [a͡ɔ]. The final four vowels always remain as monophthongs. The main pitch accent type is 2A; however, the 0 accent type can also be found close to the Finnish border (Włodarczak et. al, 2018).

2.1.8. Finland Swedish

Finland Swedish is spoken in several parts of Finland, but it is most prominently spoken in three regions, those being the coastal area surrounding Helsinki, the region of Ostrobothnia on the west coast of Finland, as well as the autonomous region of Åland (see the light blue area of figure 1) (Bruce, 2010, pp. 179). This dialect is rather distinct compared to other dialects of Swedish. Most notable is that Finland Swedish has the 0 accent type, meaning that it does not differentiate the acute and the grave accent (Gårding, 1977, pp. 50; Włodarczak et. al, 2018). In other words, this means that Finland Swedish completely lacks the pitch accent found in Sweden Swedish dialects.

Unlike in other dialects of Swedish, long and short vowels do not differ in quality in Finland Swedish; instead, the difference in quantity between long and short vowels is greater (Bruce, 2010, pp. 181).

Other notable features of Finland Swedish include the realisations of the sj- and tj-sounds /ɧ/ and /ɕ/, respectively. In Finland, the sj-sound is pronounced the same as the Swedish tj-sound, which is [ɕ], while the Finland Swedish tj-sound is realised as the affricate [t͡ɕ] instead (Bruce, 2010, pp. 182–183). The /l/-sound is pronounced as the velarised alveolar lateral approximant [ɬ]. Finland Swedish also does not aspirate the voiceless plosives [p, t, k]. Finally, Finland Swedish does not contain any retroflex consonants, despite having the front-r. Instead, two separate sounds, [r + t/d/s/n/l], are produced.

2.2. Previous research on dialect identification

It has been shown that it is easier to identify dialects that are located geographically close than those located geographically far away. In a study by Boughton (2006) about French dialect identification, participants from the western French region of Pays de la Loire got to listen to speech samples of speakers from the western French city of Rennes, located just outside of Pays de la Loire, and the eastern French city of Nancy. They were then asked to freely determine where the speakers came from. The speakers from Rennes were correctly identified as being

from western France 30% of the time while the Nancy speakers were only correctly identified as coming from eastern France 20% of the time.

Another dialect identification study focusing on regional varieties of German was performed by Peters et al. (2002). This study tested the theory that German dialect can be identified using only intonational features. In two experiments listeners got to hear intonational contours of Hamburg German, Berlin German, Northern Standard German and Low Alemannic German and try to identify them based on these contours. The study found that experience with the dialects had a positive correlation with the ability to identify the dialects. Specifically, participants who had experience with both a local and non-local dialect outperformed participants who only had experience with their own dialect.

In a study by Teinler (2016) on the social significance of dialects in a region close to Stockholm, where a variety close to standard Swedish is spoken, interviews were conducted with participants of several age groups. It was found by Teinler that the participants often associated their local dialect as not being a dialect, but as being the standard (Teinler, 2016, pp. 263). She also finds that dialects are usually most usually associated with the historical provinces (landskap) of Sweden (pp. 259). Furthermore, in one test performed by Teinler as part of the study, 9th graders got to listen to recordings of speakers and guess where they were from (pp. 264). The students had trouble identifying exactly where in the region the speakers came from. However, when asked to identify the speakers' origin using cardinal directions in relation to where the participants themselves came from, they managed to do slightly better.

Cunningham-Andersson (1995) studied the difference between how well native and non-native speakers were able to distinguish differences between different Swedish dialects. Furthermore, this study also compared the non-native speakers with each other, based on their level of Swedish and how long they had lived in Sweden for. The dialect identification task in this study first had the speakers listen to individual speech samples. Then they had to determine where, on a map with the dialectal regions pre-marked, the speakers came from. The dialect identification task, showed a clear difference between L1 and L2 listeners, with the most accurate L2 speaking participants performing about as well as the least accurate L1 speaking participants. The study

also found that the correlation between an L2 participant's accuracy in this task and how long they had lived in Sweden for was higher than the correlation between level of Swedish and accuracy. Cunningham-Andersson (1995) does, however, suggest that this has little to do with experience as among native listeners, it was found that younger participants outperformed older participants. The study also contained a dialect discrimination task, where participants had to judge whether pairs of voice clips contained the same dialect or not. Among the six dialects that were featured in this task, the Malmö (Scanian) dialect was rarely confused with other dialects. The Gotland dialect was often confused for the Falun (Dalabergslagen) dialect and Umeå (Northern) dialect. Otherwise, the dialects were only confused for dialects from neighbouring dialect regions (going by Elert's (1994) definition).

3. Research questions and hypothesis

As previous dialect identification studies have shown, experience is a contributing factor to dialect identification in other languages. Despite this, it has been proposed by Cunningham-Andersson (1995) that experience is not a major contributing factor for native Swedish speakers. Therefore, the first research question in this paper is:

1. Which variables affect a listener's ability to identify dialects? And is experience with dialects a factor?

Considering that several studies (Boughton, 2006; Peters et al., 2002) have shown that there is a positive correlation between experience and dialect identification ability. It seems most likely that the same will be true for this study.

It has also been established (Bruce, 2010, pp. 25–26; Teinler, 2016, pp. 259) that the way the general public discusses dialects is more in terms of traditional genuine dialects, often being associated with Swedish provinces or cities. In contrast to that, linguistic dialectal "borders" are drawn differently, by looking at linguistic features of the dialects such as use of certain phonemes and pitch accents. As such it is of interest to see how well these scientific dialect divisions match how Swedish speakers perceive the dialects. As such, two more research questions are asked, those being:

2. Which dialects are most easily identified by the listeners and which dialects are confused for other dialects? Also, are the listeners clearly able to differentiate Scanian from other South Swedish dialects?

and

3. Do Swedish speaker's perceptions of the dialect boundaries seem to coincide with those used in linguistics – i.e. those proposed by Elert (1994)?

While these questions are stated as two separate research questions, they go hand in hand as they are both related to where boundaries between dialects are located. It is to be expected that the participant's own dialect of Scanian will be the easiest dialect to identify, going by the results found in Boughton (2006) and Peters et al. (2002). Furthermore, we can expect that dialects with more similar features to Scanian, mainly South Swedish will also be easily identifiable. *If* experience has a positive correlation to dialect identification ability, then it is possible that geographically closer dialects, such as South Swedish, West Middle Swedish and Gotlandic will be easier to identify, while geographically distant dialects such as Norrland Swedish will be more difficult. Similarly, it is likely that dialects with similar phonological features will be confused for each other, such as Scanian and South Swedish dialects which share many phonemical similarities or Gotlandic and Dalabergslagen Swedish which share the same pitch accent type.

4. Methods

4.1. Participants

Two methods were used to recruit participants for this study. The first method consisted of informing possible participants about the study in person and then providing those stating they were interested in participating with the link or a QR-code to the questionnaire. The second method consisted of sharing the link and a QR-code, along with some brief information about the purpose of the study on Facebook and Instagram, where possible participants interested in taking part could find it (see Appendix A). The questionnaire was open for responses for three weeks, starting the 23/3/2026 and ending on the 12/4/2026 when the form was closed for submissions.

In total 28 people responded to the questionnaire. Out of these 28, five respondents spoke various non-Scanian dialects of Swedish. To keep the group homogenous in regards to this variable, the answers of these five participants were removed from the data. By keeping the group homogenous, it is also easier to control for exposure to other dialects as speakers of Scanian are most likely to mainly interact with other Scanian speakers on a day-to-day basis. Furthermore, one participant's answers were removed from the data due to the participant having also taken part in one of the pilot studies.

The remaining 22 participants taking part are all L1-speakers of Swedish who speak some variety of the Scanian dialect. One of the participants stated that they spoke "no dialect", but since they stated that they have lived their entire life in Scania, they have been categorised as being a speaker of Scanian. All but two of the participants grew up in the Scania region of Sweden, and all but three of the participants currently live there. All participants have lived in the region at some point in their lives. Out of the 22 participants, 9 are male and 13 are female. The ages of the participants range from 17–77, with the mean age being 48. When it comes to exposure to other dialects, all major dialects of Sweden were mentioned by at least one participant. However, every single participant stated that they meet a speaker of at least one of either West Middle Swedish (mainly the Gothenburg dialect or Östgötska), East Middle Swedish (usually the Stockholm dialect) or a non-Scanian South Swedish (often Småländska) dialect in their day-to-day life.

All in all, this study can be characterised as a within-group study of Scanian listeners of how their abilities to identify their own and other Swedish dialects differ in regards to other variables than the participant's dialect.

4.2. Stimuli

The stimuli chosen consists of 20 short audio recordings of Swedish speakers, which range from 6 to 11 seconds (and 7.9 seconds on average). Hence, each stimulus consists of one to two full sentences. All of the stimuli originate from the Swedia 2000 database and feature either one male or female speaker between the ages of 20 and 30 from towns in Sweden and Finland, recorded between 1998 and 2000 (Eriksson et al., 2021). The choice of young speakers was deliberate to make sure the speech is as contemporary as possible, as the stimuli is supposed to represent the Swedish spoken today as closely as possible. The Folke database (Institutet för språk och folkminnen, u.å.) was also considered, but was decided against as those recordings are older than the ones found in Swedia 2000. Another strength of Swedia is that the recordings all feature natural speech. While it would have been preferable to record completely new stimuli, this was decided against due to time and practicality constraints. Six of the 20 stimuli are controls, and not meant to be used as part of the analysis. These consist of three male and three female speakers of Finland-Swedish. The other 14 stimuli consist of one male and one female speaker from each of the six other dialectal regions proposed by Elert (1994, pp. 218–219, 228), as well as from the region of Scania, as the participants are speakers of the Scanian dialect.

Other requirements were also made when choosing the stimuli. Primarily, every stimulus should contain at least one composite word and one /r/-phoneme, since the pronunciation of these vary greatly between different Swedish dialects. Another requirement was to avoid that the speaker did not originate from a town on the border of two (or more) of the dialect regions, as this could likely lead to confusion. Third, any statement remotely resembling a political opinion was avoided to adhere to ethics standards concerning sensitive personal data. Finally, attempts were also made to have other dialectal features be part of the stimuli, such as the /l/- and /ɧ/-phonemes; however, this was not always possible due to the earlier restrictions.

4.3. The questionnaire

The study consisted of an online questionnaire. This method was chosen as questionnaires are, according to Wagner (2015, pp. 87–88 & 95–96), made to be efficient and allow for subjective answers which can be quantified easily and objectively scored, both of which are particularly useful for this study. Furthermore, by using an online questionnaire, it made it possible to more easily collect a larger amount of data, by both making the study more accessible to potential participants as well as enabling the participants to complete the questionnaire at their own time. Risks of using a questionnaire, such as the participants becoming bored and not answering properly or giving biased answers, for example, in an attempt to "perform well", were considered. For this reason, the study was constructed to not take more than ten to fifteen minutes. The aforementioned control stimuli were also used to assess participant attentiveness and response reliability. It is expected that the certainty of the participants will be lower for the control stimuli than the ordinary stimuli as they were given no option of selecting a region of Finland as their answer.

The questionnaire was created in Google Forms. The main reason for this was that it allowed for the stimuli to be embedded within the questionnaire itself. By converting the audio files into video files and uploading them (unlisted) to YouTube, the audio could be played inside of the questionnaire by embedding the video. This also allowed participants to listen to the stimuli multiple times before selecting their choice. Another benefit of creating the questionnaire in Google Forms was that the answers could be automatically converted into a spreadsheet, making analysis of the data quicker and simpler.

The initial page of the questionnaire gave the participants information about the purposes of the study, as well as information about their rights as a participant (see Appendix B). After confirming their participation, information about the participants' age, sex and dialectal background was collected, this was to both confirm the dialect spoken by the participants, as well as determining which other dialects they had a high level of exposure to. More specifically, the participants were asked in which town/city they grew up (spent most of their childhood), which other towns they have lived in, which dialect they consider themselves to be speaking as well as if they regularly meet another person (such as a family member, friend or coworker) who

speaks another dialect. The underlying reason for this is that for a participant who has lived in a specific region or regularly meets a person with the dialect of that region, will likely find it easier to identify the dialect of that region than other participants. The questions were formulated in a way so that the participants would be specific, which would increase the likelihood that their answers could be mapped onto the dialectal regions used in this paper.

The second part of the questionnaire was the dialect identification task, structured similarly to the dialect identification task by Cunningham-Andersson (1995). The task was made up of 20 repetitions of one of the stimuli in a fixed, randomised order (meaning that all participants were presented with the stimuli in the same, randomised, order) followed by two questions. The first of these questions asked the participants to determine which one out of seven Swedish regions, based on the regional standard dialects of Sweden presented by Elert (1994, pp. 218–219, 228), as well as the genuine dialect of Scanian, as all participants speak a variety of the dialect and have had high exposure to it. The participants were presented with the map shown in Figure 3 below and then asked "Which color best corresponds to the region the speaker is from?".

Figure 3. Map of the dialectal regions of Sweden presented to the participants.

The choice of displaying a colored map showcasing the dialectal regions was made for multiple reasons. First, it made sure that all participants based their answers on the same dialectal regions. Second, by using a colored map, it was possible to fully avoid naming both the regions themselves, but also the dialects spoken in the respective regions. By doing this, it was possible to avoid priming the participants and influencing their answers. To make sure that the colors were visually distinct enough, they were tested using colorblind filters of the most common types of colorblindness. A decision was made to include the name of one major city of each region, to aid participants with putting the, to them, more or less abstract regions into geographical context. However, before the participants were able to answer the questions, they were given clear instructions to base their answers on the entire regions and not specifically the cities. The other question of the dialect identification task asked the participants to rate how certain they were of their answer to the first question on a Likert scale of one to four, where one is "not certain" and four is "certain". This is similar to the method used in the accent rating task by Kupisch et al. (2023) in their study on Brazilian and European Portuguese, in which their participants are also asked about their certainty of the origin of the speaker. The certainty rating can be used in analysis to help determine whether a correct (or incorrect) answer was an identification or rather a guess as well as determining differences in dialect familiarity between the participants, even if they answer correctly.

4.4. Ethical considerations

4.4.1. Stimuli and data collection

Personal data was collected and managed in accordance with the guidelines of the Joint Faculties of Humanities and Theology at Lund University (Humanistiska och teologiska fakuliteterna, 2025). All participants were required to provide written consent prior to being able to participate in the study (see appendix B). The participants were informed of the purposes of the study, their rights as a participant as well as contact information of the author in the case they wanted to withdraw their participation. The participants were specifically provided the information that they were able to withdraw their participation up until the publication of this paper and that any data that had not already been analysed at the point of withdrawal would not be included. To be

able to access the rest of the questionnaire, the participants had to select an option stating that they had read the provided information and agreed to the terms of the study.

As was mentioned earlier, restrictions of the stimuli were made to ensure the study was performed in an ethical manner. One such restriction was to avoid the stimuli containing sensitive personal data, as it is defined by article 9.1 of the General Data Protection Regulation (GDPR) (Regulation 2016/679). Categories of sensitive personal data that required particular consideration in this study included political opinions, ethnic origin and biometric data used to unambiguously identify individuals. As such, using databases, such as Rixvox or the Swedish Riksdag's debate archive, consisting of Swedish political debates was decided against. As this study uses voice recordings of speakers of different Swedish dialects, it was evaluated whether this could be considered indicative of ethnic origin. Similarly, collecting data about the participant's dialect or hometown could both fall under ethnic origin and biometric data. However, since the study took place in Sweden, where Swedish is the majority L1, and was conducted in Swedish, it was deemed not to be unethical to collect data about the dialects of participants. Furthermore, it was determined that the biometric data collected was insufficient to unambiguously identify specific people, and as such, was not an ethical issue.

A consideration was also made to use recordings from local news on radio and TV. This idea was rejected on the basis of lack of consent, as opposed to when using recordings from a database meant specifically for studies.

4.4.2. Use of generative AI

No generative AI has been used during any part of the process of this study. Neither has any generative AI been used while writing this paper.

4.5. Pilot studies

This study is based on a previous pilot study in which participants only had to identify Scanian and non-Scanian dialects of Swedish, making a binary choice. This study was then expanded into this study.

When the questionnaire for this study was mostly finished, a pilot study was performed to determine the time duration of the study, as well as to make sure that the language used was easy to understand. No major changes were made to the study between the pilot and the publishing of the questionnaire. However, some minor clarifications were made to the instructions based on feedback from the pilot testers.

5. Results

In total the answers of 22 Scanian speaking participants were used for the analysis of the data. Since two speech samples were used for each dialect, this totals 44 answers per dialect. The answers were collected in a Google Sheets spread sheet and analysed by hand. The results of this study show that there is a strong tendency between age and ability to identify dialects. Furthermore, it is shown that it generally becomes more difficult to identify dialects the further away from the own dialect they are located geographically. There is also a noticeable tendency between incorrect answers and geographical proximity to the actual dialect. There is also a positive relationship between accuracy and confidence when comparing the answers for the various dialects, with participants being more confident in their answers for dialects where there was a high average accuracy. It should be noted that the percentages in this section have been rounded to two decimal places.

5.1. Reliability and confidence

16/22 (73%) participants averaged a higher confidence for the real stimuli than the control stimuli. Out of the 6 who did not have a lower confidence for the control stimuli, 4 were younger than 30 years old (i.e. young participants). When it comes to confidence of the actual stimuli, there was little to no difference between older and younger participants with the confidence level averaging at around a 3/4 regardless of age group, as can be seen by figure 4. As can be seen, there also seems to be no real difference in confidence based on the gender of the participants.

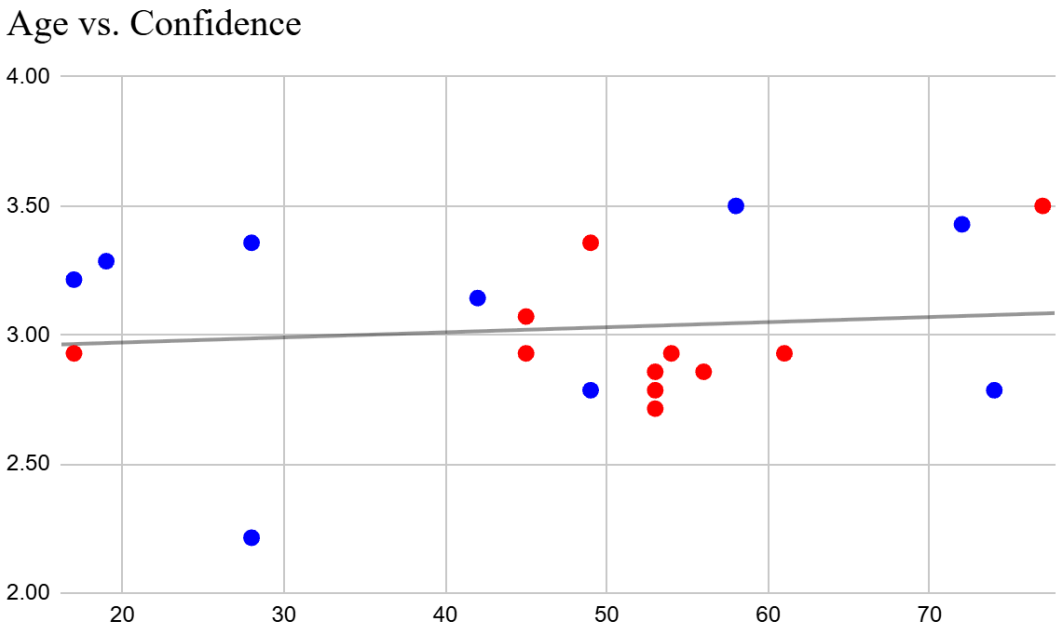

Figure 4. Scatterplot showcasing the relationship between age, gender and mean confidence among the participants. Blue dots are male participants, red are female participants.

5.2. Effects of participant variables (age, exposure, gender)

There was a slight difference in accuracy between participants who answered that they are regularly exposed to several (≥ 2) non-Scanian accents in their day-to-day life and participants who do not encounter many (≤ 1) non-Scanian accents in their day-to-day life. The aforementioned group, which consisted of 9 participants, averaged 9.78 correct answers (or 69.84% accuracy), while the latter group, which consisted of 13 participants, averaged 9.08 correct answers (or 64.84%) accuracy. This shows that Scanians with regular exposure to several non-Scanian dialects were slightly more accurate when identifying other speakers' accents.

In regards to age, a clear pattern can be seen where older participants have a higher accuracy rate than younger participants. As can be seen in figure 5, all participants older than 30 scored higher than those under 30, apart from one single outlier who at 28 years old correctly identified 12/14 (85.71%) of the dialect samples. On the other hand, there seems to be no correlation between male and female participants in regards to accuracy.

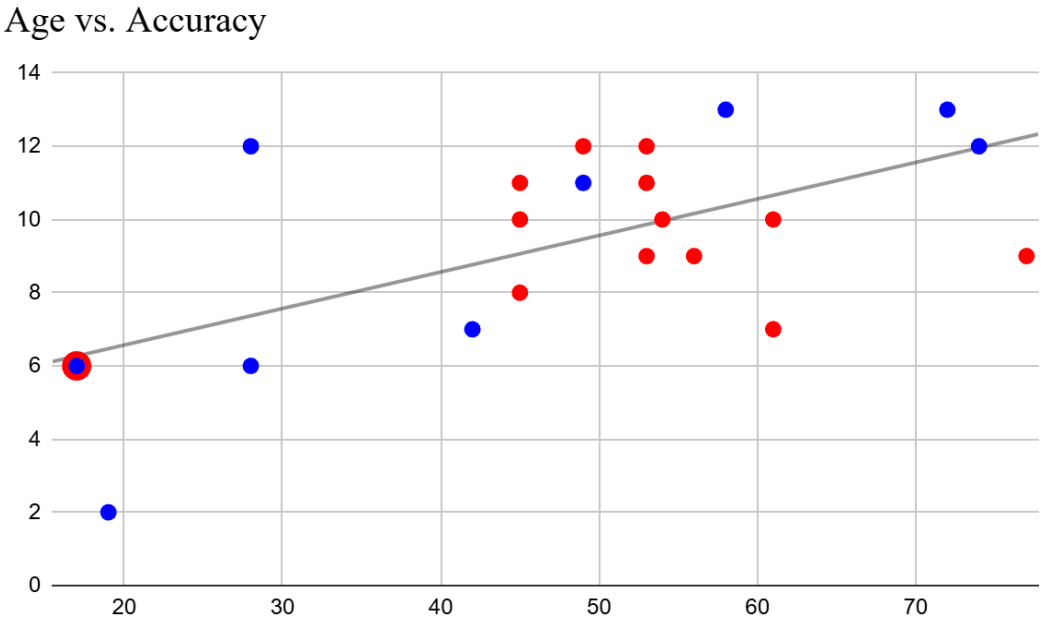

Figure 5. Scatterplot showcasing the relationship between age, gender and accuracy of the participants. Blue dots are male participants, red are female participants.

5.3. Dialect identification results

In general, participants were much more likely to correctly identify geographically close dialects compared to distant ones. This is shown in tables 2–4, which sort the dialects from south to north, showing that Scanian itself is the most easily identifiable dialect to Scanians being correctly identified 81.82% of the time. These tables make it clear that aside from one notable exception of East Middle Swedish, which is the second most correctly identified dialect at 79.55% accuracy, the further away from Scania a dialect is located, the more difficult it is for participants to correctly identify it. For all dialects except Norrland Swedish, which was only correctly identified 34.09% of the time, a majority of correct answers were given. A similar pattern can be seen in the participants' confidence ratings for the different dialects, with listeners often rating their confidence in their answer lower when the correct dialect is more northern. These confidence patterns hold true, both when looking at all participants as well as the subset of participants who answered correctly. However, in all cases, participants who answered correctly

were also more confident in their answers. Aside from Scanian, Gotlandic is a noticeable outlier in regards to confidence, with participants, particularly those who answered correctly, being very confident in their answers. This is especially evident as the standard deviation of confidence is also generally lower for Gotlandic, meaning that there was less variety in confidence. Aside from this, there is little to no pattern in the standard deviation, as evidenced by table 2.

Table 2. Table illustrating the accuracy and mean confidence of participants in regards to the various dialects.

Dialect	Accuracy	Mean confidence	SD of confidence	Mean confidence (correct answers)	SD of confidence (correct answers)
Scanian	81.82%	3.34	0.96	3.69	0.58
South Swedish	77.27%	3.23	0.71	3.32	0.68
Gotlandic	75.00%	3.34	0.75	3.55	0.62
West Middle Swedish	63.64%	2.75	0.89	2.89	0.92
East Middle Swedish	79.55%	2.89	0.75	3.03	0.71
Dalabergslagen Swedish	56.82%	2.77	0.77	2.88	0.78
Norrland Swedish	34.09%	2.86	0.80	2.87	0.83

5.4. Confusion patterns

When participants answered incorrectly, they seem to have often still been aware of the general greater area from which the speakers came, as incorrect guesses were most often of a neighbouring dialect to the correct one. As can be seen in tables 3 and 4, when participants were presented with a Scanian dialect, half of the incorrect answers, i.e. 4 out of 8 answers, assumed the speaker was speaking a non-Scanian South Swedish dialect. If the correct dialect was South

Swedish, the neighbouring dialects of Scanian and West Middle Swedish were the most common incorrect answers. When the participants were presented with speech samples of East Middle Swedish the neighbouring dialects of Dalabergslagen Swedish and West Middle Swedish were the most common incorrect answers. When Dalabergslagen Swedish was the correct choice, 14 out of 44 answers (or 31.82%) incorrectly said the dialect was the neighbouring Norrland Swedish. Penultimately, when the Norrland dialect was the correct one, 14 answers (or 31.82%) incorrectly stated that it was the Dalabergslagen dialect, while 10 answers (22.73%) incorrectly assumed it was East Middle Swedish. Finally, Gotlandic turned out to be a notable outlier, with no participants incorrectly guessing any neighbouring dialect regions. Instead, this dialect was most often confused with the Dalabergslagen and Norrland dialects 7 (15.91%) and 4 (9.09%) times instead.

Table 3. Heatmap showing the participants' guesses in relation to which dialect was actually heard. The columns show the correct dialects, while the rows show the participant's answers.

	SCA	SSW	GOT	WMS	EMS	DBL	NSW
SCA	**36**	3	0	0	1	0	0
SSW	4	**34**	0	8	1	1	3
GOT	0	0	**33**	2	1	2	1
WMS	1	4	0	**28**	2	2	1
EMS	2	1	0	6	**35**	0	14
DBL	1	2	7	0	3	**25**	10
NSW	0	0	4	0	1	14	**15**

Table 4. Alternative version of table 3, showing percentages instead of number of answers.

	SCA	SSW	GOT	WMS	EMS	DBL	NSW
SCA	**81.82**	6.82	0.00	0.00	2.27	0.00	0.00
SSW	9.09	**77.27**	0.00	18.18	2.27	2.27	6.82
GOT	0.00	0.00	**75.00**	4.55	2.27	4.55	2.27
WMS	2.27	9.09	0.00	**63.64**	4.55	4.55	2.27
EMS	4.55	2.27	0.00	13.64	**79.55**	0.00	31.82
DBL	2.27	4.55	15.91	0.00	6.82	**56.82**	22.73
NSW	0.00	0.00	9.09	0.00	2.27	31.82	**34.09**

6. Discussion

The purpose of this study was to investigate the dialect identification abilities of L1 Swedish speakers from the region of Scania. Three research questions on this topic have been posed. The first question asks which variables affect a listener's ability to identify dialects and weather experience with dialects a factor. The second asks which dialects are most easily identified by the listeners and which dialects are confused for other dialects? It also asks whether listeners are able to differentiate Scanian from other South Swedish dialects? Finally, the third research question asks whether Swedish speaker's perceptions of the dialect boundaries seem to coincide with those used in linguistics, specifically those proposed by Elert (1994).

In this section, the results of this study will be discussed and the research questions will be answered. Then, possible improvements of the study and possible further research on the topic will be discussed. Finally, there will be a summary and conclusion of the study and report.

6.1 Discussion of the results

To start off, since most of the participants rated themselves as being more confident in their answers for the real stimuli than the control stimuli, it suggests that the group answered honestly and seriously, meaning that their answers are reliable. Furthermore, since there is no subgroup, such as younger or older participants, which had a vastly different confidence rating than any other notable sub group. This also suggests that the results are reliable. There is a strong tendency between accuracy and confidence that can be seen in the data. Generally, participants will rate their confidence higher if they answer correctly and vice versa. This is further evidence that the participants have answered honestly and reliably as they rate their confidence lower when they are incorrect or when the group as a whole has found the dialect more difficult to identify. Interestingly, when comparing confidence and accuracy, we can see that younger participants, while rating themselves as about equally confident to their older peers, they turn out to be more overconfident in their answers as they score lower on average.

6.1.1. Answering research question 1

The first research question asked which variables affect the ability to identify Swedish dialects. The results show that age and experience with the dialect are major factors. As can be seen when looking at the accuracy of different sub groups, while there is not a notable difference between the results of men and women, there is a clear difference in the accuracy of young and old participants. Interestingly, this positive tendency between age and accuracy is the inverse of what was found by Cunningham-Andersson (1995). This suggests that there may be a correlation between experience and ability to correctly identify dialects after all. This completely opposite result is rather interesting and could be explained by younger people today having less exposure to 'strong' dialects due to standardisation in media, as well as dialect levelling occurring among their peers, which has been found by Horn (2019; 2025), Persson (2010) and Svahn and Nilsson (2014) to be the case in many young speakers. Conversely, older participants are more likely to have been exposed to more dialects over time through, for example, personal interactions, travel, and prolonged media consumption. Exposure to and experience with dialects being a major factor is further supported by the fact that participants who are regularly exposed to multiple, non-local dialects in their day-to-day life performed slightly better than those who were only exposed to one or no non-local dialects. This finding is similar to that of Peters et al. (2002).

6.1.2. Answering research question 2

The second research question asks which dialects are most easily identified by the listeners, which dialects are confused for other dialects and if Scanian and other South Swedish dialects are easily distinguished. Over all, the participants did rather well at identifying the dialects. The most correctly identified dialect was the listeners' own dialect, Scanian, which was correctly identified over 80% of the time. The least identified dialect was Norrland Swedish, the most distantly located dialect from the speakers' own. This dialect was correctly identified about 34% of time. This is still a much higher accuracy than random selection, which would have resulted in a percentage of around 14% accuracy.

As was shown earlier, participants generally found it easier to identify speakers from geographically close regions to Scania as opposed to distant ones, a similar result to the one found by Boughton (2006). This can be concluded by the fact that both accuracy and confidence

tended to be lower the further from Scania the speaker came. The relationship between distance and identification ability could be explained by exposure to and experience with the dialects, as the further away a dialect is spoken, the less likely you are to encounter it. The experience theory would also explain the notable outlier that is East Middle Swedish, which was the second most accurately identified dialect after Scanian itself. Since this accent is rather close to the Central Swedish standard and is the dialect spoken in Stockholm, it would not be surprising if participants are familiar with it, for example through media, despite it being neither phonologically similar nor geographically close.

Not only did geographical proximity play a factor in which dialects participants found easier or more difficult to identify, but it also seemed to have played a role in which dialects were guessed by the participants when they guessed incorrectly. It was explained earlier that a majority of the times participants selected an incorrect dialect, that dialect was one of the geographical neighbours of the correct one. This, when combined with the strong tendency between accuracy and confidence, suggests that participants still had some experience with the dialect. Enough experience to narrow down the greater area, but not enough to accurately pin-point which exact dialect region they associated the speaker with. It is, however, also likely that there is another reason for which dialects were incorrectly identified as certain other dialects. The evidence for this is that Gotlandic was always misidentified as either Norrland- or Dalabergslagen Swedish, neither of which it is geographically close to. The dialects do however share phonological features, most notably the use of pitch accent type 1B being found in only Gotlandic and Dalabergslagen Swedish, as found by Włodarczak et. al (2018). This explanation is also supported by the fact that geographically near regions were often misidentified as each other, as neighbouring dialect regions often share at least some phonological features. Finally, it is not at all unlikely that the true answer is a combination of both experience and phonological similarity. As an example, Gotlandic was the dialect with the highest confidence rating aside from Scanian. This in combination with the rather unique phonological make-up of Gotlandic suggests that participants found it rather unique. Thus, if participants found that a dialect was both distinct and unfamiliar, it would make sense for them to select a dialect region they have had less exposure to, such as a distant one.

6.1.3. Answering research question 3

The final research question asks whether Scanian Swedish speaker's perceptions of the dialect boundaries seem to coincide with those proposed by Elert (1994). It turns out that Elert's division of the dialects seem to match rather well, with the participants' perceptions of the dialects. Though the areas of perceived similarity by the participants could be said to be a bit larger than the actual dialect regions, but still centered around it. That is, there are no clear borders between dialects, rather it shows that geographically close dialects share similarities. This is also supported by Włodarczak et. al (2018) who finds that geographically near dialects share prosodic similarities. Elert's division matching well with participant's perceptions of the dialects can be concluded, as for nearly all the dialects, over a majority of participants could correctly identify it. Furthermore, even when the participants were unable to identify the correct dialect region, they were usually close. It's also worth noting that the average confidence of the participants was almost exactly 3 out of 4 (see figure 4), while the midpoint of the possible options was 2.5 (since the options were 1, 2, 3 and 4). This suggests that the participants, on average, were more confident in their answers than not. In combination with the high accuracy, this further suggests that the participant's perception of which dialect was spoken matches Elert's division of the dialects well. However, judging by the participants ability to easily distinguish Scanian from other South Swedish dialects, it is reasonable to suggest that Scania could be considered its own dialect region, distinct from other South Swedish dialects.

6.2. Possible improvements and further research

While the results seem to imply that the dialect regions proposed by Elert (1994) match rather well with the perceptions of the participants taking part in this study, there is one improvement which could be made if a similar study is done to produce better results. By including participants from all dialect regions, a more accurate picture of which dialects are viewed as similar and dissimilar by Swedish speakers could be produced. Additionally, this study focused on using Elert's (1994) dialect regions as a baseline, future studies could possibly improve upon this one by for example using a finer grain size. That is, by dividing the dialect regions into smaller areas. In combination, these changes would make it possible to even more accurately investigate where Swedish speaker's perceived dialect borders are drawn.

Another improvement that would have been preferable in this study, but unfortunately was not feasible, would have been to use original recordings for the stimuli. By doing that, the speech featured would have accurately reflected how Swedish speakers speak today, as opposed to 25 years ago. Particularly since several recent studies, for example the aforementioned ones performed by Horn (2019; 2025), Persson (2010) Svahn and Nilsson (2014) have shown that dialect levelling has recently occurred in younger Swedish speakers. Nonetheless, while modern recordings would have been the best option, it was still deemed that the speech found in the recordings produced by the Swedia 2000 project were modern enough that it likely would not have affected the results too noticeably.

As has already been briefly discussed, future similar studies on dialect identification could be useful to determine how well speakers of a language are able to identify and differentiate dialects or other language varieties. In turn, this could bring a new perspective into how dialects and language varieties in general are defined and classified. While regional varieties may differ phonetically, speakers' abilities, or lack there-of, to identify and differentiate between these can say a lot about whether they are actually perceived as different varieties or not. This knowledge can in turn allow for a better understanding of what can actually be regarded as a dialect or other variety of a language. Furthermore, dialect identification studies can also be used to determine, as has been done in this study, which factors affect our perception of dialects, language varieties and languages in general. Lastly, another use for dialect identification studies and speech variety identification studies in general, particularly in relation to listeners' perceptions of other speakers, is that they can be used to improve language technology. By getting an understanding of how speakers of a language identify and categorize speakers of different language varieties, it can aid in developing models which succeed at doing this exact same thing. That is, models which are able to categorise speech samples by the speakers' attributes or language varieties, such as the model by Lastow et al. (2022) which is able to classify the age and gender of speakers to a high degree of accuracy.

6.3. Summary and conclusions

In conclusion, this study has explored the dialect identification abilities of L1 Swedish speakers from the Scania region. It has been shown that age and geographical proximity to one's own dialect are very clearly positively correlated with the ability to identify another speaker's dialect, but that gender has little or no impact on identification ability. While outliers could be found, clear trends showed that older listeners were much more accurate when identifying dialects and that speakers found geographically near dialects to be much more easily identifiable than geographically distant ones. The listeners were also shown to be able to easily distinguish between South Swedish and their own dialect of Scanian, despite the literature rarely making clear distinctions between these. These factors in turn suggest that experience is a key factor in being able to identify dialects, something that previous research has failed to agree upon. Geographic proximity has also shown to be such a major factor, not only in relation to the listeners' own dialect, but between different dialects as well. This has been shown by the fact that when a dialect was incorrectly identified, a large majority of the time, a neighbouring dialect to the correct one was selected instead. Furthermore, when this wasn't the case, the incorrect choice can be explained by phonological similarity between the dialects, suggesting that this is also a major factor of dialect identification. Finally, the high accuracy and confidence of the participants suggest that the dialect regions proposed by Elert (1994) match rather well with how Swedes perceive the dialect boundaries. Notably, the listeners also seemed to perceive Scanian and South Swedish as distinct, which Elert did not.

Finally, it has also been discussed that this and similar studies can contribute to the understanding of how speakers of a language perceive linguistic varieties. This can in turn be used to aid in better defining what specific linguistic varieties encompass, by shedding light on which forms of speech are regarded as distinct and which are perceived as belonging to the same variety.

7. References

Boughton, Z. (2006). When perception isn't reality: Accent identification and perceptual dialectology in French. *Journal of French Language Studies*, *16*(3), 277–304. doi.org/10.1017/S0959269506002535

Bruce, G. (2010). *Vår fonetiska geografi: Om svenskans accenter, melodi och uttal.* Studentlitteratur.

Cunningham-Andersson, U. (1995). Native and Non-Native Perception of Dialectal Variation in Swedish. In K. Elenius & P. Branderud (Eds.), *Proceedings of The XIIIth International Congress of Phonetic Sciences : ICPhS 95* (Vol. 1). (278–281). Department of Speech Communication and Music Acoustics, KTH (Royal Institute of Technology) & the Department of Linguistics, Stockholm University.

Elert, C.-C. (1994). Indelning och gränser inom området för den nu talade svenskan – en aktuell dialektografi. In L.-E. Edlund (Ed.), *Kulturgränser – myt eller verklighet?* (pp. 215–228). Umeå University.

Eriksson, A., Lund University, Linguistics, Centre for Languages and Literature, Umeå University, Department of Philosophy and Linguistics, & Stockholm University, Department of Linguistics. (2021). *SweDia 2000 – Swedish dialect database (Version 1)* [Data set]. LU Humanities Lab Archive. https://hdl.handle.net/10050/00-0000-0000-0000-0FF8-E.

Gårding, E. (1977). *The Scandinavian Word Accents*. Gleerup.

Horn, G. (2019). Dialect levelling among young people in the Helsingborg area: A case study of three phonological variables in the speech of four young people from north-west Skåne. *Swedish Dialects and Folk Traditions, 142*(1), 181–192. publicera.kb.se/svlm/issue/view/2722

Horn, G. (2025). *The young Scanian. Dialect variation and place attachment among high school students in northwestern Scania*. [Doctoral thesis, University of Gothenburg]. Gothenburg University Publications Electronic Archive. hdl.handle.net/2077/86850

Humanistiska och teologiska fakulteterna. (2025). *Personuppgiftsbehandling i studentarbeten: en vägledning för HT-fakulteterna*. Dnr STYR 2025/1648. Lund University.

Ingers, I. (1957). *Språket i Lund: Dialekt och rikksspråk i Lund och omnejd*. Svenska bokförlaget.

Institutet för språk och folkminnen. (2026, April 15). *Folke*. https://www.isof.se/folkminnen/folke

Kupisch, T., Castro, T., Krämer, M. & Westergaard, M. (2023). Phonological influence in bilectal speakers of Brazilian and European Portuguese. *International Journal of Bilingualism, 28*(3), 406–423. doi.org/10.1177/13670069231156341

Lastow, F., Ekberg, E. & Nugues, P. (2022). Language-agnostic Age and Gender Classification of Voice using Self-supervised Pre-training. In *34th Workshop of the Swedish Artificial Intelligence Society, SAIS 2022*. (19–27). Institute of Electrical and Electronics Engineers (IEEE). doi.org/10.1109/SAIS55783.2022.9833071

Lindblad, P. (2011). *Fonetikens Grunder* (2nd rev. ed.). Lund University.

Persson, M. (2010). Dialect levelling in Färs härad in Skåne. *Swedish Dialects and Folk Traditions, 133*(1), 85–95. publicera.kb.se/svlm/issue/view/2695

Peters, J., Gilles, P., Auer, P. & Selting, M. (2002). Identification of regional varieties by intonational cues. An experimental study on Hamburg and Berlin German. *Language and Speech, 45*(2), 115–139. doi.org/10.1177/00238309020450020201

Regulation 2016/679. *REGULATION (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)*. data.europa.eu/eli/reg/2016/679/oj

Sapir, Y. & Lundgren, O. (2024). *A Grammar of Elfdalian*. UCL Press.

Svahn, M. & Nilsson, J. (2014). *Dialektutjämning i Västsverige*. Institutet för språk och folkminnen.

Teinler, J. (2016). *Dialekt där den nästan inte finns. En folklingvistisk studie av dialektens social betydelse i ett standardspråksnära område*. [Doctoral thesis]. Uppsala University.

Wagner, E. (2015). Survey Research. In B. Paltridge & A. Phakiti (Eds.), *Research Methods in Applied Linguistics: A Practical Resource* (pp. 83–99). Bloomsbury Publishing.

Włodarczak, M., Simko, J., Suni, A. & Vainio, M. (2018). Classification of Swedish dialects using a hierarchical prosodic analysis. In K. Klessa, J. Bachan, A. Wagner, M. Karpiński & D. Śledziński (Eds.), *Proceedings of the 9th International Conference on Speech*

Prosody 2018. (304–308). International Speech Communication Association (ISCA). doi.org/10.21437/SpeechProsody.2018-62

8. Appendix

Appendix A. Image posted to Facebook and Instagram containing information, a QR-code and a link to the questionnaire.

Appendix B. Information and consent form presented to the participants at the start of the study.

Tack för att du väljer att delta i denna studie! Jag heter Anton och håller just nu på med mitt kandidatarbete inom lingvistik och allmän språkvetenskap, vilket denna studie utgör en del av. I helhet tar enkäten ca. 10-15 minuter att genomföra. Nedan följer information kring studiens ändamål och dina rättigheter som deltagare.

Behandling av personuppgifter

Ändamål

Behandling av personuppgifter är nödvändig för att genomföra studentarbetet och uppnå de lärandemål som krävs för få godkänt. För aktuell kurs (ALSK13 – Allmän språkvetenskap: Kandidatkurs) finns följande relevanta lärandemål:

• Kunna på en fördjupad nivå redogöra för såväl den vetenskapliga grunden som aktuella forskningsfrågor inom någon del av allmän språkvetenskap.
• Självständigt kunna utföra en vetenskaplig undersökning inom ämnet allmän språkvetenskap.
• Självständigt kunna utföra informationssökningar inom allmän språkvetenskap,
• Ge uttryck för ett vetenskapligt förhållningssätt som bottnar i gedigen vetenskapsteoretisk insikt och med hänsyn till genus-, etnicitets- och mångfaldsaspekter.
• Kunna tillämpa gällande forskningsetiska normer.

Rättslig grund

Enligt GDPR får behandling av personuppgifter endast ske om det finns en giltig rättslig grund. Lunds universitet bedömer att behandlingen av personuppgifter inom ramen för studentarbetet stödjer sig på den rättsliga grunden "allmänt intresse".

Period för behandling av personuppgifter

Lunds universitet kommer att avsluta behandlingen av dina personuppgifter när studentarbetet examinerats.

Rättigheter

Du har rätt att begära ett registerutdrag för att se vilka uppgifter vi har om dig. Du har också rätt att begära rättelse av felaktiga uppgifter, radering av uppgifter under vissa omständigheter, och begränsning av behandlingen. Mer information om dina rättigheter och hur du kan utöva dem finns på Lunds universitets webbplats: https://www.lu.se/om-universitetet/kontakta-oss/behandling-av-personuppgifter-vid-lunds-universitet

Att ångra din medverkan

Du kan när som helst ångra din medverkan och återta ditt samtycke till insamling av personuppgifter. Dina uppgifter kommer då inte att inkluderas i någon ännu icke genomförd analys. Det insamlade materialet kommer i uppsatsen att presenteras på ett sätt där du inte kan identifieras. För återtagande av samtycke till medverkan, kontakta Anton Grankvist via e-post: *an3458gr-s@student.lu.se*. Vänligen ange "Ångra medverkan" i ämnesraden.

Klagomål

Om du har klagomål på hur Lunds universitet behandlar dina personuppgifter kan du kontakta Integritetsskyddsmyndigheten (IMY). Information om hur du lämnar ett klagomål finns på IMY:s webbplats: https://www.imy.se/privatperson/utfora-arenden/lamna-ett-klagomal

Kontaktuppgifter till personuppgiftsansvarig

Lunds universitet, Box 117, 221 00 LUND, telefon: 046-222 00 00 (växel)

Kontaktuppgifter till dataskyddsombudet

För frågor om dataskydd, kontakta dataskyddsombudet via e-post: *dataskyddsombud@lu.se*.

Genom att fortsätta bekräftar du att du har läst och förstått ovanstående information samt bekräftar ditt deltagande i studien. *

○ Jag har läst och förstått ovanstående information och bekräftar mitt deltagande i studien.