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## Second Language Learners Listening to their Peers: Is There a Shared L1 Effect for L2 Comprehensibility and Accentedness?

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**Abstract:** Previous research on the perception of second-language speech has suggested that non-native listeners may benefit from sharing the speakers' first language, e.g. speakers of Spanish find Spanish-accented English easy to understand. In the present study, L2 English speech samples elicited from L1 Finnish and L1 Finland-Swedish speakers were rated for comprehensibility and accentedness by English-speaking listeners and the speakers' peers, seeking to explore whether there is a difference between the listener groups. In addition, the speakers' overall spoken proficiency (A2, B1, B2 on the CEFR scale) was considered in the analysis to find out if the possible shared L1 effect is connected to the speakers' proficiency. The results were mixed, finding that L1 Finland-Swedish listeners were more lenient towards their peers' English than the English-speaking listeners were, whereas L1 Finnish listeners gave comprehensibility ratings equal to those given by English-speaking listeners, and accentedness ratings that were stricter. The finding supports earlier suggestions on the effects of sharing the speakers' L1 for L2 speech perception being L1 dependent. As for the influence of the speakers' proficiency, the results demonstrate a greater difference between English-speaking listeners and listeners who share the speakers' L1 regarding low-proficiency speakers.

**Keywords:** comprehensibility, accentedness, shared L1 effect, English, Finnish, Finland-Swedish

**Zusammenfassung:** Frühere Forschungen zur Fremdsprachenwahrnehmung haben gezeigt, dass es für Hörer von Vorteil sein kann, wenn sie dieselbe Erstsprache wie die Sprecher haben. So fällt es beispielsweise Spanischsprechern leicht, Englisch zu verstehen, wenn es wie Spanisch ausgesprochen wird. Die vorliegende Studie untersucht die Verständlichkeit des Englischen und die Stärke der fremden Akzente von Sprechern des Finnischen und des Finnlandschwedischen, indem die Sprachaufzeichnungen sowohl von englischsprachigen Hörern als auch von Sprechern dersel-

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ben Erstsprache beurteilt wurden. In der Studie wurde untersucht, ob es Unterschiede zwischen den Hörergruppen gibt. Außerdem wurde berücksichtigt, ob ein Zusammenhang besteht zwischen dem Niveau der mündlichen Sprachkenntnisse der Sprecher (A2, B1, B2 nach dem Europäischen Referenzrahmen) und dem Einfluss der gemeinsamen Erstsprache von Sprechern und Hörern. Die Ergebnisse zeigen, dass Sprecher des Finnlandschwedischen die Verständlichkeit und den Akzent des Englischen ihrer Gesprächspartner besser bewerteten als englischsprachige Hörer. Finnischsprachige Hörer hingegen bewerteten die Verständlichkeit des Englischen ihrer Gesprächspartner ähnlich wie Englischsprachige, bewerteten aber den Akzent als stärker. Diese Studie bestätigt, dass die Auswirkung derselben Erstsprache auf die Wahrnehmung von Verständlichkeit und Akzent bei Fremdsprachen sprachspezifisch sein kann. Was die Auswirkung des Sprachniveaus der Sprecher betrifft, so zeigen die Ergebnisse, dass der Unterschied zwischen Englischsprechern und Sprechern derselben Erstsprache bei Sprechern mit dem niedrigsten Sprachniveau größer ist.

**Schlüsselwörter:** Verständlichkeit, Fremder Akzent, Englisch, Finnisch, Finnlandschwedisch

**Resumen:** Los estudios anteriores sobre la percepción de lenguas extranjeras han demostrado que el oyente posiblemente se beneficia de compartir la primera lengua (L1) con el interlocutor. Por ejemplo, a los hispanohablantes les resulta fácil entender inglés pronunciado al modo español. En nuestra investigación estudiamos la comprensibilidad y el grado del acento extranjero del inglés hablado por hablantes finlandeses de finés y sueco, sometidas las muestras de inglés a valoraciones tanto por oyentes anglófonos como por otros que compartían la L1 con los que habían dado su muestra. Mediante el estudio averiguamos si se presentan diferencias entre los grupos de oyentes. Por añadidura, observamos si la ventaja procedente de la L1 compartida está relacionada con el nivel de las destrezas orales (A2, B1 y B2, según el Marco Común Europeo de Referencia) de quien habla. Según los resultados del estudio, en cuanto a la comprensibilidad y el acento de su inglés, los suecohablantes finlandeses recibieron por parte de otros hablantes del sueco de Finlandia valoraciones más favorables que de los oyentes de habla inglesa. En cambio, en el caso de los oyentes de habla finesa, sus valoraciones respecto a la comprensibilidad del inglés de otros hablantes de finés no se diferenciaron de las de los oyentes angloparlantes, pero sí consideraron más intenso el grado del acento extranjero. Nuestro estudio corrobora que la influencia de la L1 compartida en la comprensibilidad y la percepción del acento de una lengua extranjera puede depender de la L1 en cuestión. Además, los resultados indican que la diferencia entre oyentes de habla inglesa y los que compartían la L1 con los que dieron su muestra de habla es mayor cuando se trata de hablantes con nivel inferior (A2) en destrezas orales.

**Palabras clave:** comprensibilidad, acento extranjero, inglés, finés, sueco de Finlandia

**Tiivistelmä:** Aiemmassa vieraan kielen havaitsemista koskevassa tutkimuksessa on käynyt ilmi, että kuulijat saattavat hyötyä siitä, että heillä on sama ensikieli kuin puhujilla. Esimerkiksi espanjankielisten on helppo ymmärtää espanjalaisittain äännettyä englantia. Tässä tutkimuksessa tarkasteltiin suomen ja suomenruotsin puhujien englannin ymmärrettävyyttä ja vieraan aksentin voimakkuutta siten, että puhetta arvioivat englanninkieliset kuulijat ja puhujien kanssa samaa ensikieltä puhuvat henkilöt. Tutkimuksessa selvitettiin, onko kuulijaryhmien välillä eroja. Lisäksi huomioitiin, onko puhujien suullisen kielitaidon tasolla (A2, B1, B2 Eurooppalaisen viitekehyksen mukaan) yhteyttä samasta ensikielestä hyötymiseen. Tulosten mukaan suomenruotsin puhujat antoivat parempia ymmärrettävyys- ja aksenttiarvioita vertaistensa englannista kuin mitä englanninkieliset kuulijat. Suomenkieliset sen sijaan antoivat vertaistensa englannista yhtenevät ymmärrettävyysarviot englanninkielisten kuulijoiden kanssa, mutta aksentin he puolestaan arvioivat voimakkaammaksi. Tutkimus vahvistaa, että saman ensikielen vaikutus vieraskielisen puheen ymmärrettävyyden ja aksentin havaitsemiseen voi olla kielikohtaista. Mitä tulee puhujien suullisen kielitaidon tason vaikutukseen, tulokset osoittavat, että ero englanninkielisten ja puhujien kanssa samaa ensikieltä puhuvien välillä on suurempi alimman taitotason puhujien kohdalla.

**Asiasanat:** ymmärrettävyys, vieras aksentti, englantia, suomi, suomenruotsi

## 1 Introduction

Teaching of second and foreign language speaking has moved from emphasising native-likeness to embracing intelligibility as the learning goal (Nativity vs. Intelligibility Principle; Levis 2005). Supporting this goal, scholars have successfully disentangled the concepts of intelligibility (i.e., actual understanding), comprehensibility (ease of understanding) and accentedness (strength of foreign accent; see Munro and Derwing 1995). Of these, the first one can be measured objectively, whereas the two latter are based on subjective listener ratings. Disentangling these concepts has greatly benefitted the teaching of second language (L2) speech by enabling the adoption of a research-informed focus on speech features that are linked with intelligibility and comprehensibility, and the de-emphasis of features that are more strongly linked with accentedness (see e.g. Hahn 2004; Field 2005; Trofimovich and Isaacs 2012; Saito et al. 2016).

Many of the previous studies on L2 intelligibility, comprehensibility and accentedness have addressed the phenomena from the perspective of native-speaker listeners. However, some studies have used non-native listeners, which is fruitful especially from the viewpoint of lingua franca communication. For example, people from English as a foreign language (EFL) contexts such as most European countries are likely to use English to communicate with other EFL speakers (e.g. Brabcová and Skarnitzl 2018). For such settings, expanding the research to concern non-native listeners is particularly valuable. Also, the use of English as an international language (EIL) is not uncommon in business. For example, when English is chosen as a corporate language in an international company, employees will use English even with co-workers with whom they have another common language; they might even share their L1 but still communicate in English. For such EIL settings, interesting research has emerged, contrasting L2 speech perception of native and non-native listeners, and whether non-native listeners sharing the speakers' L1 benefit from the shared language background; that is, whether it is easier to understand the L2 accent they speak themselves (see 2. Literature review). As for actual understanding, Hayes-Harb et al. (2008), for example, found evidence of an *Interlanguage Speech Intelligibility Benefit* for listeners (ISIB-L), which refers to non-native speech being more intelligible to listeners who share the speakers' L1 than what it is to native-speaker listeners.

Instead of intelligibility (Major et al. 2002; Bent and Bradlow 2003; Hayes-Harb et al. 2008), this study is focussed on L2 comprehensibility and accentedness ratings. The study of comprehensibility is motivated by its importance for comfortable intelligibility, i.e. speech that is intelligible without much strain for the listener. Such speech is described as characterising an independent language user (level B2) in the Common European Framework of Reference (CEFR; Council of Europe 2020) and is thus the learning goal for many EFL learners. Including accentedness ratings in the current study is of interest from the viewpoint of disentangling accentedness further from comprehensibility. The present study seeks to shed light on how L1 Finnish and L1 Finland-Swedish (a distinct variety of Swedish spoken in Finland, see e.g. Helgason et al. 2013) listeners perceive their peers' English in comparison to English-speaking listeners. The speaker groups are novel within research on shared L1 effect. In addition, this study is focussed on teenaged speakers and listeners, whereas the majority of previous research has used young adults as participants.

## 2 Literature review

### 2.1 Comprehensibility and accentedness as rated by different listener groups

Previous research that has focussed on shared L1 effect on L2 comprehensibility and accentedness has obtained mixed findings. Gallardo del Puerto et al. (2015) studied how L1 Spanish learners of English and native English speakers rate Spanish-Basque bilinguals' L2 English. When the ratings of the two listener groups were compared, the L1 Spanish speakers were found to be more lenient than the native English speakers were. The authors conclude that the leniency is probably due to the listeners sharing the speakers' L1 and therefore having experience in Spanish-accented English. Similarly, Kang et al. (2016) discovered that L1 Vietnamese listeners found their peers' English more comprehensible and less accented than what L1 English and L1 Arabic listeners did. Similar results have been obtained regarding L2 German, as Wilkerson (2010) had L1 English learners of German and native German listeners identify foreign-accented German speech samples and rate their goodness. The speakers were L1 English learners of German. As a result, native speakers of German were slightly better at identifying foreign-accented German, but the non-native listeners sharing the speakers' L1 were more lenient in their goodness ratings. These studies – even if slightly different in methodology – all suggest that non-native listeners who share the speakers' L1 are more lenient in evaluating their peers' comprehensibility and foreign accent than what native-speaker listeners are.

Some other studies have not found such leniency, or even suggest that sharing the speakers' L1 makes raters stricter. When L1 French speakers' English was rated for comprehensibility and accentedness by L1 French, L1 Mandarin, and L1 English listeners in Crowther et al. (2016), no significant differences were detected between the listener groups. Similar results were obtained by Lima (2016), who investigated L2 English comprehensibility ratings received by Chinese learners of English. The results indicate that Chinese listeners and a mixed non-native listener group rate Chinese speakers' English in the same way. Contrary to all aforementioned studies, Riney et al. (2005) discovered that L1 Japanese listeners were stricter in assigning accentedness ratings to their peers' L2 English than native speakers of English were. They even found that while native-speaker listeners detected a reduction of foreign accent in Japanese learners over time, L1 Japanese listeners' perception of their peers' foreign accent did not change. Hence, Riney and colleagues (2005) imply that the listeners seem to “suffer” from sharing the speakers' L1. In sum, previous results on non-native listeners who share the speakers' L1 are mixed, some studies finding such listeners more lenient towards their peers' L2 speech, some stricter, and some finding no difference between them and other (native or non-native) listener groups.

Mixed results have even occurred within single studies. In Munro et al. (2006), L1 English, Cantonese, Japanese and Mandarin listeners rated L2 English speech samples elicited from L1 Cantonese, Japanese, Spanish and Polish learners of English. The ratings were fairly similar across listener groups, but L1 Japanese listeners seemed to benefit from sharing the speakers' L1. In a recent study by Foote and Trofimovich (2018), L1 English, Mandarin, French and Hindi listeners gave comprehensibility ratings on English spoken by the same language groups. Of the non-native groups, L1 Mandarin listeners demonstrated a shared L1 benefit: language background explained an additional six per cent of unique variance in the comprehensibility ratings. For the L1 French and L1 Hindi listener groups, language background did not contribute significantly to the comprehensibility ratings. This supports their conclusion, which can also be drawn from the review of previous research: sharing the speakers' L1 may affect L2 speech perception differently for different L1 groups. In other words, the effect may be L1 dependent.

Further, a mixed finding of a different kind appeared in O'Brien (2016). When L2 German spoken by L1 English learners of German was rated for comprehensibility and accentedness, native-speaker listeners and non-native listeners sharing the speakers' L1 did not differ in their accentedness ratings. However, the non-native listener group was stricter in their comprehensibility ratings, indicating that they found their peers' L2 German more difficult to understand than what the native speakers did, despite their shared L1. O'Brien's study suggests that the effect of sharing the speakers' L1 may not apply to both comprehensibility and accentedness, which would be understandable, as the two phenomena have been found partly distinct (Munro and Derwing 1995).

## 2.2 Possible underlying issues

What could explain that there are differences in L2 speech perception by listener group? One possible underlying issue explaining differences between native and non-native listeners is that they might draw on different speech features when evaluating L2 speech. In Riney et al. (2005), native-speaker listeners tended to base their accent assessments on segmental features, whereas non-native listeners drew more on suprasegmentals such as intonation and speech rate. As for L2 German, Wilkerson (2013) obtained similar results: non-native listeners referred to suprasegmentals more than native-speaker listeners when asked to justify their accent evaluations. The study by Hendriks et al. (2017) on Dutch-accented English, French, German and Spanish suggests that non-native listeners may be generally less sensitive to accentedness than native speakers are. This finding would be in line with Riney et al. (2005), as research has suggested that segmental accuracy is more strongly

linked with accentedness than with comprehensibility (see e.g. Trofimovich and Isaacs 2012). Then again, Kang et al. (2016) point out that non-native listeners sharing the speakers' L1 are probably more familiar with the typical pronunciation challenges of their language group. As pronunciation teaching is often focussed on individual sounds (e.g. Tergujeff 2013, Buss 2016, Jerotijević Tišma 2016, Yağiz 2018), non-native listeners may emphasise them when assigning ratings. Finally, Crowther et al. (2016) found that ratings given by native and non-native listeners mainly correlate with the same speech features. Hence, no definitive conclusions can be made even from issues underlying the differences between ratings given by native and non-native listeners.

It is also possible that the speakers' and listeners' proficiency in the target language plays a role. Studies focussing on actual intelligibility have found evidence, according to which sharing the speakers' L1 does not necessarily help when it comes to highly proficient speakers and listeners. In Hayes-Harb et al. (2008), the finding of Mandarin-accented English being more intelligible to L1 Mandarin listeners than to L1 English listeners only applied to low-proficiency listeners listening to low-proficiency speakers (proficiency operationalised as accentedness). Similarly, the shared L1 effect faded in Kang et al. (2019), when the speech materials were limited to samples by high-proficiency speakers (operationalised as comprehensibility). If the speakers' and listeners' proficiency affect the shared L1 effect for intelligibility, it may play a role for comprehensibility and accentedness as well. Beinhoff (2014) has already demonstrated that non-native listeners' proficiency in the target language affects their ratings on L2 comprehensibility/accentedness.

One influential factor could be accent attitudes. Several studies have indicated that at least learners of English prefer native-speaker accents over their own accent. This has been found to be the case concerning e.g. Japanese (Chiba et al. 1995; McKenzie 2008; Tokumoto and Shibata 2011) and Korean learners of English (Butler 2007; Tokumoto and Shibata 2011). However, attitudes towards one's own accent can vary by language group. Tokumoto and Shibata (2011) discovered that L1 Japanese and L1 Korean learners of English view their own accent negatively, whereas L1 Malaysian learners admire Malaysian-accented English. In Buckingham (2014), L1 Arabic learners of English indicated a clear preference for native-speaker accents, but in a verbal guise task the listeners responded particularly positively to Arabic-accented guises. If certain language groups view their own accent positively, they might assign it lenient rather than strict ratings. This way accent attitudes may play a role in assigning comprehensibility and accentedness ratings on the L2 speech of one's peers. The influence of attitude on comprehensibility and accentedness ratings has been demonstrated in Taylor Reid et al. (2019), and Major et al. (2002) also discuss the possibility of attitudes explaining why L1 Japanese and L1 Chinese listeners did not demonstrate a shared L1 intelligibility benefit in their study. In sum,



several factors may explain the mixed previous findings and the suggested L1-dependency, including accent attitudes and language proficiency, which have not been considered in all previous studies.

### 3 The present study

The present study was developed from Tergujeff (2021), in which English-speaking listeners rated L2 English speech samples by L1 Finnish and L1 Finland-Swedish teenagers for comprehensibility and accentedness. The previous study focussed on the link between the speakers' overall spoken proficiency and comprehensibility and accentedness in English, as well as differences between the two speaker groups. Despite the speakers' equal proficiency, the English-speaking listeners found L1 Finland-Swedish speakers more comprehensible and less accented, which suggests that there are differences in the English of L1 speakers of Finnish and Finland-Swedish. Contrary to the previous study, the focus of attention in the present study is on the listeners. Two groups of listeners were added: L1 Finnish and L1 Finland-Swedish listeners. The new listener groups rated their peers' L2 English. Then, their ratings were compared to the ratings given by the English-speaking listeners in Tergujeff (2021).

#### 3.1 Aim and research questions

The research task was taken up because previous research had obtained mixed results as to whether non-native listeners who share the speakers' L1 are more lenient or stricter in their ratings than other listeners are, or whether there is a difference at all. Also, the number of previous studies is still low, and no clear image of the phenomenon has formed. As discussed by e.g. Foote and Trofimovich (2018), the effects of sharing the speakers' L1 may be L1 dependent. Therefore, this study explores the issue with two previously unexplored language groups of L2 English speakers: L1 Finnish and L1 Finland-Swedish. In addition, the speakers' spoken proficiency in English was controlled for and taken into consideration in the analysis. This enables an investigation into the role of language proficiency in shared L1 effect for comprehensibility and accentedness. The following research questions were set for the study:

RQ1: How do L1 Finnish and L1 Finland-Swedish listeners rate their peers' L2 English comprehensibility and accentedness? To what extent do the ratings differ from those assigned by English-speaking listeners, if at all?

RQ2: If L2 English comprehensibility and accentedness ratings diverge between English-speaking listeners and listeners who share the speakers' L1, does the speakers' L2 proficiency play a role? If yes, what kind?

## 3.2 Participants

*Speakers* in the present study were L1 Finnish ( $n = 30$ ) and L1 Finland-Swedish ( $n = 30$ ) teenagers. The speech data were obtained from the Finnish National Agency for Education and the Finnish Education Evaluation Centre, who had collected a vast data set for the purposes of a national language proficiency assessment (see Härmälä et al. 2014). At the time of the speech data recordings, the speakers were Year 9 students in Finland's basic education system, meaning they were about to finish their obligatory schooling. They were 15–16 years of age. The national proficiency assessment and a background survey linked to it were utilised in selecting the participants for the present research. The selected participants were balanced in L1 (indicating Finnish or Finland-Swedish as their only L1 and home language), gender and oral proficiency in English (equivalent to A2, B1, B2 on the CEFR scale, determined in the national assessment). In other words, ten speakers per proficiency level were chosen from both L1 groups. More about the language proficiency assessment, see Härmälä et al. (2014) and Tergujeff (2021).

*Listeners* included three groups: English-speaking listeners from Tergujeff (2021) and two new listener groups consisting of the speakers' peers, i.e. L1 Finnish and L1 Finland-Swedish listeners. Listener selection was guided by a real-life orientation. Teenagers from Finland are likely to use English for communicating with other teenagers, e.g. in the contexts of study exchange, online gaming and social media. Hence, teenaged listeners were opted for. Another justification is that working with teenagers is beneficial for the field of L2 comprehensibility and accentedness research, which has previously focussed mainly on young adults such as university students.

The English-speaking listeners were UK-based teenagers ( $n = 34$ ), who attended English-medium education and spoke English as the only or one of their home languages. It was not considered necessary to impose an "English-only" requirement. For this reason, the listeners had diverse linguistic and cultural backgrounds, and many had an additional home language. This decision was based on the practical orientation of the study: the listener group chosen reflects the kind of diversity and multilingualism that L2 speakers of English are likely to encounter in various speaking situations, yet representing people who use mainly English in their daily lives. In addition, the practical orientation was reflected in that age-matched listeners were opted for. The English-speaking listeners' ages ranged from 14 to 17.

The Finnish-speaking listeners ( $n = 31$ ) were Year 9 students, matching the speakers used in this study very accurately. They were 15–16 years of age and had studied English for seven years. Similarly to the English-speaking listeners, monolingualism was not required as long as the participants indicated to speak Finnish as one of their home languages. In addition, they all attended a Finnish-medium school. The listener group that spoke Finland-Swedish ( $n = 30$ ) also matched the speakers in that they were Year 9 students between the ages of 15 and 16. All stated to speak Finland-Swedish as one of their home languages. However, it should be noted that bilingualism was more common in this listener group than among the Finnish-speaking listeners. Bilingualism is common within the Finland-Swedish population in Finland, as many also speak Finnish. Yet, Finland-Swedish can be viewed as the dominant language of all Finland-Swedish participants, because they all indicated to speak Finland-Swedish at home and attended a Swedish-medium school.

The English skills of the Finland-based listeners were controlled by asking for their latest school mark to avoid a great difference in English proficiency between the two language groups, because L2 speakers' comprehensibility and accentedness ratings may be affected by the listeners' L2 proficiency (Beinhoff 2014). Descriptive statistics show very little difference between the two Finland-based listener groups regarding their L2 English proficiency, as measured by their latest school mark: for both groups, the school marks ranged from 7 to 10 (on a scale from 4 to 10), both mode and median being 9 regarding both L1 groups. A slight difference was detected as for the mean: L1 Finnish listeners' mean school mark was 8.71, whereas for L1 Finland-Swedish it was 9.10. Overall, the difference between the groups was statistically insignificant, as measured by an independent-samples *t*-test ( $t = -1.504$ ,  $p = 0.138$ ), and it did not quite reach the 0.4 cut point of small effect (Plonsky & Oswald 2014), as measured by Cohen's *d* ( $d = 0.39$ ). Overall, most students had reached the goal set for good English proficiency, which equals mark 8.

### 3.3 Speech materials

Speech materials were obtained from the national sampling for students' English proficiency assessment, which included video-recorded speaking tasks (Härmälä et al. 2014). The audio files of the videos were made available to the author for research purposes. The present study utilised approximately 20-second samples that were extracted from a monologic speaking task for the previous study (see details and justifications in Tergujeff 2021). In these samples, the speakers speak freely about themselves, their families, hobbies and summer plans. The speakers' anonymity was protected by extracting the samples so that no identifiable information

such as names, hometowns, or school names were revealed. As the sound quality of the materials varied, some of the samples were treated with noise reduction to enhance the quality. In addition, the samples were normalised to matching volume.

### 3.4 Procedure

Speech samples were subjected to comprehensibility and accentedness ratings, which were conducted in three schools: one English-medium school in the UK (Ter-gujeff 2021), and one Finnish-medium and one Finland-Swedish-medium school in Finland. All rating sessions took place in regular classrooms, where the author played the speech samples via loudspeakers. The pace was set manually to make sure that all listeners had plenty of time to give their ratings. The ratings were given on pen and paper, using separate 9-point bipolar scales for comprehensibility and accentedness (see e.g. Munro and Derwing 1995). On the scales, 1 stood for “very easy to understand” and “no foreign accent”, whereas 9 stood for “very difficult to understand” and “very strong foreign accent”. These scales have been most used in this field of research (Crowther et al. 2016), giving the listener enough room for choice. For a discussion on different rating scales, see Isaacs and Thomson (2013). Both comprehensibility and accentedness ratings were given after hearing each speech sample only once, which has been found to be at least as effective as rating comprehensibility and accentedness separately (O’Brien 2016). Using the scale was practised with two samples before the actual rating task.

In each school, the listeners took part in the rating task in two or three groups. This enabled organising the speech samples in semi-random cohorts: the speech samples were arranged in four sets, out of which the ones that were presented to the first group of listeners as first and last were presented in the middle to the second group of listeners. By mixing the order, the effects of possible fatigue towards the end of the rating session, and the novelty of the task in the beginning could be minimised. The rating sessions took 20 minutes in the Finland-based schools, where listeners only rated the speech samples of their L1 group ( $n = 30$ ). In the UK-based school, listeners rated the entire speech data, i.e. both L1 Finnish and L1 Finland-Swedish speakers ( $n = 60$ ). Rating sessions were hence longer. The sessions took 45 minutes, including a short break in the middle. During the break, the participants were not allowed to compare or discuss the ratings, but a discussion on the topic of Finland was led by the researcher.

### 3.5 Analyses

Listener agreement within the listener groups was tested with two-way random intraclass correlation coefficients (ICC) and their 95 % confidence intervals, using an absolute agreement definition (see McGraw and Wong 1996). To interpret listener agreement to be excellent, Cicchetti (1994) suggests ICC values greater than 0.75. Koo and Li's (2016) newer guidelines are stricter: <0.5 indicating poor agreement, 0.5–0.75 moderate, 0.75–0.9 good, and >0.9 excellent. In the present study, both Cicchetti's (1994) and Koo and Li's (2016) guidelines are discussed in connection to interpreting the results. To explore how unified the listeners were was considered important, because using teenaged listeners for studies such as the present one is rare. The author was not familiar with the participants before the rating task; hence, it was difficult to predict their concentration spans and dedication to the task. In the previous study (Tergujeff 2021), however, the results were promising for teenagers giving reliable ratings, but it was decided to test this aspect with the added listener groups for further verification and comparison.

Mean ratings received by the L1 Finnish and L1 Finland-Swedish speakers' L2 English were described and compared by listener groups. The difference between ratings given by English-speaking listeners and the listeners who share the speakers' L1 were tested for statistical significance with an independent-samples *t*-test. In addition, effect sizes of the possible differences were calculated with Cohen's *d* (Cohen 1988). Whereas the *t*-test can only verify whether or not a difference can be explained by chance, Cohen's *d* reveals how great of an effect the difference has. Plonsky and Oswald's (2014) guidelines were followed in interpreting the effect sizes: 0.4 indicating small effect, 0.7 medium effect, and 1.00 large effect.

## 4 Results

### 4.1 Listener agreement

The previous study (Tergujeff 2021) already found an excellent listener agreement for the English-speaking listeners: the ICC was 0.959 for comprehensibility ratings and 0.917 for accentedness ratings. When tested similarly in the present study, the L1 Finnish listener group also proved to agree in their ratings: the ICC estimate was 0.920 for comprehensibility and 0.923 for accentedness. Listener agreement was also high among the L1 Finland-Swedish listeners: the ICC was 0.935 for comprehensibility and 0.908 for accentedness. As such, all of the ICC estimates

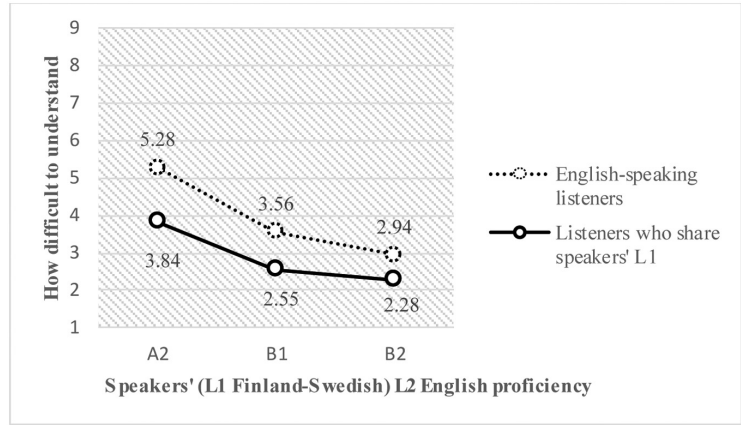
suggest an excellent listener agreement among the listener groups, following Cicchetti (1994) and even the stricter guidelines by Koo and Li (2016). Considering the 95 % confidence intervals, the true ICCs are likely to set between 0.845 and 0.973. Detailed descriptions of the results regarding listener agreement are presented in Table 1.

**Table 1:** Listener agreement among the three listener groups, as determined by intraclass correlation coefficients (ICC) and their 95 % confidence intervals.

Listener group	ICC for comprehensibility	95 % confidence interval		ICC for accentedness	95 % confidence interval	
		lower	upper		lower	upper
English	.959	.941	.973	.917	.881	.946
Finnish	.920	.871	.956	.923	.876	.958
Finland-Swedish	.935	.892	.965	.908	.845	.952

4.2 L1 Finland-Swedish listeners

As for the comprehensibility ratings, the L1 Finland-Swedish listeners were more lenient towards their peers’ English than the English-speaking listeners were. Descriptive statistics reveal that L1 Finland-Swedish listeners gave average ratings that were approximately one point lower on the 9-point scale measuring difficulty to understand (see Table 2). The difference was statistically significant ( $t = 12.116$ ,  $p < 0.001$ ) with a small effect size ( $d = 0.55$ ). Proficiency-specific analyses revealed that the difference reached a medium effect regarding A2-level speakers ( $d = 0.75$ ), but the effect weakened with increased proficiency (see Figure 1 and Table 2). In other words, the difference to the English-speaking listeners was greatest regarding speakers with the lowest proficiency.

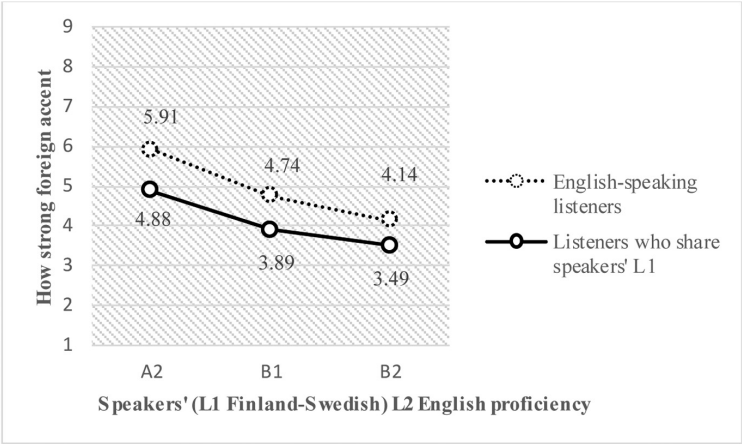


**Figure 1:** Comprehensibility of L1 Finland-Swedish speakers' ( $n = 30$ ) L2 English, as rated by English-speaking listeners ( $n = 34$ ) and listeners who share the speakers' L1 ( $n = 30$ ; 1 = very easy to understand, 9 = very difficult to understand).

**Table 2:** Mean difference and results of statistical analyses between comprehensibility ratings given by listeners who share the speakers' L1 (Finland-Swedish,  $n = 30$ ) and English-speaking listeners ( $n = 34$ ).

Speakers rated	Mean difference	<i>t</i>	<i>p</i>	<i>d</i>
all speakers	-1.04	12.116	<.001	.55
A2 speakers	-1.44	9.361	<.001	.75
B1 speakers	-1.01	8.360	<.001	.67
B2 speakers	-0.66	5.422	<.001	.43

The L1 Finland-Swedish listener group acted similarly to their peers' accentedness as they did to their comprehensibility: in comparison to ratings given by English-speaking listeners, they were more lenient. Overall, they rated the speakers' foreign accent to be weaker, and the difference between the listener groups proved statistically significant ( $t = 9.538$ ,  $p < 0.001$ ) with a small effect size ( $d = 0.44$ ). Differences were clear and reached statistical significance across speakers' proficiency levels (see Figure 2 and Table 3). Effect sizes indicated a small effect of the difference regarding ratings received by speakers at all proficiency levels, but the effect got weaker with increased proficiency. In sum, the L1 Finland-Swedish listeners were more lenient than English-speaking listeners not only when evaluating their peers' L2 English comprehensibility but also the strength of their foreign accent. In addition, the difference between ratings given by English-speaking listeners and L1 Finland-Swedish listeners were greatest regarding lower-proficiency speakers for both comprehensibility and accentedness.



**Figure 2:** Accentedness of L1 Finland-Swedish speakers' ( $n = 30$ ) L2 English, as rated by English-speaking listeners ( $n = 34$ ) and listeners who share the speakers' L1 ( $n = 30$ ; 1 = no foreign accent, 9 = very strong foreign accent).

**Table 3:** Mean difference and results of statistical analyses between accentedness ratings given by listeners who share the speakers' L1 (Finland-Swedish,  $n = 30$ ) and English-speaking listeners ( $n = 34$ ).

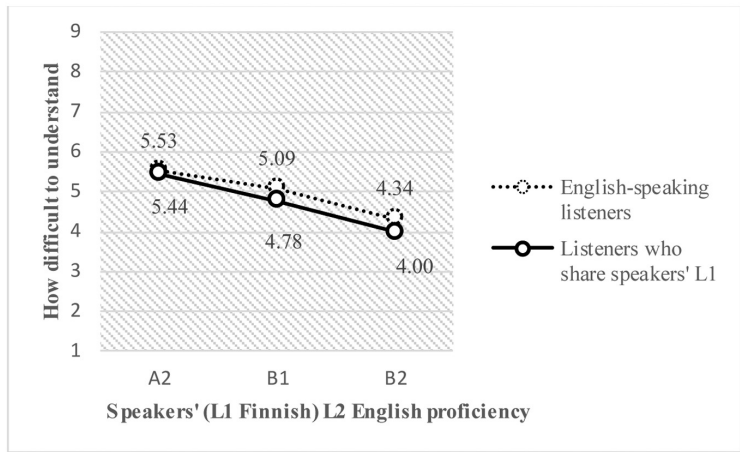
Speakers rated	Mean difference	<i>t</i>	<i>p</i>	<i>d</i>
all speakers	-0.84	9.538	<.001	.44
A2 speakers	-1.03	6.958	<.001	.55
B1 speakers	-0.85	6.131	<.001	.49
B2 speakers	-0.65	4.481	<.001	.35

4.3 L1 Finnish listeners

Contrary to L1 Finland-Swedish listeners, leniency did not come across in L1 Finnish listeners' ratings. Their comprehensibility ratings of their peers' English did not differ much from those given by English-speaking listeners. The difference between the listener groups reached statistical significance ( $t = 2.802, p = 0.005$ ), but the effect size ( $d = 0.13$ ) was below the cut point of small effect. When observed by the speakers' proficiency level (see Figure 3 and Table 4), the effect of the differences stays under the cut point. Regarding A2-level speakers, the difference did not reach statistical significance. These results suggest that the slight differences – even if statistically significant – are too small to have much of an effect. Hence, it is safe to con-



clude that L1 Finnish speakers' English was perceived equally easy/difficult to understand by both English-speaking listeners and listeners sharing the speakers' L1. This is visually demonstrated in Figure 3.



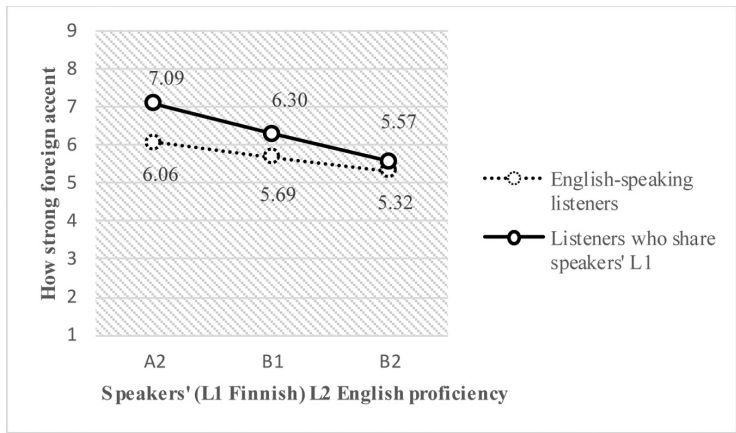
**Figure 3:** Comprehensibility of L1 Finnish speakers' ( $n = 30$ ) L2 English, as rated by English-speaking listeners ( $n = 34$ ) and listeners who share the speakers' L1 ( $n = 31$ ; 1 = very easy to understand, 9 = very difficult to understand).

**Table 4:** Mean difference and results of statistical analyses between comprehensibility ratings given by listeners who share the speakers' L1 (Finnish,  $n = 31$ ) and English-speaking listeners ( $n = 34$ ).

Speakers rated	Mean difference	<i>t</i>	<i>p</i>	<i>d</i>
all speakers	-0.25	2.802	.005	.13
A2 speakers	-0.09	0.632	.525	-
B1 speakers	-0.31	2.218	.027	.17
B2 speakers	-0.34	2.267	.024	.18

As for accentedness ratings as well, there was no leniency in the ratings given by the L1 Finnish listener group. When assessing their peers' accentedness in English, they were stricter than the English-speaking listeners, giving higher ratings for accentedness. The difference was statistically significant ( $t = -7.744$ ,  $p < 0.001$ ) but slightly under the cut point of small effect ( $d = 0.35$ ). When analysed by speakers' proficiency level (Figure 4 and Table 5), the difference was statistically significant regarding speakers at proficiency levels A2 and B1, with small and minimal effect sizes, respectively. Regarding B2-level speakers, the difference did not reach statis-

tical significance. Hence, the difference to English-speaking listeners was greatest concerning speakers with the lowest proficiency.



**Figure 4:** Accentedness of L1 Finnish speakers’ ( $n = 30$ ) L2 English, as rated by English-speaking listeners ( $n = 34$ ) and listeners who share the speakers’ L1 ( $n = 31$ ; 1 = no foreign accent, 9 = very strong foreign accent).

**Table 5:** Mean difference and results of statistical analyses between accentedness ratings given by listeners who share the speakers’ L1 (Finnish,  $n = 31$ ) and English-speaking listeners ( $n = 34$ ).

Speakers rated	Mean difference	<i>t</i>	<i>p</i>	<i>d</i>
all speakers	+0.63	-7.744	<.001	.35
A2 speakers	+1.03	-7.961	<.001	.63
B1 speakers	+0.61	-4.356	<.001	.34
B2 speakers	+0.25	1.815	.070	-

5 Discussion

According to the results, L1 Finnish and L1 Finland-Swedish listeners differ drastically as for how their L2 comprehensibility and accentedness ratings on their peers’ English relate to the ratings assigned by English-speaking listeners. This supports earlier findings and discussions (e.g. Foote and Trofimovich 2018) that suggest the effects of sharing the speakers’ L1 on L2 comprehensibility and accentedness can be L1 dependent. In the present study, L1 Finland-Swedish listeners demonstrated a clear leniency towards their peers’ L2 English. This finding is similar to the findings

by Gallardo del Puerto et al. (2015) on L1 Spanish listeners and those by Foote and Trofimovich (2018) on L1 Cantonese listeners rating their peers' L2 English, as well as to what Wilkerson (2010) found with L1 English listeners rating their peers' L2 German.

Regarding L1 Finnish listeners, the comprehensibility ratings were practically equal to ratings given by English-speaking listeners. This finding is in line with the results obtained by Munro et al. (2006) on L1 Cantonese listeners, Crowther et al. (2016) on L1 French listeners, Foote and Trofimovich (2018) on L1 French and L1 Hindi listeners, and Lima (2016) on Chinese learners rating their peers' L2 English. Interestingly, a difference to English-speaking listeners was found when L1 Finnish listeners rated their peers' accentedness. However, the difference was in the opposite direction: they were stricter instead of more lenient, in line with the results of Riney et al. (2005) on L1 Japanese listeners rating their peers' L2 English. Similarly to O'Brien (2016), the present study demonstrates that tendencies concerning the evaluation of L2 speech by one's peers may not necessarily apply to both comprehensibility and accentedness ratings.

English proficiency does not explain the differences between the listener groups, because it was controlled for as follows. Finland-based listener groups did not differ in their proficiency significantly, and they rated an equal number of speakers with L2 English proficiency of A2, B1 and B2 on the CEFR scale (Council of Europe 2020). On a more general level, speakers' proficiency still seems to play a role in the shared L1 effect. Namely, differences between ratings given by English-speaking listeners and listeners who share the speakers' L1 tended to diminish when moving from rating A2-level speakers to speakers with higher proficiency. This finding is similar to Hayes-Harb et al. (2008) and Kang et al. (2019), who found that the shared L1 effect may apply only when listening to low-proficiency speakers. Interestingly, the present study highlights a related tendency when assigning stricter ratings as well, as the difference between English-speaking listeners and L1 Finnish listeners was greatest concerning the accentedness ratings assigned to low-proficiency L1 Finnish speakers.

The present study did not address what made the L1 Finland-Swedish listeners more lenient, but one possible explanation may lie in native and non-native listeners possibly drawing on different speech features when evaluating L2 speech. If English-speaking listeners drew more on the accurate pronunciation of sounds and Finland-based listeners more on features beyond individual sounds, following the results of Riney et al. (2005) and Wilkerson (2013), more native-like prosody and/or better fluency in general could lead to leniency in the ratings assigned by non-native listeners. Tergujeff (2021) suggests that there is something in the speech of L1 Finland-Swedish speakers' English that makes English-speaking listeners consider them more comprehensible and less accented than L1 Finnish speakers' English. If

this turns out to be an aspect or aspects of prosody or fluency, and L1 Finland-Swedish listeners have paid more attention to this in comparison to the English-speaking listeners, this may have led to more lenient ratings. Similarly, L1 Finnish listeners may have paid more attention to the possible prosody/fluency problems in their peers' English, giving stricter ratings for accentedness, whereas the English-speaking listeners based their evaluations more on sound accuracy. These possibilities will be verified by analysing the speech samples, which is work in progress.

Another explanation may be attitudes. As Tokumoto and Shibata (2011) reveal, language groups may view their own foreign accent very differently. Finns' attitudes towards their own accents in English are mainly unexplored, but traces of negative attitudes can be found in Pihko (1997). However, Pihko's study only addressed L1 Finnish-speaking Finns. If the possible negative attitudes towards one's own accent are not shared by L1 Finland-Swedish Finns, it could explain them being lenient towards their peers' English in the present study. Even though purely speculative, such an explanation seems plausible considering the better success in English studies of L1 Finland-Swedish students (e.g. Härmälä et al. 2014) and public criticism towards and humour about L1 Finnish politicians' and rally drivers' English pronunciation, which has been frequent in the media.

Relying on school marks to determine the Finland-based listeners' English proficiency can be seen as a limitation. Even though school marks are criteria based in Finland, they allow variability within different areas of language, such as listening skills. Had it been possible, conducting a more thorough proficiency assessment would have strengthened the study and enabled more in-depth analyses regarding the effects of L2 listeners' proficiency in the target language. Another limitation is that the study compares non-native listeners sharing the speakers' L1 to English-speaking listeners only. In hindsight, it would have been interesting to cross-examine the two non-native listener groups as well, and to find out how they assign L2 comprehensibility and accentedness ratings to each other. Future research could widen the study to include Finnish listeners' ratings on several L2 English speaker groups and a carefully designed focus on the effects of listeners' L2 proficiency.

As a methodological reflection, the conscious risk of using teenaged listeners paid off. Based on the ICC estimates, the three listener groups demonstrated excellent agreement, which speaks for the reliability of the results. Working with teenagers added practical value to the present study, as the speakers were also teenagers. No problems occurred in the data collection: participants focussed on the task, did not disturb others and gave their ratings on the scales as instructed. In sum, working with teenagers on L2 comprehensibility and accentedness research can be encouraged. However, special attention should be paid to the clarity of instructions, the simplicity of the task and the length of data collection sessions.

## 6 Conclusion

The aim of the present study was to explore how L2 English listeners evaluate their peers' comprehensibility and accentedness, in comparison to English-speaking listeners. The two listener groups from Finland demonstrated very different patterns as listeners: L1 Finland-Swedish listeners were more lenient towards their peers' L2 English comprehensibility and accentedness, whereas L1 Finnish listeners found their peers equally comprehensible as English-speaking listeners did but were stricter on their accentedness ratings (RQ1). The speakers' proficiency seems to play a role, as the differences between ratings assigned by English-speaking listeners and the listeners who share the speakers' L1 were greatest concerning the lower-proficiency speakers (RQ2). Based on these findings, listeners who share the speakers' L1 can be seen as too simplistic a category for this line of research, because there is clearly variation between L1 groups. Instead of assuming "listeners who share the speakers' L1" to be a unified category and trying to find out whether they experience a shared L1 effect, future research could focus on investigating *why* some language groups demonstrate a shared L1 effect while others do not, and why sharing the speakers' L1 causes leniency to some and strictness to others if compared to native-speaker ratings.

Regarding the use of English as an international language and English language teaching, it should not be taken for granted that all speakers find their peers' English easy to understand. Overall, language learners will benefit from being exposed to a variety of L1 and L2 Englishes and explicit teaching on how to tackle the multitude of accents. Following Jenkins (2000), language learners are encouraged to add accents to their receptive repertoire instead of reducing their own accent, as long as their accent is intelligible and relatively easy to understand. Discussions and tasks on the ease/difficulty of understanding in class will help the teacher to choose accents to train with, and whether or not to include the students' own accents in the training. If a shared L1 benefit is obvious, the receptive training can focus on accents other than the ones spoken by the students.

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