The effect of Danish, Dutch and British accented English on intelligibility, comprehensibility and speaker evaluation of Danish and Dutch listeners

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Abstract

The increasing use of English as a lingua franca has led to a range of studies looking at the effect of speaking with an accent in English on native and non-native listeners. However, most of these studies have included either native participants or participants from countries with large differences in the listeners' English proficiency. The purpose of the current study was to look at the effect of native and non-native accented English on listeners from two of the most proficient non-native countries. In a mix of a verbal and matched guise between subject factor experiment, 102 Danish and 102 Dutch listeners evaluated a moderate Danish, a moderate Dutch or a British accented speech. The results showed that the Danish and Dutch listeners did not overall find the moderate non-native accents in English harder to understand than the native accent. Moreover, the listeners did only evaluate the native accented speaker more competent than the moderate accented speakers. The Danish accented speaker was perceived most likeable. Finally, the Dutch listeners evaluated all speakers higher on dynamism than the Danish listeners. These results indicate that the effects of speaking with an accent on intelligibility, comprehensibility and speaker evaluation decrease when non-native listeners reach a certain level of English proficiency. However, it is still advisable for managers to try reaching a native accent in English, in order to be perceived as more competent by a non-native audience.

1. Introduction

English is today the number one global language in the world, spoken fluently or competently by about one quarter of the world's population (Crystal, 2012). Furthermore, English is having an increasing impact at all levels of society where it has become the preferred language for use in media and on the Internet as well as for trade and business (Seidlhofer, 2010). English has also become the number one lingua franca in the world (Crystal, 2012) and is thus used to connect different communities with different language backgrounds. Nowadays, only one in every four users of English is a native speaker, meaning that most interactions in English are now taking place among non-native speakers (Seidlhofer, 2005).

This increasing use of English on a global level has led to a range of studies looking at the effect of speaking with an accent in English and how this may have an effect on the evaluation of the speaker (Blackledge, 2008; Cargile & Giles, 1997; Fuertes, Gottdiener, Martin, Gilbert, & Giles, 2012; Giles & Billing, 2004) and comprehensibility (Beinhoff, 2014; Bent & Bradlow, 2003; Hendriks, van Meurs, & de Groot, 2017; Hendriks, van Meurs, & Reimer, 2018; Major, Fitzmaurice, Bunta, & Balasubramanian, 2002; Munro & Derwing, 1996; Stibbard & Lee, 2006). More specifically, studies have looked at how accented speech affects the listeners' evaluation of speakers' perceived competence (Hendriks et al., 2017; Hendriks et al., 2018), perceived credibility (Lev-Ari & Keysar, 2010) as well as perceived status, solidarity and dynamism (Fuertes et al., 2012; Giles & Billing, 2004).

Also for international business purposes, English has increasingly been used as the lingua franca between native and non-native speakers. This has led to recent research looking at the development of different English varieties that are used in an international business context (for developments in Business English as a lingua franca, see Kankaanranta & Louihala-Salminen, 2013). However, despite the tendencies of multi-national companies to use English as the standard corporate language, limited research has been done on the managerial implications of working in English across national, linguistic and cultural borders (Zander, Mockaitis, & Harzing, 2011). Even though English language competences are not only required by employees in companies where English is the corporate language, English language proficiency is also acknowledged as a critical managerial competence (Fredriksson, Barner‐Rasmussen, & Piekkari, 2006). However, no study today seems to have focused on the effect of having a foreign accent in management and as to how managers' competences might be evaluated as a result of them having a

foreign accent in English. Thus, the current study will try to contribute to the field of accent studies by investigating if a manager's perceived competence, perceived likability and perceived dynamism are affected by the accent in his speech.

Another central concept in accent studies is how different English accent varieties influence intelligibility and comprehensibility. With the many different varieties of English, no simple answer can be expected up front, as comprehensibility of different English accents may depend on the accent of the speaker as well as vary from listener to listener. It is seen in many cases that native speakers of English are not perfectly intelligible to fluent non-native English users (Kachru & Smith, 2008). In addition, native English speakers are not necessarily better than non-native users in understanding different varieties of English. Thus, due to the many different varieties of native and non-native English accents, different listeners might find one variety of English easier to understand than other varieties. For this reason, a range of studies has looked at the effect of different accented Englishes and how accentednees may affect intelligibility and comprehensibility for native and non-native listeners (Bent & Bradlow, 2003; Hendriks et al., 2017; Hendriks, van Meurs, & Hogervorst, 2016; Hendriks et al., 2018; Major et al., 2002; Munro & Derwing, 1996; Stibbard & Lee, 2006). Three different theories are developed from these studies, suggesting either a native speech intelligibility benefit, a matched interlanguage speech intelligibility benefit or a mismatched interlanguage speech intelligibility detriment (Bent & Bradlow, 2003; Major et al., 2002; Stibbard & Lee, 2006). These theories and previous findings from studies on intelligibility and comprehensibility of different English accents will be discussed in the next section.

1.1 Intelligibility, comprehensibility and language familiarity

When looking at how well different English varieties are understood by different listeners, the first thing to define is the word "understood". Kachru and Smith (2008) discuss three dimensions of "understanding", namely intelligibility, comprehensibility and interpretability. Whereas intelligibility refers to the recognition of a word or a sentence, comprehensibility refers to the recognition of the exact meaning attached to this word or sentence. Finally, interpretability refers to recognition of the intent or purpose of an utterance (Kachru & Smith, 2008). English language fluency and correct use of grammar facilitates successful intelligibility and comprehensibility but not necessarily successful interpretability.

To what extent English language fluency facilitates intelligibility and comprehensibility is a field that previous researchers have given ample attention (Bent & Bradlow, 2003; Major et al., 2002; Munro & Derwing, 1996; Stibbard & Lee, 2006). These studies on the effect of different accented English varieties on intelligibility and comprehensibility have found mixed results as to whether the different spoken varieties are easy or difficult for listeners to understand. On the one hand, previous studies have, in line with the native speech intelligibility benefit, shown that a native English accent is more comprehensible than a non-native accent for native listeners (Munro & Derwing, 1996) and for non-native listeners (Major, Fitzmaurice, Bunta, & Balasubramanian, 2005). But other studies have shown that this is not always the case. In a study with German, Spanish and French participants, results showed that a native accent in English was not easier to understand than a Dutch accent in English for the German, Spanish and French participants (Hendriks et al., 2017). On the other hand, second-language learners of English often claim that non-native speakers are easier to understand than native speakers when the non-native speaker and listener share the same first language (L1) (Bent & Bradlow, 2003).

Under controlled laboratory conditions, Bent and Bradlow (2003) tested this claim by matching foreign accented speech in English with non-native listeners from the same and different L1 backgrounds. Their findings suggested a language match they called the interlanguage speech intelligibility benefit theory, suggesting that speech from a non-native speaker is easier to understand for listeners with similar L1 background to the speaker (Bent & Bradlow, 2003; Stibbard & Lee, 2006). The theory has been proven true in some studies (Bent & Bradlow, 2003). However in a study on American, Spanish, Japanese and Chinese accented English, only the native Spanish listeners scored higher on comprehensibility of Spanish accented English (Major et al., 2002) and in a recent study on Dutch and German participants, the listeners did not report the speakers with similar L1 background easier to understand than a native speaker (Hendriks et al., 2018).

An extension to the interlanguage speech intelligibility benefit is the so-called mismatched interlanguage speech intelligibility detriment. This theory suggests that speech from a non-native speaker is less easy to understand when the speakers and the listeners have different L1 backgrounds (Bent & Bradlow, 2003; Stibbard & Lee, 2006). To test the mismatched interlanguage speech intelligibility detriment, Stibbard and Lee (2006) tested non-native English accents between participants that did not share the same L1 background. The results from their

study confirmed that non-native English accents were more difficult to understand when the speaker and listener did not share the same L1 background. However, evidence against this theory has also been found in a recent study where German listeners found speakers with a moderate Dutch accent in English easier to understand than speakers with a moderate German accent in English (Hendriks et al., 2018). However, as Hendriks et al. (2018) suggest themselves, these findings could have been influenced by high levels of language familiarity with both non-native accents for the German and Dutch participants. Thus similar research should be carried out with participants that are more typologically and geographically distant in their L1s than German and Dutch participants (Hendriks et al., 2018).

For this reason, the current study will include Danish and Dutch accented speakers and listeners where familiarity with each other's language is expected to be lower. Even though the Danish, Dutch and German languages all belong to the Germanic language branch, a lower degree of language familiarity between Danish and Dutch participants can be expected as Danish belongs to the north Germanic branch whereas Dutch and German both belong to the West Germanic Branch (Swarte, Schüppert, & Gooskens, 2013).

Another important factor when measuring the effect of accentedness on listeners' comprehension is the difference between the listeners' perceived intelligibility and actual comprehensibility (Gluszek & Dovidio, 2010). Thus, the next section will discuss findings from previous research looking at the differences between perceived intelligibility and actual comprehension.

1.1.1 Perceived intelligibility and actual comprehensibility

With regard to perceived intelligibility and actual comprehensibility, previous studies have shown mixed results between evaluators' perceived intelligibility and actual comprehensibility of selected audio fragments. On the one hand, previous studies show that perceived (subjective) intelligibility of speech in general is rated lower than the actual (objective) comprehensibility (Gluszek & Dovidio, 2010; Munro & Derwing, 1996), whereas another study found no differences between the perceived intelligibility and actual comprehensibility of different English accented speeches (Hendriks et al., 2018). Differences between perceived intelligibility and actual comprehension have in previous studies been measured by asking how easily the listener understood the person (Hendriks et al., 2018; Munro & Derwing, 1996). Actual comprehension has

then been tested afterwards by asking listeners to answer questions related to the English spoken (Hendriks et al., 2018) or by a sentence verification task (Munro & Derwing, 1996). Finally, the studies then checked if there were differences in the results on perceived intelligibility and actual comprehension.

This study will also test the participants' perceived intelligibility and actual comprehension. The perceived intelligibility will be measured by asking participants about how easily they understood the person in the audio fragment and if they understood the message from the audio fragment. Actual comprehension will then be measured with three multiple-choice questions related to the speech (see Appendix B). How easily Danish and Dutch participants understand Danish, Dutch and British accented English might be related to several factors besides the accent itself. Besides the factor of language familiarity, another possible factor that could have an influence on listeners' comprehensibility of different English accented speeches is the listener's own language competences in English. Thus, the following section will discuss previous findings on how listeners' English language competences facilitate intelligibility and comprehensibility of English accented speech.

1.2 Listeners' English language competence

Whereas the L1 background of non-native English speakers has been included as a factor in recent accent studies measuring intelligibility and comprehensibility, only a few studies have included the English proficiency competences of non-native listeners as a factor (Beinhoff, 2014; Major et al., 2002).

First of all, results from one study seem to suggest that listeners' English language proficiency does not have an effect on listening comprehension when the listeners and the speakers have the same shared native language (Major et al., 2002). However, opposite results were found in a study by Beinhoff (2014) on Spanish and German listeners' comprehensibility of Spanish and German accented English. In the study by Beinhoff (2014), the results showed that the speaker with the strongest Spanish accent in English was perceived as the easiest speaker to understand for the less proficient German and Spanish participants. However, the German and Spanish participants who were more proficient in English scored higher on actual intelligibility for the speaker with the strong Spanish accent in English than the less proficient participants. Not only did these results indicate that English proficiency facilitates intelligibility, they also indicat-

ed a discrepancy between perceived intelligibility and actual comprehension of non-native speakers with different level of proficiency in English.

Results from a recent study by Hendriks et al. (2018) were partly in line with the results from Beinhoff (2014), as the authors found higher English proficiency to be a valid predictor for both higher perceived intelligibility and higher actual comprehension. Thus, the results were similar in regards to actual comprehensibility but opposite on perceived intelligibility. Due to these conflicting results, the English proficiency of the Danish and Dutch participants will also be included as a factor in this study when looking at intelligibility, comprehensibility and speaker evaluation.

1.3 Measuring English language competence

There are many ways to test English language competence for non-native speakers of English. In the study by Beinhoff (2014), the authors included a group of Spanish and German participants who either had an English level of B1 or C1 on the CEF scale from the Common European Framework of Reference for Language. However, another and potentially easier way to test non-native speakers of English is through the Lexical Test for Advanced Learners of English (LexTALE) (Lemhöfer & Broersma, 2012). The LexTALE test is a test where English language learners are asked to correctly identify English words and non-words from a range of 60 different "trials". In the study by Lemhöfer and Broersma (2012), the authors compared the LexTALE test to other valid English proficiency tests. Their findings confirmed that the LexTALE test is a good predictor of English vocabulary knowledge and can be used as a measure of general English language proficiency (Lemhöfer & Broersma, 2012). Finally, the authors predicted that the LexTALE scores could be compared to the CEF proficiency levels where people scoring 80-100% on the LexTALE would be categorized as having a C1 or C2 level in English on the CEF scale. A LexTALE score between 60-80% corresponds to the B2 level on the CEF scale, whereas LexTALE scores below 59% corresponds to being at B1 level or lower (Lemhöfer & Broersma, 2012).

First of all, the current study will use the results from the participants' LexTALE test to see if there is a difference between the Danish and Dutch participants' English language proficiency. In 2016, the Netherlands and Denmark were ranked as the most and second most profi-

cient nations in English in which English does not serve as the official language (Pariona, 2017). Thus, it is not expected that there will be a significant difference in English language competence for the participants included in this study.

Secondly, when measuring participants' English language proficiency levels, it will allow testing if there is a difference in the answers between highly proficient and less proficient Danish and Dutch participants on comprehensibility and speaker evaluation. For the current study, English language proficiency will be measured in two ways through a self-evaluation measure and by asking participants to complete the LexTALE. However, another factor that could have an influence on listeners' comprehension and speaker evaluation could be the strength of the speakers' accent. Results on the effect of accent strength will be discussed in the following.

1.4 Accent strength

Previous studies have looked at the influence of different accent strengths and its effect on listeners' evaluation of the speaker (Bouchard Ryan, Carranza, & W. Moffie, 1977; Cargile & Giles, 1998; Lev-Ari & Keysar, 2010; Nejjari, Gerritsen, Van der Haagen, & Korzilius, 2012) and listeners' comprehensibility of the speech (Beinhoff, 2014; Hendriks et al., 2017; Hendriks et al., 2016; Hendriks et al., 2018; Nejjari et al., 2012). Findings from these studies provide general evidence that strong non-native accents are evaluated more negatively than weaker accents by native listeners (Cargile & Giles, 1998; Nejjari et al., 2012) and non-native listeners (Hendriks et al., 2017; Hendriks et al., 2018). Findings from a study by Nejjari et al. (2012), a study comparing the effect of a slight and a strong Dutch accent to a British accent, indicated that the British accent evoked a higher evaluation of status for the speaker compared to both of the Dutch accents among native British listeners. In another study, the researchers tested if a Spanish accent in English would influence the attitudes towards the speakers, as evaluated by native Spanish speakers (Bouchard Ryan et al., 1977). The results from this study also indicated that stronger accents in English create more negative evaluations of the speaker. Similar results were found in another study where non-native listeners evaluated stronger Dutch accented speakers as less competent than slight and native accented speakers. However, no differences were found between the slight and the native accented speakers (Hendriks et al., 2017).

Also in regards to comprehensibility, results from previous studies have shown that slightly non-native accents in English are not harder to comprehend than native accents for non-native listeners (Hendriks et al., 2018). However, moderate and strong non-native accents have sometimes, but not always, been evaluated as less comprehensible (Beinhoff, 2014; for German listeners Hendriks et al., 2017; Nejjari et al., 2012).

Two recent studies, which included accent strengths as factors, have found mixed results as to whether non-native listeners are able to distinguish between a moderate accent, slight accent and a non-native accent and whether non-native listeners are able to distinguish between a slight non-native accent and a native accent in English (Hendriks et al., 2017; Hendriks et al., 2018). However, both studies found evidence that stronger non-native accents are recognized as being different from native accents. Because of these previous findings, indicating that slightly non-native accented English is not harder to understand than native accents for non-native listeners and where differences in speaker evaluations are due only to stronger accents, the current study will include only moderate and native accents. Since previous studies did find differences on the evaluation of the speaker based on his or her accent, the following section will discuss the results from these studies and identify the effects of accentedness on speaker evaluations.

1.5 Effects of accentedness on speaker evaluations

Previous accent studies looking at the effect of accents on listeners' evaluations of the speakers have in general found preferences for speakers with native English accents compared to speakers with foreign accents in English (Fuertes et al., 2012; Galloway & Rose, 2015; Lindemann, 2003; Matsuura, Fujieda, & Mahoney, 2004; Nejjari et al., 2012; Rubin & Smith, 1990). Prior research has shown that listeners' speaker evaluations can be mainly categorized within the dimensions of either status, solidarity or dynamism (Giles & Billing, 2004). These three dimensions are also included in a large meta-analysis by Fuertes et al. (2012), who investigated findings from 20 previous studies looking at listeners' evaluation of native and non-native accented speakers. In their meta-analysis, Fuertes et al. (2012) found that speakers with standard (native) accents in general were rated higher than speakers with non-standard (non-native) accents. These preferences for native accents were applicable to all three dimensions of status, solidarity and dynamism. Furthermore, these ratings applied to different settings such as education, employment and

sales. However, they did not indicate if this also is applicable when listeners evaluate the competence, likeability and dynamism in management. Finally, their meta-analysis did not include the accent of the evaluators as a factor, which is one of the main factors included in this study when asking Danish and Dutch participants to evaluate the speaker on these dimensions.

In a business context, previous research has looked at different regional native English accents and how different accents influenced the perception of the speakers' competences and success in business (Fredriksson et al., 2006). Additionally, in a similar setting, another recent study found differences between the perception of native and non-native speakers' competences and abilities where non-native speakers of English received lower evaluations compared to native speakers on these dimensions (Śliwa & Johansson, 2014). In the study by Śliwa and Johansson (2014), the authors further saw a tendency whereby non-native speakers with a strong foreign accent in English were not only evaluated as less competent by the listeners, but also thought themselves that they were less competent than native speakers. Finally, non-native speakers with a strong foreign accent in English tended to have a lower self-evaluation on the dimensions regarding both competence and status.

Most previous researches on the effect of accentedness on speaker evaluations have not included the accent of the evaluators as a factor. In fact, Fuertes et al. (2012) suggest further research on the effect of non-standard English when the evaluators either use the same type of English as the speakers or have other non-native language backgrounds. Thus, the current study will try to help close part of this gap by asking listeners with two different L1 backgrounds (Danish and Dutch) to evaluate speakers with either a native or a non-native accent where the non-native speaker has a similar or a different L1 background to the listeners.

However, a few recent studies have included both listeners' and speakers' L1 background as a factor when looking at how listeners evaluate non-native accents (Hendriks et al., 2017; Hendriks et al., 2018). In both of these studies, accent strength was also included as a factor and had an effect on listeners' evaluation of non-native accented speakers. Overall, stronger non-native accents led to more negative evaluations of the speaker, whereas slightly accented speakers were hardly evaluated differently compared to the native speakers.

These results were found in a verbal-guise experiment where German and Dutch listeners evaluated the German moderate accented speakers as less competent compared to the slight and native accented speakers (Hendriks et al., 2018). The Dutch listeners also evaluated the moderate

Dutch accented speakers as less competent compared to the slightly Dutch and native accented speakers. The authors did not find any difference between the slightly accented speaker and the native speaker on competence besides when the slightly Dutch accented speakers were evaluated by the German listeners. The German listeners evaluated the slightly Dutch accented speakers as less competent compared to the speakers with a moderate Dutch accent and a native accent (Hendriks et al., 2018). However, it is possible that differences in the German and Dutch participants' English proficiency had an influence on these results. Thus, the current study will include the English proficiency as a factor when looking at speaker evaluation.

Finally, It is important to note that the perceived status domain covers evaluations about the speaker's intelligence, competence, ambition, education and social class. The perceived solidarity domain includes evaluations about the speaker's similarity to the listener, attractiveness, benevolence and trustworthiness. Finally, perceived dynamism refers to an evaluation of the speaker's level of activity and liveliness (Fuertes et al., 2012). Thus, when the current study includes evaluations of the speaker on his competence, likeability and dynamism, it also operates within all three dimensions investigated by Fuertes et al. (2012). The following section will discuss why these traits are relevant when evaluating a manager.

1.6 Perceived leadership

One of the aims with the current study is to investigate the evaluation of the speaker based on their accent. The situation for the current study is a fictional setting based on a speech by a manager to his employees (Appendix A). The current study includes the traits of perceived competence, likeability and dynamism when the participants are asked to evaluate the speaker. In recent studies, these traits have been acknowledged as important qualities for a manager or leader (Vacar & Dumitrascu, 2012). In a study with 102 managers, the participants were asked to evaluate several attributes on leadership, based on their own opinion and experience. The results showed that 89% of the managers regarded "competence and integrity" as an important leadership quality, followed by "ability of interhuman relations (Vacar & Dumitrascu, 2012). Finally, the participants indicated the leader's personality and the situation as the two main factors that determine good leadership style (Vacar & Dumitrascu, 2012). For this reason, the current study tried to create a situation as neutral as possible by using audio fragments instead of video sam-

ples so that no other stimuli than the given accent would influence the participants' evaluation of the speaker.

1.7 The current study

The setting in which the current experiment took place was a fictional setting where a manager gave a speech to his employees. Based on this, the Danish and Dutch listeners were asked to answer several questions about the speaker. When looking at previous studies on the effect of accents on listeners' evaluation of the speaker, there are several gaps that this current study tried to cover.

The overall aim with the current study was to contribute to the field of accent studies on comprehensibility and speaker evaluations of native (British) and non-native (Danish and Dutch) English varieties. The current study included non-native listeners (Danish and Dutch) that either had a different or similar L1 background as the speakers. Finally, the study included the English proficiency of non-native listeners as a factor, to see if English proficiency influenced intelligibility, comprehensibility and speaker evaluation. These aims led to the following overall research question:

RQ 1: *To what extent do accentedness listeners' nationality and listeners' English proficiency have an effect on intelligibility, comprehensibility and speaker evaluation?*

This research question was divided into two sub-questions:

RQ 1a: *To what extent do accentedness, listeners' nationality and listeners' English proficiency have an effect on differences in intelligibility and comprehensibility of English accented speech when the listeners and the speakers have either a shared or a different non-native L1 background?*

RQ 1b: *To what extent do accentedness, listeners' nationality and listeners' English proficiency have an effect on differences in the evaluation of the speakers' perceived competence, likeability and dynamism when the listeners and the speakers have either a shared or a different non-native L1 background?*

2 Method

2.1 Materials

In the current study, Danish and Dutch listeners were asked to evaluate Danish, Dutch and British accented audio recordings from a fictional setting of a manager giving a speech to his employees (see Appendix A). Thus, non-native listeners evaluated either a native accent or one of two non-native accents where the speaker and the listeners either had a similar or different L1 background. The study was a mix of a verbal guise (Danish speaker) and a matched guise (Dutch and British speaker) experiment. The matched guise speaker was in a previous study confirmed as being able to perform a representative accent in Dutch and British when speaking in English (Nejjari, Gerritsen, van Hout, & Planken, 2019). This person also recorded our selected speech sample with a moderate Dutch and a British English accent. To find a person with similar voice characteristics as the speaker performing the Dutch and the British English accents, recordings from Danish male speakers were included in a pre-test. Finally, one woman tried to perform all three accents (Danish, Dutch and British accent). In total we had ten audio fragments from a total of six speakers (1 female) included in the pre-test.

In the pre-test, all ten recordings of the different speakers were evaluated by Danish lecturers in English from Aarhus University in Denmark (N = 4) and Dutch lecturers in English from Radboud University in The Netherlands (N = 2). The scales used to identify the accents were adopted from a previous study (Nejjari et al., 2019). Thus, the lecturers were asked to answer the following two questions on a 7-point Likert scale (1 = Strongly disagree, 4 = Neither agree or disagree, 7 = Strongly agree) after listening to each audio fragment.

1. This speaker has a strong foreign accent in English.
2. This speaker sounds like a native speaker of English.

Next to this, the lecturers were asked to indicate which country they thought the speaker originally was from, in order to identify if the accent was representative for the country. It has previously been suggested that people normally are able to identify a typical accent in English for their own country, whereas assessments on the speakers' accent strength can vary between individuals (Nejjari et al., 2019). For this reason, the mean score on accent strength was calculated and used to compare the strength of the accents, whereas the lecturers' identification of country applied to whether the accent was representative for the country or not. Finally, we asked the lecturers to

evaluate several voice characteristics of all the speakers. The speakers' voice characteristics were measured on a 7-point Likert scale anchored by "strongly disagree - strongly agree" from the following questions: "this speaker" sounds natural, sounds monotonous, has a pleasant voice and has a loud voice (1 = strongly disagree, 4 = neither agree or disagree, 7 = strongly agree). Speech rate was measured by asking "this speaker speaks…" (1 = very slow, 4 = average, 7 = very fast).

First of all, the woman who performed all three accents was by the lecturers identified as coming from many different countries such as Germany, Spain, Poland and Italy when speaking with the different accents. Since her recordings were not considered as representative accents in Danish, Dutch and British, all three audio fragments from her were excluded from the rest of the study. Fortunately, The results from the pre-test showed that all Danish male speakers were identified as having a Danish accent, the Dutch male speaker was identified as Dutch when performing the Dutch accent and the recording from the Dutch speaker, performing a British accent, was perceived as coming from the United Kingdom by five out of six lecturers. Thus, the accents of all the male speakers were identified as representative for the given country.

Secondly, the ratings on the speakers' voice characteristics helped to identify the Danish male speaker that differed the least from the speaker of Dutch and British English on these characteristics (see Table 1). The purpose of doing so was to avoid that speaker evaluations would be affected by differences in the speakers' voice characteristics. By comparing the results from the questions about accent strength and voice characteristics, audio fragment ten was selected for the Danish accented speech (accent strength; $M = 5.67$, $SD = 1.51$, sounds natural; $M = 3.00$, $SD = 1.41$, sounds monotonous $M = 5.00$, $SD = 0.63$; has a pleasant voice; $M = 4.33$, $SD = 1.21$; has a loud voice; $M = 3.83$, $SD = 1.33$, speech rate; $M = 3.17$, $SD = 0.75$) as it had the best possible fit to the Dutch accent (audio fragment 4, accent strength; $M = 6.17$, $SD = 1.60$, sounds natural; $M = 2.00$, $SD = 1.10$, sounds monotonous; $M = 3.83$, $SD = 1.17$, has a pleasant voice; $M = 4.50$, $SD = 1.38$; has a loud voice; $M = 4.00$, $SD = 0.63$, speech rate; $M = 4.17$, $SD = 0.41$) and the British accent (audio fragment 7, accent strength; $M = 2.33$, $SD = 2.34$, sounds natural; $M = 6.50$, $SD = 0.55$, sounds monotonous; $M = 2.50$, $SD = 1.64$, has a pleasant voice; $M = 5.67$, $SD = 0.82$, has a loud voice; $M = 4.00$, $SD = 1.67$, speech rate; $M = 4.00$, $SD = 0.63$).

Table 1: Means and standard deviations of accent strength and voice characteristics of all male speakers, speaking with a Danish, Dutch and British English accent (1 = strongly disagree, 7 = strongly agree); speech rate (1 = extremely slow, 7 = extremely fast).

AF_a Number	Country identified	Foreign accent strength	Native speaker	Natural	Monotonous	Pleasant	Loud voice	Speech rate
		M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
AF 2_c	Denmark	6.33 (0.82)	2.00 (1.55)	3.00 (1.41)	5.17 (0.75)	4.67 (1.21)	3.17 (0.98)	3.50 (0.55)
AF 3	Denmark	5.83 (1.47)	1.67 (0.82)	2.50 (1.05)	4.67 (0.82)	4.00 (1.10)	3.83 (0.98)	3.83 (0.75)
AF 4_b	NL	6.17 (1.60)	1.50 (0.84)	2.00 (1.10)	3.83 (1.17)	4.50 (1.38)	4.00 (0.63)	4.17 (0.41)
AF 5_c	UK	2.50 (1.87)	5.50 (1.87)	6.00 (0.63)	2.33 (1.03)	5.83 (0.75)	3.67 (1.03)	4.33 (0.52)
AF 7_b	UK	2.33 (2.34)	6.67 (0.52)	6.50 (0.55)	2.50 (1.64)	5.67 (0.82)	4.00 (1.67)	4.00 (0.63)
AF 8	Denmark	5.50 (1.38)	1.83 (0.75)	2.33 (0.82)	5.83 (0.41)	3.83 (0.98)	2.17 (1.17)	3.00 (0.63)
AF 10	Denmark	5.67 (1.51)	1.67 (0.82)	3.00 (1.41)	5.00 (0.63)	4.33 (1.21)	3.83 (1.33)	3.17 (0.75)

a = Audio Fragment

b and c are matched guise speakers

2.2 Participants

In a mixed verbal- and matched-guise experiment, 102 native Danish participants (age: *M* = 28.34, *SD* = 10.25; range 17-61; 56.9% female) and 102 native Dutch participants (age: *M* = 33.35, *SD* = 15.31; range 18-83; 63.7% female) were asked to evaluate one of the recordings of Danish, Dutch or British accented speech. One of the three accents was randomly selected and assigned by Qualtrics to the participants. For the native Danish participants, 33 were exposed to the Danish accent (age: *M* = 28.61, *SD* = 10.19, range 17-56; 63.6% students; 63.6% female) 33 to the Dutch accent (age: *M* = 28.42, *SD* = 10.90, range 18-58; 66.7% students; 54.5% female) and 36 to the British accent (age: *M* = 28.03, *SD* = 9.98, range 18-61; 63.9% students; 52.8% female). For the native Dutch participants 35 were exposed to the Danish accent (age: *M* = 34.89, *SD* = 16.98, range 18-83; 45.7% students; 68.6% female), 34 were exposed to the Dutch accent (age: *M* = 34.00, *SD* = 16.63, range 18-81; 44.1% students; 64.7% female) and 33 were exposed to the British accent (age: *M* = 31.06, *SD* = 12.33, range 19-60; 54.5% students; 57.6% female). A two-way ANOVA with listeners' nationality and accent of the speaker as factors showed a significant effect of listeners' nationality on age ($F(1,198) = 7.30$, $p = .007$, $\eta^2 = .04$). The Dutch

participants were overall older (M = 33.35, SD = 15.31) than the Danish participants (M = 28.34, SD = 10.25). There was no significant effect of accent on age ($F(2, 198) < 1$) and no significant interaction ($F(2,198) < 1$). Additionally, a Chi-square test for each of the accents showed no significant relation between participants' nationality and current status (lowest p-value was for the Dutch accent: ($\chi^2(2) = 5.24$, $p = .073$). Additionally, a Chi-square test for each of the accents showed no significant relation between participants' nationality and gender (lowest p-value was for the Dutch accent: ($\chi^2(1) < 1$, $p = .275$). Thus, equal variances between the Danish and the Dutch participants were assumed for each of the three accents on gender and current status, however the Dutch participants were overall older than the Danish participants.

Finally, A two-way MANOVA for perceived and actual English competence with listeners' nationality (Danish or Dutch) and accent (Danish, Dutch and British) as factors showed no significant effect on participants' nationality ($F(1,197) < 1$) and no significant effect on accent ($F(4,394) < 1$). There was no significant interaction effect ($F(4,394) < 1$). As predicted, the analysis showed no difference between the Danish and Dutch participants' language proficiency in English on either perceived English language competences (Danish; M = 5.95, SD = 0.96, Dutch; M = 5.98, SD = 0.80) or on their LexTALE score (Danish; M = *76.84*, SD = 13.34, Dutch; M = 79.25, SD = 13.38) within any of the accent groups.

2.3 Design

The experiment was conducted with a one-factorial between subject mix of a verbal and matched guise experimental design where the participants randomly were exposed to a Danish, a Dutch or a standard British accented speech. The message was the same in all three audio fragments and based on a speech from a manager (Appendix A), which was read aloud from speakers with one of the three selected accents.

2.4 Instrumentation

To answer research question 1a, the perceived intelligibility and actual comprehensibility were measured in a similar way as in Hendriks et al. (2018). Firstly, actual comprehension was measured using three multiple-choice questions with different answer possibilities related to the speech (see Appendix B). Secondly, perceived intelligibility was measured on a 7-point Likert

scale where the listeners were asked to answer the following questions: “the speaker was easy to understand”, “I understood every word the speaker said” and “I understood the message in the fragment” (1 = strongly disagree, 4 = neither agree or disagree, 7 = strongly agree). The reliability of perceived intelligibility, comprising three items, was acceptable: α = .81.

To answer research question 1b about the evaluation of the speakers’ perceived competence, likeability and dynamism, similar questions as in Hendriks et al. (2018) were used. Thus, the dependent variable *evaluation of the speaker* was subdivided into the three dimensions of *competence*, *likeability and dynamism.* The listeners were asked to evaluate the speaker on fifteen 7-point Likert scales anchored by “strongly disagree – strongly agree”. The factor *competence* was measured on the following statements “this person sounds” competent, self-confident, intelligent, nice, sympathetic, clear. The factor *likeability* was measured on the following statements “this person sounds” impolite, unfriendly, lazy, cold, unreliable, aggressive (all reverse coded). The factor *dynamism* was measured on the following statements “this person sounds” lively, gentle and full on energy. A detailed reliability analysis for all three constructs showed that the factors *Competence* α = .75 and *Likeability* α = .81 were acceptable. However, the factor dynamism was only acceptable with the items “lively” and “full on energy” α = .86, even when “this speaker sounds gentle” was reverse coded. Thus, the item “this speaker sounds gentle” was left out of the study.

Additionally, the speakers’ voice characteristics were measured on a 7-point Likert scale anchored by “strongly disagree - strongly agree” from the following questions: “this speaker” sounds natural, sounds monotonous and has a pleasant voice (1 = strongly disagree, 4 = neither agree or disagree, 7 = strongly agree). These characteristics could not be combined as one composite mean (largest possible α = .55, even when monotonous was reverse coded). Speech rate was measured by asking the following: “this speaker speaks…” (1 = very slow, 4 = average, 7 = very fast).

Familiarity with the accent was measured by asking the listeners to answer the following question on a 7-point Likert scale ranging from strongly disagree to strongly agree: “I am very familiar with the accent of the speaker in the audio fragment”. For a manipulation check, respondents were asked to identify the country of the speaker and indicate if the speaker had a strong foreign accent in English (1 = strongly disagree, 7 = strongly agree).

In the second part of the questionnaire, participants were asked to fill in their age, gender, nationality, mother tongue, amount of years employed, amount of years working as a leader, current living status (employed, student, non-employed or retired) and how proficient they would self-asses their English proficiency in writing, reading, listening and speaking on a 7-point scale ranging from 1 = bad to 7 = good. The reliability test of the self-assessed English proficiency comprising four items was acceptable: $\alpha = .85$. Finally, the survey was concluded with the LexTALE test adopted from Lemhöfer and Broersma (2012).

2.5 Procedure

Participants were approached through social media channels such as LinkedIn, Facebook and Instagram. The Danish participants were approached in Danish and received a Danish version of the survey. The Dutch participants were approached in Dutch and received a Dutch version of the survey. The questionnaire was first constructed in English using the program Qualtrics and then translated into Danish and Dutch by two Master's students from the International Business Communication program. Thus, the Danish participants received a link for a Danish edition of the survey, whereas the Dutch participants received a link for the Dutch edition of the survey. The participants were introduced to the survey by a short instruction and information explaining that all responses collected would be stored and used anonymously. The respondents were told that the audio fragment was a speech from a manager in a large multi-national company, who gave a short speech during the company's annual employee meeting. After completion, the participants were thanked for their contribution.

2.6 Statistical treatment:

In order to see if English proficiency had an influence on intelligibility, comprehensibility and speaker evaluations, a new variable was computed from the listeners' score on the LexTALE test. The new variable was called listeners' English proficiency and included groups of the least and groups of the most English proficient participants. Thus, the Danish and Dutch participants were further subdivided into groups of the least and the most proficient in English, divided at the median of their LexTALE scores (Danish median = 76.88, Dutch median = 80.00). Thus, the groups with the least proficient participants included the Danish listeners who scored lower than 76.88

and the Dutch listeners who scored lower than 80.00 on the LexTALE test. The groups with the most proficient participants included the Danish listeners who scored higher than 76.88 and the Dutch listeners who scored higher than 80.00 on the LexTALE test. In order to answer the overall research question, two three-way MANOVAs were run. In order to answer the subdivided research questions, the procedure was as the following:

With regard to research question 1a, a three-way MANOVA was run with listeners' nationality (Danish and Dutch), accent of the speaker (moderate Danish, moderate Dutch and British English) and listeners' English proficiency (least and most proficient) as factors for the dependent variables perceived intelligibility and actual comprehension.

With regard to research question 1b, another three-way MANOVA was run with listeners' nationality (Danish and Dutch), accent of the speaker (moderate Danish, moderate Dutch and British English) and listeners' English proficiency (least and most proficient) as factors for the dependent variables perceived competence, likability and dynamism of the speaker.

3. Results

3.1 Participant check – least and most proficient in English

Since the Danish and Dutch listeners were divided into groups of the least and most proficient participants by a median split on their LexTALE scores, a three-way ANOVA was run with the between subject factors listeners' nationality (Danish and Dutch), accent of the speaker (Danish, Dutch and British) and English proficiency (least and most) and with the LexTALE scores as the dependent variable. The analysis only found a significant effect of English proficiency on the dependent variable ($F(1,192) = 459.34$, $p < .001$, $\eta^2 = .71$). Regardless of listeners' nationality and accent of the speaker, the least proficient participants overall scored lower on the LexTALE ($M = 66.65$, $SD = 7.34$) than the most proficient participants ($M = 89.22$, $SD = 6.98$). There was no significant effect of nationality ($F(1,192) = 3.27$, $p = 0.72$) or of accent of the speaker ($F(1,192) = 1.04$, $p = .335$). There was no interaction effect at all (lowest p value was for nationality and accent ($F(2,192) = 1.23$, $p = .294$). Thus, dividing the groups at the median was considered successful as no differences were found between the nationalities or the groups with the different accents, but only between the groups of the least and the most proficient.

Table 2: Means and standard deviation of English proficiency in the groups of the least and most proficient participants (0 = not very proficient in English, 100 = very proficient in English).

		Least proficient		Most proficient	
		M	(*SD*)	*M*	(*SD*)
Danish participants	Danish accent	66.50	(7.46)	89.86	(7.25)
	Dutch accent	66.17	(5.55)	88.91	(8.80)
	British accent	64.47	(4.97)	85.29	(4.97)
	Total	65.63	(7.12)	88.04	(7.28)
Dutch participants	Danish accent	67.94	(7.29)	90.21	(6.82)
	Dutch accent	67.22	(6.64)	90.31	(6.46)
	British accent	67.92	(9.06)	90.63	(6.65)
	Total	67.68	(7.50)	90.38	(6.52)
All participants		66.65	(7.34)	89.22	(6.98)

3.2 Manipulation check – accent strength, accent familiarity and identification of the accent

In order to check that the manipulation of the accents was successful with the Danish, Dutch and British accents, several analyses were conducted. Firstly, a two-way ANOVA with the between subject factors listeners' nationality (Danish and Dutch) and accent of the speaker (Danish, Dutch and British) showed a significant effect of accent of the speaker on perceived accent strength ($F(2,198) = 76.02$, $p < .001$, $\eta^2 = .43$). Irrespective of listeners' nationality, the British accent ($M = 2.80$, $SD = 1.92$) was perceived as less strong compared to the Danish ($p < .001$, Tukey correction; $M = 5.50$, $SD = 1.35$) and the Dutch accent ($p < .001$, Tukey correction; $M = 5.91$, $SD = 1.53$). No difference was found on the accent strength between the Danish and the Dutch accent ($p = .304$, Tukey correction). The analysis showed no significant effect of listeners' nationality on accent strength ($F(1,198) < 1$). Finally, there was no significant interaction effect ($F(2,198) = 2.20$, $p = .113$). Thus, the Danish and the Dutch accents did not differ in perceived accent strength as perceived by both the Danish and the Dutch listeners. Both the Danish ($M = 5.50$, $SD = 1.35$) and the Dutch accents ($M = 5.91$, $SD = 1.53$) were perceived as moderate accents whereas the native British accent was not considered as a strong foreign accent ($M = 2.80$, $SD = 1.92$). Means and standard deviations for perceived accent strength of the speaker are presented in Table 3.

Table 3: Means, standard deviations and *n* for perceived accent strength for listeners' nationality and the accent of the speaker. (1 = not a strong foreign accent in English, 7 = a very strong foreign accent in English).

	Danish listeners			Dutch listeners			All listeners		
	M	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*
Danish accent	5.48	(1.48)	33	5.51	(1.25)	35	5.50	(1.35)	68
Dutch accent	5.82	(1.36)	33	6.00	(1.71)	34	5.91	(1.53)	67
Native British accent	3.22	(2.19)	36	2.33	(1.47)	33	2.80	(1.92)	69

Secondly, two one-way ANOVAs were run for the Danish and the Dutch listeners respectively, with the between subject factor accent of the speaker on accent familiarity. The one-way ANOVA for the Danish listeners showed a significant effect of accent of the speaker on accent familiarity ($F(2,99) = 8.06$, $p = .001$ $\eta^2 = .14$). The Danish listeners were more familiar with the Danish ac-

cent (M = 5.55, SD = 1.12) than with both the Dutch accent (p = .003, Tukey correction; M = 4.21, SD = 1.95) and the British accent (p = .002, Tukey correction; M = 4.17, SD = 1.61). There was no difference on familiarity with the accent between the Dutch and the British accent (p = .992, Tukey correction). There was also a significant effect of accent familiarity for the Dutch listeners ($F(2,99) = 15.71$, $p < .001$ $\eta^2 = .24$). The Dutch participants were more familiar with the Dutch accent (M = 5.73, SD = 1.13) than both the Danish ($p < .001$, Tukey correction; M = 3.74, SD = 1.58) and the British accent (p = .001, Tukey correction; M = 4.30, SD = 1.63). There was no significant difference on accent familiarity between the Danish and the British accent (p = .286, Tukey correction). Lastly, two one-way ANOVA for listeners' nationality (Danish and Dutch) were run for the dependent variables L1 familiarity and L2 familiarity. The one-way ANOVA for listeners' nationality showed no significant effect on L1 familiarity ($F(1,65) < 1$). Thus the Danish listeners were as familiar with the Danish accent (M = 5.55, SD= 1.12) as the Dutch listeners were with the Dutch accent (M = 5.74, SD = 1.33). The one-way ANOVA for listeners' nationality did also not show a significant effect on L2 familiarity ($F(1,66) = 1.20$, p = .278). Thus, the Danish listeners were neither more nor less familiar with the Dutch accent (M = 4.21, SD = 1.95) than the Dutch listeners were with the Danish accent (M = 3.74, SD = 1.58).

Finally, two chi-square analyses were carried out for the Danish and the Dutch listeners separately with the accent of the speaker (Danish, Dutch and British) as the independent variable and with correct identification of speaker origin as the dependent variable. A Chi-square test for the Danish listeners showed a significant relation between accent of the speaker and the identification of speaker origin ($\chi^2(2) = 6.73$, p = .034). A Chi-square test for the Dutch listeners also showed a significant relation between accent of the speaker and the identification of speaker origin ($\chi^2(2) = 69.62$, $p < .001$). Even though the Danish participants were better at identifying the Dutch accent than the Dutch participants were at identifying the Danish accent, was the manipulation considered successful, as most participants correctly identified the accent similar to their L1 and the native English accent. These results are presented in Table 4.

Table 4: Danish and Dutch participants' identification of speaker origin in function of the accent of the speaker.

		Danish participants			Dutch participants		
		Correct	Not correct	Total	Correct	Not correct	Total
Danish accent	*n*	29_a	4_b	33	6_a	29_b	35
	%	87.9	12.1	100	17.1	82.9	100
Dutch accent	*n*	24_a	9_b	33	34_a	0_b	34
	%	72.7	27.3	100	100	0	100
Native British accent	*n*	34_a	2_b	36	31_a	2_b	33
	%	94.4	5.6	100	93.9	6.1	100

Different subscript letter denotes a subset of speaker origin correct categories whose column proportions do not differ significantly from each other at the .05 level.

3.3 Voice characteristics

In regard to the voice characteristics of the selected speakers, as perceived by the Danish and Dutch listeners, a two-way MANOVA with the between subject factors listeners' nationality and accent of the speaker with the four voice characteristics as the dependent variables showed a significant multivariate effect of accent of the speaker ($F(8,390) = 10.65$, $p < .001$, $\eta^2 = .18$) and of listeners' nationality ($F(4,195) = 3.12$, $p = .016$, $\eta^2 = .06$) but no significant interaction effect ($F(8,390) = 1.38$, $p = .205$). Means and standard deviations for voice characteristics are presented in Table 5, whereas the following will present the significant results.

The univariate analyses showed that regardless of listeners' nationality, the British accented speaker ($M = 4.06$, $SD = 1.65$) was perceived as having a more natural voice than the Dutch accented speaker ($p = .003$, Tukey correction; $M = 3.15$, $SD = 1.48$). Regardless of the speakers' accent, the Danish listeners ($M = 5.56$, $SD = 1.16$) overall rated the speakers as more monotonous than the Dutch listeners ($p = .005$; $M = 5.03$, $SD = 1.53$). Regardless of the listeners' nationality, the British speaker ($M = 4.48$, $SD = 1.61$) was rated as having a more pleasant voice

than the Dutch speaker (p = .002, Tukey correction; M = 3.57, SD = 1.57). Finally, regardless of the listeners' nationality, the Danish speaker (M = 3.21, SD = 0.80) was rated as speaking slower than both the Dutch (p < .001, Tukey correction; M = 4.37, SD = 0.81) and the British accented speaker (p < .001, Tukey correction; M = 4.12, SD = 0.98).

Table 5: Means and standard deviations for voice characteristics of the speaker (1 = strongly disagree, 7 = strongly, for speech rate; 1 = very slow, 7 = very fast).

Accent	Listeners' nationality	Sounds natural		Sounds monotonous		Pleasant voice		Speech rate	
		M	(*SD*)	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)
Danish	Danish	3.63	(1.67)	5.87	(0.82)	4.61	(1.43)	3.09	(0.63)
	Dutch	3.66	(1.64)	5.03	(1.58)	3.69	(1.60)	3.42	(0.94)
	Total	3.65	(1.64)	5.44	(1.33)	4.13	(1.58)	3.21_{de}	(0.80)
Dutch	Danish	3.36	(1.32)	5.42	(1.09)	3.52	(1.48)	4.39	(0.83)
	Dutch	2.94	(1.61)	4.95	(1.59)	3.53	(1.67)	4.32	(0.85)
	Total	3.15_{a}	(1.48)	5.18	(1.38)	3.52_{c}	(1.57)	4.37_{d}	(0.81)
British	Danish	3.91	(1.68)	5.39	(1.41)	4.53	(1.75)	4.08	(1.05)
	Dutch	4.24	(1.62)	5.00	(1.46)	4.42	(1.46)	4.15	(0.91)
	Total	4.06_{a}	(1.65)	5.20	(1.44)	4.48_{c}	(1.61)	4.12_{e}	(0.98)
All	Danish	3.64	(1.56)	5.56_{b}	(1.15)	4.22	(1.63)	3.86	(1.02)
	Dutch	3.61	(1.65)	5.03_{b}	(1.53)	3.87	(1.61)	3.93	(0.99)
	Total	3.62	(1.63)	5.27	(1.38)	4.05	(1.63)	3.90	(1.00)

Subscript letters explain the subsets of accents that differ significantly from each on the specific voice characteristics at the .05 level.

3.4 Perceived intelligibility and actual comprehension

In order to answer research questions 1a, the perceived intelligibility and actual comprehension of the speaker were measured as explained in section 2.4. A significant positive correlation was

found between the two variables for both the Danish participants ($r(102) = .49$, $p < .001$) and for the Dutch participants ($r(102) = .37$, $p < .001$). This correlation explains a relationship between perceived intelligibility and actual comprehension so when participants reported a high level of perceived intelligibility, then actual comprehension was also high.

A three-way MANOVA with listeners' nationality (Danish and Dutch), accent of the speaker (Danish, Dutch and British) and listeners' English proficiency (least and most) as factors and with perceived intelligibility and actual comprehension as the dependent variables showed a significant multivariate effect of accent of the speaker ($F(4,384) = 6.24$, $p < .001$, $\eta^2 = .06$) but no significant multivariate effect of listeners' nationality ($F(2,191) = 1.41$, $p = .246$) or English proficiency ($F(2,191) = 2.62$, $p = .075$). There was no significant interaction effect at all (lowest p value was for the interaction of accent of the speaker and English proficiency: ($F(4,382) = 1.13$, $p = .341$)).

The univariate analysis showed a significant effect of accent of the speaker on actual comprehension ($F(2,192) = 3.33$, $p = .038$, $\eta^2 = .03$). The post-hoc analysis showed that regardless of the listeners' nationality and English proficiency, all listeners scored higher on actual comprehension for the British speaker ($M = 2.72$, $SD = 0.51$) than the Dutch accented speaker ($p = .027$, Tukey Correction; $M = 2.43$, $SD = 0.82$). There was no difference on actual comprehension between the Danish and the Dutch speaker ($p = .141$, Tukey correction) or the Danish and the British speaker ($p = .767$, Tukey Correction). There was also a significant univariate effect of accent of the speaker on perceived intelligibility ($F(2,192) = 24.88$, $p < .001$, $\eta^2 = .12$). The post-hoc analysis showed that regardless of the listeners' nationality and English proficiency, all listeners perceived the Dutch speaker as less intelligible ($M = 4.31$, $SD = 1.40$) than both the Danish accented speaker ($p = .003$, Tukey correction; $M = 5.11$, $SD = 1.46$) and the British accented speaker ($p < .001$, Tukey Correction, $M = 5.51$, $SD = 1.38$). There was no difference on perceived intelligibility between the Danish and the British speaker ($p = .221$, Tukey correction). Means and standard deviations for intelligibility and comprehensibility are presented in Table 6 and Table 7.

Table 6: Means and standard deviations for actual comprehension as answered by respondents from the multiple-choice questions (Appendix B) (1 = not very comprehensible, 3 = very comprehensible).

	Danish accent			Dutch accent			British accent			All accents		
	M	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*
Danish listeners												
Least proficient	2.60	(0.63)	15	2.29	(0.98)	17	2.63	(0.59)	19	2.51	(0.76)	51
Most proficient	2.78	(0.42)	18	2.56	(0.62)	16	2.70	(0.49)	17	2.68	(0.51)	51
Total	2.69	(0.53)	33	2.42	(0.83)	33	2.67	(0.53)	36	2.60	(0.65)	102
Dutch listeners												
Least proficient	2.58	(0.71)	17	2.22	(1.00)	18	2.69	(0.61)	15	2.48	(0.81)	50
Most proficient	2.61	(0.62)	18	2.68	(0.48)	16	2.88	(0.32)	18	2.73	(0.49)	52
Total	2.60	(0.65)	35	2.44	(0.82)	34	2.79	(0.48)	33	2.61	(0.68	102
All listeners												
Least proficient	2.59	(0.67)	32	2.26	(0.98)	35	2.65	(0.60)	34	2.50	(0.78)	101
Most proficient	2.69	(0.52)	36	2.63	(0.55)	32	2.80	(0.41)	35	2.71	(0.50)	103
Total	2.65	(0.59)	68	2.43	(0.82)	67	2.72	(0.51)	69	2.60	(0.66)	204

Table 7: Means and standard deviations for perceived intelligibility as perceived by respondents (1 = not very intelligible, 7 = very intelligible).

	Danish accent			Dutch accent			British accent			All accents		
	M	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*
Danish listeners												
Least proficient	5.64	(0.66)	15	3.88	(1.44)	17	5.26	(1.36)	19	4.92	(1.45)	51
Most proficient	5.37	(1.68)	18	4.58	(1.31)	16	6.04	(1.00)	17	5.35	(1.44)	51
Total	5.50	(1.30)	33	4.22	(1.41)	33	5.63	(1.25)	36	5.13	(1.46)	102

	Danish accent			Dutch accent			British accent			All accents		
Dutch listeners												
Least proficient	4.86	(1.50)	17	4.24	(1.59)	18	5.22	(1.43)	15	4.75	(1.54)	50
Most proficient	4.63	(1.54)	18	4.56	(1.21)	16	5.50	(1.59)	18	4.91	(1.50)	52
Total	4.74	(1.51)	35	4.39	(1.41)	34	5.38	(1.50)	33	4.83	(1.52)	102
All listeners												
Least proficient	5.23	(1.25)	32	4.07	(1.53)	35	5.25	(1.37)	34	4.83	(1.49)	101
Most proficient	5.00	(1.63)	36	4.57	(1.22)	32	5.76	(1.35)	35	5.13	(1.48)	103
Total	5.11	(1.46)	68	4.31	(1.41)	67	5.51	(1.38)	69	4.98	(1.49)	204

3.5 Evaluation of the speakers

In order to answer research question 1b, a three-way MANOVA was run with listeners' nationality (Danish and Dutch), accent of the speaker (Danish, Dutch and British) and listeners' English proficiency (least and most) as factors for the three dependent variables of speaker evaluation (competence, likeability and dynamism). The three-way MANOVA showed a significant multivariate effect of listeners' nationality ($F(3,190) = 3.54$, $p = .016$, $\eta^2 = .05$), of the accent of the speaker ($F(6,380) = 7.43$, $p < .001$, $\eta^2 = .11$) and of listeners' English proficiency ($F(3,190) = 3.32$, $p = .021$, $\eta^2 = .05$). There was no significant interaction effect at all (lowest p value was for the interaction of listeners' nationality and accent of the speaker: ($F(6,380) = 1.64$, $p = .136$)).

The univariate analyses showed a significant effect of listeners' nationality on dynamism ($F(1,192) = 6.83$, $p = .010$, $\eta^2 = .03$). Regardless of the accent of the speaker and listeners' English proficiency, the Dutch listeners evaluated all speakers higher on dynamism ($M = 2.95$, $SD = 1.12$) than the Danish listeners ($M = 2.51$, $SD = 1.39$). There was no univariate effect of listeners' nationality on perceived competence ($F(1,192) < 1$) or likeability ($F(1,192) < 1$).

The univariate analyses also showed a significant effect of accent of the speaker on competence ($F(2,192) = 10.30$, $p < .001$, $\eta^2 = .10$). The post-hoc analysis showed that regardless of listeners' nationality and English proficiency, the British accented speaker ($M = 5.00$, $SD = 0.89$) was perceived as more competent both the Danish accented speaker ($p = .043$, Tukey Correction; $M = 4.62$, $SD = 0.85$) and the Dutch accented speaker ($p < .001$, Tukey correction; $M = 4.28$, SD

= 0.98). There was no difference between the Danish and the Dutch speakers (p = .081, Tukey correction). There was also a significant univariate effect of accent of the speaker on likeability ($F(2,192) = 5.87$, p = .003, η^2 = .06). The post-hoc analysis showed that regardless of the listeners' nationality and English proficiency, the Danish accented speaker (M = 5.52, SD = 0.91) was perceived as more likeable than the Dutch accented speaker (p = .002, Tukey correction; M = 4.95, SD =1.03). There was no difference between the Danish and the British speaker (p = .104, Tukey correction) or the Dutch and the British speaker (p = .333, Tukey correction). There was no significant univariate effect of accent of the speaker on dynamism ($F(2,192) = 1.28$, p = .281).

Finally, the univariate analyses showed a significant effect of listeners' English proficiency on likeability ($F(1,192) = 4.94$, p = .027, η^2 = .03). Regardless of listeners' nationality and the accent of the speaker, the least proficient listeners rated all speakers less likeable (M = 5.06, SD = 1.08) than the most proficient listeners (M = 5.38, SD = 0.91). There was no significant univariate effect of English proficiency on competence ($F(1,192) < 1$) or on dynamism ($F(1,192) < 1$). Means and standard deviations for perceived competence, likeability and dynamism are presented in Table 8, Table 9 and Table 10.

Table 8: Perceived competence as evaluated by the Danish and Dutch listeners, with different levels of English proficiency, on the Danish, Dutch, and British accented speakers (1 = not very competent, 7 = very competent).

	Danish accent			Dutch accent			British accent			All accents		
	M	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*
Danish listeners												
Least proficient	4.83	(0.90)	15	4.26	(1.14)	17	4.91	(1.10)	19	4.67	(1.08)	51
Most proficient	4.57	(0.90)	18	4.40	(0.84)	16	4.94	(0.83)	17	4.64	(0.87)	51
Total	4.69	(0.89)	33	4.33	(0.99)	33	4.93	(0.97)	36	4.66	(0.98)	102
Dutch listeners												
Least proficient	4.73	(0.95)	17	4.40	(1.20)	18	4.81	(0.74)	15	4.64	(0.99)	50
Most proficient	4.39	(0.68)	18	4.04	(0.62)	16	5.30	(0.79)	18	4.60	(0.87)	52
Total	4.56	(0.83)	35	4.24	(0.97)	34	5.08	(0.80)	33	4.62	(0.93)	102

	Danish accent			Dutch accent			British accent			All accents		
All listeners												
Least proficient	4.78	(0.91)	32	4.33	(1.15)	35	4.87	(0.95)	34	4.66	(1.03)	101
Most proficient	4.48	(0.79)	36	4.22	(0.75)	32	5.13	(0.82)	35	4.62	(0.87)	103
Total	4.62	(0.86)	68	4.28	(0.98)	67	5.00	(0.89)	69	4.64	(0.95)	204

Table 9: Perceived likeability as evaluated by the Danish and Dutch listeners, with different levels of English proficiency, on the Danish, Dutch, and British accented speakers (1 = very likeable, 7 = not very likeable).

	Danish accent			Dutch accent			British accent			All accents		
	M	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*	*M*	(*SD*)	*n*
Danish listeners												
Least proficient	5.50	(1.14)	15	4.62	(0.96)	17	4.91	(1.10)	19	4.99	(1.15)	51
Most proficient	5.87	(0.73)	18	4.81	(1.10)	16	5.24	(1.01)	17	5.33	(1.03)	51
Total	5.70	(0.95)	33	4.71	(1.02)	33	5.06	(1.12)	36	5.16	(1.10)	102
Dutch listeners												
Least proficient	5.50	(0.93)	17	4.91	(1.21)	18	4.97	(0.74)	15	5.12	(1.00)	50
Most proficient	5.21	(0.79)	18	5.48	(0.66)	16	5.60	(0.84)	18	5.43	(0.77)	52
Total	5.35	(0.85)	35	5.18	(1.02)	34	5.31	(0.85)	33	5.28	(0.91)	102
All listeners												
Least proficient	5.00	(1.02)	32	4.76	(1.09)	35	4.94	(1.02)	34	5.06	(1.08)	101
Most proficient	5.54	(0.82)	36	5.15	(0.95)	32	5.42	(0.93)	35	5.38	(0.91)	103
Total	5.52	(0.91)	68	4.95	(1.04)	67	5.18	(1.00)	69	5.22	(1.01)	204

3.6 Regression analyses on English proficiency

It is possible that dividing the participants into groups of least and most proficient in English at a median split on their LexTALE scores had an effect on the results. Thus, additional regression analyses were run with the participants' English language competences as the predictor for all the dependent variables of perceived intelligibility, actual comprehension and speaker evaluations, regardless of the participants' nationality and the accent of the speaker. English proficiency was not shown to be a predictor for perceived intelligibility ($F(1,202) = 1.35$, $p = .247$), perceived competence ($F(1,202) < 1$) or perceived dynamism ($F(1,202) < 1$). However, English language competences was a significant predictor for actual comprehension ($F(1,202) = 5.91$, $p = .016$) and for perceived likeability ($F(1,202) = 3.96$, $p = .048$). The higher the participants' English language competences, the more comprehensible ($\beta = 0.169$, $p = .016$) and likeable ($\beta = 0.138$, $p = .048$) they evaluated the speakers.

4 Conclusion and discussion

The overall aim in the current study was to see if there were differences in intelligibility, comprehensibility and speaker evaluation of Danish and Dutch listeners, listening to Danish, Dutch or British accented English. Additionally, the Danish and Dutch listeners were divided into groups of least and most proficient in English, to see if English proficiency had an effect on intelligibility, comprehensibility and speaker evaluation as well.

With regard to research question 1a, the results from the current study showed no differences between the listeners' nationalities or between the groups of least and the most proficient in English in regards to how well they understood the speaker. The results showed that the only differences on perceived intelligibility and actual comprehension was due to the accent of the speaker. Thus, all listeners perceived the Dutch accented speaker as less intelligible than the Danish and the British accented speaker. All listeners also scored lower on actual comprehension when listening to the Dutch accented speaker compared to the British accented speaker.

These results are overall conflicting with the theories on the matched interlanguage speech intelligibility benefit and the mismatched interlanguage speech intelligibility detriment (Bent & Bradlow, 2003; Stibbard & Lee, 2006). In fact, the only result that was in line with these

theories was on perceived intelligibility for the Danish listeners where Danish listeners found Danish accented speaker easier to understand than the Dutch accented speaker. Furthermore, it could not be concluded from the current findings that native accented English is easier to understand than non-native varieties for non-native listeners. These results also goes against the native speech intelligibility benefit for non-native listeners (Major et al., 2005), but are in line with similar results on German, French and Spanish listeners' intelligibility and comprehensibility of Dutch and British accented English where the listeners did not find the native speaker harder to understand than the non-native speaker (Hendriks et al., 2017). Thus, results from the current study are in line with previous findings, indicating that non-native listeners do not necessarily find native English accents easier to understand than non-native accents (Hendriks et al., 2017; Munro & Derwing, 1996). Finally, the non-significant effects of the listeners' English proficiency on intelligibility and comprehensibility in the current study are conflicting with the results by Beinhoff (2014), who found that less proficient non-native listeners perceived the moderate accented speakers easier to understand than highly proficient listeners.

Since it is possible that these non-significant results of English language proficiency on intelligibility and comprehensibility were due to the method of dividing the participants in groups at the median split, additional regression analyses were run with English proficiency as the predictor variable. The regression analyses only found English proficiency to be a valid predictor for actual comprehension and not for perceived intelligibility. Thus, the current results are only partly in line with a previous study where English proficiency was found as a valid predictor for both perceived intelligibility and actual comprehension (Hendriks et al., 2018).

One main factor that might have influenced all the results on intelligibility and comprehensibility is the overall high level of English proficiency of all listeners. High scores on perceived and actual language competence in English was expected and confirmed for both the Danish and the Dutch listeners, which in turn could have led to overall high intelligibility and comprehensibility of both the native speaker and the speakers with a similar and different L1 to the listeners. Even though the results from the LexTALE test did show a difference in English proficiency between the least and the most proficient participants, all groups of the least proficient participants still had an average score between 64 and 68 on the LexTALE test (see Table 2) which corresponds to an upper intermediate English level, indicating a fair level of English proficiency (Lemhöfer & Broersma, 2012). Thus, it is possible that the high level of the non-native

listeners' English proficiency reduced the effect of having a shared L1 in accented speech. In fact, the results from the current study seem to suggest that accentedness has limited to no effect on how well non-native listeners understand the speaker when the non-native listeners have reached a certain degree of English proficiency. However, a question still remains about how proficient non-native listeners need to be, before the effect of accentedness on intelligibility and comprehensibility is eliminated.

Even though the listeners did not overall find the speakers difficult to understand, findings from the current study showed that both the Danish and the Dutch listeners were able to identify the moderate non-native accents and distinguish them from the native accent. The results showed that both the Danish and the Dutch listeners were able to correctly identify the native speaker and the correct country of origin of the non-native speakers with similar L1 background. These results are in line with previous research on accent strengths and identification of speaker origin (Hendriks et al., 2016; Hendriks et al., 2018). Thus, it can be suggested that listeners are able to identify speakers with similar L1 backgrounds, when the non-native speaker has a moderate accent in English. Since it previously been suggested that comprehensible accented speech still can lead to prejudice towards the speaker (Gluszek & Dovidio, 2010), it is still possible that the accented speech had an effect on the evaluations of the speakers.

With regard to research question 1b on the evaluation of the speaker, the overall picture indicated a preference for the British accented speaker on perceived competence and for the Danish speaker on likeability. Finally, the Dutch listeners reported higher ratings on dynamism for all speakers compared to the Danish listeners. These results will be discussed in the following.

First of all, all listeners perceived the British speaker as more competent than both non-native speakers. This result is in line with most previous research where the native speaker in general receives more positive evaluations on perceived competence than non-native speakers when evaluated by native listeners (Fuertes et al., 2012) and non-native listeners with both different and similar L1 background (Beinhoff, 2014; Hendriks et al., 2017; Nejjari et al., 2012; Stibbard & Lee, 2006). There was no difference between how the Danish and Dutch listeners evaluated the speakers on perceived competence and neither was there a difference between the least and most proficient listeners on perceived competence of the speaker. Thus, the competence of the speaker was only due to his accent and not due to differences in listeners' nationality or listeners' English proficiency. One explanation for this result can be found in Fuertes et al.

(2012), who figured that more formal high stake settings generated the strongest effects in favor of standard accents. Thus, the settings in the current study could help explain the higher scores on perceived competence for the British speaker since the setting in the current study also could be perceived as a formal situation when a manager gives a speech during the company's annual employee meeting.

With regard to likeability, the Danish accented speaker was perceived as more likeable than the Dutch accented speaker but neither more or less likeable than the British accented speaker, regardless of the listeners' nationality and the listeners' English proficiency. This result goes against findings from Fuertes et al. (2012) where native listeners in general perceive native speakers more likeable than non-native speakers. In line with previous studies, results from the current study indicate that this is not always the case when non-native listeners evaluate the speakers (Hendriks et al., 2017; Hendriks et al., 2018).

It is possible that differences in voice characteristics had an influence on these results. Even though the recordings with the British and the Dutch accents were from the same speaker, the listeners reported differences between the speakers of having a natural and a pleasant voice. Thus, the Dutch accented speaker received the lowest scores on these characteristics compared to the Danish and the British speakers by the Dutch listeners, which in turn could result in lower scores on likeability from the listeners. Additionally, the current study showed that the listeners' English proficiency had an effect on likeability. The most proficient listeners evaluated all speakers more likeable than the least proficient English listeners. This result is in line with findings from a previous study and indicates that listeners' English proficiency facilitates more likeable attitudes towards both native and non-native English accented speakers (Hendriks et al., 2018).

Finally, with regard to perceived dynamism, the Dutch listeners overall rated all speakers higher on dynamism than the Danish listeners. There were no differences between the accents of the speaker or listeners' English proficiency on perceived dynamism. These findings are conflicting with previous research on perceived dynamism of native and non-native speakers where the native speakers in general have been rated higher on dynamism than non-native speakers by native listeners (Fuertes et al., 2012). However, the current study can conclude that this is not the case for perceived dynamism when the evaluators are non-native listeners. On the one hand, it is possible that listeners found it difficult to evaluate a speaker's liveliness and level of energy

based on audio fragments only, where other visible factors maybe are better indicators of these measures. This could further explain the very low scores that all speakers received on dynamism (see Table 10). On the other hand, the current study can conclude that listeners from different countries and different cultures do not necessarily have the same evaluations of a speaker's dynamism based on audio fragments. Thus, future research should keep cultural differences in mind when non-native listeners are asked to evaluate different accented speakers on different personal and social attributes, as the evaluations of the speaker may vary as a function of the nationality of the evaluator.

4.1 Limitations and suggestions for further research

The findings from the current study should not be interpreted without having several practical limitations in mind. First of all, the use of Qualtrics to create the questionnaire and distributing the questionnaire through social media has some limitations. First of all, this method does not make it possible for the researchers to check the surroundings and circumstances in which the participants are listening to the speech and answering the questions. Secondly, the researchers are not able to check how many times the participants listened to the audio fragments, before starting to answer the questions. These differences could thus have influenced the results, as listening to the audio fragments multiple times could lead to increasing intelligibility and comprehensibility scores.

Another limitation to the current study was to use a mix of a verbal-guise and matched-guise design where two speakers were used to perform three accents. Even though it is difficult to find matched guise speakers for more than two accents (Nejjari et al., 2019), future accent studies should ideally try to find matched guise speakers in order to minimize the effect of differences in the speaker' voice characteristics which is the purpose of the matched guise design (Cargile & Giles, 1998; Lambert, 1967). With two different speakers, it is possible that differences in the speakers' voice characteristics had an influence on the results. In the current study, some differences were reported on the speakers' voice characteristics where the British speaker was reported as having a more natural and pleasant voice than the Dutch speaker. Additionally, the Danish speaker was reported as speaking slower than both the Dutch and the British speaker. In fact, it is possible that the slower speech rate for the Danish speaker increased perceived intelligibility and actual comprehensibility for the listeners as it previously has been confirmed that

slower speech rates facilitate listening comprehension (Griffiths, 1992; Zhao, 1997). However, even though the Dutch and British speech samples were from a matched guise speaker, the listeners still reported differences in voice characteristics of the two fragments. These differences were unexpected since the purpose of having a matched guise speaker is to avoid having differences in voice characteristics of the speakers. Thus it is possible that some of the speakers' voice characteristics were judged based on the speaker's accent rather than on the voice characteristics itself.

The current study should be seen as contribution to the broad research field of accent studies, looking at how listeners with different nationalities and different levels of English proficiency evaluate different speakers with different accents. The results from the current study shed a new light on the results from Fuertes et al. (2012), whose results arguably are limited to native listeners' evaluation of native and non-native speakers. In line with recent accent studies (Hendriks et al., 2017; Hendriks et al., 2018), it can be concluded that non-native listeners do not share the same absolute positive attitudes towards native speakers where native and non-native listeners only share the same positive attitudes towards native accented speakers on the speakers' perceived competence. Thus, it is still advisable for managers to strive towards getting a near-native accent in English, in order to be seen as more competent. This is especially relevant since competence is seen as an important quality for good leaders (Vacar & Dumitrascu, 2012). However, the current study contributes to findings from recent studies (Hendriks et al., 2017; Hendriks et al., 2018), indicating that non-native listeners do not have the same preferences for the native speakers on likeability and dynamism. In fact, the results showed that other variables than the accent of the speaker had an impact on the speakers' likeability and dynamism. Thus, it is advisable for future accent studies to keep including listeners from different cultures and measure the listeners' English language proficiency when looking at speaker evaluations.

Finally, the findings from the current study indicated that non-native English users with a general high level of English proficiency do not necessarily find moderate accented English harder to understand than native accents. However, how proficient non-native listeners need to be in English before accented speech no longer have an impact on intelligibility and comprehensibility is a question that still remains unanswered and that future research should try to investigate.

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Appendix A - Speech recorded for the experiment

We strive to devote our talent and resources to creating superior products and services that contribute to a better global society. We are constantly evaluating our performance and making changes to meet both the evolution of technology and people's expectation to our services. Our goal is to deliver useful and relevant results. In line with our strategy, we are actively pursuing continuous growth opportunities in the right markets, which we believe will create increasing value for all our stakeholders.

Appendix B – Multiple choice questions about the speech

Correct answers are marked in bold.

1) What is the speaker constantly evaluating?

- o employees (1)
- **o performance (2)**
- o effectiveness (3)
- o lunch breaks (4)

2) What is the goal of the company?

- o to deliver important and significant results (1)
- o to deliver important and relevant results (2)
- o to deliver useful and significant results (3)
- **o to deliver useful and relevant results (4)**

3) Who will the company create increasing value for?

- o all their suppliers (1)
- o all their customers (2)
- **o all their stakeholders (3)**
- o all their managers (4)

Declaration on plagiarism and fraud

The undersigned: Jeppe Houbak, S1027666

Jeppe Houbak

Master's student at the Radboud University Faculty of Arts,

declares that the assessed thesis is entirely original and was written exclusively by himself/herself. The undersigned indicated explicitly and in detail where all the information and ideas derived from other sources can be found. The research data presented in this thesis was collected by the undersigned himself/herself using the methods described in this thesis.

Place and date: Nijmegen, 24th of July 2019

Nijmegen 24/07-2019

Signature: Jeppe Houbak