

**The evaluation of native and non-native English
lecturers' accents in higher education:
Dutch and American students' evaluations of
standard American and Dutch-accented English**

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Abstract

Due to the growing use of the English language in academic settings, lecturers are often required to teach in English instead of their native language. This leads to many lecturers speaking English with a foreign accent. The current study examined to what extent a moderate Dutch, slight Dutch and standard American accent influences non-native English (NNE) and native English (NE) students' perceived comprehensibility and attitude towards the lecturer in terms of perceived competence, perceived warmth and perceived teaching quality. The experiment used a verbal guise technique where 107 Dutch and 94 American students evaluated an audio fragment of a lecturer with a moderate Dutch accent, a slightly Dutch accent or a standard American accent. The moderately Dutch accented lecturer was evaluated less positively than the slightly Dutch accented lecturer and standard American accented lecturer on all measured variables, except from perceived warmth: no difference in the evaluation of perceived warmth was found between the three different accents. The Dutch and American students differed in their evaluation of the lecturer for the variables perceived competence and perceived teaching quality, since the Dutch students were considered more critical in their evaluation than the American students. No difference was found between the Dutch and American students in their evaluation for the variables perceived comprehensibility and perceived warmth. Additionally, Dutch students found it very important that a lecturer sounded like a native speaker of English, while American students did not. Therefore, it is advisable that Dutch universities consider the results of this study when hiring non-native English lecturers.

Key words: English-medium instruction; non-native English; native English; accentedness; comprehensibility; attitude

1. Introduction

Over the past few decades, there has been a significant increase in the use of the English language in international communication. Due to globalization, English is used in many different areas, such as popular culture, technology, the sciences, but also higher education (Gardt & Hüppauf, 2004). People need to communicate with each other in a lingua franca, which is most often English. Today, English is a language that students in the Netherlands are required to learn during their education (Nejjari, Gerritsen, van der Haagen, & Korzilius, 2012). The growing use of English in academic settings can be explained by internationalization policies that have been adopted by European universities. In 1999, the Bologna Declaration had a significant impact on EMI (English-medium instruction) in European countries (Hellekjær, 2010). This declaration was created to make it easier for students and graduates to follow a higher education program in the European Union (Coleman, 2006). EMI leads to an increase of staff and student mobility, but also institutional visibility and international recognition (Plo-Alastrué & Pérez-Llantada, 2015). These are reasons as to why so many educational programs – in 2016 20% of all bachelor programs and 70% of all master programs at Dutch universities (Koninklijke Nederlandse Akademie van Wetenschappen, 2017) – are offered in English.

Even though EMI has the above-mentioned benefits, it also has its challenges. Most lecturers at Dutch universities are NNE (non-native English) lecturers, meaning English is not their native language. Since many universities offer courses taught in English, the lecturers often do not teach in their mother tongue, but instead in English. When speakers communicate in a foreign language, it is common that their language differs from that of a native speaker. Due to the fact that when a speaker communicates in a different language, elements of the mother tongue are transferred to the foreign language (Hendriks, van Meurs, & de Groot, 2017). This means that when NNE speakers communicate in English, elements of their native language (L1) can be audible in the pronunciation of the English language (L2). This can have an effect on the listener's comprehensibility and attitude towards the speaker, which will be researched in this study.

1.1 Perceived comprehensibility

When NNE speakers communicate in English, they are generally evaluated less positively on comprehensibility than when they communicate in their native language (Nejjari et al., 2012). Perceived comprehensibility is an estimation, made by the listener, of how much they understand the speaker. Several researchers have studied the relationship between accented

English and (perceived) comprehensibility (e.g. Butler, 2007; Hendriks et al., 2017; Hendriks, van Meurs, & Hogervorst, 2016; Major, Fitzmaurice, Bunta, & Balasubramanian, 2002; Munro & Derwing, 1995; Nejjari et al., 2012). These studies show that accent strength is correlated with comprehensibility. Hendriks et al. (2017) found that strong or moderately accented English speakers scored lower on comprehensibility than slightly accented and native English speakers. However, Butler (2007) found no difference in how non-native listeners evaluated non-native and native accents on comprehensibility. The study by Butler (2007) was the only study that used an American English model instead of a British English model.

In general, speakers with a native accent are easier to understand by both NE (native English) and NNE listeners than speakers with a non-native accent (Major et al., 2002). This phenomenon is referred to as the ‘native speech intelligibility benefit’. NNE listeners who share the same native language as the speaker, understand the non-native accent more easily than a native accent. This is referred to as the ‘matched interlanguage speech intelligibility benefit’ (Bent & Bradlow, 2003; Hendriks et al., 2017). However, NNE listeners can find it more difficult to understand NNE speakers when they have a different native language than when they do share the same native language, which is called the ‘mismatched interlanguage speech intelligibility detriment’ (Bent & Bradlow, 2003). Even though several studies have found these three possible effects, it does not necessarily mean that they always occur. In this study, we will look at how NE and NNE listeners evaluate comprehensibility when the lecturer is an NE speaker and when the lecturer is an NNE speaker with an accent. The results of the NE listeners will be compared to the results of the NNE listeners to see whether they evaluate comprehensibility differently.

1.2 Attitudes towards NNE speakers

Besides comprehensibility, attitudinal evaluations of the speaker can also be influenced by a non-native accent. Several studies have looked at attitudinal evaluations of non-native speakers (e.g. Hendriks et al., 2017; Hendriks et al., 2016; Klaassen, 2001; Tsalikis, DeShields, & LaTour, 1991; Vinke, 1995). Hendriks et al. (2016) studied what effect the degree of accentedness has on how Dutch NNE students evaluate lecturers in terms of comprehensibility and attitude. Their study showed that lecturers with a moderate Dutch accent were evaluated less positively by Dutch listeners than when they spoke with a slight Dutch accent. Also, when lecturers had a slight Dutch accent, they were evaluated higher on likeability (Hendriks et al., 2016). In general, studies have found that stronger non-native accents are evaluated more

negatively than slighter non-native accents in terms of attitudinal evaluations (e.g. Hendriks et al., 2017; Nejjari et al., 2012).

Studies by Klaassen (2001) and Vinke (1995) show that NNE lecturers may face difficulties when teaching in English. Some lecturers were unable to explain the material in different ways or did not know how to vary in their word choice. Even NNE lecturers whose level of English proficiency was considered high were not able to explain the same information as they would in their L1 (Vinke, 1995). This means that teaching in a foreign language can negatively influence the teaching quality. For example, even though Dutch lecturers have – in general – a high level of English proficiency, it is still possible that they are unable to cover the same ground of information as when they would teach in Dutch. This study aims to investigate whether NE and NNE listeners evaluate attitudes towards a lecturer in terms of competence, warmth and teaching quality differently when a lecturer has a NE accent than when a lecturer has an NNE accent.

Most studies that research the influence of accentedness on attitudes towards the speaker focus on a standard British accent and a foreign English accent, but there are a few studies that focused on speakers with a standard American accent (Cargile, 1997; Feurtes & Celso, 2000; Hosoda, Stone-Romero & Walter, 2007). Hosoda et al. (2007) researched whether speakers with a standard American accent were evaluated differently than speakers with an Asian accent. Their study pointed out that speakers with a standard American accent were evaluated more positively than Asian-accented English speakers. Cargile (1997) also focused on speakers with a standard American accent and Asian-accented English speakers. He researched how Euro-American and Asian-American students evaluated Chinese-accented English and standard American English speakers. Cargile found that Chinese-accented English speakers were not evaluated less positively than standard American speakers on the status dimension, but they were evaluated less positively on the solidarity dimension. However, Feurtes and Celso (2000) found contradicting results, as their study showed that speakers with a standard American accent were rated similarly as speakers with a non-native accent on attitudinal evaluations. To the best of our knowledge, there is a limited number of studies that have focused on American accented English and therefore, this study will use an American accented English model to further research the effects of native American accented English speakers and non-native American English speakers on the evaluations of native and non-native English listeners. American English is generally used as the English model for EFL (English as a foreign language) (Butler, 2007). Since this study also has NNE listeners, it means that English is a

foreign language to them and therefore, the American English model was chosen to be used in this study.

1.3 Degrees of accentedness

When a non-native speaker communicates in a different language, elements of the mother tongue are often still audible. However, how many of these elements are audible depends on the speaker's accentedness. According to Munro, Derwing and Morton (2006) accentedness is "the degree to which the pronunciation of an utterance sounds different from an expected production pattern" (p.112). The degree of accentedness can be slight, which means that elements of the native language are only slightly audible, strong, which means that elements of the native language are very clearly audible, or moderate, which means that elements of the native language are audible, but they are neither very strong nor slight.

The Dutch are considered to have the highest level of English proficiency in Europe (EF English Proficiency Index, 2017), but this does not necessarily mean that the Dutch do not speak English with a strong, moderate or slight Dutch accent. In fact, all three degrees of accentedness occur, but a strong Dutch accent is less likely to occur at Dutch universities. Lecturers at Dutch universities all have a degree from a university, meaning they are well educated. Also, many Dutch universities require lecturers to obtain a certain level of English proficiency before they are allowed to teach in English. For example, Radboud University in Nijmegen, the Netherlands, requires lecturers to have a C2 level of English proficiency, which is near-native English. Other Dutch universities require lecturers to have either a C1 or C2 level of English. C levels of English are the highest levels of English proficiency lecturers can have. Even though these lecturers will probably still speak English with a Dutch accent, a strong Dutch accent will be less likely to occur due to their educational background. Therefore, this study will only focus on slight Dutch and moderate Dutch accents. As mentioned earlier, accents can affect comprehensibility and attitudinal evaluations of the speaker. It is interesting for Dutch universities to find out what effects the accent of NNE lecturers can have on students and whether students evaluate lecturers differently when they speak with a slight Dutch, moderate Dutch or native American accent.

Not only are there several degrees of Dutch accentedness, there are also many different variations of the English language. The most common ones are American English and British English. In this study, standard American English was chosen over British English since American English is more dominant in Europe (outside of the United Kingdom) (Gonçalves, Loureiro-Porto, Ramasco, & Sánchez, 2017). Platforms such as Netflix are becoming very

popular and due to the fact that the content on Netflix is largely American, people hear American English very often. It is even possible that in the future, the American English language takes over the British English language, due to the growing popularity of American popular culture (Preston, 2017). Since American English can be seen as the mostly used model of English, an American English model instead of a British English model was chosen in this study. This study has both NE and NNE participants. As NE participants, American students were chosen since they are native speakers of English and use an American English model. The Dutch were chosen in this study, since they, as mentioned earlier, have the highest level of English proficiency in Europe (EF English Proficiency Index, 2017). To see whether Dutch listeners, who in general have a high level of English proficiency, are more critical to NNE speakers than NE listeners, the Dutch participated in this study.

1.4 Research questions

Many studies have researched the relationship between accentedness and comprehensibility and attitude towards the speaker. Not many studies have focused on NNE listeners' evaluation of NNE speakers in terms of comprehensibility and attitude towards the speaker and compared this with NE listeners. To our knowledge, there is a very limited amount of studies that focused on whether and to what extent listeners that share the same native language as the speaker (Dutch) respond differently to Dutch accented English than native English listeners in an educational context. The main aim of this study is to investigate whether accent strength, more specifically, Dutch-accented English and American English, influences the evaluation of the speaker in terms of comprehensibility and attitude towards the lecturer and whether NE and NNE listeners evaluate the lecturers differently. This study will answer the following research questions:

RQ1: To what extent do slight Dutch, moderate Dutch and standard American accented English in an educational context influence NNE and NE students' perceived comprehensibility and attitude towards the speaker in terms of perceived competence, perceived warmth and perceived teaching quality?

RQ2: To what extent do NNE (Dutch) speakers and NE (American) speakers differ in their evaluation of the speaker in terms of perceived comprehensibility and attitude towards the speaker in terms of perceived competence, perceived warmth and perceived teaching quality?

2. Method

2.1 Selection of Materials

A total of 10 female speakers – 9 native Dutch speakers and 1 native American English speaker – recorded a short audio fragment. All speakers had experience with presenting in front of students. Similar studies often use the matched-guise technique, which was introduced by Lambert, Hodgson, Gardner and Fillenbaum (1960). This technique measures the attitude of listeners towards languages, dialects and accents (Lambert et al., 1960). However, the present study will not use the matched-guise technique, but rather the verbal guise technique. The difference between the two techniques is the number of speakers. When the matched-guise technique is used, one speaker will read out the same text with different degrees of accentedness, while the verbal guise technique uses multiple speakers who read out the same text. A limitation of the matched-guise technique is that it is difficult to find a single speaker that is able to convincingly read out a text in all the three different conditions of accentedness used in this study: slight Dutch, moderate Dutch and native American English. Therefore, we chose to use the verbal guise technique, where multiple speakers read out the same text. To limit the negative effects the verbal guise technique can have – inconsistency in reading style, delivery and voice quality – speakers of the same gender were selected. In total, ten female speakers recorded the text in a silent room. All the speakers were instructed to present the text as if in a lecture for students. The audio fragments were recorded with the dictaphone application on an iPhone 6. The fragments were edited in iMovie and were between 36 and 40 seconds long.

Audio fragments instead of video fragments were chosen, since the main focus is on the accent of the lecturer. Video clips would distract the participants, since the background and the appearance of the lecturer in the fragments can influence the listener's evaluation of the lecturer. The fragments were based on a TED talk by Amy Cuddy, who is a social psychologist and lecturer. The video was retrieved from YouTube (see Appendix A).

After all speaker had recorded the fragments, a pre-test was conducted. This pre-test was done to determine the degree of accentedness of the speakers (slight Dutch, moderate Dutch or native American English). Nine experts in the field of language proficiency rated the audio fragments on the accent of the speaker (British or American), accentedness (native speaker of English or strong foreign accent in their English), voice quality, speech rate, age and nationality. These scales were based on Bayard, Weatherall, Gallois and Pittam (2001). The questions were

in Dutch, since the all experts that filled out the pre-test were native Dutch. The questions of this pre-test can be found in appendix B.

Based on the outcome of this pre-test, the best speaker for each category (slight Dutch, moderate Dutch and native American) were selected. The speakers needed to score high (American) on the accent of the speaker. After eliminating the speakers that sounded too British, the speakers were put into the three different categories based on the means of the speakers. The speakers that belonged to the same category needed to be significantly different from the other speakers on the variable accentedness. However, speakers needed to score similarly on voice quality, speed and age. In the end, speaker 1 was selected as the moderately accented Dutch speaker, speaker 4 as the slightly accented Dutch speaker and speaker 5 as the native American accented speaker.

2.2 Results Pre-test

The first variable that was looked at was whether the accent of the speaker sounded British or American. This study uses an American English model, which means that all the speakers that sounded British instead of American were not suitable for this study. Therefore, speakers that had a mean below 4 were less eligible to be used. Speaker 3 ($M = 3.11$, $SD = 1.36$), speaker 6 ($M = 3.67$, $SD = 0.71$) and speaker 10 ($M = 3.89$, $SD = 0.78$) sounded too British and were therefore not eligible to be selected.

Means and standard deviations for the variables in the pre-test can be found in Table 1. The reliability of 'accentedness' comprising of two items – the speaker sounds like a native speaker of English and the speaker has a strong foreign accent in her English – was good: $\alpha = .92$. A one-way ANOVA with speaker as factor showed a significant difference between speakers ($F(9,79) = 28.06$, $p < .001$, $\eta^2 = .76$).

Based on the relatively low means for accentedness, speaker 1 ($M = 1.22$, $SD = .36$) and speaker 2 ($M = 2.67$, $SD = 1.25$) were both categorized as moderately Dutch accented speakers. There was no significant difference between speaker 1 and speaker 2 ($p = .391$, Bonferroni correction). However, there was a significant difference between speaker 1 and speaker 4, 5, 8 and 9 ($p < .001$, Bonferroni correction). Speaker 2 significantly differed from speaker 5, 8 and 9 ($p < .001$, Bonferroni correction), but did not significantly differ from speaker 4 ($p = .063$, Bonferroni correction), making speaker 2 less suitable for the category moderately Dutch accented speaker. For this reason, speaker 1 was selected for this category.

Based on the relatively average means for accentedness, speaker 4 ($M = 4.44$, $SD = 1.61$), speaker 7 ($M = 3.44$, $SD = 1.67$) and speaker 8 ($M = 5.22$, $SD = 1.30$) were categorized as

slightly Dutch accented speakers. Speaker 4, 7 and 8 did not significantly differ from each other ($p > .05$, Bonferroni correction). However, there was no significant difference between speaker 8 and speaker 5 and 9 ($p > .05$, Bonferroni correction), making speaker 8 less suitable for the category slightly Dutch accented speaker. Speaker 4 and 7 significantly differed from speaker 1, 5 and 9 ($p > .004$, Bonferroni correction).

Based on the relatively high means for accentedness, speaker 5 ($M = 6.83$, $SD = .25$) and speaker 9 ($M = 6.75$, $SD = .46$) were both categorized as native American accented speakers. There was no significant difference between speaker 5 and 9 ($p = 1.000$, Bonferroni correction). Both speakers significantly differed from speaker 1, 4 and 7 ($p = .004$, Bonferroni correction).

Each speaker was also evaluated on four items (pleasant/not pleasant, natural/not natural, educated/not educated and monotonous/not monotonous) that measured voice quality ($\alpha = .90$). A one-way ANOVA showed a significant difference between speakers ($F(9,80) = 20.78$, $p < .001$, $\eta^2 = .70$). Speaker 1 was already selected as the moderately Dutch accented speaker ($M = 3.19$, $SD = 1.01$). For the category slightly Dutch accented speaker, speaker 4 ($M = 4.89$, $SD = .88$) and speaker 7 ($M = 5.39$, $SD = .88$) did not significantly differ from each other ($p = 1.000$, Bonferroni correction). For the category native American accented speaker, speaker 5 ($M = 6.50$, $SD = .31$) and speaker 9 ($M = 6.25$, $SD = .65$) did not significantly differ from each other ($p = 1.000$, Bonferroni correction).

A one-way ANOVA showed a significant difference between speakers for speed ($F(9,77) = 4.395$, $p < .001$, $\eta^2 = .34$). Speaker 4 ($M = 3.78$, $SD = .26$) and speaker 7 ($M = 4.56$, $SD = .26$) did not significantly differ from each other ($p = 1.000$, Bonferroni correction) and neither did speaker 5 ($M = 4.88$, $SD = .64$) and speaker 9 ($M = 4.13$, $SD = .35$) ($p = 1.000$, Bonferroni correction). The results of the pre-test on the variable nationality of the speaker showed that 87.5% of the participants thought speaker 5 came from the United States, while only 50% thought speaker 9 came from the United States, making speaker 5 the most suitable speaker for the category native American accented speaker. Speaker 1 ($M = 23.11$, $SD = 1.69$) and speaker 5 ($M = 29.56$, $SD = 4.45$) were both in their twenties and also both sounded as if they were in their twenties according to the pre-test. Speaker 4 ($M = 22.67$, $SD = 1.80$) and speaker 7 ($M = 28$, $SD = 4.52$) were also both estimated as speakers who were in their twenties, when in reality, only speaker 4 was in her twenties, which made speaker 4 the most suitable speaker for the category native American accented speaker.

Table 1. Means and standard deviation of the variables ‘accentedness’, ‘accent of the speaker’, ‘voice quality’, ‘speed’, and ‘age’. (Speakers that were selected for the official survey are in bold)

	Accentedness	Accent of speaker	Voice quality	Speed	Age
	n = 9	n = 9	n = 9	n = 9	n = 9
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Speaker 10	1.17 (0.35)	3.89 (0.78)	2.86 (0.84)	3.78 (0.97)	21.00 (2.60)
Speaker 1	1.22 (0.36)	4.00 (1.00)	3.19 (1.01)	5.00 (0.87)	23.11 (1.69)
Speaker 6	2.39 (0.70)	3.67 (0.71)	4.00 (0.91)	3.33 (0.87)	31.22 (7.92)
Speaker 2	2.67 (1.25)	4.44 (1.24)	4.94 (0.85)	4.25 (0.87)	42.89 (6.17)
Speaker 7	3.44 (1.67)	4.44 (1.24)	5.39 (0.88)	4.56 (1.01)	28.22 (4.52)
Speaker 3	4.00 (1.79)	3.11 (1.36)	5.25 (0.63)	4.00 (0.71)	32.89 (5.35)
Speaker 4	4.44 (1.61)	5.88 (0.64)	4.89 (0.88)	3.78 (0.44)	22.67 (1.80)
Speaker 8	5.22 (1.30)	5.67 (1.66)	5.44 (0.70)	3.56 (0.73)	37.22 (7.86)
Speaker 9	6.75 (0.46)	6.56 (0.73)	6.25 (0.65)	4.13 (0.35)	45.00 (7.65)
Speaker 5	6.83 (0.25)	6.67 (0.71)	6.50 (0.31)	4.88 (0.64)	29.56 (4.45)

One version of the final questionnaire was constructed in Dutch (for the Dutch participants) and the other version in English (for the American participants). The questionnaire was translated and back translated by two Dutch North-American Studies graduates.

2.2 Subjects

In total, 201 students and recent graduates participated in this study. The main criteria that were used to select the participants for this study were nationality and whether they were students or recently graduated (within the last five years). Since this study focuses on the effect of the degrees of accentedness of lecturers in higher education, everyone who was not a student or not recently graduated was excluded from this study. Of the 201 students that participated, 107 were Dutch (age: $M = 23.31$, $SD = 3.47$; range 18-46 years, 71% female) and 94 were American (age: $M = 23.91$, $SD = 4.44$; range 18-46 years, 75.5% female). The participants were randomly divided over the three different conditions. Gender ($\chi^2(1) = .517$, $p = .472$) was equally distributed over the two different nationalities, as well as over the three different conditions ($\chi^2(2) = .137$, $p = .934$). Age ($F(2,195) = 0.32$, $p = .727$) was equally distributed over the three

different conditions, but not over the two different nationalities ($F(1,195) = 5.63, p = .019$) (Bonferroni; $p = .019$). However, it is beyond the scope of this thesis to further research this.

The Dutch were asked to fill out a self-assessment of their English proficiency. The distribution of the level of self-assessed English proficiency ($F(2,104) = 0.572, p = .556$) was equally distributed over the three different conditions. Dutch participants were also asked whether they thought they sounded like a native speaker of English themselves. Participants who listened to a native American accented speaker ($M = 2.94, SD = 1.49$; range 1-6) scored similar to participants who listened to a slightly Dutch accented speaker ($M = 2.94, SD = 1.76$; range 1-7). However, participants who listened to a moderately Dutch accented speaker ($M = 3.53, SD = 1.48$; range 1-6) thought they sounded more like a native speaker of English compared to participants who listened to a native American accented speaker or a slightly Dutch accented speaker.

Dutch participants were asked what the main language (Dutch, English or other) of their study program is/was. The language of the study program ($\chi^2(4) = 2.97, p = .559$) was equally distributed over the three different conditions. Of the Dutch students who participated in this study, 40% followed an educational program in English.

2.3 Design

To investigate the effect of accentedness on Dutch and American students' perceived comprehensibility and attitudinal evaluations (perceived competence, perceived warmth and perceived teaching quality), a 2 (nationality of participant: Dutch or American) x 3 (accent strength: moderate Dutch, slight Dutch, native American English) between-subject factorial design was employed. Students were asked to evaluate the different lecturers by listening to an audio fragment and filling out a questionnaire. Each participant evaluated one audio fragment of a lecturer who spoke with one of the three different degrees of accentedness (slight Dutch, moderate Dutch and native American English).

2.4 Instruments

The dependent variables in this study were perceived comprehensibility and attitude towards the lecturer measured in terms of perceived competence, perceived warmth and perceived teaching quality. All the items that were measured in this study were answered on a seven-point Likert scale, anchored by 'disagree' 'agree'.

Perceived comprehensibility was measured with the following statements (based on the Hendriks et al., 2016):

- I have to listen very carefully to be able to understand the lecturer;
- The lecturer speaks clearly;
- The lecturer is barely intelligible;
- The lecturer is difficult to comprehend;
- I have problems understanding what the lecturer is talking about;
- I do not understand what the lecturer means

The reliability of ‘perceived comprehensibility’ comprising of six items was good for the Dutch students and the American students: $\alpha = .91$ (Dutch) and $\alpha = .82$ (American).

Attitude towards the lecturer was measured in perceived competence and perceived warmth using the scales by Fiske, Cuddy, Glick and Xu (2002). The reliability of ‘perceived competence’ comprising of five items was considered good for both the Dutch students and the American students: $\alpha = .87$ (Dutch) and $\alpha = .84$ (American). The reliability of ‘perceived warmth’ comprising of four items was also good for the Dutch students and the American students: $\alpha = .89$ (Dutch) and $\alpha = .91$ (American).

The competence scale consisted of five items. The participants were asked to rate the following statements: ‘I believe the speaker is: Competent, Intelligent, Confident, Competitive, Independent.’

The warmth scale consisted of four items. The participants were asked to rate the following statements: ‘I believe the speaker is: Sincere, Good natured, Warm, Tolerant.’

Perceived teaching quality was measured with the following statements (based on Hendriks, van Meurs and Reimer, 2018):

- The speaker’s subject knowledge is excellent
- The speaker can clearly communicate the content of the lecture
- I think this speaker is a good lecturer
- This speaker’s English is excellent
- I think this lecturer has excellent didactic abilities

The reliability of ‘perceived teaching quality’ comprising of five items was good for the Dutch students and the American students: $\alpha = .90$ (Dutch) and $\alpha = .92$ (American).

Both accentedness and voice quality were measured as well. Accentedness was measured with the following statements: ‘The speaker sounds like a native speaker of English’ and ‘The speaker has a strong foreign accent’. The voice quality scale consisted of four items. The participants were asked to rate the following statements: ‘The speaker sounds: Pleasant, Natural, Educated, Not monotonous.’ The reliability of ‘accentedness’ comprising of two items was good for the Dutch and American students: $\alpha = .84$ (Dutch) and American $\alpha = .87$. The

reliability of ‘voice quality’ comprising of four items was good as well for both nationalities: $\alpha = .82$ (Dutch) and $\alpha = .93$ (American).

Basic background questions were asked at the end of the questionnaire. Both Dutch and American students were asked to answer demographic questions and the Dutch participants were also asked to fill out a self-assessment regarding their own English proficiency. The reliability of ‘self-assessment of their English proficiency’ comprising of four items was good $\alpha = .90$. The participants were also asked whether they find a good English accent important and whether they thought they sound like a native speaker of English themselves. Also, Dutch students were asked what the main language of their study program is/was.

2.5 Procedure

The questionnaire was conducted on an individual basis. The questionnaire was made in Qualtrics and was sent out to all the participants in May 2018. Students could complete the questionnaire on a laptop/computer or mobile device. A small number of the participants was approached in person, but most of the participants were approach through e-mail and social media, in particular through Facebook and WhatsApp. Everyone participated voluntarily and did not receive any form of incentive.

The questionnaire started with two questions to see whether the participant was qualified to participate in the experiment. The first question was about the participant’s nationality and the second question was whether they were a student or recently graduated. When the participant was qualified to fill out the survey, they would first read an introduction. The introduction purposely did not state what the experiment was exactly about. After agreeing with the terms and conditions, the participants were randomly assigned to one of the three different audio fragments. Every participant had to answer questions regarding perceived comprehensibility, perceived competence, perceived warmth, perceived teaching quality, accentedness and voice quality of the lecturer. Lastly, they had to answer demographic questions. Only the Dutch participants were asked to fill out a self-assessment of their English proficiency. The questionnaire can be found in Appendix C.

After completing the questionnaire, participants were not informed what this study was about, only when they particularly asked for it. Filling out the questionnaire took approximately 5 minutes.

2.6 Statistical treatment

In this study, a number of different statistical tests were used to answer the research question. The data of the pre-test was tested in a one-way ANOVA with a post hoc test (Bonferroni correction). For the main study, chi-square tests were conducted to see whether gender, age and the main language of the study program were equally distributed over the different nationalities and the three different conditions. One-way ANOVAS for perceived competence and the importance of a lecturer sounding like a native speaker of English were conducted, as well as two-way ANOVAS for perceived comprehensibility, perceived competence, perceived warmth, perceived teaching quality, accentedness and voice quality. Regression analysis were conducted for the variables I sound like a native speaker of English and It is important that a lecturer sounds like a native speaker of English. Lastly, a chi-square test was conducted for identification of the speaker. For a number of variables, Levene's test turned out to be significant. This was the case for the variables perceived comprehensibility $p = .004$, accentedness $p < .001$ and voice quality $p = .004$. However, it was beyond the scope of this thesis to conduct another test.

3. Results

The main purpose of this study was to investigate to what extent a lecturer's accent strength (moderate Dutch, slight Dutch and native American) influenced Dutch and American students' perceived comprehensibility and attitude towards the lecturer in terms of perceived competence, perceived warmth and perceived teaching quality and whether the two groups differed in their evaluation of the lecturer.

3.1 Perceived comprehensibility

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed a significant main effect for degree of accentedness ($F(2,195) = 38.37, p < .001$), but no significant main effect for student nationality ($F(1,195) = 3.45, p = .65$) on perceived comprehensibility of the lecturer. The interaction effect between degree of accentedness and student nationality was not statistically significant ($F(2,195) = 2.00, p = .138$). All means and standard deviations for perceived comprehensibility can be found in Table 2.

The moderately Dutch-accented speaker ($M = 3.39, SD = 1.28$) was shown to be more difficult to comprehend than both the native American-accented speaker ($M = 1.88, SD = 0.84$)

and the slightly Dutch-accented speaker ($M = 2.21$, $SD = 0.93$) (Bonferroni; all p 's $< .001$). There was no difference in perceived comprehensibility between the slightly Dutch accented speaker and the native American accented speaker (Bonferroni; $p = .180$).

Table 2. Means, standard deviations and number of participants for perceived comprehensibility in function of degree of accentedness and student nationality (1=high perceived comprehensibility, 7=low perceived comprehensibility)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	3.69	1.41	36	3.02	1.01	30	3.39	1.28	66
Slight	2.21	0.86	36	2.21	1.02	31	2.01	0.93	67
Native	1.94	0.88	35	1.81	0.80	33	1.88	0.84	68
Total	2.62	1.32	107	2.33	1.06	94	2.48	1.22	201

3.2 Perceived competence

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed significant main effects of degree of accentedness ($F(2,195) = 6.29$, $p = .002$) and student nationality ($F(1,195) = 26.45$, $p < .001$) on perceived competence of the lecturer. These main effects were qualified by a significant interaction effect between degree of accentedness and student nationality ($F(2,195) = 4.38$, $p = .014$). A profile plot that displays the main effects and interaction can be found in Figure 1. All means and standard deviations for perceived competence can be found in Table 3.

A difference in perceived competence between the three degrees of accentedness was only found for the Dutch participants ($F(2,104) = 11.24$, $p < .001$): the moderately Dutch accented speaker ($M = 4.25$, $SD = 1.15$) (Bonferroni; $p < .001$) and the slightly Dutch accented speaker ($M = 4.53$, $SD = 0.93$) (Bonferroni; $p = .003$) were evaluated as less competent than the standard American accented speaker ($M = 5.36$, $SD = 0.97$). There was no difference in perceived competence between the moderately Dutch accented speaker and the slightly Dutch accented speaker (Bonferroni; $p = .728$). Additionally, there was no significant difference for the American participants with regard to the difference degrees of accentedness ($F(2,91) = .151$, $p = .860$).

The data file was split on the variable nationality and subsequently three one-way ANOVAS were carried out with degree of accentedness as factor and perceived competence as dependent variable. For the moderately Dutch accented speaker, the Dutch respondents ($M = 4.25$, $SD = 1.15$) evaluated the perceived competence as significantly lower than the American respondents ($M = 5.38$, $SD = 1.13$) ($F(1,64) = 16.08$, $p < .001$). For the slightly Dutch accented speaker, the Dutch respondents ($M = 4.53$, $SD = 0.93$) also evaluated the perceived competence as significantly lower than the American respondents ($M = 5.50$, $SD = 1.10$) ($F(1,65) = 15.27$, $p < .001$). No significant difference was found between the Dutch respondents ($M = 5.36$, $SD = 0.97$) and the American respondents ($M = 5.51$, $SD = 0.88$) for the native American accented speaker ($F(1,66) = 0.44$, $p = .512$).

Figure 1. Plot for the interaction perceived competence of the lecturer in function of degree of accentedness and student nationality.

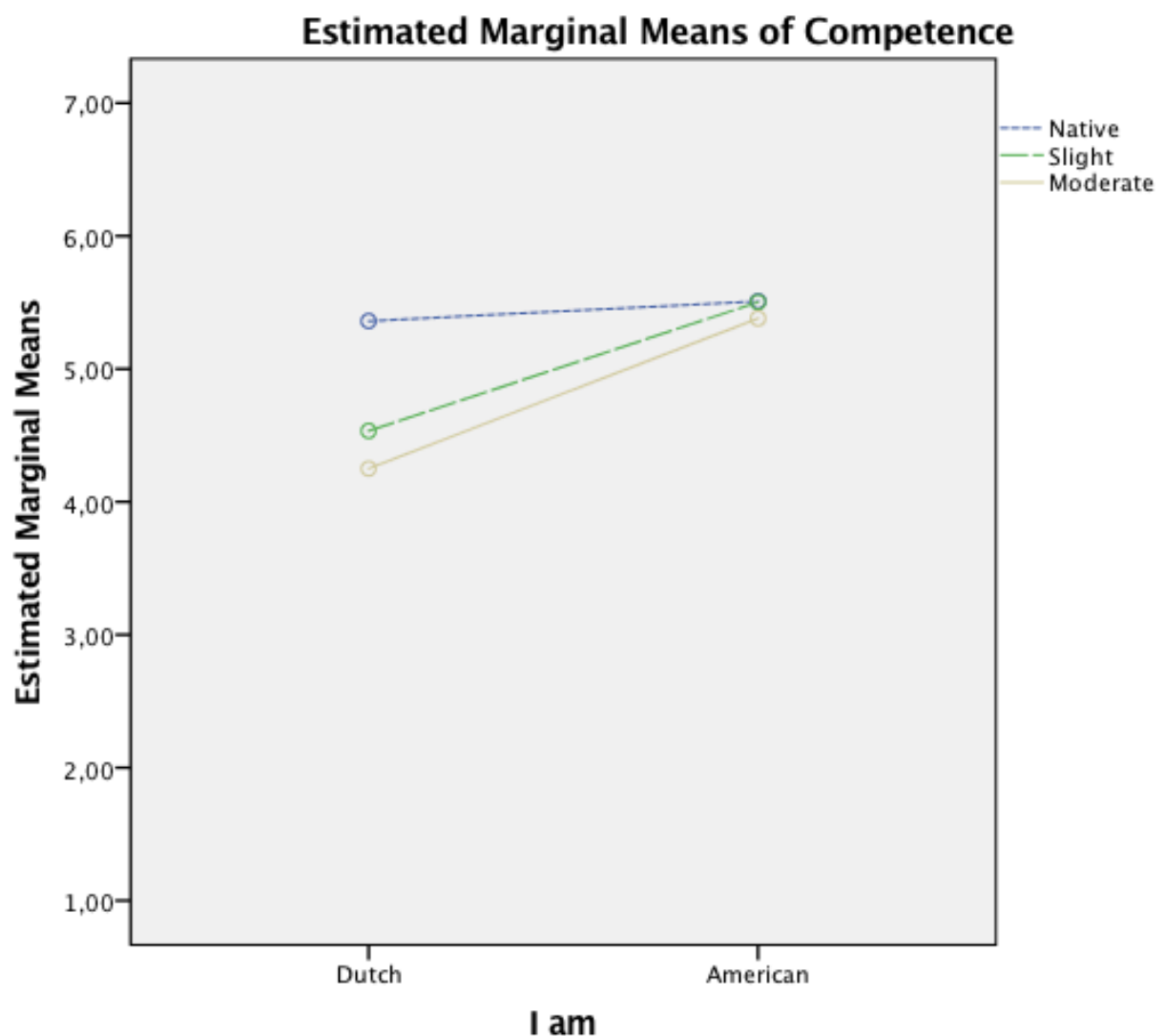


Table 3. Means, standard deviations and number of participants for perceived competence in function of degree of accentedness and student nationality (1=low competence, 7=high competence)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	4.25	1.15	36	5.38	1.13	30	4.76	1.27	66
Slight	4.53	0.93	36	5.50	1.10	31	4.98	1.12	67
Native	5.36	0.97	35	5.51	0.88	33	5.43	0.93	68
Total	4.71	1.12	107	5.47	1.03	94	5.06	1.14	201

3.3 Perceived warmth

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed no significant main effects for degree of accentedness ($F(2,195) = 3.05, p = .050$) and student nationality ($F(1,195) = 3.28, p = .072$) on perceived warmth of the lecturer. The interaction effect between degree of accentedness and student nationality was not statistically significant ($F(2,195) = 1.84, p = .162$). All means and standard deviations of perceived warmth can be found in Table 4.

The perceived warmth of the moderately Dutch accented speaker ($M = 5.13, SD = 1.05$) was evaluated less positively than the perceived warmth of the slightly Dutch accented speaker ($M = 5.37, SD = 1.08$) (Bonferroni; $p = .459$) and the native American accented speaker ($M = 5.59, SD = 1.13$) (Bonferroni; $p = .044$). There was no significant difference in the evaluation of the perceived warmth of the slightly Dutch accented speaker and the native American accented speaker (Bonferroni; $p = .922$)

Table 4. Means, standard deviations and number of participants for warmth in function of degree of accentedness and student nationality (1=low warmth, 7=high warmth)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	5.08	0.92	36	5.18	1.19	30	5.13	1.05	66
Slight	5.06	1.08	36	5.74	0.98	31	5.37	1.08	67
Native	5.57	1.08	35	5.61	1.20	33	5.59	1.13	68
Total	5.23	1.05	107	5.52	1.14	94	5.36	1.10	201

3.4 Perceived teaching quality

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed significant main effects for degree of accentedness ($F(2,195) = 33.11, p < .001$) and student nationality ($F(1,195) = 16.12, p < .001$) on the perceived teaching quality of the lecturer. The interaction effect between degree of accentedness and student nationality was not statistically significant ($F(2,195) = .75, p = .476$). All means and standard deviations of perceived teaching quality can be found in Table 5.

The moderately Dutch accented speaker ($M = 4.11, SD = 1.28$) was shown to be evaluated less positively as a teacher than both the slightly Dutch accented speaker ($M = 5.03, SD = 1.18$) and the native American accented speaker ($M = 5.68, SD = 0.93$) (Bonferroni; all p 's $< .001$). The slightly Dutch accented speaker was evaluated less positively as a teacher than the native American accented speaker (Bonferroni; $p = .003$). Also, Dutch participants ($M = 4.64, SD = 1.28$) evaluated the speakers as less positively as a teacher compared to the American participants ($M = 5.29, SD = 1.25$) (Bonferroni; $p < .001$).

Table 5. Means, standard deviations and number of participants for teaching quality in function of degree of accentedness and student nationality (1=low teaching quality, 7=high teaching quality)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	3.74	1.15	36	4.55	1.31	30	4.11	1.28	66
Slight	4.71	1.00	36	5.41	1.28	31	5.03	1.18	67
Native	5.50	1.05	35	5.87	0.75	33	5.68	0.93	68
Total	4.64	1.28	107	5.29	1.25	94	4.95	1.30	201

3.5 Manipulation check accentedness

A manipulation check was conducted to see whether the Dutch and American participants were able to distinguish the different degrees of accented in the audio fragments. The manipulation check showed that the three different degrees of accentedness that were previously established in the pre-test were also recognized by the participants.

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed significant main effects for degree of accentedness ($F(2,195) = 193.69, p < .001$) and student nationality ($F(1,195) = 9.88, p = .002$) on accentedness of the lecturer. The interaction effect between degree of accentedness and student nationality was not statistically significant ($F(2,195) = 1.60, p = .205$). All means and standard deviations of accentedness can be found in Table 6.

The moderately Dutch accented speaker ($M = 6.04, SD = 1.07$) had a stronger foreign accent and sounded less as a native speaker of English than the slightly Dutch accented speaker ($M = 4.43, SD = 1.43$) and the native American accented speaker ($M = 1.98, SD = 1.16$) (Bonferroni; all p 's $< .001$). The slightly Dutch accented speaker also had a stronger foreign accent and sounded less as a native speaker of English than the native American accented speaker (Bonferroni; $p < .001$). Additionally, the Dutch participants ($M = 4.39, SD = 1.92$) were harsher in their evaluation of the speaker's accentedness than the American participants ($M = 3.77, SD = 2.19$) (Bonferroni; $p = .002$).

Table 6. Means, standard deviations and number of participants for accentedness in function of degree of accentedness and student nationality (1=not a strong foreign accent, 7=strong foreign accent)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	6.18	1.06	36	5.87	1.07	30	6.04	1.07	66
Slight	4.49	1.14	36	4.16	1.70	31	4.34	1.43	67
Native	2.44	1.29	35	1.48	0.73	33	1.98	1.16	68
Total	4.39	1.92	107	3.77	2.19	94	4.10	2.07	201

3.6 Voice quality

A two-way analysis of variance with degree of accentedness (moderate/slight/native) and student nationality (Dutch/American) as factors showed a significant main effect for degree of accentedness ($F(2,195) = 15.14, p < .001$), but no significant main effect for student nationality ($F(1,195) = .38, p = .541$) on voice quality of the lecturer. The interaction effect between degree of accentedness and student nationality was not statistically significant ($F(2,195) = .05, p = .951$). All means and standard deviations of voice quality can be found in Table 7.

The voice quality of the native American accented speaker ($M = 5.42, SD = 1.63$) was evaluated more positively than the voice quality of the moderately Dutch accented speaker ($M = 3.97, SD = 1.49$) (Bonferroni; $p < .001$) and the slightly Dutch accented speaker ($M = 4.58, SD = 1.45$) (Bonferroni; $p = .005$). There was no significant difference in the evaluation of the voice quality of the moderately Dutch accented speaker and the slightly Dutch accented speaker (Bonferroni; $p = .069$).

Table 7. Means, standard deviations and number of participants for voice quality in function of degree of accentedness and student nationality (1=low voice quality, 7=high voice quality)

	Group								
	Dutch			American			Total		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Accent strength									
Moderate	4.03	1.10	36	3.88	1.87	30	3.97	1.49	66
Slight	4.67	1.02	36	4.47	1.85	31	4.58	1.45	67
Native	5.44	1.32	35	5.40	1.92	33	5.42	1.63	68
Total	4.71	1.28	107	4.61	1.96	94	4.66	1.63	201

3.7 Identification of origin of the speaker

To see whether the students and recent graduates were able to correctly indicate where the lecturer was from, chi-square tests were conducted. A Chi-square test showed a significant relation between origin of the speaker and degree of accentedness ($\chi^2 (2) = 11.29, p = .004$). Overall, most participants correctly identified the accent of the moderately Dutch accented speaker (92.4%), the accent of the slightly Dutch accented speaker (73.1%) and the accent of the native American accented speaker (70.6%). The number and percentages can be found in Table 8.

Two Chi-square tests showed a significant relation between origin of the speaker and accent strength for Dutch participants ($\chi^2 (2) = 25.56, p < .001$) and for American participants ($\chi^2 (2) = 8.93, p = .011$). Dutch participants who listened to a moderately Dutch accented speaker gave relatively more correct answers (100%) and relatively fewer incorrect answers (0%) compared to Dutch participants who listened to a slightly Dutch accented speaker and a native American accented speaker. The latter gave relatively fewer correct answers (83.3%) and relatively more incorrect answers (16.7%). The Dutch participants who listened to a moderately Dutch accented speaker also gave relatively more correct answers and relatively fewer incorrect answers compared to Dutch participants who listened to a native American accented speaker. The latter gave relatively fewer correct answer (51.4%) and relatively more incorrect answers (48.6%). Lastly, Dutch participants who listened to a slightly Dutch accented speaker gave relatively more correct answers and relatively fewer incorrect answers compared to Dutch participants who listed to a native American accented speaker.

American participants who listened to a native American accented speaker gave relatively more correct answers and relatively fewer incorrect answers compared to American participants who listened to a slightly Dutch accented speaker. The latter gave relatively fewer correct answers (61.3%) and relatively more incorrect answers (38.7%). American participants who listened to a native American accented speaker gave relatively more correct answers (90.9%) and relatively fewer incorrect answers (9.1%) compared to American participants who listened to a moderately Dutch accented speaker. The latter gave relatively fewer correct answers (83.3%) and relatively more incorrect answers (16.7%). Lastly, American participants who listened to a moderately Dutch accented speaker gave relatively more correct answers and fewer incorrect answers compared to American participants who listened to a slightly Dutch accented speaker.

Dutch participants had relatively more difficulty with correctly identifying the native American accented speaker (51.4%) compared to the American participants (90.9%). The American participants had relatively more difficulty with correctly identifying Dutch accented speakers compared to the Dutch participants. American participants had relatively more difficulty with correctly identifying the moderately Dutch accented speaker (83.3%) compared to the Dutch participants (100%). The biggest difference was found for the slightly Dutch accented speaker: American participants had relatively more difficulty with correctly identifying the slightly Dutch accented speaker (61.3%) compared to the Dutch participants (83.3%).

Table 8. Identification of the origin of the speaker in function of accent strength (number and percentages)

Group	Identification of the speaker	Accent strength							
		Moderate Dutch		Slight Dutch		Native American		Total	
		n	%	n	%	n	%	n	%
Dutch	Correct	36 _c	100	30 _b	83.3	18 _a	51.4	84	78.5
	Incorrect	0 _c	0	6 _b	16.7	17 _a	48.6	23	21.5
	Total	36	100	36	100	35	100	107	100
American	Correct	25 _{a,b}	83.3	19 _b	61.3	30 _a	90.9	74	78.7
	Incorrect	5 _{a,b}	16.7	12 _b	38.7	3 _a	9.1	20	21.3
	Total	30	100	31	100	33	100	94	100

Each subscript letter denotes a subset of the Accent strength categories whose column proportions do not differ significantly from each other at the .05 level.

3.8 Possible predictors

A one-way analysis of variance showed a significant effect of Nationality on the importance of a lecturer sounding like a native speaker of English ($F(1,199) = 67.58, p < .001$). The Dutch participants ($M = 4.48, SD = 1.62$) found it more important that a lecturer sounded like a native speaker of English than the American participants ($M = 2.48, SD = 1.82$) (Bonferroni; $p < .001$).

A multiple regression analysis for only the Dutch participants showed that the variables entered, What is the main language of your study program, I sound like a native speaker of English and It is important that a lecturer sounds like a native speaker of English, explained 5.2% of the variance in Perceived comprehensibility ($F(3,103) = 2.96, p = .036$). I sound like a native speaker of English was shown to be a significant predictor of perceived comprehensibility ($\beta = .30, p = .005$), but What is the main language of your study program ($\beta = -.10, p = .336$) and It is important that a lecturer sounds like a native speaker of English ($\beta = -.01, p = .930$) were not. The B, standard error and Beta for the variables can be found in Table 9.

Multiple regression analysis for only the Dutch participants showed that the variables entered, What is the main language of your study program, I sound like a native speaker of

English and It is important that a lecturer sounds like a native speaker of English, were no significant predictors of perceived competence ($F(3,103) = .59, p = .621$), perceived warmth ($F(3,103) = 1.85, p = .142$) and perceived teaching quality ($F(3,103) = 1.05, p = .376$).

Regressions analysis for both nationalities showed that the variable entered, It is important that a lecturer sounds like a native speaker of English, was not a significant predictor of perceived comprehensibility ($F(1,105) = .67, p = .415$), perceived competence ($F(1,105) = .38, p = .539$), perceived warmth ($F(1,105) = 3.91, p = .051$) and perceived teaching quality ($F(1,105) = .62, p = .432$).

The only variable that was a significant (positive) predictor in this study was I sound like a native speaker of English, but only for perceived comprehensibility. This means that when the Dutch students indicated that they sounded like a native speaker of English, they were more able to comprehend what was said by the lecturer in the audio fragment. When the Dutch students indicated that they did not sound like a native speaker of English, they were less able to comprehend what was said by the lecturer. The other two variables, What is the main language of your study program and It is important that a lecturer sounds like a native speaker of English, were no significant predictors for any of the dependent variables.

Table 9. Regression analysis for I sound like a native speaker of English and It is important that a lecturer sounds like a native speaker of English as predictors of perceived comprehensibility (N = 107).

Variable	<i>B</i>	<i>SE B</i>	β
Intercept	2.23	.52	
What is the main language of your study program	-.26	.26	-.10
I sound like a native speaker of English	.25	.09	.30
It is important that a lecturer sounds like a native speaker of English	-.01	.08	-.01
<i>R</i> ²	.05		
<i>F</i>	2.96		

4. Conclusion and discussion

This study examined the effects of the different degrees of English accentedness (moderate Dutch, slight Dutch and native American) of lecturers in higher education. The accents were evaluated by Dutch NNE students and American NE students in terms of perceived comprehensibility and attitude towards the speaker in terms of perceived competence, perceived warmth and perceived teaching quality.

The first research question can be divided into two sub-questions: (1) to what extent influenced a slightly Dutch accented lecturer, a moderately Dutch accented lecturer or a native American accented lecturer the perceived comprehensibility of NNE and NE students and (2) to what extent influenced a slightly Dutch accented lecturer, a moderately Dutch accented lecturer or a native American accented lecturer the attitude towards the lecturer in terms of perceived competence, perceived warmth and perceived teaching quality. The second research question focused on whether NNE and NE students evaluated the lecturers differently on perceived comprehensibility and attitude towards the lecturer.

4.1 Perceived comprehensibility

This study found an effect of accent strength on how NE and NNE students evaluated the lecturer in terms of perceived comprehensibility. The findings showed that a moderately Dutch accented speaker was more difficult to comprehend than a slightly Dutch accented speaker and a native American accented speaker and that there was no difference in comprehensibility between a speaker with a slight Dutch accent in their English and a speaker with a native American accent. Additionally, no difference was found between the Dutch and the American participants in how they evaluated the perceived comprehensibility of the lecturer.

A possible explanation for why no difference was found in how the Dutch and the American students evaluated the lecturer on perceived comprehensibility could be the fact that the Dutch are ranked number one on the EF English Proficiency Index (EF English Proficiency Index, 2017). The high level of English proficiency of the Dutch students could be a reason for why the results in this study show that the Dutch and the American students evaluated the lecturer on perceived comprehensibility similarly.

Also, the variable I sound like a native speaker of English was a significant predictor for perceived comprehensibility. This could likewise be a possible explanation to why no difference was found in the evaluation of perceived comprehensibility between the two nationalities. It is possible that the Dutch students rated themselves as sounding like a native

speaker of English, which is linked to being more able to comprehend what was being said by the lecturer. Since the American students were native English speakers, they were clearly also able to easily comprehend what was said by the lecturer.

The findings of the present study are in accordance with Hendriks et al. (2017) and Hendriks et al. (2016), who found that a moderately accented English speaker was evaluated less positively on comprehensibility than a slightly accented English speaker and a native English speaker. However, there are difference between the present study and the study by Hendriks et al. (2017). Hendriks et al. (2017) did not use an American English model, but instead a British English model. Additionally, their study only had NNE participants (French, German and Spanish), while this study had both NNE (Dutch) and NE (American) participants. Similar to this study, the study by Hendriks et al. (2016) had Dutch participants as NNE students. However, it did not have an American English model and it did not have both NNE and NE participants. Despite the differences between the current study and the studies by Hendriks et al. (2017) and Hendriks et al. (2016), the results remain similar.

The study by Nejjari et al. (2012) also focused on Dutch accented English speakers, but studied actual comprehensibility instead of perceived comprehensibility and only had NE (British) participants instead of both NE and NNE participants. Similar to this study, Nejjari et al. (2012) also found that a native English speaker was easier to comprehend than a moderately Dutch accented speaker. However, they also found that a native English speaker was easier to comprehend than a slightly Dutch accented speaker, which was not in line with the findings of this study.

The results of the present study are not in line with the ‘matched interlanguage speech intelligibility benefit’ found by Bent and Bradlow (2003) and Hendriks et al. (2017). The present study shows that the NNE listeners evaluated the non-native accent – the moderately Dutch accented speaker – less positively on comprehensibility than the native English speaker – the native American accented speaker – which is not in line with the ‘matched interlanguage speech intelligibility benefit’. Additionally, this study did not find a difference in perceived comprehensibility for the NNE participants between the non-native accent – the slightly Dutch accented speaker – and the native accent – the native American accented speaker. A possible explanation for the fact that the results of the present study are not in line with the ‘matched interlanguage speech intelligibility benefit’ could be that the latter generally applies to intelligibility, while this study measured perceived comprehensibility.

The findings of this study are also not in accordance with the findings of the study by Butler (2007). Similar to the present study, Butler (2007) also used an American English model.

However, his study did not find any differences in how NNE listeners evaluated non-native and native accents on comprehensibility, while the present study did find a difference. A reason for the contrasting findings with the above-mentioned results could be non-nativeness of the respondents.

Butler used Korean students as NNE listeners in his study, while the present study used Dutch NNE listeners. As mentioned earlier, the Dutch are ranked number one on the EF English Proficiency Index, while Korea is listed number thirty (EF English Proficiency Index, 2017). A possible explanation for why the present study did find a difference in how NNE students evaluated the different accents on perceived comprehensibility could be that due to a very high level of English proficiency, the Dutch are more critical in their evaluation of perceived comprehensibility of the lecturer than Korean students.

4.2 Attitude towards the lecturer: perceived competence, perceived warmth and perceived teaching quality

The findings of this study regarding attitude towards the lecturer were mixed. The Dutch participants considered the moderately Dutch accented speaker as less competent than both the slightly Dutch accented speaker and the native American accented speaker, while no effect was found for the American participants. Additionally, both Dutch and American participants evaluated the moderately Dutch accented speaker less positively as a teacher than the slightly Dutch accented speaker and the native American accented speaker.

These results are in line with the results of the studies by Hendriks et al. (2017) and Nejjari et al. (2012), who showed that, in general, stronger non-native accents are evaluated less positively on attitudinal evaluations than slighter non-native accents. The variables for attitudinal evaluations in the present study were perceived competence, perceived warmth and perceived teaching quality, while the variables in the study by Hendriks et al. (2017) were competence, status and affect and the variables in the study by Nejjari et al. (2012) were status and affect. Even though there were differences in the variables used to measure the attitudinal evaluations, the results of the present study are in accordance with the study by Hendriks et al. (2017) and Nejjari et al. (2012).

Comparing the results for the variable competence, Hendriks et al. (2017) found that speakers with a strong Dutch accent were considered less competent than speakers with a native English accent, which was in line with the results of the present study. However, a difference between the two studies was that the present study did not find a difference for competence between the slightly Dutch accented speaker and the moderately Dutch accented speaker, while

the study by Hendriks et al. (2017) did not find a difference for competence between the slightly Dutch accented speaker and the native English speaker. The current study did not find a difference between the slightly Dutch accented speaker and the native American accented speaker regarding perceived competence. As mentioned earlier, the difference between the present study and the study by Hendriks et al. (2017) and Nejjari et al. (2012) were the nationality of the respondents and the English model. Both studies used a British English model instead of an American English model and Hendriks et al. (2017) only had NNE participants and Nejjari et al. (2012) only had NE participants, while the present study had both NNE and NE participants.

A difference was found between the slightly Dutch accent and the native American accent with respect to perceived teaching quality: the slightly Dutch accented speaker was evaluated less positively as a teacher than the native American accented speaker. Both the present study and the study by Hendriks et al. (2018) found that the moderately accented speaker was evaluated less positively as a teacher than the slightly accented speaker and the native English speaker. A possible explanation for this similarity could be that in both studies the NNE listeners were Dutch and both studies used the exact same scale to measure perceived teaching quality.

A possible explanation for the fact that the native American accent scored better than the Dutch accented speaker could be the fact that the native American accent scored better on voice quality than the Dutch accented speaker. It is possible that not only the accent had an effect on the evaluation of the lecturer, but also the speaker's voice and that a voice that scored higher on voice quality therefore also scored better on perceived competence and perceived teaching quality. No effect was found for the different degrees of accentedness on the participants' evaluations of perceived warmth of the lecturer. To the best of our knowledge, perceived warmth has not yet been used as a variable in a similar study as the present study and for that reason cannot be linked to previous research.

The results of this study showed that Dutch participants were more critical in their evaluation of perceived teaching quality than the American participants, since the Dutch participants evaluated all three different accents less positively than the American participants. The Dutch found it very important that a lecturer sounded like a native speaker of English while the Americans did not, which could be an explanation for the difference found in the evaluation of perceived teaching quality between the Dutch participants and the American participants.

Koster and Koet (1993) found similar results regarding the tolerance level of Dutch accented speakers. Their study also showed that Dutch speakers are less tolerant of people who

speak English with a Dutch accent, while British speakers did not mind it when a person spoke with a Dutch accent in their English (Koster & Koet, 1993). Native speakers of English tend to be less critical of a non-native accent, since they often do not find it distracting or annoying. According to Koster and Koet (1993), the more critical attitude towards a Dutch-accented speaker by NNE listeners is caused by their fastidiousness. It is even possible to say that according to the results of their study and the present study, the Dutch are unnecessarily critical towards non-native accented English.

5. Limitations and Future Research

This study had some limitations. As already mentioned, Levene's test for the variables perceived comprehensibility, accentedness and voice quality were significant. Due to unequal group sizes and a violation of homogeneity of variance, the significance levels of the two-way ANOVAS can be seen as less reliable. Even though it was beyond the scope of this thesis to do a different test, it is interesting to further research what the significance levels would be of these three variables if other tests were conducted.

Another limitation could be the fact that this study researched perceived instead of actual comprehensibility, competence, warmth and teaching quality. Actual comprehensibility could have been measured by letting the participants write down what they have heard. It would be interesting to research the interaction between what the participants perceive and what they actually comprehend.

The fact that this study used a verbal guise design can be seen as a limitation as well. It would have been better to have one speaker who recorded all three different degrees of accentedness, because then there would not be any difference in voice quality. However, it was impossible to find a speaker who was capable of doing this and therefore, multiple speakers were chosen. Even though we tried to choose speakers that sounded fairly similar, the different speakers remain a limitation of this study.

Additionally, the speakers needed to read out a text, which meant that the recordings were scripted and that their speech was not very natural. However, it was important that every speaker recorded the exact same text, which meant that scripted recordings seemed most suitable for this study.

All the speakers that recorded the fragments were female. It is possible that female speakers are evaluated differently on the variables measured in this study than male speakers. A future study could focus on the same topic of research as this study, but with all male speakers to see

whether gender of the speaker also influences the evaluation of the speaker by Dutch and American students.

Even though there are already studies that have conducted similar research as this study but with different nationalities (Hendriks et al., 2017; Hendriks et al., 2018), it would be advisable to further research the effects of NNE lecturers on comprehensibility and attitude towards the lecturer by students from different nationalities. In particular, it would be interesting to look at the evaluation of students who are originally from a country that has a low level of English proficiency, to see whether non-native English accents are more positively evaluated by students who are originally from a country that has a high level of English proficiency.

The results of the present study are interesting for Dutch universities to consider when hiring lecturers that are going to teach courses in English. It shows that when a university offers courses that are taught in English by an NNE lecturer, a lecturer with a moderately Dutch accent in their English is evaluated negatively on perceived comprehensibility, perceived competence, perceived warmth and perceived teaching quality. This may possibly influence the educational results of the students. Therefore, the results show that it is advisable for universities to hire lecturers that are either native speakers of English or have a slightly Dutch accent in their English instead of a moderately Dutch accented lecturer.

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Appendix A

Lecture

When we think about nonverbal behavior or body language, it's language, so we think about communication. When we think about communication, we think about interactions. So, what is your body language communicating to me? What is mine communicating to you? And there's a lot of reason to believe that this is a valid way to look at this. So, social scientists have spent a lot of time looking at the effects of our body language or other people's body language on judgements. And we make sweeping judgements and inferences from body language. And those judgements can predict really meaningful life outcomes, like who we hire or promote and who we ask out on a date.

Appendix B

De spreker klinkt:

Niet aangenaam	0	0	0	0	0	0	0	Aangenaam
Niet natuurlijk	0	0	0	0	0	0	0	Natuurlijk
Niet hoogopgeleid	0	0	0	0	0	0	0	Hoogopgeleid
Niet monotoon	0	0	0	0	0	0	0	Monotoon

De spreker klinkt als een moedertaalspreker van het Amerikaans Engels

Oneens	0	0	0	0	0	0	0	Eens
--------	---	---	---	---	---	---	---	------

Het Engelse Accent van de spreker klinkt

Brits	0	0	0	0	0	0	0	Amerikaans
-------	---	---	---	---	---	---	---	------------

De spreker heeft een sterk buitenlands accent in haar Engels

Oneens	0	0	0	0	0	0	0	Eens
--------	---	---	---	---	---	---	---	------

De spreker spreekt

Langzaam	0	0	0	0	0	0	0	Snel
----------	---	---	---	---	---	---	---	------

Hoe oud denkt u dat de spreker is?

Open antwoord

Waar denkt u dat de spreker vandaan komt?

Dropdown list (Afghanistan - Zimbabwe)

Appendix C

I am / Ik ben

Nederlands

American

Other

Are you a student or recently graduated (within the last 5 years)? / Bent u student of recent afgestudeerd (afgelopen 5 jaar)?

Yes / Ja

No / Nee

Questionnaire English:

1. Introduction

Dear participant,

You are invited to participate in a research project. This research project is being conducted by Vera van Run as part of her master International Business Communication at the Radboud University. The procedure involves filling out an online survey. Filling out the survey will take approximately 5 minutes.

The data collected during this study will be used by scientists for articles and presentations. Of course, these data will be made fully anonymous. Anonymized data is accessible to the scientific community for a period of at least 10 years.

You participate voluntarily in this research. Therefore, you can withdraw your participation at any time during the research. All data we have collected from you will be deleted permanently.

Should you want more information on this research study, now or in future, please contact Vera van Run at veravan.run@student.ru.nl.

We thank you in advance for your participation.

Please select your choice below.

Clicking on the "Agree" button below indicates that:

- you have read the above information
- you voluntarily agree to participate
- you are at least 18 years old

If you do not wish to participate in the research study, please decline participation by clicking on the "I do not want to participate" button.

Agree

I do not want to participate

2. Preparation fragment

You will hear one audio fragment. Press play to listen to the fragment. Please only listen to the fragment once.

3. Questions about the audio fragments

3.1. Comprehensibility

Please rate the following statements on a scale from 1 (disagree) to 7 (agree)

	1	2	3	4	5	6	7
I have to listen very carefully to be able to understand the lecturer	0	0	0	0	0	0	0
The lecturer speaks clearly	0	0	0	0	0	0	0
The lecturer is barely intelligible	0	0	0	0	0	0	0
The lecturer is difficult to comprehend	0	0	0	0	0	0	0
I have problems understanding what the lecturer is talking about	0	0	0	0	0	0	0
I do not understand what the lecturer means	0	0	0	0	0	0	0

3.2. Attitude towards lecturer

3.2.1. Competence

On a scale from 1 (disagree) to 7 (agree), I think the speaker is

	1	2	3	4	5	6	7
Competent	0	0	0	0	0	0	0

Intelligent	0	0	0	0	0	0	0
Confident	0	0	0	0	0	0	0
Competitive	0	0	0	0	0	0	0
Independent	0	0	0	0	0	0	0

3.2.2. Warmth

On a scale from 1 (disagree) to 7 (agree), I think the speaker is

	1	2	3	4	5	6	7
Sincere	0	0	0	0	0	0	0
Good natured	0	0	0	0	0	0	0
Warm	0	0	0	0	0	0	0
Tolerant	0	0	0	0	0	0	0

3.2.2. Teaching quality

Please rate the following statements on a scale from 1 (disagree) to 7 (agree)

	1	2	3	4	5	6	7
The speaker's subject knowledge is excellent	0	0	0	0	0	0	0
The speaker can clearly communicate the content of the lecture	0	0	0	0	0	0	0
I think this speaker is a good lecturer	0	0	0	0	0	0	0
This speaker's English is excellent	0	0	0	0	0	0	0
I think this lecturer has excellent Didactic abilities	0	0	0	0	0	0	0

4. Accentedness

The speaker sounds like a native speaker of English

Disagree	0	0	0	0	0	0	0	Agree
----------	---	---	---	---	---	---	---	-------

The speaker has a strong foreign accent

Disagree	0	0	0	0	0	0	0	Agree
----------	---	---	---	---	---	---	---	-------

5. Voice quality

The speaker sounds

Not pleasant	0	0	0	0	0	0	0	Pleasant
Not natural	0	0	0	0	0	0	0	Natural

Not educated 0 0 0 0 0 0 0 0 Educated
Monotonous 0 0 0 0 0 0 0 0 Not monotonous

Which country do you think the speaker is from?

Dropdown list (Afghanistan – Zimbabwe)

6. Demographic questions

What is your gender?

- Male
- Female
- Other

What is your age?

It is important that a lecturer sounds like a native speaker of English

Disagree 0 0 0 0 0 0 0 Agree

Questionnaire Dutch

1. Introductie

Beste deelnemer,

U wordt uitgenodigd om mee te doen aan een onderzoek. Dit onderzoek wordt uitgevoerd door Vera van Run als onderdeel van haar master International Business Communication aan de Radboud Universiteit Nijmegen. Meedoen aan het onderzoek houdt in dat u een online vragenlijst gaat invullen. Het invullen van de vragenlijst kost ongeveer 5 minuten.

De gegevens die we in dit onderzoek verzamelen, zullen door wetenschappers gebruikt worden voor artikelen en presentaties. Natuurlijk maken we deze gegevens volledig anoniem en bewaren we ze volgens de aan de Radboud Universiteit geldende regels. Uitgangspunt is dat de anoniem gemaakte data tenminste 10 jaar ten behoeve van de wetenschappelijke gemeenschap opvraagbaar zijn.

U doet vrijwillig mee aan dit onderzoek. Daarom kunt u op elk moment tijdens het invullen van de vragenlijst uw deelname stopzetten. Alle gegevens die we bij u verzameld hebben worden dan definitief verwijderd.

Als u graag verdere informatie over het onderzoek wilt hebben, nu of in de toekomst, kunt u contact opnemen met Vera van Run via veravan.run@student.ru.nl.

Bij voorbaat dank voor uw deelname.

Geef hieronder uw keuze aan.

Door te klikken op de knop 'Ik ga akkoord' geeft u aan dat u:

- bovenstaande informatie heeft gelezen
- vrijwillig meedoet aan het onderzoek
- u minimaal 18 jaar oud bent

Als u niet mee wilt doen aan het onderzoek, kunt u op de knop 'Ik wil niet meedoen' klikken.

Ik ga akkoord

Ik wil niet meedoen

2. Voorbereiding fragment

U krijgt één audiofragment te horen. Druk op afspelen om het fragment te beluisteren.

Beluister het fragment één keer.

3. Vragen over de audiofragmenten

3.1 Begrijpelijkheid

Beoordeel de volgende uitspraken op een schaal van 1 (oneens) tot 7 (eens)

	1	2	3	4	5	6	7
Ik moet heel goed luisteren om de docent te kunnen begrijpen	0	0	0	0	0	0	0
De docent spreekt duidelijk	0	0	0	0	0	0	0
De docent is nauwelijks verstaanbaar	0	0	0	0	0	0	0
De docent is moeilijk te begrijpen	0	0	0	0	0	0	0
Ik heb problemen om te begrijpen waar de docent het over heeft	0	0	0	0	0	0	0
Ik begrijp niet wat de docent bedoelt	0	0	0	0	0	0	0

3.2. Houding naar de leraar

3.2.1. Competentie

Op een schaal van 1 (oneens) tot 7 (eens), vind ik de spreker

	1	2	3	4	5	6	7
Bekwaam	0	0	0	0	0	0	0
Intelligent	0	0	0	0	0	0	0
Zelfverzekerd	0	0	0	0	0	0	0
Competitief	0	0	0	0	0	0	0
Zelfstandig	0	0	0	0	0	0	0

3.2.2. Hartelijkheid

Op een schaal van 1 (oneens) tot 7 (eens), vind ik de spreker

	1	2	3	4	5	6	7
Oprecht	0	0	0	0	0	0	0
Welwillend	0	0	0	0	0	0	0
Hartelijk	0	0	0	0	0	0	0
Tolerant	0	0	0	0	0	0	0

3.3 Onderwijskwaliteit

Beoordeel de volgende uitspraken op een schaal van 1 (oneens) tot 7 (eens)

	1	2	3	4	5	6	7
De kennis van de spreker is uitstekend	0	0	0	0	0	0	0
De spreker kan de inhoud van de lezing duidelijk communiceren	0	0	0	0	0	0	0
De spreker is een goede docent	0	0	0	0	0	0	0
Het Engels van deze spreker is uitstekend	0	0	0	0	0	0	0
De spreker heeft uitstekende Didactische vaardigheden	0	0	0	0	0	0	0

4. Accent

De spreker klinkt als een moedertaalspreker van het Engels

Oneens 0 0 0 0 0 0 0 Eens

De spreker heeft een sterk buitenlands accent

Oneens 0 0 0 0 0 0 0 Eens

5. Stemkwaliteit

De stem van de spreker klinkt

Niet aangenaam	0	0	0	0	0	0	0	Aangenaam
Niet natuurlijk	0	0	0	0	0	0	0	Natuurlijk
Niet hoogopgeleid	0	0	0	0	0	0	0	Hoogopgeleid
Monotoon	0	0	0	0	0	0	0	Niet monotoon

Waar denkt u dat de spreker vandaan komt?

Dropdown list (Afghanistan – Zimbabwe)

6. Demografische vragen

Wat is uw geslacht?

0 Man

0 Vrouw

0 Anders

Wat is uw leeftijd?

7. Zelfboordeling Engelse taalbeheersing

Geef aan hoe u uw Engels beoordeelt voor de volgende vaardigheden

	Slecht						Uitstekend	
Lezen	0	0	0	0	0	0	0	
Spreken	0	0	0	0	0	0	0	
Schrijven	0	0	0	0	0	0	0	
Luisteren	0	0	0	0	0	0	0	

Wat is/was de hoofdtal van uw studieprogramma?

0 Nederlands

0 Engels

0 Anders

Het is belangrijk dat een docent klinkt als een moedertaalspreker van het Engels

Oneens 0 0 0 0 0 0 0 Eens

Ik klink als een moedertaalspreker van het Engels

Oneens 0 0 0 0 0 0 0 Eens

Information unsuitability:

Unfortunately, you do not qualify to take part in our experiment. We are only looking for Dutch or American respondents who are either a student or recently graduated (within the last 5 years). We nevertheless thank you for your participation.