

**Reducing accent discrimination through shared group identity: Dutch listener's  
perceptions of Spanish English speakers**

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## Abstract

With English being the main language in many international organisations, an increasing number of non-native speakers use it daily. However, they are often evaluated negatively on traits such as credibility, status, likeability, competence and more. This is a form of accent discrimination that requires an intervention.

This study explores whether emphasizing a shared group identity, as non-native English speakers, can reduce bias towards non-native accented English-speakers. An experiment was conducted in which participants were randomly assigned to one of four conditions in a questionnaire survey. The study had a 2 (shared group identity: shared vs no intervention) \* 2 (Accent strength: slight vs strong) experimental between-subject design. Thirty participants were assigned to each condition.

Findings indicate that listeners evaluated speakers with a strong accent more negatively on comprehensibility, status and dynamism than speakers with a slight accent. The intervention was not successful and nor was there an interaction between accent strength and the shared group identity intervention.

These findings suggest that accent strength influenced evaluations of listeners. However, the intervention, in its current form- a text- was not successful in reducing negative evaluations. Perhaps this was due to the passive nature of the intervention or the use of English in the questionnaire. Therefore, future research would benefit from exploring the intervention in the native language of the listeners and with visual elements to enhance its persuasiveness. In addition to this, familiarity with accents can play a role in evaluations and should be taken into consideration.

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# 1. Introduction

Globalization has increased multicultural communication worldwide (Chakraborty, 2017). Following this trend, English is used as the main language of communication more often (Sasaki et al., 2006). However, the majority of English speakers are non-native speakers, outnumbering native speakers (Kachru et al., 1985).

Despite the widespread use of the English language, speakers with non-native English accents are often perceived as having lower status, being less competent and having inferior intelligence (Chakraborty, 2017; Gluszek & Dovidio, 2010). This is referred to as accent discrimination (Chakraborty, 2017; Gluszek & Dovidio, 2010). Accent discrimination influences people's daily lives, from employment opportunities, housing and networking (Gluszek & Dovidio, 2010; Levon et al., 2022; Lippi-Green, 2012). Moreover, it has been linked to reduced mobility (Sharma et al., 2019).

While the negative impact of accent discrimination has been widely studied, research on interventions to reduce accent discrimination is limited (Dragojevic, 2020; Hansen et al., 2014; Hosoda et al., 2023; Kaufman & Libby, 2012; Levon et al., 2022; Roessel et al., 2019). This is particularly concerning as social norms against accent discrimination remain weaker than other forms of discrimination (Giles & Watson, 2013). Moreover, most countries lack legal protection (Levon et al., 2020). Effective interventions are needed to improve equality and inclusivity (Hansen et al., 2014). Thus, this study explores a potential intervention to reduce accent discrimination of non-native English speakers.

## 2. Literature review

### Accent discrimination: causes and impacts

Non-native speakers and regional dialect speakers most often experience accent discrimination (Gluszek, Newheiser & Dovidio, 2011; Ryan, Carranza & Moffie, 1977). Speakers with non-standard accents are often evaluated negatively (Giles & Watson, 2013; Fuertes et al., 2012).

Accent discrimination stems from two causes: processing fluency and prejudice (Spence et al., 2024). Processing fluency is the extra cognitive energy used to understand non-native accents (Alter & Oppenheimer, 2009; Dragojevic et al., 2017; Dragojevic, 2020; Hideg et al., 2022). Prejudice, on the other hand, is when non-native speakers are often characterized as others in terms of group membership and associated with stereotypes common to that group (Giles & Watson, 2013). Nevertheless, due to interlinkage between causes it is difficult to clearly identify one of them (Spence et al., 2024). People may for instance argue that they evaluate the speaker negatively due to the processing fluency, when in actuality their prejudice is at the forefront of their behaviour (Spence et al., 2024).

Accent discrimination is present in the workplace as well as in education, finding housing and even in the legal system (Gluszek & Dovidio, 2010; Lippi-Green, 2012). Moreover, it impacts hiring chances (Deprez-Sims & Morris, 2013; Hosoda et al., 2012; Roessel et al., 2019; Spence et al., 2024). This can also negatively impact people's sense of belonging (Kim et al., 2019).

### Key variables in accent discrimination research

Non-native speakers are perceived negatively in terms of intelligence (Gluszek & Dovidio, 2010; Roessel et al., 2018), competence (Fuertes et al., 2012; Gluszek & Dovidio, 2010; Hideg et al., 2022; Roessel et al., 2018), dynamism (Cargile, 1997; Fuertes et al., 2012), status (Fuertes et al., 2012; Giles & Billings, 2004; Gluszek & Dovidio, 2010; Spence et al., 2024) and comprehensibility (Munro & Derwing, 1995; Smith & Bisazza, 1982).

### Perceived intelligence, competence, and likeability

Speakers are evaluated socially on two dimensions, their warmth and competence (Cuddy et al., 2008). The research on competence and non-native accentedness is rather straight forward; non-native speakers are perceived as less competent than native speakers (Fuertes et

al., 2012; Gluszek & Dovidio, 2010; Hideg et al., 2022; Roessel et al., 2018). Similarly, they are also often perceived as less intelligent than native speakers (Fuertes et al., 2012; Roessel et al., 2018) and as having lower cognitive abilities (Gluszek & Dovidio, 2010). Research on warmth perceptions on the other hand is less conclusive (Roessel et al., 2019). Non-native speakers are often perceived as less warm (Fuertes et al., 2012). This is also the case for strongly accented non-native English speakers who were perceived as less likeable in a study by Hendriks et al., (2023). Nevertheless, some listeners give higher warmth perceptions to speakers with foreign accents, although this effect is more commonly associated with regional accents (Fuertes et al., 2012; Giles & Rakic, 2014).

### Dynamism

Speakers with a native accent are often perceived more dynamic than those with a non-native accent (Fuertes et al., 2012). This was also found by Cargile (1997) in a teaching context in which lecturers with a Mandarin-accented English accent were perceived less dynamic than those with an American English accent. In contrast, in a study by Nejari et al., (2020) Spanish and Singaporean listeners evaluated the Dutch-accented English speaker as more dynamic than the American-accented English speaker (Nejjari et al., 2020).

### Comprehensibility

Comprehensibility is defined as, “the listener’s perceptions of difficulty in understanding particular utterances” (Munro & Derwing, 1995, p. 291). In general, those with relatively strong accents are often perceived as less comprehensible than speakers with a native accent (Munro & Derwing, 1995). This is also the case for non-native accented speakers, as listeners often have more difficulty understanding these speakers, which can contribute to accent discrimination (Gluszek & Dovidio, 2010; Smith & Bisazza, 1982).

### Status

Non-native accented speakers are often perceived to be of lower social status than native accented speakers (Giles & Billings, 2004; Gluszek & Dovidio, 2010; Spence et al., 2024). Fuertes et al., (2012) support this in finding that those with a standard accent are perceived of higher status than those with a non-standard accent.

### Accent strength

Accent strength, as mentioned earlier, influences attitudinal evaluations by listeners (Hendriks et al., 2016; Roessel et al., 2019; Stibbard & Lee, 2006). Speakers with a moderate non-native accent were perceived more negatively than those with a weaker non-native accent (Hendriks

et al., 2017). Similarly, Stibbard and Lee (2006) found a similar difference between strong and weak non-native accents.

Comprehensibility, perceived status, perceived intelligibility, competence, hirability, likeability and dynamism can be influenced by accent strength. Those with a strong accent were perceived to be of lower status than those with a slight accent (Dragojevic et al., 2017). Ryan et al., (1977) found this for Spanish English speakers, Cargile and Giles (1998) for Japanese English accents and Tsalikis et al., (1991) for Greek English accents. For comprehensibility, speakers with strong non-native English accents were perceived to be of lower comprehensibility than those with milder non-native English accents (Hendriks et al., 2018; Lev-Ari & Keysar, 2010). Perceived intelligibility was often higher for those with a slight accent (Hendriks et al., 2018). Competence follows this trend in that speakers with a moderate accent were often perceived as less competent than those with a slight accent (Hendriks et al., 2021). In addition to this, speakers with a strong non-native accent were also often perceived as less hireable than speakers with a slight non-native accent (Carlson & McHenry, 2006; Roessel et al., 2019).

A similar trend is seen for likeability as Hendriks et al., (2018) found an effect of accent strength on likeability in which speakers with a strong non-native English accent were evaluated more negatively on likeability.

Nevertheless, strong non-native English accents were not always evaluated negatively. Munro and Derwing (1995) found that strongly Mandarin-accented English speakers were often rated as highly comprehensibly and intelligible even though they had a strong accent. To add to this, accent strength was also not found to have an influence on likeability (Hendriks et al., (in preparation)).

Since accent strength generally significantly influences speaker perceptions, it is expected that:

H1: Participants will show more negative attitudinal evaluations toward speakers with a strong non-native English accent than those with a slight non-native English accent.

## Hirability

Accent discrimination affects hirability with standard-accented speakers perceived as more hireable than non-standard accented speakers (Deprez-Sims & Morris, 2013; Hosoda et al., 2012; Roessel et al., 2019; Spence et al., 2024). Deprez-Sims and Morris (2013) found that non-native accented speakers were less likely to be hired for a job than participants with a native accent, which in this study was a Mid-Western English accent. The same was the case

for speakers with a Mexican Spanish accent who were less likely to be hired than native American English speakers (Hosoda et al., 2012).

Given that people are negatively evaluated on so many different variables due to their accent, it raises the question of why non-native accents are often evaluated negatively? The model of the stigma of non-native accents in communication (Gluszek & Dovidio, 2010) helps better understand the underlying factors behind these evaluations.

## Model of the stigma of non-native Accents in communication

The “model of the stigma of non-native accents in communication” focuses on factors shaping interactions between native and non-native speakers that lead to accent discrimination (Gluszek & Dovidio, 2010). Listeners often associate accents with specific group membership or stereotype, which influences how they approach the conversation (Fiske et al., 1999). Similarly, speakers also have pre-existing beliefs about their accent (Gluszek & Dovidio, 2010). If they believe their accent negatively impacts personal and social success, this may cause them to struggle voicing themselves (Derwing, 2003). The interactions between speaker and listener are affected by communicative, social and contextual factors (Gluszek & Dovidio, 2010). The communicative factor focuses on the role of accent strength in the level of comprehensibility of the speaker (Gluszek & Dovidio, 2010). This is also influenced by listeners life experiences and accent familiarity (Gluszek & Dovidio, 2010). It is often subjective as listeners often evaluate the speaker as more difficult to understand than their actual understanding of the speaker (Gluszek & Dovidio, 2010). Next, social factors refer to accent control beliefs; listeners who believe accents to be controllable are often more negative in their evaluations (Weiner et al., 1988). Meanwhile, speakers with similar beliefs actively seek out interactions with native speakers to reduce their accent (Moyer, 2007). Last, contextual factors such as general attitudes towards foreigners, personal background and the setting were also included in the model (Gluszek & Dovidio, 2010). Negative past experiences may lead to lowered expectations and self-fulfilling prophecies (Snyder & Stukas, 2007).

Overall, the model provides a framework for better understanding the communicative, social and contextual factors underlying accent discrimination through exploring interactions between speaker and listener (Gluszek & Dovidio, 2010).

## Interventions to reduce accent discrimination

While research on interventions is limited, some effective interventions exist; these are divided into speaker-initiated and listener-oriented strategies.

First, speaker-initiated strategies include enhancing the processing fluency, through finding alternative ways to improve communication and hereby compensate for the accent, which improves evaluations towards non-native speakers (Dragojevic, 2020). Another strategy is having speakers acknowledge their non-native accents as this improves evaluations in terms of hirability, competence and likeability (Hosoda et al., 2023).

Second, there are the listener-oriented strategies, divided into intergroup contact, perspective taking (Subtirelu & Lindemann, 2016) and awareness raising (Roessel et al., 2020). A successful intergroup contact intervention in reducing accent is experience taking (Kaufman & Libby, 2012). This involves experiencing what it would be like to be in the position of the other person which decreases the gap between one's self-concept and that of the other person (Kaufman & Libby, 2012). Taking on another person's mindset, increases empathy and understanding (Kaufman & Libby, 2012). An example of this is having listeners speak a second language before listening to a non-native speaker (Kaufman & Libby, 2012). This is similar to perspective taking which improved evaluations of non-native speakers, perceived competence and hirability (Weyant, 2007). Only perspective taking is more passive in only thinking about what being in another's position is like, while experience taking according to Hansen et al., (2014) is more active in being in that position.

Another listener-oriented strategy is intergroup contact which reduces prejudice towards the outgroup (Pettigrew & Tropp, 2006). It involves spending time with non-native speakers which leads to more positive evaluations (Staples et al., 2014).

The last listener-oriented strategy to highlight is awareness raising. This has been proven effective in reducing accent discrimination among recruiters (Levon et al., 2022). According to Roessel et al., (2020) people do not generally want to discriminate, however through awareness raising they may realize that they in fact do discriminate on accent. This may then cause cognitive dissonance which people then want to get rid of (Miao et al., 2023).

Overall, research evaluating these interventions remains limited and is too often seen as an afterthought (Sutton et al., 2007). Therefore, it is important to conduct more academic research evaluating the different strategies (McBride, 2010).

## Social Identity Theory

Accents convey information about a speaker's ethnic or national identity to the listener (Uzun, 2023). Identity, in a general sense, refers to "the social positioning of self and other" (Bucholtz & Hall, 2010, p. 18). Due to the close relation between accents and the information they give us about someone's ethnicity, social class etc., this can often be used to hide other forms of discrimination which are illegal by law (Levon et al., 2020). Considering that accents and identity are closely related, social identity theory can provide a useful framework for analysing potential ways of reducing accent discrimination.

Social identity theory explains intergroup relations by looking at how people's self-perception and their personal identity as part of a group shapes their behaviour (Tajfel et al., 1979). A person's identity is dynamic in that one can have several different group-memberships (Chakraborty, 2017). The theory is a guideline in explaining prejudice and discriminatory behaviour (Tajfel et al., 1979). It for instance found that members with similar characteristics made up the ingroup and often differentiated themselves from the outgroup, which often led to conflict and discrimination (Chakraborty, 2017). It follows that those identifying strongly with the ingroup judge accents of those in the outgroup more harshly (Chakraborty, 2017). This is the case for ethnocentric individuals (Berry, 1977). Members of the same group on the other hand, are often evaluated more positively (Scheepers & Ellemers, 2019). This is referred to as in-group favouritism (Scheepers & Ellemers, 2019). This arises from the desire to keep not only a positive personal identity but also a positive social identity (Scheepers & Ellemers, 2019). Importantly, bias between groups can be reduced when members perceive themselves as a shared group according to the common ingroup identity model (Gaertner et al., 1996). Black respondents were for instance, treated more favourably using the common ingroup identity compared to being regarded as outgroup members (Gaertner et al., 1996).

Although non-standard accents are generally approached negatively, certain groups can give it a more positive evaluation; this is covert prestige Trudgill (1974). It can lead to more positive evaluations on solidarity and in-group cohesion for non-native accented speakers (Giles, Bourhis & Taylor, 1977; Luhman, 1990; Marlow & Giles, 2008; Powesland & Giles, 1975). An example of covert prestige is that in Singapore strongly accented Singaporean English speakers were often associated with low prestige. However, many local people perceive Singaporean English speakers to be of higher status and more educated as

they can switch between languages which indicates group membership to them and therefore leads to more positive evaluations (Hoon, 2003).

While Gaertner et al., (1996) has found that common ingroup identity can reduce racial bias, it would be interesting to see whether the shared group identity can also reduce accent discrimination towards non-native English accented speakers.

Nevertheless, it is important to consider that listeners with the same L1 background as the speaker may evaluate the speaker more negatively on their accent, likely due to vicarious shame (Hendriks et al., 2023; Roessel et al., 2018). This may cause the shared group identity to be unsuccessful in reducing negative evaluations by listeners who are from the same country as the speakers. Therefore, the intervention will use listeners from a different nationality than the speaker.

Taking into consideration that belonging to a certain group and sharing feelings of solidarity with its members can lead to more positive evaluations of one's accent (Marlow & Giles, 2008), this study examined whether shared group identity influences attitudinal evaluations. Therefore, it is hypothesized that;

H2: Attitudinal evaluations for the group without intervention will be significantly more negative compared to those who were exposed to the shared group identity manipulation.

## Shared group identity and accent strength

Although emphasizing shared identity is expected to reduce accent discrimination, the effectiveness of this intervention may depend on accent strength (Roessel et al., 2019). Roessel et al., (2019) looked at the impact of an awareness raising intervention to reduce accent discrimination and found that this was only successful for speakers with a strong non-native accent. Therefore, it is predicted that;

H3: The effect of shared group identity on reducing negative attitudinal evaluations on accent will be stronger for speakers with a strong accent compared to those with a slight accent.

## Scientific relevance

Research on ways to reduce accent discrimination is limited (Hansen et al., 2014). Many interventions, such as accent reduction strategies, place the burden on speakers rather than addressing the root of the problem, listener's accent bias (Hansen et al., 2014). Therefore,

further research is needed to find ways to reduce accent discrimination that are directed at the listener.

## Societal relevance

Accent discrimination has many consequences affecting people's life daily, from their chances of employment to promotion opportunities, housing and even networking (Levon et al., 2022). Identifying effective interventions for reducing accent discrimination can contribute to improving equality and inclusivity for all individuals, regardless of their accent (Hansen et al., 2014).

## Objective

This study explores whether emphasizing shared group identity can mitigate bias against non-native-accented English speakers in academic settings. This can then contribute to the literature on interventions to reduce accent discrimination, that are focused on the listeners.

## Research question

The literature review indicates an important role of accent strength and signals that emphasizing shared group identity may be a potential intervention to reduce accent discrimination. Therefore, the following research question has been formulated;

To what extent can emphasizing shared group identity reduce bias towards non-native-accented English speakers?

## 3. Method

### Materials

The study used three types of materials: audio recordings, written texts for the intervention and a questionnaire. These will be further explained under each independent variable below. Additionally, participants received a cover story to set the context for the listening task.

### Accent strength

The study used audio stimuli consisting of two versions of a speaker who followed a standardized script, one with a slight Spanish-English accent and the other with a strong Spanish-English accent.

The focus was specifically on Spanish accented English speakers because Spanish is the fourth most spoken language in the world (Stewart, 2012). Nevertheless, as English is still a dominant language in international environment Spanish-accented English speakers are often present (Stewart, 2012). Research has confirmed that Spanish-accented English speakers are often evaluated negatively, particularly on status (Ryan et al., 1997) and are less likely to be hired compared to native English speakers (Hosoda et al., 2012). Therefore, it is relevant to explore accent discrimination towards Spanish-accented English speakers.

The audio fragments featured a speaker introducing a communication training program for multicultural teams. In this workplace scenario topics such as clarity in communication, active listening and enhancing inclusiveness in diverse teams were addressed. The full text of the audio fragment can be found in appendix A.

Before listening, the audio fragment was introduced to the participants as follows: *“Please now listen to the following fragment from the workshop about communication strategies within multicultural teams. Your task is to evaluate the speaker on how clearly they communicate their ideas and how effective they are in delivering the message.”*

After participants had listened to the audio fragments, they filled in a questionnaire on their evaluation of the speaker.

To select an appropriate speaker a pre-test was conducted. For this, three female speakers were asked to record the audio fragment twice, once with a slight accent and once with a strong accent. These speakers were all around the same age. The speakers had the texts sent to them prior to the recording so that all speakers had the same script. All these fragments were then evaluated, in a pre-test with 30 participants, on accent strength (strong, slight),

speech rate (slow-fast), voice quality (dynamism, pleasantness, naturalness) and speaker confidence as was also the case in the pre-test conducted by Hendriks et al., (2016).

From the pre-test two audio fragments from a workshop on effective communication in multicultural teams, by the same speaker, were selected. One of the audio fragments was with a slight Spanish accent in English and the other a strong Spanish accent in English.

## Cover story

Before listening to the audio fragment, all participants imagined working at an international consulting firm attending a workshop on effective communication in multicultural teams.

They were given the following information to set the scenario:

*Imagine you are the head of a multicultural team at an international consulting firm. The company is continuously working on improving communication within the organization. They therefore host a workshop on effective communication in multicultural teams. You have been asked to attend and evaluate one of the training sessions delivered as part of the workshop, to determine if the presenter could be part of your team.*

*The workshop has been designed to help employees from diverse cultural backgrounds to communicate more effectively. In the workshop, participants are asked to assess a short presentation about communication strategies within multicultural teams.*

## The intervention

To test whether shared group identity reduced accent discrimination, half of the participants read an introduction emphasizing the shared identity between speaker and listener as non-native English speakers before listening to the audio. This shared group identity introduction emphasized the common experience of speaking English as a second language in a professional setting. They read the following;

*“Before you listen to the speaker’s presentation, please consider the following:*

*As non-native English speakers working in an international environment, we often face similar challenges. We are aware that our accents can impact how we are perceived, and we may worry about being misunderstood by colleagues or even judged unfairly.*

*These struggles are part of a shared experience of a group of professionals who communicate with people from different cultures. We may have different English accents but*

*all struggle with the fear of being misunderstood and the extra effort it takes to be heard. We all know the experience of communicating using a second language.*

*This shared experience connects us, as we all belong to the same group of professionals working with different cultures and in different languages.*

*Please keep this in mind as you engage with the next part of the study.*

*The following scenario presents a typical professional situation in an international workplace.*

Participants who did not receive the intervention were not shown the text described above. Instead, they were shown a cover story straight away.

## Pretest

### Instrumentation pre-test

To determine the most appropriate speaker for the study, a pretest was conducted using a matched guise design. Thirty participants evaluated three different female voices, each of whom recorded two versions of the same audio: one with a slight and one with a strong accent. The recordings were evaluated on accent strength, speech rate and voice characteristics (dynamism, pleasantness, naturalness and confidence) (scales based on Bayard et al., 2001; Jesney 2004).

All items in the pre-test were measured using a seven-point Likert scale with the end points strongly disagree to strongly agree. Accent strength was measured using two items: “This speaker has a foreign accent” and “this speaker sounds like a native speaker” (scales based on Bayard et al., 2001; Jesney 2004).

Dynamism was measured using a single item, “This speaker has a monotonous voice” (scales based on Bayard et al., 2001; Jesney 2004). Next, speech rate was also measured using a single item; “This person speaks slowly”. Pleasantness was measured with the item, “This person has a pleasant voice”, naturalness with “This person sounds natural” and confidence with, “This person speaks with confidence” (scales based on Bayard et al., 2001; Jesney 2004). Overall, the speaker with the least differences in scores between speech rate, voice quality and speaker confidence were selected.

The internal consistency of accent strength was good ( $\alpha = .75$ ) and thus, the items used to measure this variable were combined through calculating the mean. Before this was done, the item, “this speaker has a strong foreign accent” was reverse coded. The item for the variable’s dynamism was also reverse coded.

The internal consistency of dynamism, pleasantness, naturalness and confidence between speakers was mostly good ( $\alpha = 0.69-0.80$ ). Only for speaker 2 with a slight accent was it questionable ( $\alpha = .69$ ). However, this may have been due to the small sample size and therefore, the composite scores were still calculated and a variable named voice characteristics was created.

## Results pre-test

### *Demographics*

The sample ( $n = 30$ ) of this pre-test consisted of 30 participants: 13 females (43.3%) and 16 males (53.3%), with a mean age of  $M = 33.4$  years,  $SD = 15.9$ , ranging from 28 to 62. In terms of education, most participants had completed or were currently enrolled in a bachelor's degree (60%). Most participants ( $n = 24$ , 80%) reported Dutch as their mother tongue. The remaining participants reported their mother tongue as English ( $n = 1$ , 3.3%), Filipino ( $n = 1$ , 3.3%), German ( $n = 2$ , 6.7%), Hindi ( $n = 1$ , 3.3%) and Italian ( $n = 1$ , 3.3%).

### *Accent strength*

A repeated measures analysis for accent strength with speaker accent combination as a within-subject factor (6 levels: slight and strong accents for speakers 1, 2 and 3) showed a significant main effect of accent strength ( $F(2.4, 69.3) = 24.45, p < .001, \eta^2 = .46$ ). Mauchly's test of sphericity was significant,  $\chi^2(14) = 69.99, p < .001$ , indicating a violation of the sphericity assumption; therefore, the Greenhouse-Geisser correction was applied ( $\epsilon = .478$ ). Bonferroni-adjusted pairwise comparisons showed no significant differences between the slight and strong accent condition for speaker 1 ( $p = .13$ ). For speaker 2, the strong accent condition ( $M = 6.5, SD = 0.7$ ) was rated significantly higher in accent strength than the slight accent condition ( $M = 6.0, SD = 1.0$ ), with a mean difference of 2.08,  $p < .001$ . For speaker 3, the strong accent condition ( $M = 6.2, SD = 0.7$ ) was rated significantly higher in accent strength than the slight accent condition ( $M = 5.4, SD = 1.0$ ), with a mean difference of 0.73,  $p = .002$ . The descriptives for this test can be found in Table 1.

### **Table 1**

#### *Means and standard deviations for accent strength*

Dependent variable	<i>M</i>	<i>SD</i>	<i>n</i>
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Slight accent speaker 1	6.0	1.0	30
Strong accent speaker 1	6.5	0.7	30
Slight accent speaker 2	6.0	1.0	30
Strong accent speaker 2	6.5	0.7	30
Slight accent speaker 3	5.4	1.0	30
Strong accent speaker 3	6.2	0.7	30

### *Voice characteristics*

A repeated measures analysis for voice characteristics with speaker accent combination as a within-subject factor (6 levels: slight and strong accents for speakers 1, 2 and 3) showed a significant main effect of voice characteristics ( $F(5, 145) = 25.36, p < .001, \eta^2 = .47$ ).

Mauchly's test of sphericity was not significant  $\chi^2(14) = 0.64, p = .59$ , indicating sphericity is assumed.

Bonferroni-adjusted pairwise comparisons for speaker 1 showed that the strong accent condition ( $M = 3.2, SD = 1.3$ ) was rated significantly lower on voice characteristics than the slightly accented condition ( $M = 4.3, SD = 1.4$ ), with a mean difference of  $-1.11, p < .001$ . For speaker 2, the strong accent condition ( $M = 2.9, SD = 1.3$ ) was rated significantly lower on voice characteristics than the slightly accented condition ( $M = 4.3, SD = 1.3$ ), with a mean difference of  $-1.41, p < .001$ . For speaker 3, the strong accent condition ( $M = 3.4, SD = 1.2$ ) was rated significantly lower on voice characteristics than the slightly accented condition ( $M = 5.3, SD = 1.0$ ), with a mean difference of  $-1.93, p < .001$ . The descriptive statistics for this analysis can be found in Table 2.

### **Table 2**

#### *Means and standard deviations for voice characteristics*

Dependent variable	<i>M</i>	<i>SD</i>	<i>n</i>
Slight accent speaker 1	4.3	1.4	30
Strong accent speaker 1	3.2	1.3	30
Slight accent speaker 2	4.3	1.3	30
Strong accent speaker 2	2.9	1.3	30

Slight accent speaker 3	5.3	1.0	30
Strong accent speaker 3	3.4	1.2	30

### Speed

A repeated measures analysis for speed with speaker accent combination as a within-subject factor (6 levels: slight and strong accents for speakers 1, 2 and 3) showed a significant main effect of voice characteristics ( $F(3.70, 107.2) = 27.36, p < .001, \eta^2 = .49$ ).

Mauchly's test of sphericity was significant  $\chi^2(14) = 0.39, p = .030$ , indicating sphericity is not assumed; therefore, the Greenhouse-Geisser correction was applied ( $\epsilon = .74$ ).

Bonferroni-adjusted pairwise comparisons for speaker 1 showed that the strong accent condition ( $M = 5.8, SD = 1.1$ ) was slower than the slightly accented condition ( $M = 4.6, SD = 1.5$ ), with a mean difference of 1.2,  $p = .002$ . For speaker 2, no significant differences were found between the slight and strong accent condition ( $p = 0.35$ ). For speaker 3, the strong accent condition ( $M = 6.0, SD = 0.8$ ) was slower than the slightly accented condition ( $M = 3.3, SD = 1.6$ ), with a mean difference of 2.73,  $p < .001$ . The descriptive statistics for this analysis can be found in Table 3.

**Table 3**

*Means and standard deviations for speed*

Dependent variable	<i>M</i>	<i>SD</i>	<i>N</i>
Slight accent speaker 1	4.6	1.5	30
Strong accent speaker 1	5.8	1.1	30
Slight accent speaker 2	4.6	1.5	30
Strong accent speaker 2	5.4	1.2	30
Slight accent speaker 3	3.3	1.6	30
Strong accent speaker 3	6.0	0.8	30

Overall, the pre-test was used to select the most appropriate speaker for the main study. The selection criteria in determining the most appropriate speaker were a large difference in accent strength, and small difference in voice characteristics and speed, between the slight and strong

accent audio of the same speakers. Based on these criteria, speaker 2 was selected as the most suitable speaker.

This speaker was shown to have the largest mean difference in accent strength between the slight ( $M = 6.0$ ,  $SD = 1.0$ ) and strong accent ( $M = 6.5$ ,  $SD = 0.7$ ), which made it possible to observe the effect of accent strength on accent discrimination. In addition to this, there was no significant mean difference for speed for speaker 2 which meant that the two versions didn't differ a lot. It was however noted that a significant mean difference (mean difference = -1.41) was shown for voice characteristics between speaker 2 with a slight accent ( $M = 4.3$ ,  $SD = 1.3$ ) and speaker 2 with a strong accent ( $M = 2.9$ ,  $SD = 1.3$ ). Nonetheless, this was smaller than for speaker 3 (mean difference = -1.93) for which there was also a smaller mean difference in accent strength (mean difference = 0.73). Lastly, for speaker 1 there was no significant mean difference for accent strength between the slight and strong accented version ( $p = .13$ ). Therefore, speaker 2 was chosen as the most suitable speaker.

### *Subjects*

The main study consisted of 120 participants between the ages of 17 and 73, with a mean age of 39.6 ( $SD = 16.8$ ). Of these participants, 35% identified as male, 64.2% as female and 0.8% as non-binary. For the chi-square analysis non-binary participants were excluded which resulted in 35.3% male and 64.7% female. It is important to note that due to a technological error the first 40 data entries recorded in the raw data file were not used, but after these 120 participants their data were used.

In terms of education level, 44.2% reported a bachelor's degree as their current or highest completed level of education, 26.7% a master's degree, 16.7% secondary education, 5.8% vocational training, 3.3% a PhD and 3.3% selected other. For the chi-square analyses these were grouped into tertiary education (bachelor's, master's, PhD) 74.8% and non-tertiary education (primary, secondary, vocational, other) 25.2%.

In addition to this, participants scored relatively high in self-assessing their English level ( $M = 5.9$ ,  $SD = 0.9$ ) with a minimum of 3.50 and a maximum of 7.0. 90% of participants had work experience and 10% did not.

All of the following variables were distributed evenly among the four conditions; age ( $F(3,118) = 1.94$ ,  $p = .13$ ,  $\eta^2 = 0.05$ ), gender ( $\chi^2(3) = 1.38$ ,  $p = .71$ ), education level ( $\chi^2(3) = 5.95$ ,  $p = .11$ ), English proficiency ( $F(3,118) < 1$ ,  $p = .56$ ,  $\eta^2 = .02$ ) and work experience ( $\chi^2(3) = 2.94$ ,  $p = .42$ ).

All participants were born in the Netherlands, had the Dutch nationality and had Dutch as their native language.

In addition to this, participants were also evaluated on their general attitudes towards non-native English speakers ( $M = 3.2$ ,  $SD = 1.1$ ) with a minimum of 1 and maximum of 5.83. General attitudes were not equally distributed among the participants in different conditions ( $F(3,118) = 4.30$ ,  $p = .007$ ,  $\eta^2 = .10$ ). A Bonferroni-corrected pairwise comparison showed that participants in condition 4 ( $M = 3.6$ ,  $SD = 1.0$ ) had significantly more negative general attitudes towards non-native English speakers than participants in condition 2 ( $M = 2.7$ ,  $SD = 1.2$ ).

A chi-square test was also considered to examine the relationship between condition and work experience. Here, the assumption of minimum expected cell frequency was also violated with 50% of cells having expected counts of below 5. Since the table for this was also relatively small, a Fisher-Freeman-Halton Exact test was used instead. The association between condition and work experience was non-significant ( $\chi^2(3) = 2.91$ ,  $p = .44$ ).

### *Design*

The study had a 2 (shared group identity: shared vs no intervention) \* 2 (Accent strength: slight vs strong) experimental between-subject design.

Participants were randomly assigned to one of four conditions: condition 1 (slight accent + shared group identity), condition 2 (slight accent + no intervention), condition 3 (strong accent + shared group identity) and condition 4 (strong accent + no intervention). Each condition included 30 participants.

## **Instrumentation main test**

In the main questionnaire, participants listened to one audio fragment and evaluated the speaker on comprehensibility, strength of foreign accent, identification of the origin of the speaker, attitudes towards the speaker and hirability.

All variables were measured using a seven-point Likert scale except for the variable on the origin of the speaker and the demographic questions. The Likert scales all used the endpoints completely disagree to completely agree, except for the variable English proficiency for which the endpoints very bad to very good were used.

The strength of foreign accent was measured using two items, that were also used in Hendriks et al., (2023); “This speaker sounds like a native speaker of English” (reverse coded”) and “This speaker has a strong foreign accent in English” used in Hendriks et al.,

(2023) and based on (Jesney, 2004). This variable has been used as a manipulation check. Since the internal consistency of strength of foreign accent is questionable ( $\alpha = .62$ ), the items were analysed separately.

Identification of the origin of the speaker was measured through asking participants, “Which country do you think this speaker is from?” (Hendriks et al., 2023). The speaker was able to select the country they think the speaker is from, as well as be able to answer, “I don’t know”. In this case the speaker was from Spain but all countries where Spanish is spoken were considered correct.

Comprehensibility was measured using the following items, following Hendriks et al., (2023); “I have to listen very carefully to be able to understand the speaker” (reverse coded), “The speaker speaks clearly”, “The speaker is barely intelligible” (reverse coded), “The speaker is difficult to comprehend” (reverse coded), “I have problems understanding what the speaker is talking about” (reverse coded) and “I do not understand what the speaker means” (reverse coded). The reliability of comprehensibility comprising six items was good ( $\alpha = .89$ ).

Attitudes towards the speaker were measured using 18 items from Hendriks et al., (2023). The statements, based on Hendriks et al., (2016) but later used in Hendriks et al., (2023) were, “In my opinion, this speaker sounds” with an adjective based on status, competence or likeability following it. Status was measured with the items, “authoritative, trustworthy, self-confident, influential and has a powerful voice” (Hendriks et al., 2023). The reliability of status comprising of five items was acceptable ( $\alpha = .79$ ). Competence was measured with the items, “reliable, intelligent, competent, hardworking and educated” (Hendriks et al., 2023, p. 1386). The reliability of competence comprising of five items was good ( $\alpha = .85$ ). Dynamism with the items, “energetic, cheerful, talkative, active and has a powerful voice” (Hendriks et al., (in preparation)). The reliability of dynamism comprising of 5 items was good ( $\alpha = .89$ ). Lastly, likeability was measured with the items, “credible, sympathetic, warm, humorous, tactful, polite, irritating (reverse coded) and unfriendly (reverse coded)” (Hendriks et al., 2023, p. 1386). The reliability of likeability comprising of eight items was good ( $\alpha = .83$ ).

To make it more concrete, respondents were also be asked to rate their willingness to hire the speaker to join their team. For this, three items, that were adjusted from a study by Hansen and Dovidio (2016), were used. These are as follows; “I would hire the applicant to join the team”, “The applicant is qualified to join my team” and “The applicant fits the team well”. The reliability of willingness to hire the speaker to join the team was excellent ( $\alpha = .94$ ).

After this, the participants were asked to assess their English proficiency using four items based on Krishna and Ahluwali (2008); “Please indicate how fluent your English is in the following areas”. The statements ended in, “speaking, writing, reading and listening”. The internal consistency of English proficiency was excellent ( $\alpha = .94$ ).

In addition to this, participants were also evaluated on their general attitudes towards non-native English speakers, with a scale adapted from the Measure of Prejudice Against Accented English by Ura et al., (2015) but shortened by (Hendriks et al., (in preparation)). Six items were used; “Speakers with non-native accents should learn to speak English better”; “A speaker with a non-native accent in English is less effective than a speaker with a native English accent”; “Native English speakers are better suited to work in English than speakers with non-native accents”; “It is irritating when a speaker has a non-native accent in English”; “Speakers with non-native English accents are less intelligent than native English speakers”; “Speakers with non-native English accents cannot express their opinions in English as well as native English speakers”. The internal consistency for general attitudes was acceptable ( $\alpha = .76$ ).

Lastly, participants were asked to answer some demographic questions about their age, gender, education, place of birth, nationality and native language.

In the questionnaire, the variables were presented in the following order: demographic information, English proficiency, comprehensibility, attitudes towards speaker (competence, status, dynamism, likeability), hirability, origin of speaker, accent strength, general attitudes towards non-native English speakers and lastly work experience.

For all composite scales, composite means were calculated.

## Procedure

The questionnaire was made using Qualtrics, and before answering it, participants were thanked and informed about their ability to stop the questionnaire at any point as well as the data remaining anonymous. They were not told about the purpose of the study, until after their data had been collected, after which they were debriefed. Before the questionnaire they were simply asked to listen to the one of the audio fragments (either with a slight or with a strong accent) and answer the questionnaire. Participants were approached using social media. The average survey duration was  $M = 33.2$  minutes ( $SD = 125.5$  minutes). However, these values were skewed by outliers. Therefore, to give a more accurate duration, durations longer than 2,000 seconds were excluded from the duration analysis. This led to a duration of  $M = 13.1$  minutes ( $SD = 5.4$  minutes).

## Statistical treatment

The data were analysed in SPSS statistics. A MANOVA test was conducted for all quantitative data as well as a two-way ANOVA for the manipulation check. For the nominal data such as the origin of the speaker a chi-square test was done.

Before analysis, the assumptions for a MANOVA, ANOVA and chi-square were checked and there were no problems.

## 4. Results

### Manipulation check

A two-way analysis of variance with accent strength and intervention as factors showed a significant main effect of accent strength on having a native accent ( $F(1, 116) = 13.75, p < .001, \eta^2 = .106$ ). The strongly accented speaker was perceived to sound less like a native speaker ( $M = 6.4, SD = 1.1$ ) than the slightly accented speaker ( $M = 5.4, SD = 1.7$ ) as can be seen in Table 4. The intervention was not found to have a significant main effect on having a native accent ( $F(1, 116) < 1, p = .37, \eta^2 = .007$ ). The interaction between accent strength and intervention was not statistically significant ( $F(1, 116) = 3.21$ ).

A two-way analysis of variance with accent strength and intervention as factors showed a significant main effect of accent strength on having a foreign accent ( $F(1, 116) = 17.79, 13.75, p < .001, \eta^2 = .13$ ). Table 4 shows that the strongly accented speaker was perceived to have a stronger foreign accent ( $M = 5.7, SD = 1.6$ ) than the slightly accented speaker ( $M = 4.4, SD = 1.6$ ). The intervention was not found to have a significant main effect on having a foreign accent ( $F(1, 116) < 1, p = .40, \eta^2 = .006$ ). The interaction between accent strength and intervention was not statistically significant ( $F(1, 116) = 3.87$ ).

**Table 4**

*Means and standard deviations for perceived foreign accent strength and perceived native accent strength per accent strength and intervention (1 = having a native accent, 7 = having a foreign accent)*

Dependent variable	Slight (n = 60)		Strong (n = 60)		Total (n = 120)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived native accent strength:						
No intervention	5.0	1.9	6.4	1.1	5.7	1.7
Intervention	5.7	1.4	6.2	1.1	6.0	1.3
Total	5.4	1.7	6.4	1.1	5.8	1.5
Perceived foreign accent strength:						
No intervention	4.3	1.8	6.1	1.4	5.2	1.8
Intervention	4.6	1.5	5.3	1.6	4.9	1.7

Total	4.4	1.6	5.7	1.6	5.1	1.8
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*Note.* Each experimental condition had n = 30 participants. Totals reflect combined groups: n = 60 for each accent strength condition, and n= 120 overall.

These results confirm that the manipulation of accent strength was successful as participants perceived the difference in accent strength.

In addition to this, as can be seen in Table 5, a chi-square test showed no significant relation between accent strength and correct/incorrect country of origin guessed by participants ( $\chi^2(1) = 3.33, p = .07$ ). This means that participants were not very good at identifying the country of origin based on accent strength. Only 5% of participants correctly identified the country of origin for the slight accent and only 15% for the strong accent. Nonetheless, this difference was not significant.

**Table 5**

*Chi-square analysis of relation accent strength and correct/incorrect country of origin guessed by participants*

Accent strength	Country of origin	
	Correct	Incorrect
Slight	3a	57a
	5%	95%
Strong	9a	51a
	15%	85%

## MANOVA

A two-way multivariate analysis for comprehensibility, status, competence, dynamism, likeability and team hirability, with accent strength and intervention as factor, found no significant multivariate effect of the interaction between accent strength and intervention ( $F(6,111) < 1$ ). Means and standard deviations can be seen in Table 6. In addition to this, there was also no significant multivariate effect of intervention ( $F(6,111) < 1$ ). There was however a significant multivariate effect of accent strength of speaker ( $F(6,111) = 14.23, p < .001, \eta^2 = .44$ ).

The univariate analyses showed an effect of accent strength on comprehensibility of speaker ( $F(1, 116) = 64.29, p < .001, \eta^2 = .36$ ), status ( $F(1, 116) = 6.84, p = .01, \eta^2 = .06$ ) and

dynamism ( $F(1, 116) = 8.61, p = .004, \eta^2 = .07$ ), but not for competence ( $F(1, 116) < 1$ , likeability ( $F(1, 116) < 1$ ) and team hirability ( $F(1, 116) = 3.77, p = .06, \eta^2 = .03$ ).

The strongly accented speaker ( $M = 3.6, SD = 1.1$ ) was perceived as less comprehensible than the slightly accented speaker ( $M = 5.2, SD = 1.1$ ). The strongly accented speaker ( $M = 3.1, SD = 0.9$ ) was perceived to be of lower status than the slightly accented speaker ( $M = 3.6, SD = 1.2$ ). Lastly, the strongly accented speaker ( $M = 3.1, SD = 1.0$ ) was perceived as less dynamic than the slightly accented speaker ( $M = 3.7, SD = 1.4$ ). See Table 6 for the descriptives of the dependent variables.

**Table 6**

*Means, standard deviations and n for comprehensibility, status, competence, dynamism, likeability and team hirability in function of accent strength and intervention.*

*(1 = low, 7 = high)*

Dependent variable	Slight (n= 60)		Strong (n= 60)		Total (n = 120)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comprehensibility:						
No intervention	5.1	1.3	3.4	1.0	4.3	1.4
Intervention	5.4	1.0	3.8	1.1	4.6	1.3
Total	5.2	1.1	3.6	1.1	3.6	1.1
Status:						
No intervention	3.7	1.2	3.0	1.0	3.3	1.1
Intervention	3.6	1.2	3.3	0.9	3.5	1.0
Total	3.6	1.2	3.1	0.9	3.4	1.1
Competence:						
No intervention	4.4	1.1	4.1	0.94	4.3	1.0
Intervention	4.3	1.1	4.2	0.9	4.3	1.0
Total	4.3	1.1	4.2	0.9	4.3	1.0
Dynamism:						
No intervention	3.5	1.4	2.9	1.1	3.2	1.3
Intervention	3.8	1.3	3.1	0.9	3.5	1.2
Total	3.7	1.3	3.0	1.0	3.4	1.2
Likeability:						
No intervention	4.1	1.1	4.1	0.9	4.1	1.0
Intervention	4.3	1.0	4.1	0.8	4.2	0.9
Total	4.2	1.1	4.1	0.8	4.2	0.9
Team hirability:						

No intervention	3.8	1.4	3.2	1.2	3.5	1.3
Intervention	4.1	1.6	3.6	1.5	3.9	1.5
Total	3.9	1.5	3.4	1.4	3.7	1.5

*Note.* Each experimental condition had  $n = 30$  participants. Totals reflect combined groups:  $n = 60$  for each accent strength condition, and  $n = 120$  overall.

## Exploratory two-way ANOVA

A two-way analysis of variance with intervention and accent strength as factors showed a significant main effect of accent strength on general attitudes towards accented speakers ( $F(1, 116) = 12.26, p < .001, \eta^2 = .1$ ). The intervention was not found to have a significant main effect on general attitudes towards accented speakers ( $F(1, 120) < 1$ ). The interaction between accent strength and intervention was not statistically significant ( $F(1, 120) < 1$ ).

Participants exposed to the speaker with a strong accent ( $M = 3.5, SD = 1.0$ ) were shown to have greater general attitudes towards accented speakers than participants exposed to the speaker with a slight accent ( $M = 2.8, SD = 1.1$ ).

**Table 7**

*Means, standard deviations and  $n$  for general attitudes towards accent speakers in function of accent strength and intervention.*

*(1 = low, 7 = high)*

Dependent variable	Slight ( $n = 60$ )		Strong ( $n = 60$ )		Total ( $n = 120$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No intervention	2.7	1.2	3.6	1.0	3.2	1.2
Intervention	2.9	1.0	3.5	1.1	3.2	1.1
Total	2.8	1.1	3.5	1.0	3.2	1.1

*Note.* Each experimental condition had  $n = 30$  participants. Totals reflect combined groups:  $n = 60$  for each accent strength condition, and  $n = 120$  overall.

## 5. Discussion and conclusion

### Overview of the study

The purpose of this study was to test the effectiveness of shared group identity as an intervention to reducing accent discrimination in the workplace. Dutch listeners evaluated Spanish-accented English speakers who spoke with either a slight or a strong accent. The study examined whether speakers with a strong accent were perceived more negatively than those with a slight accent in terms of comprehensibility, status, competence, dynamism, likeability and team hirability. It then explored whether there was an interaction between accent strength and the shared identity intervention.

### Impact of accent strength on speaker evaluations

The first hypothesis predicted that participants would show less negative attitudinal evaluations toward speakers with a slight non-native English accent than those with a strong non-native English accent. This hypothesis was partially supported. The strongly accented speaker was evaluated more negatively on comprehensibility, status and dynamism.

For comprehensibility, the Spanish-accented English speaker with a strong accent was perceived as less comprehensible than the slightly accented speaker. This is similar to the existing literature that also found that speakers with strong non-native accents were often evaluated lower on comprehensibility (Hendriks et al., 2018; Lev-Ari & Keysar, 2010). Nevertheless, there are also exceptions. Munro and Derwing (1995) for instance found that Mandarin-accented English speakers with a strong accent were often still perceived highly comprehensible. A possible explanation for this contrast is that the comprehensibility in this study may have been affected by elements of the audio fragment itself. The slight and strong accented audio fragments both had a fast speed and the strongly accented audio also had a low score on voice characteristics. This may have resulted in a negative evaluation in terms of comprehensibility.

For status, accent strength was found to have an effect as strongly accented Spanish-English speakers were perceived as lower status than slightly accented speakers. This finding aligned with previous research (Dragojevic et al., 2017; Fuertes et al., 2012; Giles & Billings, 2004; Gluszek & Dovidio, 2010; Spence et al., 2024). Dragojevic et al., (2017) also found that listeners evaluated strongly accented speakers as lower status than slightly accented speakers. This effect of accent strength was also found by another study that focused on

Spanish-accented English speakers (Ryan et al., 1977). As well as for Japanese-accented English speakers Cargile & Giles (1998) and Greek-accented English speakers by Tsalikis et al., (1991).

In terms of dynamism, the speaker with a strong Spanish-English accent was perceived less dynamic than those with a slight Spanish-English accent. This is in line with studies that found speakers with a native accent to be more dynamic (Cargile, 1997; Fuertes et al., 2012) from which one would assume that the speaker with a slight accent would be perceived as more dynamic than the speaker with a strong accent. This could be because the slight accent is closest to a native accent. In contrast, Nejari et al., (2020) found that Spanish and Singaporean listeners evaluated the Dutch-accented English speakers as more dynamic than the American-accented English speakers. A possible reason for this difference is that Dutch speakers are often harsher in their evaluations of other non-native English speakers, this is partly because they have a relatively high English proficiency (Hendriks et al., 2018).

No significant effects were found for the remaining variables; competence, likeability and team hirability. This was unexpected as Hendriks et al., (2021) did find an effect of accent strength on competence. Speakers with a moderate accent were often perceived as less competent than those with a slight accent (Hendriks et al., 2021). The same effect was seen for likeability (Hendriks et al., 2021). In addition to this, previous research found that those with a non-native accent were perceived as less hireable than those with a native accent (Hendriks et al., 2021).

A possible reason for this was that the average score for general attitudes of the participants was  $M = 3.2$  ( $SD = 1.1$ ), this was slightly lower than Hendriks et al., (in preparation) ( $M = 3.34$ ,  $SD = 1.31$ ). This means that participants were neutral in their general attitudes towards non-native accented speakers. Perhaps the intervention was not shown to be successful because the participants already didn't judge participants on their accent much. However, participants were found to evaluate strongly accented speakers more negatively on comprehensibility, dynamism and status. Perhaps this is because these variables are more focused on processing fluency, which according to Spence et al., (2024) listeners evaluate more negatively than variables that may indicate their prejudice. Additionally, status was likely significant because of the association between lower processing fluency and lower perceived status (Lev-Ari & Keysar, 2010). Since strong accents are often associated with lower processing fluency it follows that they are also evaluated lower on status.

Nevertheless, Hendriks et al., (in preparation) found similar general attitudes towards non-native accented speakers. Perhaps this intervention was more effective because it was more specific, and this current study may have been too abstract.

## Effect of shared group identity on reducing negative evaluations

The second hypothesis predicted that attitudinal evaluations from participants who were not exposed to the shared group identity intervention would be significantly more negative compared to those who were exposed to the intervention. This hypothesis was not supported. Unlike Roessel et al., (2019) whose awareness-raising intervention reduced negative evaluations by explicitly mentioning listener bias and instructing them to not let this influence their evaluations, the present intervention was likely too abstract and lacked direct instructions. Prior research suggests that explicit instruction has been found to reduce implicit prejudice and bias (Wallaert et al., 2010), potentially through triggering cognitive dissonance in participants, which is what could have resulted in participants changing their behaviour to get rid of this feeling (Miao et al., 2023). Therefore, in the future, research should make the shared group identity intervention text more specific to increase the interventions effectiveness.

## Interaction between shared identity and accent strength

The third hypothesis predicted that the effect of shared group identity on reducing negative attitudinal evaluations on accent would be stronger for speakers with a strong accent than those with a slight accent. This hypothesis was also not supported. There was no interaction between shared group identity and accent strength. This is in contrast with Roessel et al., (2019) who found that an awareness-raising intervention to reduce accent discrimination was only successful for speakers with a strong non-native English accent. Therefore, this study expected the same. Nevertheless, Roessel et al., (2019) do note that they used German listeners and German accented English speakers. However, they made sure to conduct the questionnaire in German as using English could reduce affective biases (Roessel et al., 2019). The present study on the other hand, used an English questionnaire. This may have led to harsher evaluations of the speakers as people can become more emotive when expressing themselves in their second language (De Langhe et al., 2011). Perhaps this meant it was more

difficult to reduce this bias as the listeners were more negative to begin with and therefore, the intervention would have to be stronger to be impactful.

## Supporting observations

The manipulation of accent strength was recognized in this study. Participants perceived a difference between the strong and slight accent. This was similar to a study by Hendriks et al., (2023) where the manipulation was also successful. In addition to this, there was no significant relation between accent strength and identification of origin of the speaker. This indicates that the evaluations were based on the accent rather than the origin of the speaker.

Furthermore, all background characteristics were distributed evenly across conditions except for general attitudes towards non-native English speakers. The participants in condition 4 showed more negative evaluations towards non-native English speakers. This indicates that the participants in this condition already had more bias and therefore any positive effect of the shared group identity manipulation in the other conditions could have been more difficult to see. Although the intervention was not successful, this was evident in that participants in group 4 evaluated speakers more negatively on comprehensibility, status and dynamism than the participants in the other conditions.

## Limitations of the study

Several limitations should be acknowledged. First, the study only looked at how Dutch participants evaluated Spanish-accented English speakers. Nevertheless, this may not generalize globally as evaluations differs across cultures. Second, the shared group identity manipulation was a text shown to participants who filled out the questionnaire. Participants may have easily skipped it or been distracted. In addition to this, it may have been too passive. Another possible limitation was that general attitudes were not distributed equally among the participants in different conditions. This was likely due to the ordering of the survey, as this variable was measured towards the end. Participants may have guessed what the study was about and thus answered differently. Nonetheless, it might be important to be aware of.

## Implications of the findings

This research implies, in line with the current leading theory, that accent strength is still a relevant factor in shaping evaluations by listeners on comprehensibility, dynamism and status of non-native English speakers (Hendriks et al., 2016; Stibbard & Lee, 2006). On the other hand, in contrast to most literature, no significant effects were found for competence, likeability (Hendriks et al., 2021) and team hirability (Roessel et al., 2019). This indicates that perhaps other factors are important, such as the design of the intervention, when looking into the effect of accent strength on these variables.

## Further research

As the intervention was not shown to reduce accent discrimination, it would be interesting to make the intervention more direct through using explicit instruction to reduce bias. This can reduce implicit prejudice and bias (Wallaert et al., 2010). To add to this, the intervention may also be made more persuasive through adding visuals, such as a video or someone reading the text. Pictures were shown to lead to better memory retention of the information than words (Defeyter et al., 2009). Additionally, combining text with pictures, under the right circumstances, has been shown to be more persuasive (Seo, 2020).

Nevertheless, the effectiveness of interventions may be context dependent (Kozlowski, 2015). Therefore, future research would benefit from looking into listeners and speakers of varying nationalities and cultures as they may have differing familiarities with different accents (Kozlowski, 2015). With a better overview of different cultures new insights may be gathered.

## Practical applications

Findings showed that speakers with a strong non-native Spanish accent in English are often evaluated more negatively on comprehensibility, status, and dynamism than those with a slight non-native Spanish accent in English. These findings have important practical, particularly in multicultural workplaces with English as lingua franca. First, non-native accented speakers may face bias evaluations, which undermine workplace inclusivity.

Although speakers could try and reduce their accent, this is not a burden that should be put on them alone. With this awareness, diversity and inclusion practitioners should develop trainings to try and tackle the negative evaluations of listeners. To improve inclusivity in the workplace, accent discrimination should be included in an organization's equity, diversity and inclusion policies and a safe person should be assigned to employees to raise any

discrimination happening at the workplace. The current intervention was not successful in decreasing accent discrimination, therefore it is recommended for practitioners to consult other interventions that have been shown to be effective.

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## 7. Appendix A

### Content speaker audio

Good morning, everyone. Thank you for joining me today. I am excited to introduce a new communication training program designed to improve teamwork and communicate in our diverse, international organization.

As a global company, we are privileged to be working with people from all over the world. This brings many strengths but also challenges especially when it comes to clear communication and mutual understanding. Therefore, we are introducing this training program to help us effectively communicate in multicultural teams. While ensuring that everyone feels heard and respected.

Our training program will focus on three key areas. Firstly, clarity and precision in communication. We'll look into ways of improving clarity in communicating to avoid misunderstandings. This for instance involves choosing language that is simple but effective for everyone, regardless of cultural background. Second, active listening and understanding. In a multicultural workplace it is crucial to develop strong listening skills. More specifically, we will focus on how to actively listen to understand the perspective of others and react appropriately. Lastly, we will focus on how to create an inclusive work culture where everyone feels included and valued. This involves overcoming communication and giving everyone a voice to make them feel heard and respected.

By the end of this training session, you'll have practical tools to improve communication within your teams and contribute to a more inclusive and respectful environment.

## 8. Appendix B

### pre-test

#### Introduction and consent block

Thank you for your willingness to participate in this study! My name is Joanne Briennesse and I am a Global Communication and Diversity student at Radboud University. This questionnaire is a pre-test for my Master's thesis. The goal is to help select the most suitable audio recording for the main study.

You will be asked to evaluate several speakers on voice clarity naturalness and accent strength.

Your participation is entirely voluntary, and all responses will be kept confidential and anonymous. You can stop the questionnaire at any point.

The questionnaire will take around 10 minutes to complete.

Thank you again for your participation.

- I consent to participate in the study
- I do not consent to participate in the study

#### Demographic block

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to say

What is your age? (open text)

What is your current or highest completed level of education?

- Primary education
- Secondary education
- Vocational training
- Bachelor's degree
- Master's degree
- PHD or equivalent

- Other

What is your mother tongue? (open text)

### Main questionnaire block

Please listen carefully to each speaker and answer the questions based on your first impression. You will hear each speaker twice.

(All the items used in this part of the questionnaire were based on Bayard et al., 2001 and Jesney 2004. A seven-point Likert scale was used with the endpoints strongly disagree to strongly agree).

#### *Speaker 1 (with slight accent)*

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

#### **Speaker 1 (with strong accent)**

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

#### *Speaker 2 (with slight accent)*

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

*Speaker 2 (with strong accent)*

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

*Speaker 3 (with slight accent)*

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

**Speaker 3 (with strong accent)**

“This speaker has a foreign accent” (accent strength) (reverse coded)

“This speaker sounds like a native speaker” (accent strength)

“This speaker has a monotonous voice” (dynamism) (reverse coded)

“This speaker speaks slowly” (speech rate)

“This speaker has a pleasant voice” (pleasantness)

“This speaker sound natural” (naturalness)

“This speaker speaks with confidence” (confidence)

## De-brief

You have now reached the end of the questionnaire. Thank you for your participation!

This pre-test was designed to help choose the most appropriate audio recording for a larger study on accent discrimination.

If you have any questions about this pre-test, feel free to contact the researcher:

[joanne.briennesse@ru.nl](mailto:joanne.briennesse@ru.nl)

Your responses have been saved. You may now close this window. Thanks again!

## 9. Appendix C Questionnaire

### Introduction and consent block

Thank you for your willingness to participate in this study! My name is Joanne Brienesse and I am a Global Communication and Diversity student at Radboud University. As part of my master thesis research, I'm currently conducting a study on people's impressions of others in multicultural workplaces. For this you will be asked to listen to a short audio recording of a speaker and answer a few questions about your impressions.

Your participation is entirely voluntary, and all responses will be kept confidential and anonymous. You can stop the questionnaire at any point.

The questionnaire will take around 10 minutes to complete. There are no wrong answers but I am simply interested in your evaluations.

Thank you again for your participation.

- I consent to participate in the study
- I do not consent to participate in the study

### Demographic block

Please answer the following background questions.

What is your age? (open text)

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to say

What is your current or highest completed level of education?

- Primary education
- Secondary education
- Vocational training
- Bachelor's degree

Where were you born? (dropdown)

Which nationality do you have?

What is your native language? (open text or dropdown list)

(All variables that were measured using a Likert scale were seven-points with the endpoints strongly disagree to strongly agree, except for English proficiency which had the endpoints poor to excellent)

Please indicate how you would assess your English for the following skills: (English level- from poor to excellent) (based on Krishna & Ahluwali, 2008).

- Speaking
- Writing
- Reading
- listening

## Randomizer block (equal allocation to 4 conditions)

### Condition 1: slight accent + shared group identity

(shared group identity)

*“Before you listen to the speaker’s presentation, please consider the following:*

*As non-native English speakers working in an international environment, we often face similar challenges. We are aware that our accents can impact how we are perceived and we may worry about being misunderstood by colleagues or even judged unfairly.*

*These struggles are part of a shared experience of a group of professionals who communicate with people from different cultures. We may have different English accents but all struggle with the fear of being misunderstood and the extra effort it takes to be heard. We all know the experience of communicating using a second language.*

*This shared experience connects us, as we all belong to the same group of professionals working with different cultures and in different languages.*

*Please keep this in mind as you engage with the next part of the study.*

*The following scenario presents a typical professional situation in an international workplace.*

*(Cover story)*

*Imagine you are the head of a multicultural team at an international consulting firm. The company is continuously working on improving communication within the organization. They therefore host a workshop on effective communication in multicultural teams. You have been asked to attend and evaluate one of the training sessions delivered as part of the workshop, to determine if the presenter could be part of your team.*

*The workshop has been designed to help employees from diverse cultural backgrounds to communicate more effectively. In the workshop, participants are asked to assess a short presentation about communication strategies within multicultural teams. Please listen to a fragment from the workshop and evaluate the speaker.*

Audio slight accent

### Condition 2: slight accent + no shared group identity

(cover story)

*Imagine you are the head of a multicultural team at an international consulting firm. The company is continuously working on improving communication within the organization. They therefore host a workshop on effective communication in multicultural teams. You have been asked to attend and evaluate one of the training sessions delivered as part of the workshop, to determine if the presenter could be part of your team.*

*The workshop has been designed to help employees from diverse cultural backgrounds to communicate more effectively. In the workshop, participants are asked to assess a short presentation about communication strategies within multicultural teams. Please listen to a fragment from the workshop and evaluate the speaker.*

Audio slight accent

### Condition 3: strong accent + shared group identity

(shared group identity)

*“Before you listen to the speaker’s presentation, please consider the following:*

*As non-native English speakers working in an international environment, we often face similar challenges. We are aware that our accents can impact how we are perceived and we may worry about being misunderstood by colleagues or even judged unfairly.*

*These struggles are part of a shared experience of a group of professionals who communicate with people from different cultures. We may have different English accents but all struggle*

*with the fear of being misunderstood and the extra effort it takes to be heard. We all know the experience of communicating using a second language.*

*This shared experience connects us, as we all belong to the same group of professionals working with different cultures and in different languages.*

*Please keep this in mind as you engage with the next part of the study.*

*The following scenario presents a typical professional situation in an international workplace.*

*(cover story)*

*Imagine you are the head of a multicultural team at an international consulting firm. The company is continuously working on improving communication within the organization. They therefore host a workshop on effective communication in multicultural teams. You have been asked to attend and evaluate one of the training sessions delivered as part of the workshop, to determine if the presenter could be part of your team.*

*The workshop has been designed to help employees from diverse cultural backgrounds to communicate more effectively. In the workshop, participants are asked to assess a short presentation about communication strategies within multicultural teams. Please listen to a fragment from the workshop and evaluate the speaker.*

Audio strong accent

#### Condition 4: strong accent + no shared group identity

*(cover story)*

*Imagine you are the head of a multicultural team at an international consulting firm. The company is continuously working on improving communication within the organization. They therefore host a workshop on effective communication in multicultural teams. You have been asked to attend and evaluate one of the training sessions delivered as part of the workshop, to determine if the presenter could be part of your team.*

*The workshop has been designed to help employees from diverse cultural backgrounds to communicate more effectively. In the workshop, participants are asked to assess a short presentation about communication strategies within multicultural teams. Please listen to a fragment from the workshop and evaluate the speaker.*

Audio strong accent

## Main questionnaire block

“I would hire the speaker to join my team” (team hirability) (adjusted from a study by Hansen & Dovidio, 2010)

“The speaker is qualified to join my team” (team hirability) (adjusted from a study by Hansen & Dovidio, 2010)

“The speaker fits my team well” (team hirability) (adjusted from a study by Hansen & Dovidio, 2010)

“I have to listen very carefully to be able to understand the speaker” (Comprehensibility) (reverse coded)

“The speaker speaks clearly” (Comprehensibility) (Hendriks et al., 2023)

“The speaker is barely intelligible” (Comprehensibility) (reverse coded) (Hendriks et al., 2023)

“The speaker is difficult to comprehend” (Comprehensibility) (reverse coded) (Hendriks et al., 2023)

“I have problems understanding what the speaker is talking about” (Comprehensibility) (reverse coded) (Hendriks et al., 2023)

“I do not understand what the speaker means” (Comprehensibility) (reverse coded) (Hendriks et al., 2023)

“In my opinion, this speaker sounds authoritative” (status) (Hendriks et al., 2023)

“In my opinion, this speaker sounds trustworthy” (status) (Hendriks et al., 2023)

“In my opinion, this speaker sounds self-confident” (status) (Hendriks et al., 2023)

“In my opinion, this speaker sounds influential” (status) (Hendriks et al., 2023)

“In my opinion, this speaker has a powerful voice” (status) (Hendriks et al., 2023)

“In my opinion, this speaker sounds reliable” (competence) (Hendriks et al., 2023)

“In my opinion, this speaker sounds intelligent” (competence) (Hendriks et al., 2023)

“In my opinion, this speaker sounds competent” (competence) (Hendriks et al., 2023)

“In my opinion, this speaker sounds hardworking” (competence) (Hendriks et al., 2023)

“In my opinion, this speaker sounds educated” (competence) (Hendriks et al., 2023)

“In my opinion, this speaker sounds energetic” (dynamism) (Hendriks et al., (in preparation))

“In my opinion, this speaker sounds cheerful” (dynamism) (Hendriks et al., (in preparation))

“In my opinion, this speaker sounds talkative” (dynamism) (Hendriks et al., (in preparation))

“In my opinion, this speaker sounds active” (dynamism) (Hendriks et al., (in preparation))

“In my opinion, this speaker has a powerful voice” (dynamism) (Hendriks et al., 2023)

“In my opinion, this speaker sounds credible” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds sympathetic” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds warm” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds humorous” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds tactful” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds polite” (likeability) (Hendriks et al., 2023)

“In my opinion, this speaker sounds irritating” (likeability) (reverse coded) (Hendriks et al., 2023)

“In my opinion, this speaker sounds unfriendly” (likeability) (reverse coded) (Hendriks et al., 2023)

## Manipulation check

Which country do you think the speaker is from? (drop down) (Hendriks et al., 2023)

“This speaker sounds like a native speaker of English” (accent strength) (reverse coded) (Hendriks et al., 2023)

“This speaker has a strong foreign accent in English” (accent strength) (Hendriks et al., 2023, and based on Jesney, 2004)

## General information

“Speakers with non-native English accents should learn to speak English better” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“A speaker with a non-native accent in English is less effective at work than a speaker with a native English accent” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“Native English speakers are better suited to work in English than speakers with non-native accent” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“It is irritating when a speaker has a non-native accent in English” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“Speakers with non-native English accents are less intelligent than native English speakers” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“Speakers with non-native English accents cannot express their opinions in English as well as native English speakers” (general attitudes towards non-native English speakers) (Ura et al., 2015, but shortened by Hendriks et al., (in preparation)).

“Do you have any work experience?” (work experience)

## Debrief block

You have now reached the end of the questionnaire. Thank you for your participation! Your input will be used to test whether emphasizing shared group identity can reduce accent discrimination towards non-native English speakers.

For this you were assigned to one of four groups, 2 groups were shown a text emphasizing shared group identity and either a slight or strong Spanish-English accent and 2 groups were not shown the shared group identity text but listened to either a slight or strong Spanish-English accent.

Thank you again for contributing to this research.

If you have any questions about this study please contact the researcher:

[joanne.briennesse@ru.nl](mailto:joanne.briennesse@ru.nl)

Your answers have been saved. You may now close this window.