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Shedding New Light on the Evaluation of Accented Speakers: Basic Mechanisms Behind Nonnative Listeners' Evaluations of Nonnative Accented Job Candidates

Abstract: The present research unites two emergent trends in the area of language attitudes: (a) research on perceptions of nonnative speakers by nonnative listeners and (b) the search for general, basic mechanisms underlying the evaluation of nonnative accented speakers. In three experiments featuring an employment situation, German participants listened to a presentation given in English by a German speaker with a strong versus native-like accent (in Studies 1–3) versus a native speaker of English (in Study 1). They evaluated candidates with a strong accent worse than candidates with a native(-like) pronunciation—even to the degree that the quality of arguments was of no relevance (Study 1). Study 2 introduces an effective intervention to reduce these discriminatory tendencies. Across studies, affect and competence emerged as major mediators of hirability evaluations. Study 3 further revealed sequential indirect influences, which advance our understanding of previous inconsistent findings regarding disfluency and warmth perceptions.

Keywords: language attitudes, nonnative accents, mechanisms, affect, competence, warmth, comprehensibility, processing fluency, stereotyping, prejudice and discrimination

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Communicating in a language other than one's native tongue is a ubiquitous phenomenon in our globalized world (Beinhoff, 2014; Graddol, 2006; Statista, 2016). The unprecedented rise of nonnative speakers who usually carry a *nonnative accent* in their speech is accompanied by vibrant research on language attitudes. New trends have emerged in two directions. *First*, the increasingly diverse composition of interlocutors and audiences is attracting attention. Whereas, traditionally, evaluations of nonnative speakers by native speakers emerged as a standard paradigm, more recently, perceptions of nonnative speakers by other nonnative speakers—henceforth referred to as (NNS-NNS) situations—have gained attention (particularly in English as a foreign language [EFL] contexts; e.g., McKenzie, 2010). The call for further research is strong as well as necessary in light of increasing NNS-NNS interactions outside of EFL contexts, which now expand to everyday life and various work settings (with the major aim not being language learning, but conveying ideas). *Second*, recent approaches have looked for general mechanisms that drive the evaluation and discrimination of nonnative accented speakers and thereby go beyond—or are more basic—than the traditional approach of focusing on social group and status stereotypes.

The present research unites these two emergent trends as they fruitfully complement each other. Among nonnative speakers who use a foreign language as a lingua franca for communication, status differentials are oftentimes not linked to the accents, and specific national backgrounds may frequently not be detected without considerable effort (Dovidio & Gluszek, 2012; Mai & Hoffmann, 2014; Ryan, 1983). Thus, it appears necessary to consider more general, basic mechanisms that may anchor and drive evaluations of accented speakers. Conversely, to detect general mechanisms—which are not tied to status, out-groups, or stigmatized national or social groups—these associations should be “switched off.” In NNS-NNS contexts, this is most clearly the case when one listens to a nonnative accent of one's own linguistic group outside of EFL learning or immigration-linked contexts—for instance, Germans listening to a presentation given in nonnative accented English by a German speaker. We adopted this paradigm in an employment situation at university because work and educational settings are deemed the most important areas for accent discrimination (Fuentes, Gottdiener, Martin, Gilbert, & Giles, 2012; Gluszek & Dovidio, 2010; Gluszek & Hansen, 2013). Moreover, we tested a basic intervention to counteract discriminatory evaluations. We will first briefly review the literature on nonnative accent perception and potential basic mechanisms that may underlie evaluations of nonnative speakers and will then introduce the specific case investigated here.

The Impact of Nonnative Accents

Accents merely refer to a particular manner of pronunciation (Crystal, 2010; Giles, 1970). Nonetheless, the salience of nonnative accents may capture attention and anchor categorization in impression formation, even outweighing the impact of visual cues to ethnicity and gender, which are otherwise deemed to be of primary importance (Kinzler, Shutts, DeJesus, & Spelke, 2009; Rakić, Steffens, & Mummendey, 2011). The malleability of nonnative accents is limited even though people frequently gain

native-like proficiency in foreign languages on other dimensions (Birdsong, 2006; Gluszek & Dovidio, 2010; Moyer, 2004, 2014). Despite the resulting pervasiveness of nonnative accents, downgrading and discrimination against accented speakers is prevalent (for a review, see Gluszek & Dovidio, 2010; for a meta-analysis, see Fuertes et al., 2012). Even nonnative listeners were shown to downgrade nonnative accented speech, including accented speech of their own linguistic background (e.g., Callan, Gallois, & Forbes, 1983; McKenzie, 2010).

What Drives Evaluations of Nonnative Accented Speakers?

Traditionally, language attitudes literature has focused on social group and status stereotypes linked to accents (Giles & Billings, 2004; Lambert, Hodgson, Gardner, & Fillenbaum, 1960; Ryan, 1983). These views are rooted in research that has largely investigated stigmatized regional or ethnic (*nonstandard*) accents linked to lower status groups, such as regional English varieties, or ethnolects, such as Hispanic or Black English (see Fuertes et al., 2012; Giles & Billings, 2004). Status is, however, less clearly associated with *nonnative* accents in interlinguistic exchange (such as *English as a lingua franca* contexts in education or at work; see also, Ryan, 1983). The specific origin of nonnative accents, which could also guide stereotypic inferences in these contexts, may frequently be difficult to recognize (see Lindemann, 2003; Mai & Hoffmann, 2014; Ryan, 1983). By contrast, a sense of *disfluency* and *foreignness* next to a *general categorization as nonnative* appear to be basic and may be generally linked to nonnative accents (see Roessel, Schoel, & Stahlberg, 2018; Ryan, 1983). Corresponding general, basic mechanisms have only more recently attracted researchers' interest (Dovidio & Gluszek, 2012; Dragojevic & Giles, 2016; Mai & Hoffmann, 2014; Pantos & Perkins, 2013; Roessel et al., 2018). These accounts point to the role of perceptual experiences, affective reactions, and general accent stereotypes—as we delineate below. Importantly, these associations do not preclude more elaborate or specific group-based inferences, but appear to be *basic* and may generally be triggered by nonnative accents (see Dragojevic, Giles, Beck, & Tatum, 2017; Roessel et al., 2018).

Comprehensibility and Disfluency

Particularly for nonnative accents, comprehensibility issues are seen as a barrier for communication (e.g., Gluszek & Dovidio, 2010; Lippi-Green, 1997). Comprehensibility perceptions are closely linked to perceptual dis/fluency (i.e., the ease of processing; Munro & Derwing, 1995b). Nonnative accents may indeed impose higher processing costs than native speech (Munro & Derwing, 1995b; Weber, Di Betta, & McQueen, 2014). However, even strong accents are usually intelligible (Derwing & Munro, 2009; Munro & Derwing, 1995a, 1995b), and listeners are fast and flexible in adapting to nonnative accents (e.g., Baese-Berk, Bradlow, & Wright, 2013; Clarke & Garrett, 2004; Witteman, Weber, & McQueen, 2014). Yet subjective comprehensibility perceptions are typically lower than objective intelligibility (Gluszek & Dovidio, 2010;

Munro & Derwing, 1995a). Even native speakers may be ascribed lower comprehensibility when the speaker is merely thought to be nonnative (Rubin, 1992). Thus, the link between nonnative accents and disfluency may be learned and overgeneralized to cues of nonnativeness.

Do disfluency perceptions (given intelligibility) influence speaker evaluations? Dragojevic and Giles (2016) have recently shown that disfluency manipulations per se (via background noise) caused lower status, and partly lower solidarity ratings—with the effects mediated via subjective disfluency perceptions (see also Dragojevic et al., 2017). Studies that tested comprehensibility or communication skills as mediators of the effect of nonnative versus native accents on hiring recommendations, however, did not find a mediation via these variables (Deprez-Sims & Morris, 2010; Huang, Fridinger, & Pearce, 2013; but see Wang, Arndt, Singh, Biernat, & Liu, 2013, for a mediation via a combined comprehensibility–stereotype–attributes index). In sum, (subjective) disfluency is certainly linked to nonnative accents; but its impact on evaluations is less clear. We propose that the influence may sometimes be more indirect (via affect and stereotype associations, see below).

Affect

Affective reactions are often thought to constitute the most basic reactions to stimuli (Zajonc, 1980), and they were shown to be important predictors of prejudice and discrimination (Smith & Mackie, 2010; Talaska, Fiske, & Chaiken, 2008; for the integration into language attitudes models, see Giles & Marlow, 2011). Discomfort, frustration, and irritation appear to be characteristic reactions to nonnative accents (Ryan, 1983; Yook & Albert, 1999), even among nonnative listeners (in language learning or teaching contexts: del Puerto, García Lecumberri, & Gómez Lacabex, 2015; Fayer & Krasinski, 1987). Such affective reactions may be learned and overgeneralized (see Cargile, Giles, Ryan, & Bradac, 1994; Fiske, 1982), for instance, from encounters with accented speakers that caused communication problems (Ryan, 1983; Spencer-Rodgers & McGovern, 2002). Moreover, they may arise from basal affective reactions and preparedness learning due to foreign accents' evolutionary importance (Buss, 2008; Zajonc, 1980), and from the disfluency accompanying nonnative accents (Topolinski & Strack, 2009; see also Roessel et al., 2018).

Correlation and mediation models corroborate these links. The disfluency effects on speaker evaluations in the studies by Dragojevic and Giles (2016) and Dragojevic et al. (2017) were partially mediated via affect. Correlations of comprehensibility with feelings, and of feelings with status and solidarity ratings, were also reported by Hosoda, Stone-Romero, and Walter (2007) for evaluations of Asian-accented versus natively spoken English (see also Bresnahan, Ohashi, Nebashi, Liu, & Shearman, 2002). Mediation models were seldom tested, but Wang et al. (2013) reported a multiple mediation of lower customer–employee rapport ratings for Indian accented (vs. native) speakers via customer mood (and via an index of comprehensibility, competence, and warmth ratings). This further corroborates the role of affective reactions and additionally points to the potential role of stereotypes.

Nonnative Accent Stereotypes

Regarding stereotypes, an *accent–low competence* link is well documented (see Fuertes et al., 2012; Gluszek & Dovidio, 2010; Roessel et al., 2018). Whereas the low-competence stereotype is usually derived from low status associations characteristic for stigmatized ethnic and regional varieties (e.g., Giles & Billings, 2004; Ryan, 1983; see above), it may rather be overgeneralized from attributions of low language competence in the case of nonnative accents (Ryan, 1983). Perceptions of disfluency could further feed into this mechanism (Dragojevic et al., 2017; Dragojevic & Giles, 2016). Ratings of competence and status are commonly treated as outcome variables in accent evaluation studies. However, Wang et al. (2013) had competence items included in their mediation index, and Huang et al. (2013) found a mediation via political skills (which may be seen as an index of competence tailored to the targeted executive position).

In line with the idea of two basic dimensions of social perception—specifically, the *big two* competence and warmth (see Fiske, Cuddy, Glick, & Xu, 2002)—language attitudes literature has also focused on solidarity/sociability as a second stereotype dimension for accented speakers next to status/competence (see Giles & Billings, 2004; Giles & Marlow, 2011; Gluszek & Dovidio, 2010). In contrast to rather consistent downgrading on the competence dimension, warmth ratings appear to be more variable. To the degree that accents invoke positive in-group associations and solidarity, accented varieties of one’s own linguistic group may be granted higher warmth ratings (Giles & Marlow, 2011; Ryan, 1983; Yzerbyt, Provost, & Corneille, 2005). Accents of other linguistic groups may also receive higher warmth ratings as compensation for lower competence judgments (Yzerbyt, et al., 2005; see also Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). However, this is seldom found (cf. the meta-analysis by Fuertes et al., 2012). An explanation may be that to the degree that (particularly nonnative) accents evoke disfluency/foreignness and negative affect, these factors may negatively affect warmth perceptions (see Roessel et al., 2018). Indeed, disfluency manipulations impinged on solidarity ratings in Dragojevic and Giles’s (2016) study, and Hosoda et al. (2007) reported correlations between feelings and warmth attributes (but also cf. Souza & Markman, 2013). The mediation via the comprehensibility–competence–warmth index reported by Wang et al. (2013) lends initial evidence to the mediating role of these variables, but precludes a differentiation between the dimensions.

Potential Mediators

In sum, disfluency, affective reactions, and low-competence associations appear generally linked to nonnative accents, whereas the links of accents with warmth are less clear. These basic mechanisms should affect perceptions of native and nonnative audiences, and they should generally work for different nonnative accents. Accordingly, Roessel et al. (2018) have already shown that negative biases on affect, competence, and warmth may be triggered generally on perceiving diverse nonnative foreign

accents. For perceptions of nonnative accents of one's own language group, only the foreignness-affect link appears less viable (except for a potential schema-stored foreignness-based affect component, or a disfluency-derived sense of foreignness, see Dovidio & Gluszek, 2012). In the present research, we therefore investigate the interplay of disfluency, affective reactions, and general stereotypes and test respective mediation models.

The Present Research

The present investigation aims at uniting research investigating NNS-NNS perceptions on the one hand and research investigating general mechanisms behind accent discrimination on the other hand. By focusing on evaluations of nonnative accents from listeners' own linguistic group, different national backgrounds and out-group distinctions (which are traditionally confounded with accent conditions) were largely switched off. Specifically, German participants listened to native speakers of German speaking English with versus (almost) without a nonnative accent.

Within language attitudes literature, reactions to one's own nonnative or nonstandard language variety have traditionally been assessed in identity- and conflict-laden contexts (e.g., ethnolects or immigration-linked accents; Anisfeld, Bogo, & Lambert, 1962; Callan et al., 1983; Dailey, Giles, & Jansma, 2005), or in EFL contexts with students' salient aim to attain a native-like proficiency (e.g., Butler, 2007; Chiba, Matsuura, & Yamamoto, 1995; Dalton-Puffer, Kaltenboeck, & Smit, 1997; McKenzie, 2010). Thus, one's national/ethnic identity or native-like pronunciation were usually at stake in these investigations, which revealed downgrading of the accented speakers, particularly on competence/status variables (and inconsistent findings regarding warmth/solidarity variables). It is thus unclear whether these factors were major determinants of accent evaluations and how more basic mechanisms (outlined above) contribute to evaluations of one's own nonnative language variety.

Such factors were also largely circumvented by having Germans listen to a German speaker performing in English. For Europe in general, it has been noted that English functions as a lingua franca and serves as a pragmatic means for communication (Beinhoff, 2014; Gerhards, 2010). In the present research, we specifically investigated the influence of nonnative accents in a hirability scenario when *the content* of speakers' utterances—and not the English skills—should be central to perceivers (see Study 1). We aimed to investigate whether nonnative listeners would discriminate against nonnative accented speakers even when (stigmatized) social group associations were not involved. The assumed general mechanisms would suggest so. Specifically, we predicted affective reactions and competence perceptions as central mediators for downgrading evaluations. Accordingly, we hypothesized the following:

Hypothesis 1: Nonnative listeners assign lower hirability ratings to candidates who speak English with a strong nonnative accent than to candidates who speak English (nearly) natively.

Hypothesis 2a: The effect of accent on hirability ratings is partially mediated via affect.

Hypothesis 2b: The effect of accent on hirability ratings is partially mediated via competence.

Based on previous research findings, it was an open research question (Research Question 1) whether disfluency would emerge as a mediator by itself. However, we tested for sequential indirect effects modeling the following hypothesis:

Hypothesis 3: Accent-based disfluency perceptions exert a negative influence on hirability ratings via affect and stereotype associations (specifically competence).

The mediating role of warmth for Hypotheses 1 and 3 was unclear (Research Question 2) based on previous research. Regarding potential influences on warmth, however, we advanced the following prediction:

Hypothesis 4: Accent-based disfluency perceptions and affect exert a negative influence on warmth evaluations.

These constitute our core hypotheses. We further investigated relevant moderators in the studies. In *Study 1*, we tested for accent discrimination and the mediators comparing native/-like English with nonnative accented English. In the presented context (employment situation at a university), the content of utterances should be crucial. Therefore, we also varied the quality of arguments for the candidate's qualification to have a benchmark of accent discrimination (relative to the pragmatic influence of arguments). *Study 2* served to replicate the basic accent effect on hirability ratings and the mechanisms observed in Study 1. Moreover, an intervention was tested to alleviate downgrading evaluations. Due to the moderators in Studies 1 and 2, only Hypotheses 1 and 2 were tested with multiple mediation models in these studies. This mirrored the common analysis approach of prior research and avoided the inflation of parameters to be tested. *Study 3* was to replicate Hypotheses 1 and 2 with different audio material and refined measures. Moreover, sequential indirect effects were tested in Study 3 to better understand potential indirect effects for disfluency and warmth (Hypotheses 3 and 4).

Study 1: Downgrading of Job Candidates With Strong Nonnative Accents

The present study was to investigate reactions to nonnative accents of one's own native language in a context that is neither identity-laden nor focused on foreign language learning, but relevant for self-presentation and the communication of ideas. Specifically, student participants were to rate the suitability of an alleged candidate presenting herself in English for a lecturer/assistant professorship position (with the accent varied between participants). We realized two international standards of speaking English: (a) English genuinely spoken by native speakers and (b) almost native-like English spoken

by nonnative (German) speakers, only with a weak accent—next to a strong nonnative accent condition. In the nonnative conditions, it was made clear that the hiring panel was held in English due to university policies; however, the classes would be taught in German. Therefore, the candidate's English skills would not affect future students, whereas the content—specifically the quality of the candidate's arguments for her teaching qualification—should be central. We therefore varied the *quality of arguments* (high vs. low) orthogonally to the accent.

If the content of speech was adequately taken into account, participants should base their evaluations only on the quality of arguments (resulting in a main effect of argument quality). However, our core hypothesis was a main effect of accent in that candidates with a strong accent are downgraded compared with those who speak English (nearly) natively (Hypothesis 1). Additionally, accent discrimination may reveal itself in a diminished influence of arguments for the discernable, strong accent in comparison with the (near) native conditions (resulting in an interaction of accent and argument quality).

Our second focus concerned the mediators of the accent→evaluation effect. We hypothesized that negative affective reactions and low-competence associations negatively influence students' evaluations (Hypothesis 2), whereas it was unclear whether comprehensibility and warmth would emerge as mediators (Research Questions 1 and 2).

Method

Participants and Design. One hundred and thirty-seven students (81 female, 56 male; $M_{\text{age}} = 22.86$ years, $SD = 2.73$; 85% native speakers of German¹) participated in the study on personnel selection at a German university in exchange for course credit or a candy bar. The majority were students of psychology ($n = 38$), social sciences ($n = 20$), and business/-related studies ($n = 41$) next to business education ($n = 22$). On average, they reported a good command and pronunciation of English ($M = 6.33$, $SD = 1.51$, on a scale of 1 = *very bad* to 9 = *very good*).² Participants were randomly assigned to the conditions of the 3 (accent: native English vs. weak accent vs. strong accent)³ × 2 (argument quality: high vs. low) design.

Procedure. Participants completed the experiment in a laboratory. After signing an informed consent form, they read a short introduction including the cover story: A hiring panel was held at a German university to fill the position of an assistant professor in methodology at the Psychology Department. For reasons of internationalization, the process was conducted in English; however, it was assured that the classes would still be taught in German.⁴ To create comparable conditions regarding all candidates prospectively teaching in their native language, the latter comment was omitted for the candidate in the native English condition, for whom the hiring panel was allegedly held at a U.S. university. Similar to the students who had allegedly attended the talk, participants were to form an impression of the candidate. The candidate's origin was made explicit before participants proceeded to the recording. According to condition,

they listened individually to the recording of a *German candidate* (for the strong and weak accent) or a *U.S. candidate* who answered a question regarding her qualification as a lecturer for the students. Subsequently, participants were asked to rate the candidate (on the dependent measures and potential mediating variables) and provided basic demographic information. The entire questionnaire was held in German.

Stimulus Material. Each of the spoken texts contained three *arguments* that were selected based on a pretest ($N = 16$). High-quality arguments reflected high importance for a qualified lecturer (on a 7-point scale: $M_{\min} = 6.06$, $M_{\max} = 6.31$, range of $SD = 0.72$ – 0.95 ; e.g., seminars and lectures are clearly structured) and low-quality arguments reflected low importance ($M_{\min} = 1.87$, $M_{\max} = 2.06$, range of $SD = 0.85$ – 1.25 ; e.g., has always wanted to be a professor), respectively. Based on these arguments, two text passages of equal length were created for the argument conditions. The introductory sentence and the final sentence were identical for both texts.⁵

In addition to the content, the *accent* was manipulated via the audio recordings of the text passages. Following the matched-guise technique (MGT; Lambert et al., 1960), two female native speakers of German realized both the strong and the weak accent in English. For the native English conditions, two female native speakers from the United States, who spoke standard American English, read the passages.⁶ All speakers were instructed to read the passages with natural intonation and constant speed to control for speech fluency and motivation conveyed. The length of recordings ranged between 54 and 55 seconds.

Dependent Variable. *Hirability* is a mean index of three z-standardized measures (Cronbach's $\alpha = .91$): (a) an indication of the extent to which participants would recommend employing the candidate as a lecturer ($-3 = \textit{strongly discourage}$ to $3 = \textit{strongly recommend}$), (b) their general impression of the candidate ($-3 = \textit{very negative}$ to $3 = \textit{very positive}$), and (c) a mean index of professional qualification built from specific ratings of the candidate (5-point Likert-type scales regarding:⁷ [a] qualification for the position in general, [b] qualification as a lecturer, [c] didactic abilities, [d] motivation for teaching; Cronbach's $\alpha = .81$).

Mediating Variables. We assessed *comprehensibility* of the candidate (based on Munro & Derwing, 1995a, 1995b: $-3 = \textit{very difficult to understand}$ to $3 = \textit{very easy to understand}$) as a core component of dis/fluency perceptions of nonnative speakers. This subjective rating was shown to be related to an objective measure of processing disfluency (Munro & Derwing, 1995b; see also Dragojevic & Giles, 2016). To capture basic *affective reactions*, participants indicated the feelings elicited by the candidate's talk ($-3 = \textit{very negative}$ to $3 = \textit{very positive}$). The stereotype dimensions competence and warmth were assessed with six items each (Fiske et al., 2002; 5-point Likert-type scales), which were combined to mean indices of *competence* (competent, confident, capable, efficient, intelligent, skillful; Cronbach's $\alpha = .87$), and *warmth* (friendly, good-natured, sincere, trustworthy, warm, well-intentioned; Cronbach's $\alpha = .86$), respectively.

English Ratings. In the second part of the questionnaire, participants rated the candidate's English (regarding general proficiency, accentedness, speech fluency, and grammaticality) to check the accent manipulation (which was successful) and possible generalizations thereof. The results for all studies are reported in the supporting information online (available in the online version of the journal).

Results

Hirability. To test the influence of accent conditions (native vs. weak accent vs. strong accent) and argument quality (high vs. low) on hirability ratings, we ran an analysis of variance (ANOVA). Because the main effects of accent, $F(2, 131) = 9.93, p < .001, \eta_p^2 = .13$, and argument quality, $F(1, 131) = 19.84, p < .001, \eta_p^2 = .13$, were qualified by the Accent \times Argument quality interaction, $F(2, 131) = 7.05, p = .001, \eta_p^2 = .10$, we will focus on this interaction (see Figure 1). Post hoc tests with Bonferroni correction revealed no significant differences between the accent conditions for candidates who advanced low-quality arguments ($ps = 1.00$); they were generally rated low in hirability. For candidates who advanced high-quality arguments, however, the hypothesized pattern emerged. In line with Hypothesis 1, a strong accent yielded lower hirability ratings than a weak accent or native speech ($ps < .001$). The latter two did not differ significantly ($p = 1.00$), indicating that both variants are equally esteemed. Strikingly, the effect of argument quality (significant for the weak-accent and native speaker conditions, $ps \leq .002$) disappeared in the presence of a strong accent ($p = .73$).

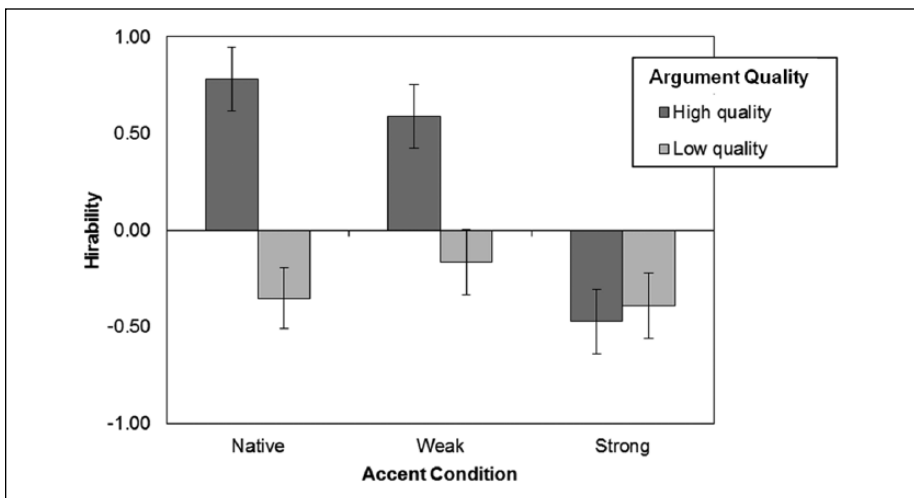


Figure 1. Mean hirability ratings (index of z-standardized scores) in Study 1. Note. Error bars indicate standard errors.

Mediation Analyses. Comprehensibility, affect, competence, and warmth were tested as mediators of the accent→hirability effect. Due to their different scaling, the potential mediating variables were z-standardized prior to the analysis. To allow for argument

quality to moderate the effect of accents on hirability and the mediators, a moderated multiple mediation model was specified with PROCESS (Hayes, 2013; Model 8). The accent factor was entered with dummy-coded variables (comparing the strong accent coded 0 against the weak accent coded -1 [D1] or the native condition coded -1 [D2]). Confidence intervals (CIs) in all mediation analyses were bias-corrected and based on 10,000 bootstrap estimates.

The results are summarized in Table 1. In line with Hypothesis 2, affect and competence emerged as mediators. The indirect effects via affect were reliable irrespective of argument quality, and only descriptively stronger in the high- versus to low-quality condition. Competence emerged as a mediator given high-quality arguments but not given low-quality arguments. Indeed, it is theoretically plausible that the previously reported Accent \times Argument quality interaction on hirability is primarily mediated via competence. The index of moderated mediation (modmed index; Hayes, 2015), which tests the difference of indirect paths by argument condition, corroborates this picture. For competence, the index was reliable for the strong versus weak accent contrast, D1: $b = -0.41$, 95% CI $[-0.82, -0.03]$, as well as for the strong accent versus native English contrast, D2: $b = -0.73$, 95% CI $[-1.22, -0.31]$. For affect, the modmed index was not reliable for D1, $b = -0.19$, 95% CI $[-0.51, 0.03]$; and reliable for D2 at first sight, $b = -0.29$, 95% CI $[-0.61, -0.06]$, but not robust to the native participants filter (i.e., the CIs included zero and the indirect effect of affect was significant in both argument conditions). The index was not reliable for comprehensibility (D1: 95% CI $[-0.16, 0.07]$; D2: 95% CI $[-0.18, 0.10]$) and warmth (D1: 95% CI $[-0.04, 0.04]$; D2: 95% CI $[-0.06, 0.04]$). Both variables did not evidence reliable indirect effects in this multiple mediation model (see Table 1). Finally, we would like to highlight that the negative accent \rightarrow hirability effect observed given high argument quality was no longer reliable when controlling for the mediators (D1: 95% CI $[-0.44, 0.20]$; D2: 95% CI $[-0.18, 0.52]$).

Discussion

The present results attest to downgrading of job candidates who spoke with a strong nonnative accent compared with those who spoke with a weak nonnative accent (almost native-like) and native speakers of English (Hypothesis 1). Discrimination emerged despite the student participants being nonnative speakers of English themselves and despite it being stressed that the candidate's English skills would not affect future students of the alleged lecturer. Strikingly, the strong accent completely outweighed the effect of argument quality—candidates with a strong accent were rated low in hirability, no matter what they said.

The mediation analyses confirmed our hypothesis that affect and competence perceptions function as major mediators between accent and hirability ratings (Hypothesis 2). Moderated mediation analyses revealed that the influence of competence depended on argument quality (for low-quality arguments, ratings were low across all accent conditions, probably evidencing a floor effect of competence evaluations), whereas the indirect effect via affect was less influenced by argument quality. Comprehensibility, as a measure of subjective disfluency, did not emerge as a mediator within the multiple mediation

Table 1. Summary of Indirect Effects of the Moderated Mediation Model (by Argument Quality) for the accent→hirability effect in Study 1.

| Dummy | Moderator | Comprehensibility | | Affect | | Competence | | Warmth | |
|--------------------------------------|--------------|-------------------|---------------|---------------|----------------|---------------|----------------|---------------|---------------|
| | | b (SE) | 95% CI | b (SE) | 95% CI | b (SE) | 95% CI | b (SE) | 95% CI |
| <i>Weak vs. strong accent (D1)</i> | | | | | | | | | |
| | High quality | -0.04 (0.08) | [-0.21, 0.13] | -0.40 (0.12)* | [-0.69, -0.20] | -0.47 (0.16)* | [-0.79, -0.18] | -0.001 (0.02) | [-0.04, 0.03] |
| | Low quality | -0.02 (0.04) | [-0.11, 0.05] | -0.21 (0.10)* | [-0.45, -0.04] | -0.07 (0.14) | [-0.34, 0.19] | -0.001 (0.01) | [-0.04, 0.03] |
| <i>Native vs. strong accent (D2)</i> | | | | | | | | | |
| | High quality | -0.04 (0.09) | [-0.22, 0.14] | -0.47 (0.13)* | [-0.76, -0.25] | -0.89 (0.16)* | [-1.24, -0.60] | 0.001 (0.02) | [-0.03, 0.05] |
| | Low quality | -0.01 (0.03) | [-0.10, 0.03] | -0.18 (0.11) | [-0.42, 0.001] | -0.17 (0.16) | [-0.49, 0.15] | 0.002 (0.02) | [-0.03, 0.06] |

Note. CI = Confidence interval; SE = Standard error. Indirect effects that are reliable by the 95% CI are marked with an asterisk.

model, which replicates a common approach and findings of previous research. Regarding warmth perceptions, no overall effect of accent on warmth was observed; neither did indirect effects via warmth on hirability emerge. Studies 2 and 3 will further scrutinize the role of comprehensibility and warmth evaluations (Research Questions 1 and 2).

In the present experiment, downgrading of the strongly accented candidates was striking. The idea that one's arguments may not matter is devastating because communication in these contexts is about conveying content. In the next study, we tested whether these downgrading evaluations (and the indirect effects) replicate. Moreover, we also aimed to test a basic intervention to reduce discrimination in person perception contexts.

Study 2: Alleviation of Discrimination With Prejudice Control

In Study 1, discriminatory evaluations of candidates with a strong versus a weak accent emerged given high-quality arguments, but not given low-quality arguments (with low ratings across accent conditions). Therefore, we only used recordings based on high-quality arguments in Study 2. Furthermore, having documented parallel effects for the two native/-like varieties in Study 1, we focused on the weak versus strong accent contrast (with the MGT) in the present study to avoid potential effects caused by the different nationalities of German versus U.S. native English speakers, and potential differences in voice characteristics. We expected to replicate (a) downgrading of strong- versus weak-accented job candidates (Hypothesis 1) and (b) affect and competence as the major mediators (Hypothesis 2).

Our second aim was to test an intervention strategy to reduce these biased evaluations of accented speakers. It has been documented that listeners may not be aware of their discriminatory evaluations, and that the normative climate offers room for negative evaluations of accented speakers (see Giles & Watson, 2013; Gluszek & Dovidio, 2010; Ura, Preston, & Mearns, 2015). Raising awareness of negative reactions and discriminatory evaluations is a precondition for correcting evaluations (Monteith, Arthur, & McQueary Flynn, 2010; Perry, Murphy, & Dovidio, 2015). Moreover, perceptions of normative appropriateness and the expression of prejudice were found to correlate as high as $r = .96$ (Crandall, Eshleman, & O'Brien, 2002). Therefore, we aimed to raise the awareness of biased reactions and shift the situational social norms with prejudice control instructions. We expected an interaction of accent and instructions in that discriminatory evaluations should be diminished, or absent, under prejudice control, compared with regular instructions.

Method

Participants and Design. We conducted this study online to obtain a different sample of German students from that used in Study 1. Via mailing lists of German universities (the one of Study 1 excluded), we reached 139 students (94 female, 40 male; $M_{\text{age}} = 23.95$ years, $SD = 3.85$; 94.2% native speakers of German; 5 provided no

demographic information) who completed the survey on personnel selection at universities. As compensation, they had the opportunity to win 1 of 10 Amazon coupons worth 10 Euros each. The majority of participants were students of Psychology ($n = 71$), Social Sciences ($n = 36$), and Business or Business-related studies ($n = 10$). On average, they reported possessing a good command and pronunciation of English ($M = 6.42$, $SD = 1.38$, on a scale of 1 = *very bad* to 9 = *very good*). Participants were randomly assigned to one of four conditions of the 2 (accent: weak vs. strong) \times 2 (instruction: regular vs. prejudice control) between-participants design.

Procedure. After a general introduction to the online questionnaire, participants had to indicate that they were able to perceive a probe tone and were asked for informed consent in order to proceed. The cover story was the same as in Study 1 for the regular instruction conditions. Only the position was changed to a professorship at a faculty of social sciences. This was done to avoid possibly negative connotations and the potential male gender bias associated with the subject methodology and to ensure relevance for the targeted student populations at the same time. In the *prejudice control* conditions, we additionally instructed participants to recognize that most candidates were not speaking their native language because the hiring process was conducted in English. They were told that research had found accented speech to bias person perception and they were therefore asked to not base their evaluations on feelings or stereotypes that might be evoked. After reading the cover story, all participants listened to the audio file (the same recordings as in Study 1) and were then automatically directed to the questionnaire.

Measures. The measures were the same as in Study 1. Mean indices were constructed for hirability, competence, and warmth (Cronbach's α s = .89, .84, .86, respectively).

Results

Hirability. To test whether the instructions were effective in modulating the potential downgrading of the strongly accented candidates, we ran a 2 (accent: weak vs. strong) \times 2 (instruction: regular vs. prejudice control) ANOVA on hirability ratings. Next to the significant main effects of accent, $F(1, 135) = 17.62$, $p < .001$, $\eta_p^2 = .12$, and instruction, $F(1, 135) = 18.73$, $p < .001$, $\eta_p^2 = .12$, a trend for the hypothesized interaction effect emerged, $F(1, 135) = 3.73$, $p = .06$, $\eta_p^2 = .03$. The rating pattern is displayed in Figure 2. Simple main effect contrasts revealed that the main effect of instruction is due to upgrading of the strong accent ($p < .001$) and, by tendency, also of the weak accent ($p = .09$) with prejudice control compared with regular instructions. Importantly, though, downgrading of the strong- versus weak-accented candidates was only significant under regular instructions ($p < .001$)—replicating the finding from Study 1 and supporting Hypothesis 1—but not under prejudice control instructions ($p = .11$).

Mediation Analyses. In the next step, we tested a moderated mediation model (PROCESS Model 8) to investigate the indirect effects between accent and hirability. The potential mediating variables were z-standardized prior to the analysis.

The results are displayed in Table 2. The indirect effects via affect and competence emerged reliably given regular instructions. This finding replicates Study 1 and further corroborates Hypothesis 2. The indirect effects of affect and competence were both reduced under prejudice control instructions. The modmed index, though, was only reliable for affect, $b = 0.18$, 95% CI [0.01, 0.45], but not for competence, $b = 0.19$, 95% CI [-0.07, 0.48]. The index for warmth was at the edge of including zero, $b = 0.05$, 95% CI [0.002, 0.17]. For comprehensibility, the index was unreliable, $b = 0.03$, 95% CI [-0.01, 0.14]. Replicating Study 1, the indirect effects via comprehensibility and warmth were not reliable in this multiple mediation model irrespective of instruction condition (see Table 2). Finally, we would like to point out that the negative accent→hirability effect observed under regular instructions was reduced to nonsignificance when controlling for the mediators (95% CI [-0.38, 0.14]).

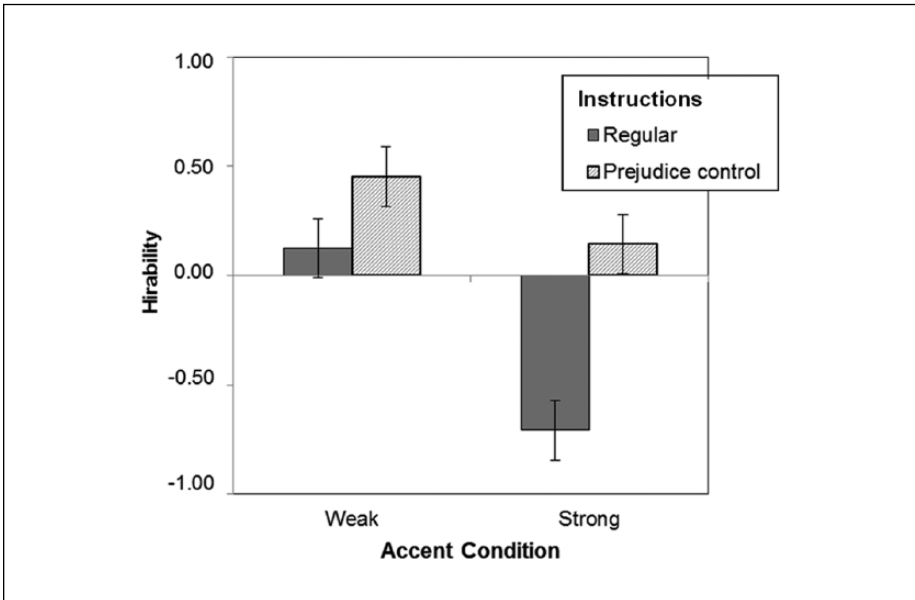


Figure 2. Mean hirability ratings (index of z-standardized scores) in Study 2.
Note. Error bars indicate standard errors.

Discussion

The present study lends further support to our Hypotheses 1 and 2. First, the downgrading of strong- compared with weak-accented speakers already observed in Study 1 was replicated. Second, affect and competence again emerged as the central mediators of the accent→hirability effect. Importantly, discriminatory ratings (found under regular instructions) were nonsignificant under prejudice control instructions.

Table 2. Summary of Indirect Effects of the Moderated Mediation Model (by Instruction) for the accent→hirability effect in Study 2.

| Moderator | Comprehensibility | | Affect | | Competence | | Warmth | |
|-------------------|-------------------|---------------|--------------|-----------------|--------------|-----------------|---------------|---------------|
| | b (SE) | 95% CI | b (SE) | 95% CI | b (SE) | 95% CI | b (SE) | 95% CI |
| Regular | -0.09 (0.06) | [-0.22, 0.01] | -0.30 (0.11) | [-0.54, -0.12]* | -0.32 (0.11) | [-0.57, -0.13]* | -0.005 (0.02) | [-0.05, 0.04] |
| Prejudice control | -0.05 (0.04) | [-0.15, 0.01] | -0.12 (0.08) | [-0.30, -0.003] | -0.13 (0.09) | [-0.33, 0.04] | 0.05 (0.04) | [0.003, 0.15] |

Note. CI = Confidence interval; SE = Standard error. Indirect effects that are reliable by the 95% CI are marked with asterisk.

In parallel, affect and competence only emerged as mediators under regular instructions, but not reliably with prejudice control instructions. It is important to note that the instructions were provided in the beginning and people could engage in corrective processes (therefore, the mediation model specified a moderating influence of instruction on the path from accent to the mediators). With measures less susceptible to control, one might expect initial biases to emerge largely irrespective of the instruction (see Maass, Castelli, & Arcuri, 2000; Pantos & Perkins, 2013; Roessel et al., 2018). Yet the present results show that people are apparently able to correct discriminatory evaluation tendencies when their awareness for biases is raised.

Studies 1 and 2 consistently demonstrated basic downgrading effects of nonnative speakers—even when the content should be of utmost importance. Study 3 was to replicate the basic downgrading (Hypothesis 1) and mediation effects (Hypothesis 2) with new audio material next to refined measures. Answering Research Questions 1 and 2, comprehensibility and warmth did not emerge as mediators in Studies 1 and 2, which implemented (traditional) multiple mediation models. Study 3 now tested for potential sequential indirect effects for disfluency and warmth (Hypotheses 3 and 4).

Study 3: Toward a Better Understanding of Mechanisms

Study 3 sought to replicate the basic effect of weak versus strong accents on hirability evaluations and gain a better understanding of the indirect effects. To test for generalizability, we (a) employed new MGT recordings by two female and two male speakers and (b) assessed the potential mediating variables with new items. The implemented sequential mediation approach allowed for testing whether disfluency exerts its effects on evaluations more indirectly via affect and stereotype associations (Hypothesis 3). A closer inspection of Studies 1 and 2 revealed that strong accents yielded lower comprehensibility ratings than the weak-accented and native varieties. By contrast, accent condition was not linked to warmth ratings. This may be explained by divergent influences: Strong accents may be granted higher warmth ratings, whereas the elicited disfluency and negative affective reactions may reduce or inhibit such positive evaluations (Hypothesis 4).

Method

Participants and Design. This study was again conducted online to reach a new student sample via several German university mailing lists.⁸ The survey on personnel selection at universities was completed by 139 students (96 female, 40 male, 3 indicated no gender; $M_{\text{age}} = 24.19$ years, $SD = 4.14$; 92.8% native speakers of German). The majority were students of Psychology ($n = 40$), Social Sciences ($n = 37$), Natural Science ($n = 23$), and Business or Business-related studies ($n = 17$). On average, they reported possessing a good command and pronunciation of English ($M = 6.47$, $SD = 1.49$, on a scale of 1 = *very bad* to 9 = *very good*). Participants were randomly assigned to one of the four conditions of the 2 (accent: weak vs. strong) \times 2 (speaker gender: female vs. male) between-participants design.

Procedure. The online questionnaire was built in parallel to Study 2. However, only *regular instructions* were embedded.

Stimulus Material. In addition to one new female speaker (one MGT speaker from Studies 1 and 2 provided new recordings for the present study), two (new) male speakers recorded the passages, once with their best English pronunciation only reflecting a weak accent, and once with a strong German accent (all were native speakers of German). Speakers were instructed to read the passages with natural intonation and constant speed. The weak-accent recordings were 46 to 48 seconds long, and the strong-accent recordings 46 to 49 seconds (evidencing descriptively higher speech fluency than in Studies 1 and 2).⁹

Measures. The new *hirability* index comprised three items: (a) hiring recommendation; (b) general impression; both assessed as in Studies 1 and 2; and (c) a question on whether participants would hire the candidate if they were to decide ($-3 = \textit{for certain no}$ to $3 = \textit{for certain yes}$) as a substitute for the qualification index assessed in Studies 1 and 2. We averaged these items (all assessed on 7-point scales ranging from -3 to 3) to a mean index (Cronbach's $\alpha = .93$).

The items for the stereotype dimensions were taken from Brambilla, Rusconi, Sacchi, and Cherubini (2011) and Leach, Ellemers, and Barreto (2007). *Competence* was assessed with four items (competent, intelligent, skilled, capable; Cronbach's $\alpha = .91$), and *warmth* with six items (friendly, honest, sincere, social, trustworthy, warm; Cronbach's $\alpha = .89$).¹⁰ Moreover, the general item for *affective reactions* (feelings: $-3 = \textit{very negative}$ to $3 = \textit{very positive}$) was complemented with the 7-point visual self-assessment manikin scales for valence and arousal (Irtel, 2008; Lang, 1980). Arousal (recoded) evidenced a low discriminatory power, $r_{i(t-1)} = .27$, and was thus regarded separately (with the original coding; i.e., higher values indicating more arousal). The feelings item and valence evidenced good reliability (Cronbach's $\alpha = .92$) and were aggregated to an affect index.

Results

Hirability. The 2 (accent) \times 2 (speaker gender) ANOVA on hirability revealed a main effect of accent, $F(1, 135) = 35.44, p < .001, \eta_p^2 = .21$. In line with Hypothesis 1, candidates with a strong accent received lower hirability ratings ($M = 0.44, SD = 1.22$) than did candidates with a weak accent ($M = 1.54, SD = 0.90$). The main effect of speaker gender and the interaction with accent were nonsignificant, $F_s < 1.32, ps > .25$.

Mediation Analyses. If the mediators of the accent \rightarrow hirability effect were only regarded with a simple multiple mediation model, the indirect effects via affect, $b = -0.41, 95\%$ CI $[-0.67, -0.21]$, and competence, $b = -0.45, 95\%$ CI $[-0.68, -0.27]$, would emerge reliably, but not the ones via comprehensibility, $b = -0.01, 95\%$ CI $[-0.08, 0.05]$, and warmth, $b = 0.001, 95\%$ CI $[-0.02, 0.04]$ —replicating prior findings—neither would the indirect effect via arousal, $b = -0.03, 95\%$ CI $[-0.11, 0.001]$.

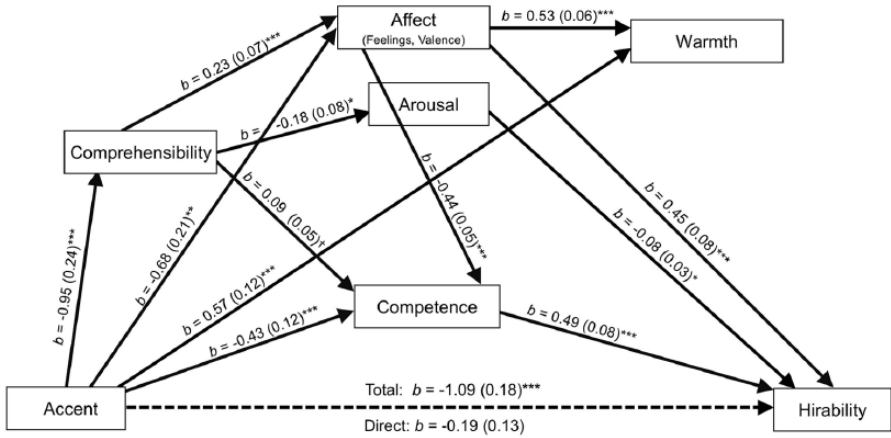


Figure 3. Sequential multiple mediation model with unstandardized path coefficients and standard errors in parentheses.

Note. The independent variable accent is coded as 1 = *weak accent* and 2 = *strong accent*. All mediators and hirability were assessed on 7-point scales with higher values indicating higher levels on the respective variable. Correlations and nonsignificant paths with $ps > .10$ are not displayed.

*** $p < .001$. ** $p < .01$. * $p < .05$. † $p < .10$.

A more differentiated picture emerges when specifying a sequential mediation model with Mplus (Muthén & Muthén, 1998-2014).¹¹ The results are depicted in Figure 3. The total indirect effects via affect and competence reported above can be decomposed into paths that go directly through affect, $b = -0.31$, 95% CI [-0.56, -0.12], and competence, $b = -0.21$, 95% CI [-0.36, -0.10], and those that are partially mediated via comprehensibility. Sequential indirect effects of accent on hirability emerged via *comprehensibility* → *affect*, $b = -0.10$, 95% CI [-0.21, -0.05], *comprehensibility* → *competence*, $b = -0.04$, 90% CI [-0.10, -0.01], and *comprehensibility* → *affect* → *competence*, $b = -0.05$, 95% CI [-0.11, -0.02]. This corroborates Hypothesis 3 in that disfluency exerts influences on evaluations more indirectly via affect and competence perceptions. Unexpectedly, we also observed an indirect effect via *affect* → *competence*, $b = -0.15$, 95% CI [-0.27, -0.07], which we will return to in the discussion. All other indirect effects for the accent→hirability effect included zero or were at the edge of including zero.¹²

While no mediation via warmth emerged on hirability (with hirability not relying on warmth judgments), the divergent effects on warmth (treated as the outcome variable) were of interest. As hypothesized (Hypothesis 4), negative indirect effects via affect, $b = -0.36$, 95% CI [-0.60, -0.15], and *comprehensibility* → *affect*, $b = -0.12$, 95% CI [-0.24, -0.05], emerged. The remaining direct effect of accent on warmth was positive (see Figure 3). These effects add up to the nonsignificant total effect of accent on warmth, $b = 0.07$, 95% CI [-0.25, 0.37].

Discussion

The present study replicated the major (indirect) effects obtained in Studies 1 and 2, thereby lending additional confidence in the robustness of Hypotheses 1 and 2. Different from the previous studies, we relied on female and male speakers as candidates, thus, assuring that the effects are not gender specific. Moreover, refined measures were employed for the mediators. Next to adapted measures of competence and warmth, the assessment of affective reactions with verbal labels (employed in Studies 1 and 2) was combined with visual SAM scales. These scales were shown to correlate with basic physiological measures and Mehrabian and Russel's emotional states scales (Lang, Bradley, & Cuthbert, 1997; as employed in previous language attitudes studies, e.g., by Bresnahan et al., 2002). The mediation pattern reveals that our assessment of general affect appears less linked to the arousal component of affect, but largely reflects its valence component. Arousal may be of greater relevance in interactive contexts with greater immediacy of interlocutors (Lang et al., 1997).

The sequential mediation analysis confirmed affect and competence as the major mediators (Hypothesis 2), but offered a more nuanced view on the underlying mechanisms. Affect and competence both partially derived from accent-linked comprehensibility perceptions. Replicating previous findings, comprehensibility did not emerge as a mediator by itself (Research Question 1), but exerted its effects via affect and competence (corroborating Hypothesis 3). Somewhat unexpectedly, we also observed an indirect effect via *affect* → *competence*. Theoretically, and based on prior research (Roessel et al., 2018), we conceived of competence as being schema-derived (as presumably reflected in the direct path on competence) and disfluency-derived (as reflected in the indirect paths via comprehensibility). However, given the link of disfluency with affect and the evaluative influences of affect, it appears reasonable that the general core affect targeted in the present studies also colors competence ratings. By contrast, the effect of accent on competence via affect was not evident in previous research, which measured specific emotions such as frustration (see Dragojevic et al., 2017; Dragojevic & Giles, 2016).

Comparable to Studies 1 and 2, there was no effect of accent on (or via) warmth in Study 3 (Research Question 2). The mediation model corroborated the explanation we endorsed in the present work: While there may be positive direct effects of discernable accents on warmth, negative indirect effects via (comprehensibility →) affect (Hypothesis 4) lower or inhibit potential upgrading tendencies. Thereby, the present research not only helps better understand basic mechanisms behind the downgrading of (strongly) accented nonnative speakers but also sheds light on divergent mechanisms that help explain inconsistent findings regarding warmth ratings.

General Discussion

In times of internationalization and increasing communication among nonnative speakers, nonnative accented speech emerges as *the* means for self-presentation and conveying one's ideas (e.g., in a foreign language used as the lingua franca for

exchange). The present research set out to unite and gain a better understanding of two emergent research avenues against this background: (a) the evaluation of nonnative accented speakers by nonnative listeners and (b) the search for general, basic mechanisms (rather than social group inferences) driving the perception and evaluation of nonnative accented speakers.

Investigating reactions to speakers with a nonnative accent of one's own native language in a university employment scenario, we consistently found downgrading of strongly accented candidates as compared with those speaking with a weak accent (Studies 1 to 3) or native speakers of English (Study 1)—even to the degree that the content of speakers' utterances (argument quality) was of no relevance for evaluations (Study 1). Across studies, downgrading evaluations were consistently mediated via affect and competence. Thus, Hypotheses 1 and 2 were confirmed. Comprehensibility did not emerge as a mediator by itself (Research Question 1), but—in line with Hypothesis 3—exerted indirect effects via affect and via competence (Study 3). Whereas warmth did not emerge as a mediator of the accent→hirability effect (Research Question 2), the idea of divergent influences on warmth was corroborated in Study 3: Potential upgrading of strong-accented speakers was met by negative indirect effects via (comprehensibility →) affect (Hypothesis 4). Moreover, we demonstrated that downgrading on affect, competence, and hirability evaluations were reduced when making participants aware of potential prejudice and explicitly asking them to control prejudiced reactions (Study 2).

Implications

NNS-NNS Contexts. The lack of research on NNS-NNS perceptions and evaluations, despite their increasing prevalence, has been bemoaned by researchers (Beinhoff, 2014; Chiba et al., 1995; McKenzie, 2010). Previous studies, pointing to downgrading evaluations, were usually conducted in contexts that highlighted stigmatized identities or were focused on attaining a high, native-like command of English. We wanted to further shed light on this research with more basic preconditions. Having German university students evaluate German accented English speakers, we aimed to avoid stigmatized identities (e.g., linked to immigration) and nationality associations (in the weak- and strong-accent conditions, participants always read about a *German candidate*). Furthermore, the accent was varied between participants (avoiding a comparative situation) and questions were person- rather than group-centered (Giles & Marlow, 2011; Ryan, 1983). Moreover, it was made clear that future students would not be affected by the candidate's English skills, so that the arguments for the candidates' qualification should have been central. Even with these arrangements, strongly accented candidates were downgraded—attesting to the robustness of accent discrimination when common confounds were avoided and a pragmatic context was given.

With calls for more research on NNS-NNS contexts, it is of interest how the *own* nonnative accent (i.e., accent in a foreign language by speakers with the same native language [L1] as the listeners) may play a special role. Such accents are likely less tied to one's identity than are natively spoken varieties (such as dialects or ethnolects). To

the degree that they are linked to identity, though, they may foster tendencies for warmth upgrading (e.g., McKenzie, 2010; see also Yzerbyt et al., 2005). Although not a natively spoken variety, such nonnative accents of one's own L1 are also not clearly foreign. It would be interesting for future research to detect whether residual foreignness is still encoded even when one knows that the speakers are of the same origin (as in the present case). Indeed, foreignness is encoded extremely quickly (Flege, 1984; Park, 2013) and evolutionary preparedness might favor conservative initial perceptions of foreignness (see Buss 2008; Haselton & Nettle, 2006; Miller, Maner, & Becker, 2010). Disfluency may also negatively bias perceived familiarity and increase out-group bias (Dovidio & Gluszek, 2012; Dragojevic & Giles, 2016). In any case, it is likely that perceptions of nonnativeness prevail (Roessel et al., 2018; Ryan, 1983), which we presume to trigger the general mechanisms proposed here.

Mediators. One of the aims of the present research was to shed light on these basic, general mechanisms. We hypothesized and found that general affective reactions and competence perceptions serve as mediators between accent and hirability evaluations. By contrast, comprehensibility (as a measure of disfluency) did not emerge as a mediator when investigated with a common multiple mediation approach that regards all mediators in parallel. When allowing for sequential effects, more indirect effects of disfluency via affect and competence on hirability ratings emerged. The relatively small magnitude of these effects may be due to the fact that the accent mostly derived from participants' own native language, and the intelligibility of utterances (reflected in positive comprehensibility ratings). High intelligibility appears to be common, rather than exceptional, for nonnative accented speech (Munro & Derwing, 1995a, 1995b), and other studies investigating *foreign* accents have also failed to detect mediating influences via comprehensibility variables (Deprez-Sims & Morris, 2010; Huang et al., 2013). Our research suggests that comprehensibility effects may be better detected when considering a sequential model (see also Dragojevic et al., 2017).

Next to the mediators behind hirability evaluations, the present results further assist in understanding inconsistent findings regarding warmth evaluations. The own accent component and motivational correction tendencies may trigger positive evaluations (as reflected in the positive direct path). However, the negative effect of strong accents on (comprehensibility →) affect yielded negative indirect effects on warmth in Study 3. Similarly, nonnative accents were shown to negatively bias warmth associations in an auditory implicit association test (see Roessel et al., 2018). These negative effects via comprehensibility can be expected to be less evident for natively spoken varieties (e.g., ethnolects, dialects). These varieties should also evidence greater personal identity bonds and may, thus, more likely trigger positive warmth associations.

Intervention. In light of the downgrading observed in the present studies, testing applicable interventions for person perception contexts emerged as an imperative goal (for a promising approach involving interactive contexts, see Hansen, Rakić, & Steffens, 2014). Accent reduction is feasible only to a limited degree. Research has also shown

language switching (as common in international and lingua franca settings) to increase accent strength (Goldrick, Runnqvist, & Costa, 2014). Therefore, the listener side is crucial because negative preconceptions may bias evaluations and hinder communication (see also Gluszek & Dovidio, 2010; Rubin, 1992). The first step is that people are aware of their biased reactions and reflect on these (Gluszek & Dovidio, 2010; Monteith et al., 2010). Whereas competence stereotypes may be easier to detect, affective reactions (which emerged as reliable mediators) are usually most persistent and difficult to recognize and control (Brown, 2010)—while they serve as a central predictor of discrimination (Talaska et al., 2008). The present prejudice control instructions are rather easy to implement and were effective in prompting people to correct their biases (without extensive training interventions). If motivated, people may internalize such corrections (for an overview, see Monteith et al., 2010).

Limitations

Despite the insights proposed here, the present research has limitations. Due to the study aims and characteristics, we only focused on ratings of German-accented English by German participants. As regards *foreign* nonnative accents, we would assume the same basic mechanisms (Dragojevic et al., 2017; Dragojevic & Giles, 2016; Pantos & Perkins, 2013; Roessel et al., 2018). As regards *other samples* for the *own accent* evaluation, links of the accent to one's identity may determine the role of warmth perceptions, which should be tested explicitly in future research. Also, the prevalence of English (ideologies) in everyday life may have a profound impact (for strong native English ideologies in Korea and China, see Butler, 2007; Hu & Lindemann, 2009; for tolerance and the usage of English in everyday life in Malaysia, see Ahmed, Abdullah, & Heng, 2014; Tokumoto & Shibata, 2011).

A major limitation is certainly that we only assessed the mediators with rating scales. Although it is striking that we still found such marked effects on competence judgments, the role of disfluency and affect would benefit from future research with more indirect and specific measures (e.g., physiological measures; see Eder, Hommel, & De Houwer, 2007; Mendes, Blascovich, Hunter, Lickel, & Jost, 2007; Phelps et al., 2000; Topolinski & Strack, 2009; for further approaches, see Spencer, Zanna, & Fong, 2005). Specific measures could also help understand the indirect effects via affect on competence obtained in Study 3.

Finally, future research should investigate whether biases differ given outcome measures in English (or another lingua franca in the targeted context). The present questionnaires were held in German to corroborate the cover story and to reduce potential obscuring effects due to the language of the questionnaire. Processing and responding in a foreign language may reduce (affective) biases (Caldwell-Harris, 2015; Keysar, Hayakawa, & An, 2012). That line of research has primarily focused on the reduced emotionality of the words' or stories' meanings in foreign languages. Accordingly, it is of interest whether this holds primarily for reported ratings in written questionnaires or also extends to spontaneous reactions (to cues beyond content) in interactive contexts. In the latter, stress and cognitive load (Caldwell-Harris, 2015;

Duñabeitia & Costa, 2015) might even enhance spontaneous biases. However, foreign languages may also activate associated norms and (potentially own international) experiences (see Caldwell-Harris, 2015; Chen & Bond, 2007, 2010; Hansen et al., 2014). Whereas the present research investigated basic, general mechanisms when perceiving nonnative accented speech, the investigation of such language-based effects emerges as an important avenue for the future.

Conclusion

Connecting the research trends of investigating NNS-NNS contexts on the one hand, and general mechanisms on the other, the present investigation offers new insights for both avenues regarding biases against nonnative accented speakers when stigmatized social identities are not salient; regarding the role of disfluency, affect, and competence as mediators of accent evaluations; regarding warmth perceptions for nonnative accented speakers; and regarding the potential for interventions. Considering the downgrading of strongly accented nonnative speakers by nonnative listeners in the present studies, it appears ever more important that people are aware of their biases. If the social climate shifts, corrective tendencies can be internalized and automatized (Crandall et al., 2002; Monteith et al., 2010). Furthermore, people are able to adapt well even to strong accents (Baese-Berk et al., 2013; Weber et al., 2014; Witteman et al., 2014). Therefore, preconceptions and prejudices should not hinder communication across linguistic borders, but openness should overcome these borders for the benefits of interlinguistic exchange.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Even though our focus was on native speakers of German, the proposed mechanisms should be of a general nature. Therefore, we did not exclude nonnative speakers of German a priori but controlled for this variable. The results remain the same when restricting the analyses to native speakers of German unless otherwise noted in the following descriptions. Due to the reduced n with this filter, we do not highlight changes from $p < .05$ to $p < .10$.
2. There was no reliable moderation by participants' self-ascribed English proficiency throughout studies. However, these judgments were only made in the end of the study and partially affected by the accent conditions. Future research should assess respective ratings separately or in the studies' beginning.
3. Within the accent conditions (of all studies), participants were randomly assigned to one of two speakers. Analyses were collapsed across the speakers per condition.
4. This scenario was realistic for the present student sample. Most courses at the present university, particularly the methodology courses, were taught in German at that time (English courses were more prevalent when Study 3 was conducted).
5. Perceptions of the arguments' quality as high versus low were also assessed in the end of the questionnaires and thereby validated in the present samples.
6. Because of the different speakers, we also assessed the likability of speakers' voices in Study 1. Voice likability ratings for the German speakers ($M = 3.21$, $SD = 1.06$) did not differ significantly from the voice likability ratings for the native English speakers ($M = 3.02$, $SD = 1.12$), $t(135) = 1.00$, $p = .32$, $d = 0.18$. All speakers were in their mid- to late-20s.
7. Another item "working with students" had low discriminatory power, $r_{i(t-1)} = .38$, and was eliminated from further analyses.
8. $N = 3$ indicated having participated in such a study before. When excluding them, the results remain the same.
9. We had the speakers record a slightly adapted passage that was also based on the pretested high-quality arguments. The passage evidenced the same length as the one employed in Studies 1 and 2. Speakers were again in their mid- to late-20s.
10. This assessment allowed for the differentiation of warmth in the two subdimensions sociability and morality. Results were parallel for these dimensions, wherefore we only report the global warmth index.
11. Next to the indirect effects, we specified a correlation between competence and warmth, which was not significant ($p = .95$), and between feelings and arousal ($r = -.19$, $p = .04$).
12. Indirect effect via *comprehensibility* \rightarrow *arousal* ($b = -0.01$, 90% CI $[-0.04, -0.004]$).

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