



Perception of Nonnative Accent: A Cross-Sectional Perspective Pilot Survey

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Abstract

Accent bias is a consequence of ethnocentrism. No studies have examined accent bias across educational levels in the U.S., much less across students and professionals in speech language pathology (SLP), a field that requires multicultural sensitivity training. This study examines nonnative accent perception among three groups—high schoolers, SLP students, and SLP professionals. One-hundred-and-sixty-five respondents completed an online survey that determined whether respondents held unbiased associations between nonnative accent and personality traits, sociocultural factors, professional attire, and personal appearance, in addition to participants' view of their own accent. Fixed-effect binomial logistic regression analyses indicated high schoolers were less likely to hold unbiased beliefs about persons with accents than would be expected by chance and that SLP students and professionals held significantly more unbiased beliefs than high schoolers. Surprisingly, despite the multicultural sensitivity training infused in the SLP curricula, SLP professionals still hold biased beliefs against people with accent. Potential suggestions are discussed to minimize accent-based biases.

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1. Introduction

Nonnative accent or foreign accent has been associated with speakers' social origins, national and/or regional affiliations and ethnic group membership (e.g., Kinzler, Shutts, DeJesus, & Spelke, 2009). Simultaneously, accent has also been associated with speakers' social class, intelligence, warmth, competence, and loyalty; thereby promoting stigmatization as aliens and linguistically incompetent (Cargile & Giles, 1997; Dixon, Mahoney, & Cocks, 2002; Edwards, 1999; Fuertes, Gottdiener, Martin, Gilbert, & Giles, 2012; Giles, 1970; Kinzler et al. 2009; Lippi-Green, 1994; Stewart, Ryan, & Giles, 1985). Predominantly, speakers with nonnative accents are perceived as having lower intelligence, lower loyalty, lower competence, lower socioeconomic status, and poorer target language skills than speakers with native accents (e.g., Gluszek & Dovidio, 2010). Thus, nonnative speakers face both prejudice and stereotypes due to their nonnative accent (Gluszek & Dovidio, 2010; Ng & Bradac, 1993).

To the best of our knowledge, accent bias across educational levels in the United States (U.S.) and across students and professionals in speech language pathology (SLP), has not been reported. This is critical because the SLP field requires multicultural sensitivity training and specialization in distinguishing between speech and language differences and disorders. This study examines the nature of nonnative accent-perception among high schoolers, SLP undergraduate and graduate students, and SLP professionals. The results might offer insights into the current status of multicultural sensitivity amongst the aforementioned three groups.

2. Theoretical Framework

2.1. Ethnocentrism

Ethnocentrism, the rigid attitudes and belief that one's own culture is superior to the

culture of others, has been used as an explanatory device for why some people avoid nonnative cultures and prefer intra-cultural interaction (Neuliep & Speten-Hansen, 2013). In general, higher ethnocentrism is associated with heightened biased-perception (e.g., derogatory, discriminatory, or preferential) of speakers' physical, social and task-attractiveness, credibility, and perceived homophily (Neuliep & Speten-Hansen, 2013). Eventually biasness may promote stigmatization and stereotype formations (e.g., Cargile & Giles, 1997; Dixon et al., 2002; Edwards, 1999; Giles, 1970; Lippi-Green, 1994; Stewart et al., 1985).

2.2. Accent bias

Along with prejudice and discrimination, a detrimental consequence of ethnocentrism is reflected in accent biases (Neuliep & Speten-Hansen, 2013). Accent is the paralinguistic element comprising of phonological and intonational features of spoken words (Giles, 1970). Importantly, accent is a different construct from speech intelligibility and speech comprehensibility. Speech intelligibility is an index marking how well an average listener can accurately recover a speaker's acoustic signal (Hustad & Cahill, 2003) and speech comprehensibility is the average listener's ability to interpret the meaning of the speaker's messages without regard for accuracy of phonetic and lexical parsing of the message (Hustad & Beukelman, 2002). Hence, even though the term 'accent' or 'nonnative accent' might evoke a causal influence on poor comprehensibility or poor speech intelligibility, these are three separate constructs with their distinct semantic and quantitative domains.

Speakers' accent also has a significant influence on their interpersonal evaluations, employment opportunities, credibility, vocational competence, and social status (e.g., Carlson & McHenry, 2006; Cargile, Maeda, Rodriguez, & Rich, 2010; Creese & Kambere, 2003; Frumkin, 2007; Fuertes & Gelso, 2000;

Hosoda, Nguyen, & Stone-Romero, 2012; Lev-Ari & Keysar, 2010; Noor, 2017). Standard accent has been associated with more social attractiveness, increased job opportunities, higher social status, higher intelligence, and more trustworthiness (Fuertes et al., 2012). A survey of over 5,000 participants ranked standard accent significantly higher in prestige and social status than nonnative accent (Coupland & Bishop, 2007). Usually US companies prefer to recruit applicants with standard American accents, directly or indirectly justifying their biasness citing concerns about comprehensibility, speech intelligibility, and interpersonal communication-competence as the potential impetus for such hiring practices (Deprez-Sims & Morris, 2010). In fact, Dell and Lehman Brothers had relocated call centers back to the US after being flooded with complaints about their offshore service agents' accents (Basu, 2003). Not only does accent bias exist in the workplace as just described, it also exists across educational sectors, which is described next.

2.3. Disparate Levels of Diversity in the U.S. Educational System

Across academic sectors (primary, secondary, and higher education) in the U.S., the cultural and linguistic diversity of the student population far surpasses the diversity of the educators. For example, out of 291 million people of 5 years of age and above, 21% spoke a language other than English at home (Ryan, 2013).

Furthermore, during the 2011–2012 school year, 51% of the students were white, whereas 82% of public school teachers were white; 16% of the students were black and 7% of public teachers were black. Similarly, while 24% of the students were Hispanic, only 8 percent of teachers were Hispanic (Snyder, de Brey, & Dillow, 2016).

Considering the disparate levels of diversity between students and educators, it is not surprising that students with accents in English encounter accent-based discrimination across academic sectors (Ford, 1984; Hewett, 1971; Lindemann, 2005; Walsh, 1991). For example, when Hewett (1971) had white college seniors,

who were planning to teach English, rate the acoustic recordings of ten Black and ten White speakers reading an identical passage, the white students rated white Standard English speakers the highest and Black non-standard English speakers the lowest. Does exposure to accent bias by U.S. educators and the wider culture influence whether high schoolers make biased associations between nonnative accent and unrelated characteristics such as personality traits, sociocultural factors, and physical appearance? To answer this question, high schoolers were recruited for this pilot study. Higher education programs, such as speech language pathology (SLP) attempt to minimize biases through multicultural sensitivity training, which is discussed next.

2.4. American Speech-Language-Hearing Association's (ASHA) Commitment to Multicultural Education and Service Delivery

ASHA requires that graduate programs include multicultural education in the curriculum in order to receive and maintain accreditation because SLPs must be able distinguish between language differences caused by regional and/or non-native influences from speech and language disorders for clients (ASHA, 2017). A critical question for ASHA is how to train a workforce that is largely Caucasian, English-speaking, and female to serve a growing multilingual and multicultural population (Stockman, Boulton, & Robinson, 2008). In Stockman et al.'s (2008) survey of 731 faculty working in 79% of accredited programs, they found that 90% of faculty live in communities with 40% or fewer minorities. The demographics of SLPs and of the neighborhoods in which SLPs live suggest that many SLPs only interact with minorities in the workplace.

Although ASHA requires multicultural education, how that education is implemented is left largely up to faculty, some of whom did not receive multicultural training in their own graduate programs (Stockman et al., 2008). In their survey of SLP faculty, Stockman et al. (2008) found that 99% of respondents used one of three strategies to deliver multicultural curriculum: (a) 56% used curricular infusion into existing courses, (b) 31% used a dedicated course and curricular infusion into existing courses, and (c) 12% used only a dedicated

course. Importantly, of those respondents who used the general curricular infusion strategy, they defined infusion differently: (a) as fully integrating multicultural issues into their course (56%), (b) as including specific lectures and discussion time for multicultural issues (42%), (c) as occasionally referencing multicultural issues “when relevant” (8%, p. 248), and (d) as only supplemented course content with a small section devoted to multicultural issues (7%). When asked about the effectiveness of their multicultural instruction, 49% of respondents, across the instructional strategies used, thought students were either adequately or exceptionally prepared to serve clients from diverse backgrounds (Stockman et al., 2008). The purpose of our study is to test how well the current strategies to multicultural education addresses the possible biases held by SLP students and professionals against people with non-native accents. High school students were included as a quasi-control group because it is unlikely they have been exposed to the kind of multicultural education SLP students and professionals receive.

It was expected that more exposure to multicultural environment and formal education would minimize accent biases. High schoolers have the least life-experience with and formal education on multicultural issues, so were predicted to make the least unbiased associations with nonnative accent. The professional SLPs are expected to have the maximum real-life and formal educational exposure to multicultural issues so were predicted to make the most unbiased associations with nonnative accent. SLP students are expected to be somewhere in between the other two groups. To examine

whether exposure to multicultural environment maximizes unbiased associations for nonnative accent, higher schoolers from India were also recruited and compared to high schoolers from the U.S.

Our research question was:

Will group differences based on educational level (high schoolers, SLP students, SLP professionals) predict the likelihood of holding unbiased associations between accent and personality traits, socio-cultural factors, professional attire, and personal appearance, in addition to the participants’ view of their own accent?

3. Methodology

3.1. Participants

High schoolers were recruited in the United States and India through word of mouth and social media sites. SLP undergraduate and graduate students were recruited through email at one state university. SLP professionals with expertise in accent reduction therapy were recruited through an advanced search in the ASHA membership directory. In accent reduction therapy, SLPs teach clients strategies for reducing native and nonnative accents. SLPs with this expertise were recruited for this study because they were thought to be potentially the least biased SLP professionals given their advanced clinical knowledge and regular contact with clients’ wishing to remediate native and nonnative accents. See Table 1 for a summary of demographic characteristics for each group.

Table 1
Participant Demographics by Experimental Groups

	High Schoolers	SLP Students	SLP Professionals
N	59	47	59
Males	23 (61.10%)	0 (0.00%)	3 (94.92%)
Middle-to-high SES	57 (100.00%)	41 (87.23%)	54 (98.18%)
Native U.S.	36 (62.07%)	45 (95.74%)	53 (89.83%)
Caucasian	22 (37.29%)	29 (61.70%)	46 (83.64%)
Only speak one language	25 (48.08%)	30 (75.00%)	27 (65.85%)
Only understand one language	6 (11.32%)	20 (51.28%)	23 (52.27%)

Notes. SLP = speech language pathology; SES = socio-economic status; U.S. = United States; For each question, between 1 and 15 participants across groups did not provide an answer so the denominator of the percentages is based on the number of participants in each group who answered each question.

3.2. Instrument

A 20-minute 16-question web-based survey was developed, field tested, and further refined. The survey included yes/no, multiple choice, and ranking questions as well as short answer and Likert-type questions. After receiving approval from the University Institutional Review Board (IRB), surveys were administered through Qualtrics, a web-based survey program that incorporates the security, access, and permissions required by IRB guidelines. The first screen of the survey was a consent form. Respondents indicated consent by moving beyond this initial screen of the survey. The survey did not collect any personal or identifying information from the respondents and they could skip questions.

3.3. Procedure

One-hundred-and-sixty-five respondents completed our survey with 59 high schoolers, 47 SLP students, and 59 SLP professionals. High schoolers in the U.S. and in India were recruited to test whether there was a significant difference in how high schoolers view accent because higher schoolers from India are exposed to more diverse cultures and languages than high schoolers in the U.S. High schoolers from India were expected to have a significantly less biased view of people with accents than high schoolers from the U.S.. Results indicated no significant differences between these two groups of high schoolers across all outcome measures. For this reason, the data from these two groups were collapsed into one group of high school students in the current pilot study.

The purpose was to determine whether group affiliation (high schoolers, SLP students, and SLP professionals) predicts accent bias for five categorical outcomes, one outcome based on our participants' view of themselves (whether they have an accent) and the remaining based on our participants' view of the personality traits (one outcome: positive-negative adjective pairs), socio-cultural factors (one outcome), and appearance (two outcomes: choice of attire and accent and mismatch between attire and accent) of people with accents. The personality traits section of the survey included: Intelligent, unintelligent, hardworking, lazy, friendly, mean, serious, carefree, rich, poor, happy, sad, beautiful, ugly, fat, thin, extroverted, introverted,

honest, dishonest, competent, incompetent, cooperative, uncooperative, hygienic, unhygienic, self-reliant, helpless, cautious, impulsive, polite, rude, peaceful, quarrelsome, scrupulous, unscrupulous, trustworthy, untrustworthy, and none of the above. The socio-cultural factors section of the survey included: Educational level, economic level, intelligence level, religious preferences, language proficiency, family structure, vocational (work) background, culture, dietary preferences, level of alcohol consumption, and none of the above.

Given that the data includes one categorical predictor and five categorical outcomes, binomial logistic regression was used. Binomial logistic regression is a generalized linear model because the categorical data undergoes a log transformation between the one predictor (group affiliation) and each outcome measure. Logistic regression with a categorical outcome and one categorical predictor makes one assumption about the data and one requirement of the data. First, the different cells in the contingency table of the predictor and outcome must be independent. The data in this study meets this requirement because it was collected for one-time period from three groups that are mutually exclusive. Second, the model evaluation tests used in regression require that each cell within the contingency table created from an outcome and predictor must be "greater than 1 and no more than 20% less than 5" (Field, Miles, & Fields, 2012, p. 323). The contingency table for each outcome was greater than 1 and none of the cells were less than 5.

Five fixed-effect logistic regression analyses were conducted, one for each outcome, using the *glm* function in the [R] statistical software (R Core Team, 2017). Conducting multiple tests increases the chances of finding a significant result when none exist (Type 1 error), so the alpha level of .05 was corrected to .01 using the Šidák approximation (Abdi, 2007).

4. Results

4.1. Data Reduction

To allow for the possibility of stable logistic regression models, the data were reduced so that the frequency of levels within categorical variables were roughly balanced. Table 2 shows the recoded frequency counts for the five outcome measures.

Table 2
Frequency Counts of Outcome Measures Organized by Type of Measure.

Participants' view of themselves		
Do you have an accent?		
	Unbiased Responses (Yes)	Biased Responses (No)
High Schoolers	19	40
SLP Students	10	39
SLP Professionals	10	49
Participants' views of persons with accents		
Personality traits: Can you match certain accents with certain adjectives?		
	Unbiased Responses (No)	Biased Responses (Yes)
High Schoolers	23	36
SLP Students	31	16
SLP Professionals	42	17
Socio-cultural factors: Based on someone's accent I can guess their (list of factors).		
	Unbiased Responses (No)	Biased Responses (Yes)
High Schoolers	8	50
SLP Students	20	25
SLP Professionals	33	25
Appearance: If you were to see one person dressed professionally/formally and another person dressed casually, which would have more or less of an accent?		
	Unbiased Responses (I don't know)	Biased Responses (Other)
High Schoolers	17	42
SLP Students	7	39
SLP Professionals	9	50
Appearance: Have you ever been surprised that a person's accent doesn't match that person's physical appearance?		
	Unbiased Responses (No)	Biased Responses (Yes)
High Schoolers	15	44
CDIS Students	11	35
CDIS Professionals	33	26

For each outcome, two fixed-effect models were generated to determine the best fit for the data as shown in Table 3. For each outcome, Model 1 predicted the likelihood that the respondents' overall response pattern differed from chance, which was set at .50. For each

outcome, Model 2 predicted the likelihood of SLP students and SLP professionals giving an unbiased response when compared to high schoolers. The last column in Table 3 describes the important finding for each outcome.

Table 3
Logistic Regression Results

	B	SE β	Z values	df	p	Odds ratio/ 95% CI	Probability of giving an unbiased response	Importance
Does the respondents have accents?: Unbiased response – Yes, they have accents								
Model 1								
Intercept	-1.16	0.18	-6.35	1	<.001 ^a	0.31 [0.22, 0.44]	.24	
Model 2 $X^2(2) = 3.90, p = .142$								
Intercept (HS)	-0.74	0.28	-2.67	1	.008 ^a	0.48 [0.27, 0.81]	.32	There were no group differences. Most respondents in each group

SLP Students	-0.54	0.45	-1.18	1	.06	0.58 [0.23, 1.40]	.37	<i>do not believe</i> they have an accent.
SLP Professionals	-0.84	0.45	-1.90	1	.24	0.42 [0.17, 1.01]	.30	
Personality traits: Unbiased response - cannot match accents with adjectives.								
Model 1								
Intercept	0.33	0.16	2.09	1	.036	1.39 [1.02, 1.90]	.58	
Model 2 $X^2(2) = 14.26, p = .001^a$								
Intercept (HS)	-0.45	0.27	-1.68	1	.093	0.64 [0.37, 1.07]	.39	Compared to high schoolers, SLP students and professionals were over three more likely to give an unbiased response.
SLP Students	1.11	0.41	2.72	1	.006 ^a	3.03 [1.38, 6.86]	.75	
SLP Professionals	1.35	0.39	3.45	1	<.001 ^a	3.87 [1.82, 8.51]	.79	
Socio-cultural factors: Unbiased response - cannot guess socio-cultural factors based on accent.								
Model 1								
Intercept	-0.49	0.16	-3.04	1	.002 ^a	0.61 [0.44, 0.84]	.38	
Model 2 $X^2(2) = 25.99, p < .001^a$								
Intercept (HS)	-1.83	0.38	-4.81	1	<.001 ^a	0.16 [.07, .32]	.14	Compared to high schoolers, SLP students were five times and SLP professionals were over eight times more likely to give an unbiased response.
SLP Students	1.61	0.48	3.32	1	<.001 ^a	5.00 [1.99, 13.57]	.83	
SLP Professionals	2.11	0.46	4.55	1	<.001 ^a	8.25 [3.46, 21.67]	.89	
Appearance: Unbiased response – cannot guess severity of accent based on professional attire.								
Model 1								
Intercept	-1.38	0.19	-7.08	1	<.001 ^a	0.25 [0.17, 0.36]	.20	
Model 2 $X^2(2) = 4.20, p = .12$								
Intercept (HS)	-0.90	0.29	-3.15	1	.002 ^a	0.40 [0.22, 0.70]	.29	There were no group differences. Most respondents in each group made biased associations between professional attire and accent.
SLP Students	-0.81	0.50	-1.75	1	.08	0.44 [0.17, 1.08]	.31	
SLP Professionals	-0.81	0.46	-1.62	1	0.10	0.44 [0.16, 1.15]	.31	
Appearance: Unbiased response – has never been surprised that a person’s accent does not match his/her physical appearance								
Model 1								
Intercept	-0.58	0.16	-3.54	1	<.001 ^a	0.56 [0.41, 0.77]	.36	
Model 2 $X^2(2) = 15.81, p = <.001^a$								
Intercept (HS)	-1.08	0.30	-3.60	1	<.001 ^a	0.34 [0.41, 0.77]	.25	Compared to high schoolers, SLP professionals were over three times more likely to give an unbiased response.
SLP Students	-0.08	0.46	-0.18	1	.86	0.92 [0.37, 2.25]	.48	
SLP Professionals	1.31	0.40	3.31	1	<.001 ^a	3.72 [1.73, 8.29]	.79	

Notes. [R] functions: glm, anova, wald.test; HS = high school; ^a = significance level at or exceeds the adjusted alpha level of .01

For Model 1, all the outcome measures showed that the response pattern differed from chance, and significantly so, for four of the outcomes. For Model 2, three of five outcomes had significant findings. The first outcome, which

tested whether the respondents believed they had an accent, had nonsignificant findings. Surprisingly, most respondents in each group (67.50% to 83.05%) believe they do not have an accent. The fourth outcome, which tested

whether the respondents made unbiased associations between nonnative accent and professional attire, also had nonsignificant findings. Again, most respondents in each group (84.71% to 85.71%) made biased associations between accent and professional attire. Model 2 for the remaining outcomes showed three patterns. First, SLP professionals and students were significantly less likely to associate personality traits (e.g., intelligent, unintelligent) with accent than high schoolers. Second, SLP professionals and to a lesser degree SLP students were less likely to associate socio-cultural factors (e.g., dietary restrictions, income level) and professional attire (i.e., formal, informal) with accent than high schoolers. Third, SLP professionals were significantly less likely to associate physical appearance with accent than high schoolers. Although SLP professionals were the least likely to hold biased beliefs in comparison to the other two groups, percentages calculated from Table 2 show that many SLP professionals still hold biased beliefs: 28.81% associate accent with personality traits, 42.37% associate accent with socio-cultural factors, 84.78% associate accent with professional attire, and 44.07% associate accent with personal appearance.

5. Discussion

This pilot survey's purpose was to discover whether the varying degrees of multicultural education of three groups of respondents—high schoolers, SLP students, and SLP professionals—predicts their level of unbiased associations between nonnative accent and personality traits, socio-cultural factors, and physical appearance as well as their view of their own accent. The prediction, which the results generally support for three of five outcomes, was that high schoolers would make the least unbiased associations, followed by SLP students, and then SLP professionals. The two outcomes with nonsignificant results concerned whether the respondents believed they had an accent and whether they made biased associations between nonnative accent and professional attire. Most respondents (67.80% to 83.05%) in each group believed they did *not* have an accent and most respondents (84.71% to 85.71%) in each group made biased associations between accent and professional attire. These findings are

particularly surprising for SLP students and professionals given ASHA's requirement for both multicultural education and extensive academic and clinical coursework in speech and language disorders. Although ASHA's efforts at multicultural education—at least regarding accent—are decreasing the amount of bias in SLP students and professionals when compared to high schoolers, there still exists a disturbing amount of nonnative accent bias among SLP students and professionals.

Therefore, the strategy of infusing curricular content into existing SLP coursework and professional development needs to be augmented with evidence-based instructional strategies with outcomes measuring not only students' and professionals' self-reported impressions of growth but also outcomes measuring their behavior, level of empathy, assumptions underlying their behaviors and degrees of ethnocentrism. Given that most SLPs are Caucasian, English-speaking females (and that 90% of live in communities with 40% or fewer minorities (Stockman et al., 2008), a place to start is to make the perspectives of the minorities treated by SLPs personally relevant. Two strategies that bare further examination are role-playing and service learning.

Role playing is another strategy that may increase the beneficial effects of multicultural education because it could help high schoolers, SLP students, and SLP professionals reflect deeply about the experience of persons with nonnative accents. In role playing, scenarios demonstrating bias or prejudice are experienced vicariously through the people who enact the scenarios (McGregor, 1993). By adopting the perspective of a member in the minority group receiving the bias or prejudice, the adult enacting the scenario ideally will experience dissonance and therefore change his or her attitude toward the minority group (see McGregor, 1993 for a discussion). The role-playing teaching strategy can be easily integrated into individual class periods and professional development workshops using carefully crafted scenarios (see Busse & Krause, 2015).

In a recent intervention, Busse and Krause (2015) tested the effects of role playing within a problem-based learning unit meant to reduce intercultural miscommunication in post-

secondary largely monolingual German-speaking students who had never lived abroad. Busse and Krause (2015) designed their study with experimental and control groups and also tested treatment effects immediately after treatment and six months post treatment. They found significant differences with medium to large positive effects immediately after treatment during post-testing when comparing the treatment and control groups but no significant difference between treatment and control groups 6 months after treatment. For this reason, it is important to also consider a long-duration intervention that potentially gives high schoolers and SLP undergraduates contexts in which to grapple with their accent biases.

The purpose of service learning is to create civic-minded adults with a deep understanding of social issues through a combination of classroom instruction and community-based activities so that students can ultimately act to dismantle the conditions that award power and privileges to some but not to others (Barrera, Willner, & Kukahiko, 2017). In Barrera et al.'s (2017) qualitative study of an open-ended response survey of 245 students enrolled in one of 17 one-semester service learning courses, they found that most students acquired the vocabulary and understanding of issues related to prejudice and oppression but did not take critical perspectives and did not commit to taking long-term action to dismantle the oppression they saw. Barrera et al. (2017) suggest students need longitudinal service learning experiences for the full development of critical consciousness. Also, faculty need to connect the service learning experiences to the students' own experiences and critical perspective taking through the curriculum as well as lead students to view themselves as change makers.

Given the large number of clinical clock hours SLP graduate students must fulfill to be eligible for licensure, longitudinal service learning seems easiest to incorporate into the educational programs of high schoolers and SLP undergraduate students. A place to begin could be for high schools and SLP undergraduate programs to make multi-year partnerships with volunteer-driven emergency homeless shelters for recently arrived immigrants and asylum seekers as well as

international student organizations on University campuses. When developing the curriculum for SLP students, emphasis needs to be placed on the power differential between practicing SLPs and the clients they serve as well as the SLPs' role as change makers for their clients and the clinical populations they serve.

This pilot study has two major limitations. First, the sample size is small so results for each group studied may not represent the broader population of high schoolers, SLP students, and SLP professionals. Second, the pilot survey questions only concerned the one content area of nonnative accent. It will be important to determine whether high schoolers, SLP students, and SLP professionals have biases against other minority groups who seek SLP services. In future studies, two types of multicultural interventions will be developed: (a) short-duration role-playing interventions focusing on high schoolers, SLP students, and SLP professionals and (b) long-duration service learning interventions focusing on high schoolers and SLP undergraduate students.

Currently, in the field of speech language pathology, more emphasis is on accent-modification trainings (e.g., Shah, 2012) and on accent-reduction (Gluszek & Dovidio, 2010; Montgomery, 1999), than on preventing accent-based bias. A better approach would be to focus on modification/reduction of accent in nonnative speakers and reduction of biased attitudes in their communication partners. Simultaneously addressing nonnative accent from both the interlocutors' perspectives would, thus, be more wholistic in the long run. Despite ASHA's longstanding investment to improve multicultural sensitivity, intolerance and bias towards nonnative accent even among SLPs and the community in general, are not rare (Corona, 2016). Based on the insights of this study, simultaneously exploring the global student-community, the professionals in the field of speech language pathology, and even the corporate sector would broaden our approach through a sociolinguistic window. Clearly future studies are needed.

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