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# ACCENTS' INFLUENCE ON PERSON-PERCEPTION

By

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ABSTRACT

ACCENTS' INFLUENCE ON PERSON-PERCEPTION

By

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This investigation focused on the influence of accented speech upon speaker evaluation. Two path models, one for authoritarian subjects and one for non-authoritarian subjects, were proposed to explain the process of speaker evaluation. A radical measurement model was proposed a posteriori to examine the viability of Social Categorization and Stereotyping constructs as measured in this investigation.

Subjects listened to audio tape presentations of either an Indian or an American speaker discussing either an Indian or an American environmental issue. Subjects generally rated Indian speakers more positively than American speakers, especially in status and solidarity dimensions, whereas American speakers were favored on social attractiveness items.

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# INTRODUCTION

Often, we are in a position to make judgments about others in the absence of a body of knowledge about them. That is, we make inferences about such diverse aspects of a person as personality characteristics, intelligence, and even physical appearance, without information to confirm or contradict our hypotheses. This process is often unconscious, and as such, provides information about our personal values, stereotypes, and biases.

One salient personal variable often used to make such inferences is a person's style of speech, which may reflect individual differences in vocal apparatus, social status, and ethnic or regional group membership. Research has demonstrated that some voice characteristics are predictive of personality traits (Scherer, 1979), and there is evidence that people use vocal characteristics as a basis for making personality judgments of others, especially in the absence of other information (Kramer, 1963).

Speech is but one of the many markers of social position that we use to make guesses about others

> based on less than complete information. It carries more weight than most markers, however, since it is not so easily shed as a suit of clothes or a rusted and aging automobile. (Luhman, 1990, p. 332.)

One area of interest to researchers has been the influence of accents on person-perception. The most frequently asked question in this area has been, "What is the effect of accented speech on the evaluation of personality?"

In this paper, I intend to discuss some of the findings in the literature on accents and person-perception. I will also propose a theoretical model that accounts for much of the existing research and may help to guide future research. Finally, I will discuss methodological issues pertinent to research in the area of accent influence on person-perception.

Research in this area takes on special importance in light of the fact that immigration is a reality in contemporary American society, and that the numbers of immigrants who are non-native speakers of English are increasing. In recent years, the world has becomes increasingly smaller, and people are crossing national borders in order to take advantage of opportunities, enjoy an adventure, or escape oppression. Such individuals are entering the United States as students, laborers, and

professionals, and many Americans are experiencing their first real taste of "diversity." Unfortunately, in addition to the rich cultural experience that can be derived from a multi-cultural society, lack of understanding and tension between groups are frequent by-products of ethnic diversity. It may be helpful to identify racial and ethnic stereotypes in order to work to dispel them, and to facilitate inter-ethnic communication and understanding. Moreover, in the interest of cultivating mutually satisfying interethnic relationships, it may be useful to determine the situations under which accent may be a source of tension, or elicit negative stereotypes.

## An Introduction to the Model

The model includes factors that influence our perception of accented speakers. Hopefully, research in this area will elucidate some of the circumstances under which speakers are evaluated positively or negatively.

In this model, a number of factors contribute to an identification (not necessarily a correct identification) of the speaker in terms of basic demographic characteristics such as sex, age, ethnicity, and socio-economic status (SES). These factors are: the voice of the speaker, the message expressed by the speaker, listener characteristics, and situational demands affecting either the speaker or the

listener or both.

Salient vocal characteristics include regional and ethnic accent as well as linguistic factors such as speech rate, pitch, and volume. These vocal characteristics often provide cues that are used in labeling a person as low or high SES, male or female, or as a member of a specific ethnic or racial group.

Secondly, although the existing accent literature largely ignores the impact of the speaker's message upon speaker identification, the model provides an opportunity to test the proposition that listeners categorize speakers, at least partly, as a function of the message they convey, or the beliefs they hold. The literature on attitude change indicates that characteristics of the message, such as message strength and fear induction, have an impact on speaker persuasiveness (Johnson, 1991), and that this impact decreases when the speaker is presumed to be an outgroup member (Mackie, Worth, & Asuncion, 1990). That is, messages spoken by outgroup members are not cognitively processed to the same degree as messages spoken by ingroup members.

Thirdly, characteristics of the listener may partially determine the way that a speaker is categorized. The listener's own stereotypes or experiences with people of different classes, ethnic groups, or genders may hinder or facilitate an individual's identification of a speaker, or may introduce variance into his or her judgments of speakers

of the same gender, ethnic group, or social class.

Finally, the context of both the speaker and the listener may play a role in the categorization of a speaker. For example, direct interaction or focused attention may lend itself to an active identification process, whereas a more passive experience may decrease the urgency of such an identification. Moreover, there may be certain situations in which a speaker's mere presence would provide cues as to his or her occupation, status, age, or ethnicity.

The identification of the speaker lends itself to social categorization, in which the listener compares himself or herself to the speaker on various dimensions. The context of the listener and speaker may also lead to social categorizations, especially in cases where there is pressure to cooperate. This type of comparison may be useful for the listener to determine the relative competence of both parties, in order to produce the most effective division of labor, and to decide which party should assume the leadership role.

The identification process may also lead to the elicitation of stereotypes, based on the ethnic group, gender, social class or other group identification of the speaker. Once the listener has somehow categorized the speaker, it is possible to make further inferences based on these stereotypes relating to the meaning of these social group memberships.

Contextual variables and the social categorization process also impact upon the elicitation of stereotypes. Once an individual has identified salient differences between self and speaker, stereotypes are elicited to aid in the process of categorizing the speaker to facilitate evaluation. These stereotypes may be idiosyncratic to the listener or widely held by a community, or may be rooted in past experiences of the listener with members of the speaker's social groups.

Contextual variables are important to the extent that deviation from standard speech is more acceptable in some situations than in others. For example, a non-standard speaker may be viewed more negatively in more formal situations, such as a business meeting or a lecture, than in more casual settings such as a home situation or in a restaurant.

Finally, the social categorizations and stereotypes impact upon the final evaluation of the speaker. In this way, listeners use available information and cues to categorize the speaker relative to themselves. Then, with the help of stereotypes, they are able to evaluate the speaker on dimensions such as personality and competence.

One potentially important moderator variable is authoritarianism. Individuals who score high on measures of authoritarianism may be more likely to base their evaluations on stereotypes which have been derived from

categorization of the speaker as an outgroup member. Non-authoritarian listeners will probably use stereotypes to a lesser extent in their evaluations. Thus, both authoritarian and non-authoritarian versions of the model are included in Figures 1 and 2.

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Insert Figures 1 and 2 about here

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In the following sections, I will review research in support of the proposed model. I will also point out some pertinent areas in which findings have been mixed or further investigation seems necessary.

## Vocal Characteristics

Many aspects of voice characteristics have been controlled in accent studies. Researchers have been careful to keep constant dimensions such as rate, timbre, vocal intensity, intonation, pitch (fundamental frequency), loudness, articulation/enunciation, vocal variety, nonfluencies, and sound to silence ratios. Clearly, this is a complex task, which has not been employed uniformly across the literature. Most authors, though, have taken care to at least control for some of these factors, such as rate, loudness, and number of nonfluencies. In light of the evidence provided by Scherer (1979), it seems especially

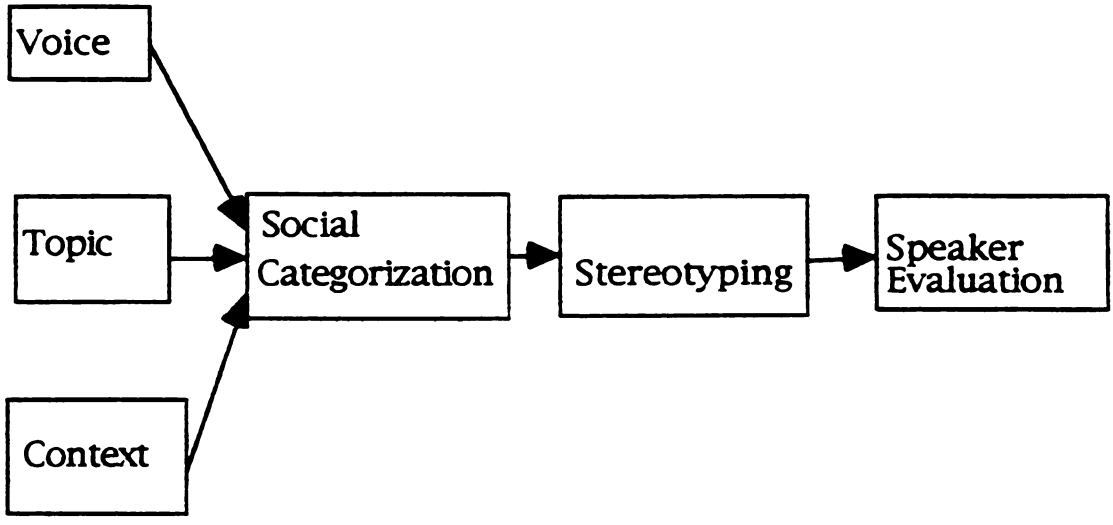


**Figure 1: The Authoritarian Model**

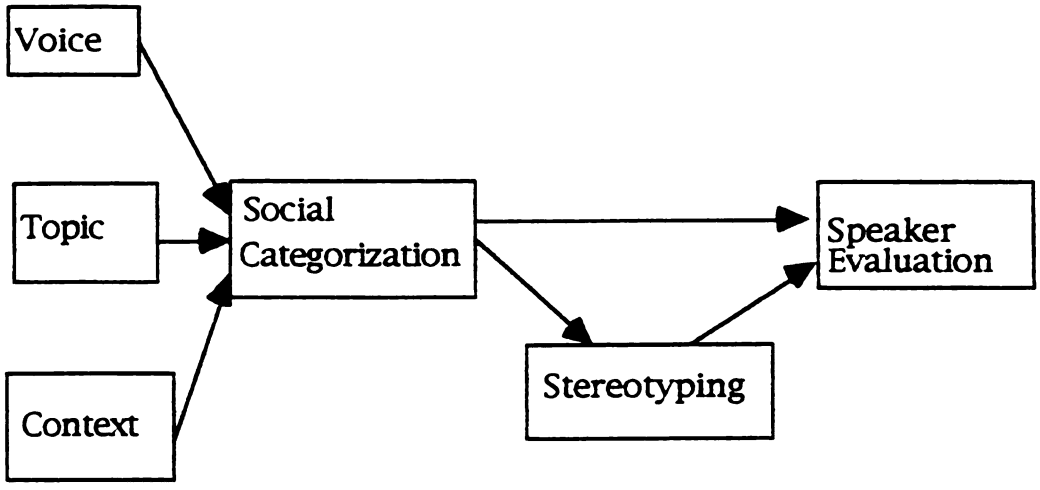


**Figure 2: The Non-Authoritarian Model**

important to control these variables so that personality markers such as loudness are not confounded with actual personality characteristics.

Interestingly, Aronovitch (1976) found different patterns of salient vocal characteristics for male and female speakers. For male speakers, intensity variance, fundamental frequency variance, and rate were predictive of personality judgments. For female speakers, intensity average, fundamental frequency average, rate, and sound to silence ratio were correlated with personality judgments. He also found high inter-rater reliability in the assignment of particular traits to particular types of voices. These findings lend support to the notion that different vocal patterns consistently lead to differences in personality evaluations.

In the same way, Arthur, Farrar, and Bradford (1974) noted that raters attended to individual voice characteristics in making their judgments. Again, this observation is consistent with the idea that vocal characteristics are salient cues for speaker identification.

## Accent Strength

In accordance with a causal attribution model, Giles and Smith (1979) posited that people attribute negative motives to outgroup individuals who deviate from standard

speech, and that

> ...we may be more ready to attribute their non-convergence to a lack of effort than to consider the possibility that they do not possess the necessary linguistic skills, or that they have strong cultural pressures forcing them to use their native speech style" (p. 51).

There is evidence that subjects can discriminate between stronger and weaker accents (Giles, 1972a), and that certain strong accents are more susceptible to stereotyping than weak accents, while for other accents, this discrepancy is not as pronounced (Nesdale & Rooney, 1990). Research findings in this area suggest that accented individuals are identified as minority group members or foreigners, and that this identification may then result in stereotyping.

## Accent Prestige

According to Giles, Bourhis, and Taylor (1977), there are four types of status considerations, which may be influenced by a speaker's accent: a)economic status, b)ascribed status, c)sociohistorical status, and d)language status. Indeed, it seems that the prestige carried by a given accent may be in the ear of the beholder. Giles

(1970) asserted that the prestige of an accent is determined by vocal characteristics of the speaker as well as personality characteristics, values, and experiences of the listener.

Riches and Foddy (1989) noted that ethnic accents in the United States connote low status and prestige, regardless of other vocal characteristics. Anne Foon (1986) described the situation as one in which the listener infers high status when listening to a speech style that is "standard" in a given society, whereas low status is assumed for speakers of non-standard varieties of a language. As might be expected, where neither group has a prestige advantage, results don't seem to favor either group (Strongman & Woosley, 1967). Clearly, these observations suggest a link between accent and speaker identification, as well as a subsequent link between speaker identification and stereotyping.

Interestingly, in several cases in which a speaker's country of origin was not identified correctly, speakers from a given region were evaluated similarly to other speakers from the same region (Anisfeld & Lambert, 1964; Anisfeld, Bogo, & Lambert, 1962; Gallois & Callan, 1981). In other words, even when subjects were not able to correctly identify a speaker's country of origin, they were able to differentiate between groups in a fairly consistent manner, indicating that a language's linguistic qualities,

as well as the generic concept of "immigrant" are playing a role in influencing people's perceptions of accented speech. Again, these findings indicate a link between accent and speaker identification, and between speaker identification and stereotyping.

## Speech Topic

A topic's relation to language arts has been found to influence teacher expectancies. For example, Williams, Whitehead, and Miller (1972) found that the more a topic relates to the language arts, the more a child's language/speech style is predictive of teacher expectations. Also, in topics related to the language arts, teachers' expectations are better predicted by ratings of ethnicity/non-standardness than by ratings of confidence and eagerness. These findings suggest that teachers tend to identify students at least on the broad dimension of speech standardness, and then, based on stereotypes or past experience, expect standard speakers to be more competent in language arts than non-standard speakers, and unfortunately may treat students in a manner that reflects that expectation.

At this point, little research has been done on the impact of speech topic upon the evaluation of accented speakers. In fact, many investigators have not even

bothered to mention the topics used, merely referring to them as "neutral." Indeed, one author found that speech topic was not related to evaluations (Aronovitch, 1976). More studies seem necessary, especially in light of the findings in the attitude literature which suggest that message characteristics are important in speaker evaluations.

## Evaluator Characteristics

Some researchers have suggested that, in the absence of adequate data, personality evaluations are largely dependent upon evaluator characteristics (Giles, 1970; Lambert, 1967). Thus, it seems necessary to identify which personal characteristics are most influential in the evaluation process. Evaluator characteristics such as age, sex, speech style, multi-lingualism, social class, and authoriatarianism have been examined for this purpose, but research in this area is inconclusive.

Anisfeld and Lambert (1964) used monolingual and bilingual French Canadian (FC) children who were enrolled in a French-speaking school as judges to evaluate FC-accented French speech and English Canadian (EC)-accented English speech. From these speech samples, identifying the ethnicity of the speaker probably seemed quite simple to the children, because different languages were used. (In this

case, French is considered "standard.") It can be assumed that children identified French speakers as French Canadian, and English speakers as English Canadian. Bilingual children gave fairly similar ratings to EC and FC speakers, whereas monolingual children heavily favored FC-accented speech. This finding suggests that bilingual children may be more tolerant of outgroup individuals, and therefore, more tolerant of deviations from standard speech, at least where they are proficient in the non-standard variety. Thus, it may be hypothesized that the judges identified speakers on the basis of ethnicity, and then conducted a comparison of "like me" or "unlike me," which influenced the evaluation.

Prejudice and ethnocentrism have also been identified as potentially important evaluator characteristics, and several researchers have pre-tested subjects on measures of ethnocentrism and prejudice. At this point, findings are mixed, which may be due to inappropriate pre-test measures or sampling error. Giles (1971) attempted to partially control for this problem by using Warr's (1967) ethnocentrism scale which is designed for use with British subjects. He found that subjects who were high in ethnocentrism rated non-standard speakers less favorably than Received Pronunciation (standard) speakers on items relating to pleasantness and social prestige of the accent, and to their level of comfort in interacting with

individuals speaking in such an accent.

In the 1940's, investigators began to research the possibility of a trait or personality type that would predispose an individual to prejudice and ethnocentrism. An authoritarian personality type was proposed (Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950). Some elements of this personality type include conservative political values, a desire to punish deviants, and extreme respect for authority figures, to the extent of supporting anti-democratic processes. The term "authoritarianism" is often used interchangeably with terms such as "prejudice" and "ethnocentrism" (Adorno et al., 1950; Altemeyer, 1981).

In a study using FC subjects, Lambert, Hodgson, Gardner, and Fillenbaum (1960), employing Forms 40 and 45 of the California F scale, found that FC subjects who showed favorable attitudes toward their own group gave lower ratings to EC speakers than did FC subjects with unfavorable attitudes toward their own group. Thus, it may be useful to measure the subjects' level of identification and satisfaction with their own social or ethnic groups, as a possible predictor of ingroup and outgroup attitudes.

Webster and Kramer (1968) had somewhat different results; they found that medium prejudice judges rated non-standard speakers more favorably than either low prejudice or high prejudice judges. They hypothesized that medium prejudice subjects were attempting to compensate for their

community's bias by over-rating accented speakers and evaluating them more favorably than speakers using the standard guise.

Still, others have found no consistent relationship between speaker characteristics and vocal stereotyping. Crowl and MacGintie (1974), for example, were not able to differentiate teachers who would be more susceptible to vocal stereotyping on the basis of sex, age, years of teaching experience, most frequently taught grade level, or the percentage of Black students most frequently taught.

Arthur et al. (1974) proposed that raters were able to make more complex judgments about standard speakers if they were familiar with standard speech, and that perhaps they were forced to make more stereotypical, superficial judgments about non-standard speakers, due to a lack of familiarity with various vocal characteristics associated with non-standard speech. Williams and his colleagues' (1972) finding that Black teachers were more variable than White teachers in their ratings of Black and White students lends support to this notion, in that Black teachers might be assumed to be more familiar with both of the accents used, and thus, might be more capable of complex judgments in this area. These results are clearly consistent with the idea that listener characteristics are salient determinants of speaker categorization.

Evaluator Gender

Various authors have found differences in the way males and females perceive speakers (Callan, Gallois, & Forbes, 1983; Cheyne, 1970; Kramer, 1978; Lambert, 1967; Podberesky, Deluty, & Feldstein, 1990) Some authors have suggested that women are more sensitive to speech characteristics than men (Kramer, 1978; Labov, 1970). In a study by Callan, Gallois, and Forbes (1983), for example, both Anglo-Australian and Greek Australian female subjects rated standard (Anglo) speech more positively than Greek-accented speech. Male subjects, both Greek and Anglo, were more tolerant of deviations from standard speech. Others have found no difference in the ratings assigned by male and female judges (Gallois & Callan, 1981; Tucker & Lambert, 1969). As yet, it is not clear whether sex differences found in some studies indicate real differences in the ways men and women perceive accented speakers.

Speaker Context

Little research has been devoted to the study of the influence of context on speaker identification. The model proposed here provides an opportunity to identify some contextual variables that might lend themselves to the identification process. A few researchers have examined the

effect of context on final evaluations of accented speakers (Callan et al., 1983; Ryan & Carranza, 1975). Victor Callan and his associates (1983), for example, found that accented speakers were rated differently as a function of environment. Standard accented (Anglo-Australian) speakers were rated more positively than non-standard (Greek-Australian) speakers in a home and school context, but not in a (casual) bus stop context.

Ryan and Carranza (1975) also examined the use of non-standard speech in home and school contexts. Although standard speakers received higher status evaluations in both contexts, judges gave higher solidarity ratings to accented speakers in the home context than in the school context, indicating more tolerance of deviations from standard speech in the home than in the school context. (A more complete discussion of status and solidarity dimensions is provided in a later section.)

## Information Regarding the Speaker

Information about the speaker that is easily determined upon listening to the speech sample or that is provided prior to presentation of the stimulus voice may influence listener perceptions. This information may constitute the identification of the speaker on salient demographic variables, or at least lend itself to speaker

identification. There may be differences in the ways male and female speakers are perceived, regardless of the sex of the judge (Gallois & Callan, 1981; Kramer, 1978). For instance, female speakers may be seen as less dynamic than male speakers (Gallois & Callan, 1981). Likewise, accented speech may signal non-native status, which may in turn affect evaluations.

In addition, social class information may be an important aspect of speaker identification. Results of a study by Ryan and Sebastian (1980), for instance, suggested that social class information that is provided to judges has an effect in which speakers identified as "lower class" received more negative evaluations than accented speakers identified as "middle class." For standard speakers, this trend was much less pronounced. Non-standard speakers identified as "lower class" were rated more negatively than lower class standard speakers on all dimensions. It is reasonable to assume that stereotypes based on this identifying information may have led to positive or negative evaluations for members of different social classes.

## Situational and Task Demands

No work has been done on the effects of situational demands on the perception of accented speech. One might expect that, consistent with the frustration-aggression

theory (Dollard, Doob, Miller, Mowrer, & Sears, 1939, cited in Brown, 1988), frustrating situations could lead to "aggression" against the accented speaker (in the form of negative ratings) in certain cases. Likewise, situations that are anxiety-provoking or high pressure might lead to the elicitation of negative stereotypes, and consequently to negative ratings for the speaker. This area of research may be especially relevant in evaluation of foreign teaching assistants (T.A.s), as they often find themselves in the unenviable position of assigning grades and trying to elucidate difficult course material for undergraduates.

## Social Categorization

Much of the early research in the area of accents and person-perception focused on majority group/ingroup favoritism in which, for example, Gentile subjects rated Jewish accents less favorably than non-Jewish accents[1] (Anisfeld et al., 1962), or French Canadian children rated FC-accented guises more favorably than EC guises (Anisfeld & Lambert, 1964).

Interestingly, in a study by Anisfeld and Lambert (1964), bilingual FC children saw EC speakers as more

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[1] "Jewishness" or"non-Jewishness" was determined by a panel of judges who determined that neither accent sounded caricatured, and both contained linguistic features that distinguished them as Jewish or non-Jewish.

"similar to me" than did monolingual FC children. They rated FC- and EC- accented speakers similarly, whereas monolingual children favored their FC peers. In the same way, Arthur et al. (1974) suggested that differential ratings may be due to the perception that the outgroup accent, especially when it is a non-standard accent, may elicit the concept of "unlike me."

In another study by Lambert, Anisfeld, & Yeni-Komshian (1965), involving Ashkenazic (European) Jews, Yemenite Jews, and Arabs as speakers (with the Ashkenazic accent being "standard"), it was found that Israeli subjects (a large majority of whom were Ashkenazic) viewed standard speakers as being higher in competence, prestige, and personal integrity than Yemenite Jews, but without as good a sense of humor as Yemenite Jews. Arabs were seen as possessing more negative qualities than either of the two Jewish groups, except with respect to wealth (a rating that contradicts the actual state of Arabs in that area of Israel at that time). In contrast, Arab subjects favored Arab-accented speakers. Both Jews and Arabs responded to the other group in an antagonistic manner, which was reflected in the subjects' social distance ratings. In this way, it appears that group identification was an important factor guiding both the elicitation of stereotypes and evaluative ratings. Research in this area is consistent with the notion that there is a connection between speaker identification and social

categorization, and subsequent links between social categorization and stereotyping, and between social categorization and evaluation.

## Stereotyping

The overwhelming consensus among researchers is that accents elicit regional and/or ethnic stereotypes (Buck, 1968; Foon, 1986; Gardner & Taylor, 1968; Markel, Eisler, & Reese, 1967; Nesdale & Rooney, 1990; Ryan & Sebastian, 1980; Singer & Eder, 1989). In virtually all of the studies mentioned in this section, negative stereotyping led to negative speaker evaluations. Furthermore, findings indicate that speakers of the standard accent or dialect are generally evaluated more positively than non-standard speakers on a variety of personality dimensions. Two explanations have been proposed to account for the consistent discrepancies that almost always favor standard speech. (For a more complete discussion of the inherent value hypothesis, please see Giles & Powesland, 1975, pp. 10-15.)

The inherent value hypothesis states that an accent or dialect gains prestige because it is the most pleasing form of a language. However, research does not corroborate this hypothesis. Generally, judges who are non-speakers of the stimulus languages cannot distinguish between the forms of

the language in terms of comparative "pleasantness" (Giles, Bourhis, & Davies, 1975).

The imposed norm hypothesis suggests that high status language variations are pleasing to the ear due to cultural norms and values. In other words, accents are valued inasmuch as they connote high societal status and institutional support. On this basis it would be reasonable to surmise that minority group members would actually denigrate their own accents in favor of the majority accents. There have been mixed findings in this area, which will be discussed in later sections.

Discrepancies in the evaluations of standard and non-standard speakers have also been addressed by expectation states theory. Expectation states theory posits that status differentials, represented by voice characteristics, are reflected in the perception of competence and the expectation for performance. We tend to evaluate individuals more favorably if we perceive them as being higher in status than ourselves.

Moreover, people behave differently depending on whether they are interacting with someone who they expect to be more or less competent than themselves. For instance, in interactions with men, women use quieter voices and appear more unsure of the value of their contributions than they do with other women (Ridgeway, Berger, & Smith, 1985). Riches and Foddy (1989) proposed that (in the United States of

America) being Caucasian in multi-racial groups carries with it favorable expectations for performance. Standard accented speech is generally associated with Caucasian racial characteristics, and thus may elicit higher performance expectations. In the same way, non-standard accents tend to be associated with non-white speakers, thus eliciting lower expectations for competence and performance. Expectation states theory, then, fits well with the model, linking speaker identification, social categorization, stereotyping, and evaluation.

Results of other investigations have indicated that accent may be a marker variable for ethnicity, and that standard accents lead to more positive evaluations than non-standard accents (Buck, 1968; Crowl & MacGintie, 1974). Thus, in the United States, standard speech connotes Caucasian ethnicity, and evaluations are influenced by that connotation. Moreover, the minority group may also favor majority group members in evaluations (Lambert et al., 1960).

A study by Tucker and Lambert (1969) reported that southern Black subjects rated "educated White southern" accented speakers least favorably on all 15 semantic differential rating scales, whereas they rated "network" (standard American) English the most positively. This finding suggests that regional as well as ethnic accents may elicit stereotypes. Moreover, given the history of slavery

in the American South, and the relatively slow progress of civil rights in that region, it seems reasonable that African Americans would be reluctant to identify with southern white speakers, who may still be viewed as oppressors to the African American community.

The personnel literature has yielded mixed findings. Hopper and Williams (1973) concluded that accent and ethnicity had little bearing on employment decisions. Rather, impressions of competence and intelligence seemed to be more influential in hiring decisions. Various investigators have found that non-standard speakers are seen as appropriate for low status jobs, while standard speakers are perceived as better suited to high status positions (Kalin & Rayko, 1978; Kalmar, Zhong, & Xiao, 1987).

In a recent study employing middle class White and Black subjects, both Black and White subjects rated middle class White and Black speakers approximately equally. The African American subjects rated "Ghetto Black" accents in about the same way, whereas White speakers gave their most negative evaluations to "Ghetto Black" speakers (Larimer, Beatty, & Broadus, 1988). This study indicates that majority and minority group members do not always favor the majority group, and that some other mechanisms besides race may be at work in differential evaluations of standard and non-standard speakers.

Social Class Stereotypes

Social class has been identified as an important variable in person-perception. Foon (1986), for example, found that the social class status attributed to a voice was highly correlated with the evaluation of the speaker, regardless of accent. Lower class speakers were rated more negatively on competence, but they were rated more favorably on social attractiveness, which might be predicted based on studies employing status and solidarity evaluation dimensions.

Joyce Buck (1968) suggests that, traditionally, the use of non-standard dialects has been characteristic of people in lower socio-economic and educational levels. Thus, upon hearing an accent, one might conjure up images associated with poverty and low social status. Further, various researchers have come to the conclusion that, in the absence of contradictory evidence, non-standard speakers are assumed to be immigrants (Anisfeld et al., 1962; Foon, 1986). This identification may evoke ethnic stereotypes based on past experiences or societal biases.

Moreover, there is evidence for actual differences between speech styles of lower and middle class children, suggesting that speech may be a useful predictor of social class as well as ethnic group membership (Brown, Strong, & Rencher, 1975; Jones & McMillan, 1973). No research has

been done to determine whether the class of non-native speakers can be predicted from speech characteristics in their second language.

In addition, various researchers have found that non-standard speakers are evaluated more positively when identified as middle or upper class than when identified as lower class (Piche, Michlin, Rubin, & Sullivan, 1977; Ryan & Sebastian, 1980; Williams, Whitehead, & Miller, 1972). This finding lends support to the notion that accent, ethnicity, and social class interact in some way to influence person-perception.

In recent years, however, increasingly large numbers of non-standard speakers are entering the professional and academic realms of society. Thus, the actual situation often contradicts societal stereotypes regarding immigrants (and their socio-economic status), which are thought to be evoked by non-standard accents.

## Evaluation Dimensions: Status and Solidarity

Several researchers have examined the dimensions upon which speakers are judged to determine if non-standard speakers are rated more negatively on all dimensions, or if there are personality attributes for which they would be viewed equally or more positively than standard speakers. Status and solidarity dimensions are frequently found in the

accent literature. Status has been operationally defined with semantic differential items such as: educated-uneducated, intelligent-stupid, wealthy-poor, and successful-unsuccessful. Solidarity has been operationally defined with terms such as: trustworthy-not trustworthy, good-bad, sympathetic-unsympathetic, friendly-unfriendly, and honest-dishonest.

One common (though not uniform across the literature) finding has been that standard speakers are favored in regard to status, whereas non-standard speakers are favored with respect to solidarity (Anisfeld, Bogo, & Lambert, 1962; Kalmar et al., 1987; Luhman, 1990; Nesdale & Rooney, 1990). Others have not found favoritism toward the minority group on any dimension (Riches & Foddy, 1989). Some authors have suggested that favoritism toward non-standard speakers on solidarity dimensions is dependent on the context of the interaction (Callan et al., 1983; Ryan & Carranza, 1975).

Similarly, Ryan and Sebastian (1980) found an interaction between accent and social class, such that accented lower class speakers were rated more negatively on all dimensions, but in a middle class condition, standard speakers were rated similarly to non-standard speakers on the solidarity dimension. They concluded that being both a member of an ethnic minority group and being a non-standard speaker led to decidedly negative evaluations. In addition, they found that standard speakers were highly favored on

social distance measures, regardless of class status.

Other researchers have conceptualized items in terms of competence, personal integrity, and social attractiveness (Giles, 1972b; Lambert, 1967). For example, Giles (1972b) found that male British standard speakers were seen as more competent, but lower in personal integrity and social attractiveness than non-standard speakers.

## The Model

The research in the area of accents and person-perception has been largely atheoretical in nature. Various authors have employed causal attributional or expectation states models, or have developed theories in regard to what factors influence speakers to attempt to speak in a manner which is similar or dissimilar to standard speech. Yet, no model has been proposed in an attempt to explain the circumstances under which an evaluator would judge a non-standard accented speaker more or less favorably than a standard accented speaker. Thus, I am proposing a model to guide research and systematically investigate factors which may be influencing the evaluation process.

There are conflicting findings about minority group reactions to standard speech and self-perceptions regarding the speech styles of their own ethnic group. These investigations have provided a catalyst for studies which

look at the mechanisms behind speaker evaluations and the conditions under which group members favor speakers from their own group, denigrate their own group, or see their group as superior or equal to an outgroup. I believe that my model will facilitate study of this area by viewing the listener's reaction to accented speech in the broader context of listener characteristics, the testing situation, situational expectancies, and the emotional and cognitive reactions elicited by the presentation of the stimulus speech sample.

## Methodological Considerations

Several methodological issues constitute important concerns for investigators in the area of accent research. One prominent issue is the decision to use a matched guise or a matched speaker technique. The matched guise approach attempts to control for vocal characteristics of the speakers by having all speakers perform more than one accent. The drawback, however, is that voices may take on an artificial or caricatured quality. In addition, a speaker's vocal characteristics may actually be different in different languages or accents. The matched speaker approach, while more natural in the sense that all speakers are speaking in their normal voices, does not attempt to control for differing vocal characteristics. Thus, when

employing a matched speaker approach, investigators should implement some measures to control for vocal differences. Another possibility is the use of stimulus sampling to provide a range of voices for each experimental condition. (For a fuller discussion of stimulus sampling, see Maher, 1978.)

A second concern is the importance of controlling for extraneous variables, such as actual speaker differences and information about the speaker that may influence the listener in the evaluation process. By controlling for these variables, it may become possible to identify accent as a proxy variable for another factor, such as race, ethnicity, or social class. Alternatively, accent may be identified as an influential variable in its own right, especially to the extent that it impacts on communication.

A third consideration is the difficulty of measuring the identification process in a quantitative fashion. For this reason, I haven chosen to gather qualitative data on demographic information (including, age, sex, ethnicity, socio-economic status, and country of birth) attributed to speakers.

Another problem is the choice of topic. Although a frustration-provoking topic might be likely to yield some extreme (negative) responses, it might also confuse the issue: subjects could be responding solely to the message, rather than to the speaker. Thus, I have chosen two topics

relating to environmental issues facing India and the United States. In this way, it may be possible to elucidate a condition under which the non-standard speaker would be viewed as an expert (i.e., Indian speaker speaking about an Indian environmental issue), and thus viewed more favorably.

A final issue is the lack of a standardized measure to be used for the evaluation of accented speakers. Investigators have continued to develop their own measures, and it is not clear whether these instruments are valid or reliable.

Summary

Based on the literature from social psychology, it would be reasonable to assume that individuals would favor speakers from their "ingroup" (Billig & Tajfel, 1973; McCann, Ostrom, Tyner, & Mitchell, 1985). And yet, the research presents a pattern that is more complex than this. It seems that majority group members consistently favor their ingroup (i.e., standard speakers), whereas minority group members are less consistent, but often favor the outgroup (standard speakers) at least to some extent (Lambert, 1967; Lambert et al., 1960; Ryan & Carranza, 1975; Ryan & Sebastian, 1980; Tucker & Lambert, 1969). The model that I am proposing constitutes an attempt to clarify the role of various factors, such as voice quality, social class, situational variables, and of course, accent of the

speaker, as they relate to person-perception.

## Hypotheses

There is some evidence that voice characteristics are predictive of certain personality traits (Scherer, 1979), and in the absence of other information, people make judgments of others based on vocal characteristics. One salient aspect of voice is accent.

Accents provide cues to listeners as to the race, ethnicity, social class, and regional background of the speaker (Foon, 1986; Riches & Foddy, 1989), and a number of investigators have concluded that accents elicit stereotypes (Buck, 1968; Foon, 1986; Gardner & Taylor, 1968; Markel et al., 1967; Nesdale & Rooney, 1990; Ryan & Sebastian, 1980; Singer & Eder, 1989). In my model, I hypothesize that the identification process may be followed by social categorizations or stereotyping, which in turn lead to speaker evaluation. The existing literature indicates that speaker evaluations tend to be more negative when cues given by accent, speech topic, or the situational context indicate that the speaker comes from a low status group, especially in terms of ethnicity or social class. Listener characteristics may also play a role in the speaker identification process.

I hypothesized that Indian accents would be more

negatively evaluated than American accents; Indian speakers would be evaluated more positively when speaking about an Indian environmental issue, but less positively than Americans speaking about either topic; subjects who have had more negative experiences with foreign T.A.s and instructors would evaluate Indian speakers more negatively.

In addition, I hypothesized that subjects high in authoritarianism would be more likely to use stereotypes in speaker evaluations than subjects who are low in authoritarianism. Subjects low in authoritarianism would be more likely to evaluate speakers based on credibility cues such as the match between topic and speaker ethnicity (i.e., evaluating Indian speakers more positively when speaking about an Indian issue, and American speakers more positively when discussing an American issue). Finally, I hypothesized that the path model I have proposed is a viable description of the chain of events leading to speaker evaluations.

# Method

## Subjects

The subjects were 139 undergraduate students, 35 male and 104 female, enrolled in Introductory Psychology courses at Michigan State University in Fall term, 1993. They participated voluntarily, in order to fulfill a course requirement.

## Materials

Eight audiotapes, each approximately 3 minutes in length, were used. In half of the tapes, the speaker was one of two speakers of Asian Indian origin; in the other half, the speaker was one of two American-born speakers. The speakers on each tape spoke at the same rate, and volume was adjusted so that all tapes were played at the same volume. Half of the tapes consisted of a discussion of an American environmental issue; the other half consisted of a discussion of an Indian environmental issue. The speakers were all males, aged 21 to 30, and were recruited from the University of California at Los Angeles in the summer of 1993.

The questionnaire consisted of demographic questions about the subject, questions regarding possible demographic

characteristics of the speaker, questions about personality variables of both subject and speaker, evaluative reactions toward the message, evaluation of the speaker in areas relating to competence, a social distance measure, four items related to experiences with foreign instructors or T.A.s.[2] and Altemeyer's (1981) Right-Wing Authoritarianism scale. A final item addresses the subject's perception of the purpose of the study. This questionnaire may be found in Appendix A.

## Procedure

Subjects were assigned to one of four experimental conditions. They were tested in groups of ten to twenty students. At each experimental session, when all the subjects had arrived, the experimenter closed the door and gave each subject a questionnaire. Subjects were instructed to fill out only the first two pages of the questionnaire, including demographic information and self-perceptions on personality dimensions. The investigator emphasized that their answers would be strictly anonymous and confidential. They were asked to turn their questionnaires over after completing the first section.

When all subjects had completed the first two pages of their questionnaires, the experimenter informed the subjects

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[2] These items were adapted from Rubin and Smith.

that they would be asked to answer questions and make judgments about the speaker based on a speech sample they would hear. Subjects then either heard a tape of an American or Indian speaker, speaking on either an Indian or an American environmental issue.

After playing the tape, the experimenter instructed participants to complete the remainder of the questionnaire, which usually took less than 30 minutes. Upon completion, subjects were thanked for their participation.

## Data Analysis

First, reliabilities of various composite variables were ascertained using Cronbach's alpha to determine the psychometric soundness of the evaluation instrument. Secondly, Independent sample t-tests were conducted to determine the effects of speaker ethnicity and topic on overall speaker evaluation. American and Indian speakers were then compared on individual speaker dimension items. Next, an Analysis of Variance (ANOVA) was conducted to examine possible interaction effects between accent and speech topic. Then, correlations between items related to experiences with foreign instructors and T.A.s and personality evaluations was determined. An independent samples t-test was used to compare Authoritarian subjects with non-authoritarian subjects on a measure of

stereotyping. Finally, the data was analyzed through a path analysis procedure as a test of the model.

## Results

Table 1 shows the breakdown of subjects into experimental groups. The reliabilities of composite variables (collapsing a group of related items into a single variable) were computed using Cronbach's alpha. The reliability for the Speaker Evaluation variable (comprised of items 40, 42, 43, and 44) was .92; the reliability of a composite Self Evaluation variable, comprised of items 8-34, was .87, and the reliability of a stereotyping variable (developed from items 45-48, 50-58, 63, 65, 67, 69, and 71) was .89. A social categorization variable (comprised of items 45-48, 50-52, 54-58, 65, 67, 69, and 71) had a reliability of .89.

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Place Table 1 About Here

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Overall, Indian speakers received a more positive Speaker Evaluation score than American speakers. Among subjects who heard an Indian speaker discussing an Indian topic, 61% were able to identify him as Indian. When the Indian speaker discussed an American topic, 56% of the subjects correctly identified him as Indian. American

Table 1: Subject Sample Sizes

| | Indian Topic | American Topic |
|---|---|---|
| Indian Speaker | 33 | 34 |
| American Speaker | 36 | 36 |

speakers were correctly identified 72% of the time when discussing an American topic, and 67% of the time when discussing an Indian topic.

Table 2 shows the cell means of Indian and American speakers with an Indian or American topic and Table 3 shows the results of an Analysis of Variance regarding the influence of Topic and Speaker Ethnicity on Speaker Evaluation. There was a significant main effect of Speaker Ethnicity (r=-.27), no significant main effect of Topic (r=-.09), and no significant interaction between the two variables (r=-.10). In addition, there was a non-significant inverse relationship between experience with foreign instructors and speaker evaluation (r=-.10, p=.235), suggesting that subjects with little experience with foreign instructors were more likely to rate speakers positively.

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Place Tables 2 and 3 About Here

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On individual items related to perception of speaker, Indian speakers were viewed as more religious, believable, competent, confident, happy, intelligent, conscientious, disciplined, educated, academically successful, traditional, hardworking, and wealthy than their American counterparts. Furthermore, Indian speakers also received a higher score than Americans on a global good-bad dimension (with Indian speakers being perceived as "more good" than their American

**Table 2: Mean Speaker Evaluation by Subject Group**

| Topic | Speaker Ethnicity: Indian | Speaker Ethnicity: American |
|---|---|---|
| Indian | 5.17 | 4.65 |
| American | 5.18 | 4.13 |

Table 3: Analysis of Variance Summary Table for the Effects of Speaker Ethnicity and Topic on Speaker Evaluation

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---|---|---|---|---|---|
| Main Effects | 23.766 | 2 | 11.883 | 6.101 | .003 |
| ETHNICITY | 21.665 | 1 | 21.665 | 11.123 | .001 |
| TOPIC | 2.206 | 1 | 2.206 | 1.133 | .289 |
| 2-Way Interactions | 2.377 | 1 | 2.377 | 1.220 | .271 |
| ETHNICITY X TOPIC | 2.377 | 1 | 2.377 | 1.220 | .271 |
| Explained | 26.426 | 3 | 8.809 | 4.522 | .005 |
| Residual | 262.957 | 135 | 1.948 | | |
| Total | 289.383 | 138 | 2.097 | | |

counterparts). American speakers were perceived as more athletic, taller, more attractive, and less sexually restrained than Indian speakers. These findings are summarized in Table 4.

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Place Table 4 About Here

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A composite measure of authoritarianism was developed using questions 81-104, not including item 85, from the questionnaire. The reliability of this dimension was .86. A median split was performed to separate authoritarian from non-authoritarian subjects. The median score was 4.25 out of 7, with a standard deviation of .80 for the entire sample. Within the authoritarian group, the mean was 4.86, with a standard deviation of .40. For the non-authoritarian sample, the mean was 3.61 and the standard deviation was .58, indicating greater variability within the non-authoritarian subject group on the authoritarian dimension.

Authoritarian subjects were significantly more likely to give themselves positive evaluations than were non-authoritarian subjects on a composite measure of self-evaluation ($r=.29$, $t=3.33$, $p=.001$).[3] They were also slightly more likely than non-authoritarian subjects to stereotype speakers ($r=.11$, $t=1.09$, $p=.277$) and see speakers

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[3] This measure was composed of items 9-35 on the questionnaire, with the exception of items 25 and 28.

Table 4: Perceived Personality Traits by Speaker Ethnicity

| Attribute | Indian Mean | American Mean | Difference | t |
|---|---|---|---|---|
| Religious | 4.85 | 4.36 | .49 | 2.16* |
| Athletic | 2.71 | 3.67 | -.95 | -3.94*** |
| Believable | 5.36 | 4.71 | .65 | 2.92** |
| Committed to Family | 4.86 | 4.71 | .16 | .73 |
| Competent | 5.85 | 5.08 | .77 | 3.31*** |
| Confident | 5.14 | 3.96 | 1.18 | 4.62*** |
| Happy | 4.07 | 3.54 | .53 | 2.74** |
| Agreeable | 4.72 | 4.53 | .19 | .89 |
| Extroverted | 3.88 | 3.89 | -.01 | -.04 |
| Good | 5.33 | 4.93 | .40 | 2.44* |
| Honest | 5.24 | 4.99 | .25 | 1.32 |
| Intelligent | 5.66 | 4.39 | 1.27 | 6.27*** |
| Kind | 4.96 | 4.89 | .07 | .40 |
| Hardworking | 5.66 | 4.83 | .82 | 3.57*** |
| Loud | 3.25 | 3.32 | -.07 | -.29 |
| Conscientious | 5.43 | 4.64 | .79 | 2.98** |
| Sympathetic | 4.78 | 4.93 | -.15 | -.66 |
| Tall | 3.24 | 3.96 | -.72 | -3.46*** |
| Attractive | 3.13 | 3.68 | -.54 | -3.07** |
| Disciplined | 5.75 | 4.86 | .89 | 3.76*** |
| Educated | 5.49 | 4.86 | .63 | 2.56* |
| Friendly | 4.54 | 4.40 | .13 | .55 |
| Sexually Unrestrained | 3.05 | 3.60 | -.55 | -2.68** |
| Academically Successful | 5.69 | 4.58 | 1.10 | 4.70*** |
| Traditional | 5.47 | 4.61 | .86 | 3.38*** |
| Trustworthy | 4.97 | 4.78 | .19 | 1.02 |
| Wealthy | 4.83 | 4.32 | .51 | 3.17** |

*p<.05
**p<.01
***p<.001

as different from themselves (r=.09, t=.94, p=.349), although these findings were not significant. Authoritarian and non-authoritarian subjects were not significantly different in the ratings given to Indian speakers (r=.11, t=1.09, p=.278) and American speakers (r=06, t=.06, p=.951).

Composite measures of status, solidarity, and attractiveness were developed to determine whether authoritarian subjects and non-authoritarian subjects differed in their evaluations for each of these dimensions. The status measure was composed of the following 7 speaker perception items: slow-intelligent, educated-uneducated, academically successful-academically unsuccessful, disciplined-undisciplined, hardworking-lazy, academically competent-academically incompetent, and conscientious-sloppy. The reliability of this measure was .85. The solidarity measure was comprised of the following 12 items: trustworthy-untrustworthy, bad-good, unsympathetic-sympathetic, friendly-unfriendly, dishonest-honest, introverted-extroverted, elated-depressed, quiet-loud, unsure-confident, not committed to family-committed to family, cruel-kind, and not believable-believable. This dimension had a reliability of .85. Finally, the attractiveness dimension was developed from the following four items: sexually unrestrained-sexually restrained, short-tall, attractive-unattractive, and unathletic-athletic. This measure had a reliability of .62.

Analyses of variance showed no significant effect of authoritarianism on status, solidarity, or speaker attractiveness measures. In addition, there were no significant interactions between authoritarianism and speaker ethnicity for any of those dimensions. In contrast, speaker ethnicity was found to have a main effect on status (r=-.47)), solidarity (r=-.21), such that Indian speakers were favored, and an effect on speaker attractiveness (r=.47) such that American speakers were favored. The effect sizes for the impact of authoritarianism on perceived attractiveness, solidarity, and status were -.15, .12, and .01, respectively. The results of all three analyses of variance, along with means, standard deviations, and cell frequencies, are summarized in Tables 5, 6, and 7.

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Place Tables 5, 6, and 7 About Here

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A Priori Path Models

In this investigation, Context was not examined as a variable in the Authoritarian and Non-Authoritarian path models. Thus, although Context appears as part of the conceptual models, it does not appear in the quantitative models. A speaker ethnicity-topic interaction variable was added as an exogenous variable. A key for coding the variables used in the path model is located in Table 8.

Table 5: Analysis of Variance Summary Table for the Effects of Authoritarianism and Speaker Ethnicity on Perceived Speaker Attractiveness

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---|---|---|---|---|---|
| Main Effects | 290.389 | 2 | 145.195 | 11.666 | .000 |
| AUTHORITARIANISM | 24.863 | 1 | 24.863 | 1.998 | .160 |
| ETHNICITY | 279.641 | 1 | 279.641 | 22.468 | .000 |
| 2-Way Interactions | 13.049 | 1 | 13.049 | 1.048 | .308 |
| AUTHORITARIANISM x ETHNICITY | 13.049 | 1 | 13.049 | 1.048 | .308 |
| Explained | 299.817 | 3 | 99.939 | 8.030 | .000 |
| Residual | 1667.806 | 134 | 12.446 | | |
| Total | 1967.623 | 137 | 14.362 | | |

SPEAKER ATTRACTIVENESS

| | Non-Authoritarian | Authoritarian | Total |
|---|---|---|---|
| Indian | Mean = 12.78<br>S.D. = 3.66<br>N = 37 | Mean = 11.31<br>S.D. = 3.66<br>N = 29 | 12.14<br>3.70<br>66 |
| American | Mean = 15.03<br>S.D. = 2.81<br>N = 33 | Mean = 14.79<br>S.D. = 3.83<br>N = 39 | 14.90<br>3.38<br>72 |
| Total | Mean = 13.84<br>S.D. = 3.45<br>N = 70 | Mean = 13.31<br>S.D. = 4.12<br>N = 68 | 13.58<br>3.79<br>138 |

Effect size= -.15

Table 6: Analysis of Variance Summary Table and Means for the Effects of Authoritarianism and Speaker Ethnicity on Perceived Speaker Solidarity

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---|---|---|---|---|---|
| Main Effects | 397.477 | 2 | 198.739 | 3.049 | .051 |
| AUTHORITARIANISM | 60.576 | 1 | 60.576 | .929 | .337 |
| ETHNICITY | 364.772 | 1 | 364.772 | 5.596 | .019 |
| 2-Way Interactions | 5.860 | 1 | 5.860 | .090 | .765 |
| AUTHORITARIANISM x ETHNICITY | 5.860 | 1 | 5.860 | .090 | .765 |
| Explained | 400.131 | 3 | 133.377 | 2.046 | .110 |
| Residual | 8800.401 | 135 | 65.188 | | |
| Total | 9200.532 | 138 | 66.671 | | |

SPEAKER SOLIDARITY

| | Non-Authoritarian | Authoritarian | Total |
|---|---|---|---|
| Indian | Mean = 55.39<br>S.D. = 7.60<br>N = 38 | Mean = 57.14<br>S.D. = 7.56<br>N = 29 | 56.15<br>7.57<br>67 |
| American | Mean = 52.55<br>S.D. = 7.93<br>N = 33 | Mean = 53.46<br>S.D. = 8.96<br>N = 39 | 53.04<br>8.46<br>72 |
| Total | Mean = 54.07<br>S.D. = 7.83<br>N = 71 | Mean = 55.03<br>S.D. = 8.53<br>N = 68 | 54.54<br>8.17<br>139 |

Effect size = .12

Table 7: Analysis of Variance Summary Table for the Effects of Authoritarianism and Speaker Ethnicity on Perceived Speaker Status

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---|---|---|---|---|---|
| Main Effects | 1411.512 | 2 | 705.756 | 15.163 | .000 |
| AUTHORITARIANISM | 20.260 | 1 | 20.260 | .435 | .511 |
| ETHNICITY | 1411.371 | 1 | 1411.371 | 30.323 | .000 |
| 2-Way Interactions | 2.914 | 1 | 2.914 | .063 | .803 |
| AUTHORITARIANISM x ETHNICITY | 2.914 | 1 | 2.914 | .063 | .803 |
| Explained | 1419.651 | 3 | 473.217 | 10.167 | .000 |
| Residual | 6283.515 | 135 | 46.545 | | |
| Total | 7703.165 | 138 | 55.820 | | |

**SPEAKER STATUS**

| | Non-Authoritarian | Authoritarian | Total |
|---|---|---|---|
| Indian | Mean = 39.32<br>S.D. = 5.44<br>N = 38 | Mean = 39.79<br>S.D. = 6.17<br>N = 29 | 39.52<br>5.73<br>67 |
| American | Mean = 32.61<br>S.D. = 7.89<br>N = 33 | Mean = 33.67<br>S.D. = 7.49<br>N = 39 | 33.18<br>7.64<br>72 |
| Total | Mean = 36.20<br>S.D. = 7.44<br>N = 71 | Mean = 36.28<br>S.D. = 7.55<br>N = 68 | 36.24<br>7.47<br>139 |

Effect size = .01

Place Table 8 About Here

Based on the literature review, it was hypothesized that authoritarian and non-authoritarian subjects would respond differently to standard and non-standard speakers in terms of social categorization, stereotyping, and speaker evaluation. Thus, subjects were divided into authoritarian and non-authoritarian groups. An analysis of the a priori authoritarian model was conducted with the authoritarian sample, and the a priori non-authoritarian model was analyzed using the data from the non-authoritarian sample. Contrary to expectations, the groups were quite similar in their manner of responding, and the samples were subsequently combined in an analysis of the better fitting model.

The chi-square for the non-authoritarian model (using a non-authoritarian sample) was 2.82 (p=.831), and an individual link analysis did not show any significant weaknesses or link omissions. However, the small sample size masked the magnitude of errors. The original correlations, reproduced correlations, and errors for the Non-Authoritarian model are shown in Table 9. Path coefficients and standard errors for path coefficients may be found in Table 10. Figure 3 shows the Non-Authoritarian path model with path coefficients.

Table 8: Key to Scoring of Variables for the Path Models

Voice (this variable is also referred to as "speaker ethnicity"):
1 = Indian speaker; 2 = American speaker

Topic: 1 = Indian topic; 2 = American topic

Voice-Topic Interaction: -1 = mismatch between speaker ethnicity and topic; +1 = match between speaker ethnicity and topic

Social Categorization: Low score = different from me;
High score = similar to me

Stereotyping: Low score = low stereotyping;
High score = high stereotyping

Speaker Evaluation: Low score = negative evaluation;
High score = positive evaluation

Place Tables 9 and 10 About Here

Place Figure 3 About Here

The chi-square for the Authoritarian model was 12.43 (p=.087), indicating a relatively weak fit between the Authoritarian path model and the data generated by the authoritarian sample. The largest error in the authoritarian model can be attributed to the relatively large correlation between Social Categorization and Speaker Evaluation (r=.46) that was larger than the predicted correlation (r=.09). In authoritarian subjects as well as non-authoritarian subjects, perceived similarity to the speaker led to more positive speaker evaluations. Original correlations, reproduced correlations, and errors for the Authoritarian model are found in Table 11, and the path coefficients and standard errors for path coefficients are shown in Table 12. Figure 4 depicts the Authoritarian model with path coefficients.

Place Tables 11 and 12 About Here

Table 9: Original Correlations, Reproduced Correlations, and Errors for the Non-Authoritarian Model

V = Voice; T = Topic; VT = Voice-Topic interaction; SC = Social Categorization; St = Stereotyping;
SE = Speaker Evaluation

Original Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -15 | -19 | -23 |
| T | 18 | 100 | -6 | -4 | 10 | -8 |
| VT | -3 | -6 | 100 | -5 | 7 | 2 |
| SC | -15 | -4 | -5 | 100 | 13 | 25 |
| St | -19 | 10 | 7 | 13 | 100 | 42 |
| SE | -23 | -8 | 2 | 25 | 42 | 100 |

Reproduced Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -15 | -2 | -4 |
| T | 18 | 100 | -6 | -4 | -1 | -1 |
| VT | -3 | -6 | 100 | -5 | -1 | -1 |
| SC | -15 | -4 | -5 | 100 | 13 | 25 |
| St | -2 | -1 | -1 | 13 | 100 | 42 |
| SE | -4 | -1 | -1 | 25 | 42 | 100 |

Errors (Actual - Reproduced

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | -17 | -19 |
| T | 0 | 0 | 0 | 0 | 11 | -7 |
| VT | 0 | 0 | 0 | 0 | 8 | 3 |
| SC | 0 | 0 | 0 | 0 | 0 | 0 |
| St | -17 | 11 | 8 | 0 | 0 | 0 |
| SE | -19 | -7 | 3 | 0 | 0 | 0 |

**Table 10: Path Coefficients and Standard Errors for Path Coefficients for the Non-Authoritarian Model**

**Path Coefficients**

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -15 | -2 | -6 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 13 | 0 | 0 |
| SE | 0 | 0 | 0 | 20 | 39 | 0 |

**Standard Errors for Path Coefficients**

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | 13 | 13 | 13 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 13 | 0 | 0 |
| SE | 0 | 0 | 0 | 13 | 12 | 0 |

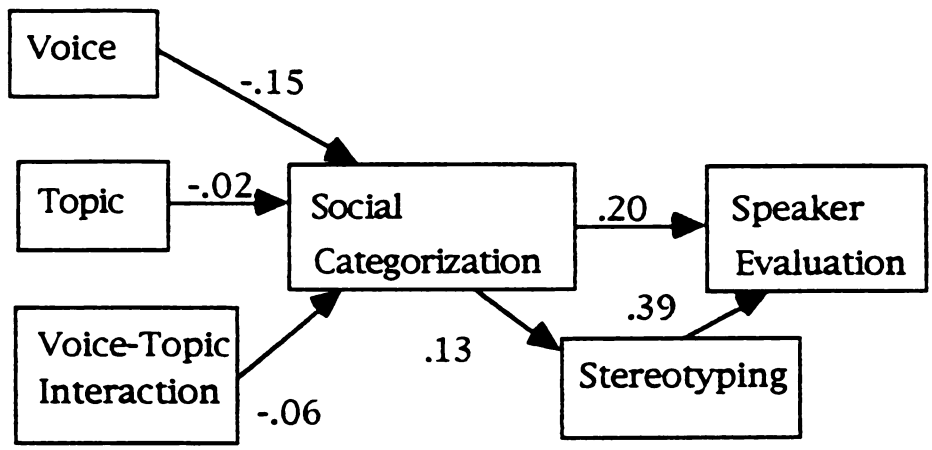


**Figure 3: The Non-Authoritarian Path Model with Path Coefficients**

Table 11: Original Correlations, Reproduced Correlations, and Errors for the Authoritarian Model

V = Voice; T = Topic; VT = Voice-Topic interaction; SC = Social Categorization; St = Stereotyping; SE = Speaker Evaluation

Original Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 1.00 | -22 | 9 | -25 | -37 | -33 |
| T | -22 | 100 | 16 | -21 | 11 | -10 |
| VT | 9 | 16 | 100 | -17 | -15 | -21 |
| SC | -25 | -21 | -17 | 100 | 16 | 46 |
| St | -37 | 11 | -15 | 16 | 100 | 56 |
| SE | -33 | -10 | -21 | 46 | 56 | 100 |

Reproduced Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | -22 | 9 | -25 | -4 | -2 |
| T | -22 | 100 | 16 | -21 | -3 | -2 |
| VT | 9 | 16 | 100 | -17 | -3 | -2 |
| SC | -25 | -21 | -17 | 100 | 16 | 9 |
| St | -4 | -3 | -3 | 16 | 100 | 56 |
| SE | -2 | -2 | -2 | 9 | 56 | 100 |

Errors (Actual - Reproduced)

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | -33 | -31 |
| T | 0 | 0 | 0 | 0 | 14 | -8 |
| VT | 0 | 0 | 0 | 0 | -12 | -19 |
| SC | 0 | 0 | 0 | 0 | 0 | 37 |
| St | -33 | 14 | -12 | 0 | 0 | 0 |
| SE | -31 | -8 | -19 | 37 | 0 | 0 |

Table 12: Path Coefficients and Standard Errors for Path Coefficients for the Authoritarian Model

Path Coefficients

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -30 | -26 | -10 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 16 | 0 | 0 |
| SE | 0 | 0 | 0 | 0 | 56 | 0 |

Standard Errors for Path Coefficients

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | 13 | 13 | 13 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 13 | 0 | 0 |
| SE | 0 | 0 | 0 | 0 | 10 | 0 |

Place Figure 4 About Here

Path Analysis for All Subjects

The errors for the authoritarian sample were replicated for the non-authoritarian sample. That is, there were large errors for both groups in the correlations between speaker ethnicity and Stereotyping (authoritarian sample error= -.33, non-authoritarian sample error=-.17) and between speaker ethnicity and Speaker Evaluation (authoritarian sample error=-.31; non-authoritarian sample error=-.19). As is evident from a comparison of the error matrices shown in Tables 9 and 11, other errors were similarly replicated across the two samples. Thus, a path analysis was conducted using all subjects in the Non-Authoritarian path model.

Table 13 shows the three original correlation matrices for the non-authoritarian, authoritarian, and total samples. An examination of the correlation matrices for the authoritarian and non-authoritarian samples indicates that the two samples were similar, but that the correlations in the authoritarian matrix were higher than those in the non-authoritarian matrix. Correlations between Voice and the three dependent variables (Social Categorization, Stereotyping, and Speaker Evaluation) are larger for the authoritarian sample than for the non-authoritarian sample. That is, for Social Categorization, r=-.25 vs. r=-.15; for

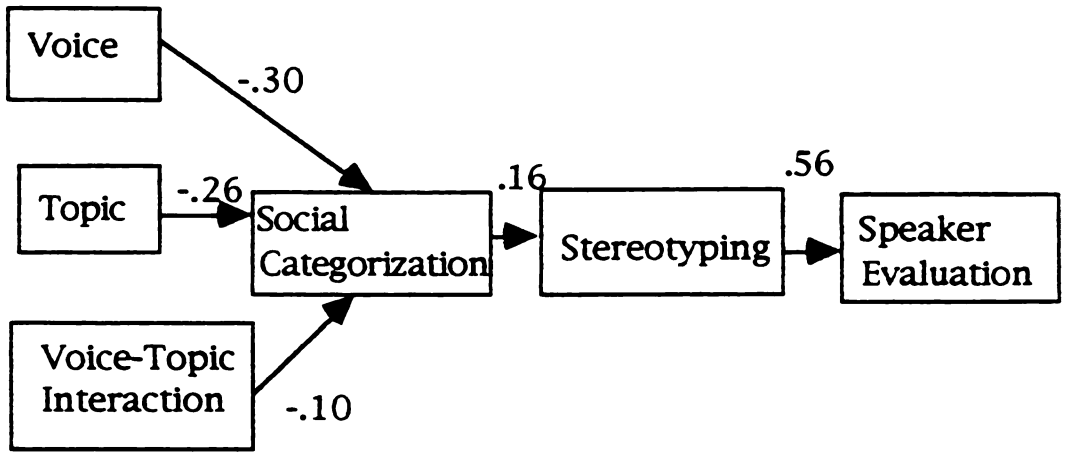


**Figure 4: The Authoritarian Path Model with Path Coefficients**

Stereotyping, r=-.37 vs. r=-.19; and for Speaker Evaluation, r=-.33 vs. r=-.23. In addition, the correlation between Social Categorization and Speaker Evaluation was larger for authoritarian subjects (r=.46) than for non-authoritarian subjects (r=.25).

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Place Table 13 About Here

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The chi-square for the analysis on all subjects was 7.73 (p=.258), indicating that this model fit the entire sample in much the same way as it fit the non-authoritarian sample. That is, the correlations involving the three dependent variables (Social Categorization, Stereotyping, and Speaker Evaluation) were very similar for the non-authoritarian sample and for the sample as a whole. Original correlations, reproduced correlations, and errors for the entire sample in the Non-Authoritarian model are located in Table 14. Table 15 contains path coefficients and standard errors for path coefficients for the sample. Figure 5 shows the Non-Authoritarian path model with path coefficients from the entire sample.

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Place Tables 14 and 15 About Here

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Table 13: Original Correlation Matrices for the Non-Authoritarian Sample, the Authoritarian Sample, and the Total Sample

**Non-Authoritarian Sample**

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -15 | -19 | -23 |
| T | 18 | 100 | -6 | -4 | 10 | -8 |
| VT | -3 | -7 | 100 | -5 | 7 | 2 |
| SC | -15 | -4 | -5 | 100 | 13 | 25 |
| St | -19 | 10 | 8 | 13 | 100 | 42 |
| SE | -23 | -8 | 2 | 25 | 42 | 100 |

**Authoritarian Sample**

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | -22 | 9 | -25 | -37 | -33 |
| T | -22 | 100 | 16 | -21 | 11 | -10 |
| VT | 9 | 16 | 100 | -17 | -15 | -21 |
| SC | -25 | -21 | -17 | 100 | 16 | 46 |
| St | -37 | 11 | -15 | 16 | 100 | 56 |
| SE | -33 | -10 | -21 | 46 | 56 | 100 |

**Total Sample**

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -21 | -28 | -28 |
| T | -1 | 100 | 4 | -14 | 11 | -9 |
| VT | 1 | 4 | 100 | -11 | -5 | -10 |
| SC | -21 | -14 | -11 | 100 | 15 | 39 |
| St | -28 | 11 | -5 | 15 | 100 | 52 |
| SE | -28 | -9 | -10 | 39 | 52 | 100 |

Table 14: Original Correlations, Reproduced Correlations and Errors for the Non-Authoritarian Model Using the Entire Sample

Original Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -21 | -28 | -28 |
| T | -1 | 100 | 4 | -14 | 11 | -9 |
| VT | 1 | 4 | 100 | -11 | -5 | -10 |
| SC | -21 | -14 | -11 | 100 | 15 | 39 |
| St | -28 | 11 | -5 | 15 | 100 | 52 |
| SE | -28 | -9 | -10 | 39 | 52 | 100 |

Reproduced Correlations

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -21 | -3 | -8 |
| T | -1 | 100 | 4 | -14 | -2 | -5 |
| VT | 1 | 4 | 100 | -11 | -2 | -4 |
| SC | -21 | -14 | -11 | 100 | 15 | 39 |
| St | -3 | -2 | -2 | 15 | 100 | 52 |
| SE | -8 | -5 | -4 | 39 | 52 | 100 |

Errors (Actual - Reproduced)

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | -25 | -20 |
| T | 0 | 0 | 0 | 0 | 13 | -4 |
| VT | 0 | 0 | 0 | 0 | -3 | -6 |
| SC | 0 | 0 | 0 | 0 | 0 | 0 |
| St | -25 | 13 | -3 | 0 | 0 | 0 |
| SE | -20 | -4 | -6 | 0 | 0 | 0 |

Table 15: Path Coefficients and Standard Errors for Path Coefficients for the Non-Authoritarian Model Using the Entire Sample

Path Coefficients

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -21 | -14 | -10 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 15 | 0 | 0 |
| SE | 0 | 0 | 0 | 32 | 47 | 0 |

Standard Errors for Path Coefficients

| | V | T | VT | SC | St | SE |
|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | 9 | 9 | 9 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 9 | 0 | 0 |
| SE | 0 | 0 | 0 | 9 | 8 | 0 |

Place Figure 5 About Here

Indian ethnicity was related to perception of similarity toward the speaker (r=-.21) for the entire sample. In addition, the total sample evidenced a larger correlation between ethnicity (Voice) and stereotyping (r= -.28), than was predicted by the model (r=-.03, z=-1.95). The correlation between ethnicity and speaker evaluation (r=-.28) was also larger than predicted (r=-.08, z=-1.59). These two correlations showed relatively large errors in the Non-Authoritarian model. A smaller error occurred with regard to the relationship between Topic and the Stereotyping (error=.13, z=1.03) which was larger than predicted by the model.

Topic was not strongly correlated with Social Categorization (r=-.14), Stereotyping (r=.11), or Speaker Evaluation (r=-.09). Correlations between a topic-speaker ethnicity interaction variable and Social Categorization (r=-.11), Stereotyping (r=-.05), and Speaker Evaluation (r= -.10) were not significant.

Social Categorization was strongly correlated with Speaker Evaluation for the entire sample (r=.39), indicating that speakers who were perceived as more similar to the subject received more positive evaluations. As indicated earlier, the authoritarian sample showed a stronger

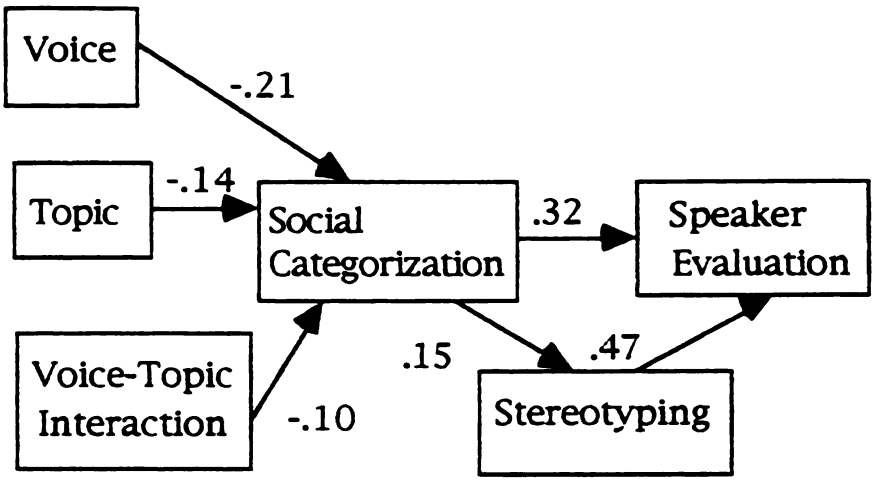


**Figure 5: The Non-Authoritarian Path Model with Path Coefficients from the Entire Sample**

correlation between the two variables (r=.46) than did the non-authoritarian sample (r=.25).

Finally, all groups showed a significant positive relationship between stereotyping and speaker evaluation (r=.52). This finding indicates that the more a speaker was stereotyped (seen as different from "average"), the more likely he was to receive a positive evaluation from subjects.

Since there were large errors even for the Non-Authoritarian model, another analysis was done to trace the errors using full regression equations. Tables 16, 17, and 18 show multiple regression equations with Social Categorization, Stereotyping, and Speaker Evaluation, respectively, as dependent variables for each sample (non-authoritarian, authoritarian, and the entire sample).

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Place Tables 16, 17 and 18 About Here

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Table 16 shows the regressions with Social Categorization as the dependent variable. Beta-weights (standardized regression weights) from all three samples indicate that subjects saw Indian speakers as more similar to themselves than American speakers. Contrary to expectations, Topic and the interaction between Speaker Ethnicity and Topic were roughly equivalent in their impact on Social Categorization (beta-weight=-.14 for Topic and

Table 16: Multiple Regression Equations with Social Categorization as the Dependent Variable

**Non-Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -15 | -2 | -6 | 0 | 0 | 0 |

**Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -30 | -26 | -10 | 0 | 0 | 0 |

**Total Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -21 | -14 | -10 | 0 | 0 | 0 |

Table 17: **Multiple Regression Equations with Stereotyping as the Dependent Variable**

**Non-Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -20 | 14 | 8 | 11 | 0 | 0 |

**Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -32 | 7 | -12 | 7 | 0 | 0 |

**Total Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -26 | 12 | -4 | 11 | 0 | 0 |

Table 18: Multiple Regression Equations with Speaker Evaluation as the Dependent Variable

**Non-Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -11 | -9 | -1 | 18 | 38 | 0 |

**Authoritarian Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -9 | -9 | -6 | 33 | 48 | 0 |

**Total Sample**

| V | T | VT | SC | St | SE |
|---|---|---|---|---|---|
| -9 | -10 | -4 | 28 | 46 | 0 |

beta-weight=-.10 for ethnicity-Topic interaction). The effect of ethnicity was larger for authoritarian subjects (beta-weight=-.30) than for non-authoritarian subjects (beta-weight=-.15), though not significantly so. There was a trend in which speakers discussing an Indian topic were seen as more similar to the subject for the authoritarian sample (beta-weight=-.26) as compared to the non-authoritarian sample (beta-weight=-.07), although this trend did not reach significance. There was also a slight trend in the overall sample in which speakers were perceived as similar to the subject when there was a speaker ethnicity-topic mismatch (beta-weight for total sample=-.10).

Table 17 shows the regressions with Stereotyping as the dependent variable. For all three samples, the biggest problem in the Non-Authoritarian model was reflected in the beta-weights for the impact of speaker ethnicity on Stereotyping. The model predicted that Social Categorization would mediate the effects of ethnicity on Stereotyping. If so, the beta-weight for Speaker Ethnicity should be 0. Instead, the beta-weight is -.20 for the non-authoritarian sample, -.32 for the authoritarian sample, and -.26 for the total sample. In addition, the impact of Social Categorization on Stereotyping was relatively small for all three samples (non-authoritarian beta-weight=.11, authoritarian beta-weight=.07, and total sample beta-weight=.11).

Table 18 shows the regressions with Speaker Evaluation as the dependent variable. The model predicted that the impact of Ethnicity on Speaker Evaluation would be mediated by Social Categorization and Stereotyping. Thus, the expected beta-weight of Ethnicity would be 0. However, Ethnicity had some effect on Speaker Evaluation (beta-weight=-.11 for the non-authoritarian sample; beta-weight= -.09 for the authoritarian sample; beta-weight=-.09 for the total sample), although fairly weak, that also contradicted the predictions of the model. The impact of Social Categorization on Speaker Evaluation was somewhat larger for authoritarian subjects (beta-weight=.33) than for non-authoritarian subjects (beta-weight =.18) although this difference was not significant.

## Radical Measurement Models

Because of the relatively weak fit of both models with the data, a radical measurement model was devised a posteriori to address the problem of construct validity. A full critique of the original path model will be included in the discussion. The net result of the critique was the conclusion that the original process model derived from the literature could only be accurate if there were a serious problem with construct validity for the Social Categorization variable. The results also suggested a

possible problem with the Stereotyping dimension. New path models were constructed a posteriori to test certain hypotheses about construct validity. These models are presented here.

## A Unidimensional Path Model

This investigation measured six dependent variables. Four of these variables were intended to measure attitudes toward the speaker. These included measures of (a) the speaker's adequacy in regard to his understanding and presentation of the topic (Speaker Evaluation), (b) feelings of solidarity with the speaker (Solidarity), (c) perceived competence and status of the speaker (Status), and (d) perceived physical attractiveness of the speaker (Attractiveness). In contrast, Stereotyping and Social Categorization variables were designed to predict attitudes rather than measure them.

In the radical measurement model, it was hypothesized that all six dependent variables indirectly measured the subject's attitude toward the speaker. If this were true, then the data would fit a path model in which effects of the three message variables (Voice, Topic, and Voice-Topic Interaction) would be mediated by the subject's attitude toward the speaker.

The mediation hypothesis predicted that the largest

message effect will yield the best measure of attitude (since all correlations have been corrected for random error of measurement). Because Voice was the message variable with the largest effect sizes, correlations between Voice and the dependent variables were compared to determine which would be the best measure of attitude. An examination of these correlations shows the largest effects for Status (r= -.47), as compared with Speaker Evaluation (r=-.28), Stereotyping (r=-.28), Social Categorization (r=-.21). The correlation between Voice and Attractiveness (r=.47), however, was as large as the correlation between Voice and Status, though in the opposite direction. This finding was to have further implications.

A radical unidimensional model of attitude suggested the following stark path model. Arrows go from Status to all of the other dependent variables. This radical measurement model posits that this measure of attitude explains both the message effects on the five other independent variables and the correlations between the other dependent variables.

However, because of the finding that Attractiveness was correlated with Voice in the opposite direction from all of the other independent variables, this model seemed likely to fail. The fit of this unidimensional model on the entire sample was poor, although the chi-square test was not quite significant (chi-square=27.81, df=25). Examination of the

data indicates that the fit of this model was very good for all dependent variables except Attractiveness. The correlation between Attractiveness and Status was negative (r=-.30), and thus the relationship between Voice and Attractiveness was predicted to be positive (r=.14). The actual correlation was much higher (r=.47, z=2.18, p=.02).

The Two-Dimensional Model

Data from the Unidimensional model indicated that Attractiveness behaved quite differently from the other measures of attitude. First, the effect of Voice on Attractiveness was in the opposite direction to the effect for the other dependent variables. In addition, Attractiveness is not related to the other dependent variables in the expected direction. Attractiveness was correlated negatively with Stereotyping (r=-.35), Status (r=-.30), and with Speaker Evaluation (r=-.21). The correlations between Attractiveness and other dependent variables (Social Categorization and Solidarity) were not significantly different from zero. The correlation between Attractiveness and Social Categorization was .03 and the correlation between Attractiveness and Solidarity was .08.

Thus, a modified version of the radical measurement model was considered. This model included two dimensions of attitude: Status and Attractiveness. There is no theory to

give either of these variables causal priority over the other. This model employed an arrow from Status to Attractiveness, but an arrow going from Attractiveness to Status would work equally well, as the predicted correlations are the same for either arrangement.

The two-dimensional path model is presented in Figure 6, along with path coefficients for the entire sample. The tables showing the test of the path model are presented in Table 19 (original and reproduced correlations and errors), and Table 20 shows the path coefficients and their standard errors. The overall chi-square was not significant (chi-square=14.38, df=18, p=.704) and the errors were small in magnitude. Thus, this model seemed to fit the data.

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Place Figure 6 About Here

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Place Tables 19 and 20 About Here

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The individual link errors for the effects of message variables on the four dependent variables were all small in magnitude. The errors were especially small with regard to Social Categorization (differences of -.02, -.06, and -.07) and were small in comparison with the errors for Stereotyping (.12, .14, and .02). None of these differences was significant individually, and the set as a whole was

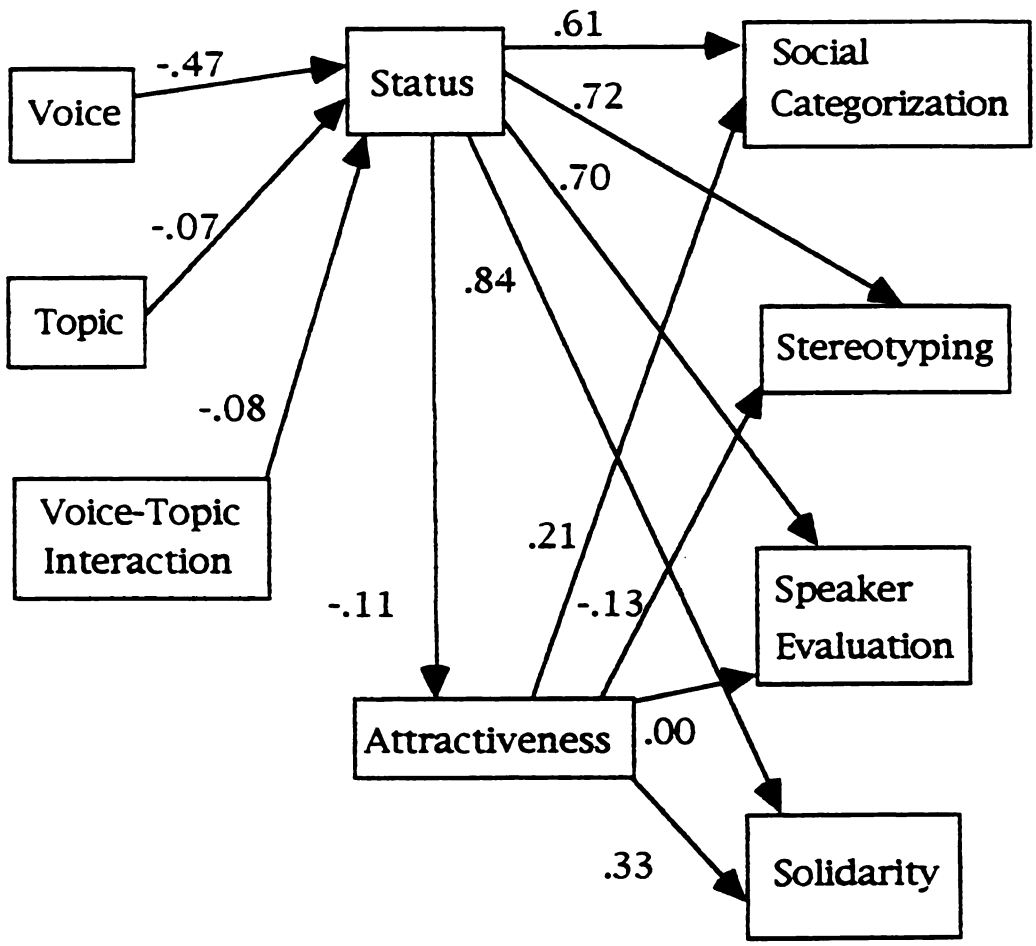


**Figure 6:** **Two-Dimensional Model with Path Coefficients for the Entire Sample**

Table 19: Original Correlations, Reproduced Correlations and Errors for the Entire Sample in the Two-Dimensional Model

Original Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -47 | 47 | -21 | -28 | -21 | -28 |
| T | -1 | 100 | 4 | -7 | -15 | -14 | 11 | 1 | -9 |
| VT | 1 | 4 | 100 | -9 | 5 | -11 | -5 | -15 | -10 |
| Ss | -47 | -7 | -9 | 100 | -30 | 55 | 76 | 74 | 70 |
| At | 47 | -15 | 5 | -30 | 100 | 3 | -35 | 8 | -21 |
| SC | -21 | -14 | -11 | 55 | 3 | 100 | 15 | 56 | 39 |
| St | -28 | 11 | -5 | 76 | -35 | 15 | 100 | 74 | 52 |
| So | -21 | 1 | -15 | 74 | 8 | 56 | 74 | 100 | 62 |
| SE | -28 | -9 | -10 | 70 | -21 | 39 | 52 | 62 | 100 |

Reproduced Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -47 | 47 | -19 | -40 | -24 | -33 |
| T | -1 | 100 | 4 | -7 | -15 | -8 | -3 | -11 | -5 |
| VT | 1 | 4 | 100 | -9 | 5 | -4 | -7 | -6 | -6 |
| Ss | -47 | -7 | -9 | 100 | -30 | 55 | 76 | 74 | 70 |
| At | 47 | -15 | 5 | -30 | 100 | 3 | -35 | 8 | -21 |
| SC | -19 | -8 | -4 | 55 | 3 | 100 | 39 | 47 | 38 |
| St | -40 | -3 | -7 | 76 | -35 | 39 | 100 | 52 | 53 |
| So | -24 | -11 | -6 | 74 | 8 | 47 | 52 | 100 | 52 |
| SE | -33 | -5 | -6 | 70 | -21 | 38 | 53 | 52 | 100 |

Errors (Actual - Reproduced)

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | -2 | 12 | 3 | 5 |
| T | 0 | 0 | 0 | 0 | 0 | -6 | 14 | 12 | -4 |
| VT | 0 | 0 | 0 | 0 | 0 | -7 | 2 | -9 | -4 |
| Ss | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -2 | -6 | -7 | 0 | 0 | 0 | -24 | 9 | 0 |
| St | 12 | 14 | 2 | 0 | 0 | -24 | 0 | 22 | -1 |
| So | 3 | 12 | -9 | 0 | 0 | 9 | 22 | 0 | 10 |
| SE | 5 | -4 | -4 | 0 | 0 | 0 | -1 | 10 | 0 |

Table 20: Path Coefficients and Standard Errors for Path Coefficients for the Entire Sample in the Two-Dimensional Model

Path Coefficients

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | -47 | -7 | -8 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 42 | -16 | 4 | -11 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 61 | 21 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 72 | -13 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 84 | 33 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 |

Standard Errors for Path Coefficients

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | 8 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 11 | 11 | 11 | 13 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 9 | 13 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 7 | 12 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 9 | 14 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 7 | 12 | 0 | 0 | 0 | 0 |

also not significant.

The largest error occurred in the relationship between Stereotyping and Social Categorization, in which the predicted correlation was .39, and the actual correlation was only .15. This difference is significant (z=2.04, p=.04) but is in the opposite direction than predicted by the original process model. In other words, Social Categorization and Stereotyping were less positively correlated than predicted by the two-dimensional measurement model, and the original process model predicted a higher correlation than the measurement model.

Test of Path Models on Subsamples

The two-dimensional model was also tested on the authoritarian and non-authoritarian subsamples. In both cases, the model showed good fit with the data. For the authoritarian subjects, the overall chi-square was 7.92 (df=18, p=.980). For the non-authoritarian subjects, the overall chi-square was 7.46 (df=18, p=.986) The correlation and error matrices for the two-dimensional path model with the non-authoritarian subsample are shown in Table 21, and the path coefficients and their standard errors for this group are presented in Table 22. Table 23 shows the correlation and error matrices for the authoritarian sample, and the path coefficients and standard errors for this group

are located in Table 24.

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Place Tables 21, 22, 23, and 24 About Here

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Table 25 shows the original correlation matrices for the entire sample as well as the two subsamples. An examination of the correlation matrices presented in Table 25 indicates that correlations between Speaker Evaluation and the three added outcome variables (Status, Solidarity, and Attractiveness) were all larger for the authoritarian group than for the non-authoritarian group (Status=.84 vs. .50, z=2.51; Solidarity=.66 vs. .51, z=.99; Attractiveness= -.28 vs. -.09, z=.97). In addition, there was a stronger correlation between Attractiveness and ethnicity for authoritarian subjects (r=.54) than for non-authoritarian subjects (r=.33, z=1.51)

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Place Table 25 About Here

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An examination of the correlation matrices in Table 25 shows that the for all samples, Voice was most highly correlated with Status (total sample r=-.47) and Attractiveness (total sample r=.47). For all samples, Speaker Evaluation was most highly related to Status (total sample r=.70) and Solidarity (total sample r=.62), whereas Attractiveness was negatively correlated with Speaker

Table 21: Original Correlations, Reproduced Correlations, and Errors for the Non-Authoritarian Sample in the Two-Dimensionsional Model

Original Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -45 | 33 | -15 | -19 | -18 | -23 |
| T | 18 | 100 | -6 | -10 | -6 | -4 | 10 | -3 | -8 |
| VT | -3 | -6 | 100 | 9 | -13 | -5 | 7 | -3 | 2 |
| Ss | -45 | -10 | 9 | 100 | -14 | 42 | 64 | 61 | 50 |
| At | 33 | -6 | -13 | -14 | 100 | 23 | -21 | 10 | -9 |
| SC | -15 | -4 | -5 | 42 | 23 | 100 | 13 | 44 | 25 |
| St | -19 | 10 | 7 | 64 | -21 | 13 | 100 | 67 | 42 |
| So | -18 | -3 | -3 | 61 | 10 | 44 | 67 | 100 | 51 |
| SE | -23 | -8 | 2 | 50 | -9 | 25 | 42 | 51 | 100 |

Reproduced Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -45 | 33 | -11 | -32 | -22 | -23 |
| T | 18 | 100 | -6 | -10 | -6 | -6 | -5 | -7 | -5 |
| VT | -3 | -6 | 100 | 9 | -13 | 0 | 7 | 3 | 5 |
| Ss | -45 | -10 | 9 | 100 | -14 | 42 | 64 | 61 | 50 |
| At | 33 | -6 | -13 | -14 | 100 | 23 | -21 | 10 | -9 |
| SC | -11 | -6 | 0 | 42 | 23 | 100 | 23 | 31 | 20 |
| St | -32 | -5 | 7 | 64 | -21 | 23 | 100 | 37 | 32 |
| So | -22 | -7 | 3 | 61 | 10 | 31 | 37 | 100 | 30 |
| SE | -23 | -5 | 5 | 50 | -9 | 20 | 32 | 30 | 100 |

Errors (Actual - Reproduced)

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | -4 | 13 | 4 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 2 | 15 | 4 | -3 |
| VT | 0 | 0 | 0 | 0 | 0 | -5 | 0 | -6 | -3 |
| Ss | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -4 | 2 | -5 | 0 | 0 | 0 | -10 | 13 | 5 |
| St | 13 | 15 | 0 | 0 | 0 | -10 | 0 | 30 | 10 |
| So | 4 | 4 | -6 | 0 | 0 | 13 | 30 | 0 | 21 |
| SE | 0 | -3 | -3 | 0 | 0 | 5 | 10 | 21 | 0 |

Table 22: Path Coefficients and Standard Errors for Path Coefficients for the Non-Authoritarian Sample in the Two-Dimensional Model

Path Coefficients

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | -44 | -2 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 36 | -13 | -13 | 2 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 46 | 29 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 62 | -12 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 64 | 19 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 50 | -2 | 0 | 0 | 0 | 0 |

Standard Errors for Path Coefficients

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | 11 | 13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 17 | 15 | 15 | 19 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 13 | 16 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 10 | 16 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 11 | 17 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 11 | 16 | 0 | 0 | 0 | 0 |

Table 23: Original Correlations, Reproduced Correlations, and Errors for the Authoritarian Sample in the Two-Dimensional Model

Original Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -22 | 9 | -44 | 54 | -25 | -37 | -23 | -34 |
| T | -22 | 100 | 16 | -1 | -20 | -22 | 11 | 4 | -10 |
| VT | 9 | 16 | 100 | -27 | 22 | -17 | -15 | -25 | -21 |
| Ss | -44 | -1 | -27 | 100 | -39 | 62 | 77 | 77 | 84 |
| At | 54 | -20 | 22 | -39 | 100 | -15 | -40 | 5 | -28 |
| SC | -25 | -22 | -17 | 62 | -15 | 100 | 16 | 61 | 47 |
| St | -37 | 11 | -15 | 77 | -40 | 16 | 100 | 69 | 56 |
| So | -23 | 4 | -25 | 77 | 5 | 61 | 69 | 100 | 66 |
| SE | -34 | -10 | -21 | 84 | -28 | 47 | 56 | 66 | 100 |

Reproduced Correlations

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -22 | 9 | -44 | 54 | -23 | -38 | -19 | -35 |
| T | -22 | 100 | 16 | -1 | -20 | -3 | 2 | -9 | -2 |
| VT | 9 | 16 | 100 | -27 | 22 | -15 | -22 | -16 | -22 |
| Ss | -44 | -1 | -27 | 100 | -39 | 62 | 77 | 77 | 84 |
| At | 54 | -20 | 22 | -39 | 100 | -15 | -40 | 5 | -28 |
| SC | -23 | -3 | -15 | 62 | -15 | 100 | 47 | 52 | 63 |
| St | -38 | 2 | -22 | 77 | -40 | 47 | 100 | 55 | 64 |
| So | -19 | -9 | -16 | 77 | 5 | 52 | 55 | 100 | 67 |
| SE | -35 | -2 | -22 | 84 | -28 | 53 | 64 | 67 | 100 |

Errors (Actual - Reproduced)

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | -2 | 1 | -4 | 1 |
| T | 0 | 0 | 0 | 0 | 0 | -19 | 9 | 13 | -8 |
| VT | 0 | 0 | 0 | 0 | 0 | -2 | 7 | -9 | 1 |
| Ss | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SC | -2 | -19 | -2 | 0 | 0 | 0 | -31 | 9 | -6 |
| St | 1 | 9 | 7 | 0 | 0 | -31 | 0 | 14 | -8 |
| So | -4 | 13 | -9 | 0 | 0 | 9 | 14 | 0 | -1 |
| SE | 1 | -8 | 1 | 0 | 0 | -6 | -8 | -1 | 0 |

Table 24: Path Coefficients and Standard Errors for Path Coefficients for the Authoritarian Sample in the Two-Dimensional Model

Path Coefficients:

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | -44 | -7 | -22 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 43 | -13 | 16 | -16 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 66 | 11 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 72 | -12 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 93 | 41 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 86 | 6 | 0 | 0 | 0 | 0 |

Standard Errors for Path Coefficients:

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ss | 12 | 14 | 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| At | 16 | 16 | 16 | 19 | 0 | 0 | 0 | 0 | 0 |
| SC | 0 | 0 | 0 | 13 | 20 | 0 | 0 | 0 | 0 |
| St | 0 | 0 | 0 | 10 | 18 | 0 | 0 | 0 | 0 |
| So | 0 | 0 | 0 | 15 | 22 | 0 | 0 | 0 | 0 |
| SE | 0 | 0 | 0 | 10 | 19 | 0 | 0 | 0 | 0 |

Table 25: Original Correlations for the Entire Sample, the Authoritarian Sample, and the Non-Authoritarian Sample in the Two-Dimensional Model

V=Voice; T=Topic; VT=Voice-Topic Interaction, Ss=Status; At=Attractiveness; SC=Social Categorization; St=Stereotyping; So=Solidarity; SE=Speaker Evaluation

Total Sample

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -1 | 1 | -47 | 47 | -21 | -28 | -21 | -28 |
| T | -1 | 100 | 4 | -7 | -15 | -14 | 11 | 1 | -9 |
| VT | 1 | 4 | 100 | -9 | 5 | -11 | -5 | -15 | -10 |
| Ss | -47 | -7 | -9 | 100 | -30 | 55 | 76 | 74 | 70 |
| At | 47 | -15 | 5 | -30 | 100 | 3 | -35 | 8 | -21 |
| SC | -21 | -14 | -11 | 55 | 3 | 100 | 15 | 56 | 39 |
| St | -28 | 11 | -5 | 76 | -35 | 15 | 100 | 74 | 52 |
| So | -21 | 1 | -15 | 74 | 8 | 56 | 74 | 100 | 62 |
| SE | -28 | -9 | -10 | 70 | -21 | 39 | 52 | 62 | 100 |

Authoritarian Sample

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | -22 | 9 | -44 | 54 | -25 | -37 | -23 | -34 |
| T | -22 | 100 | 16 | -1 | -20 | -22 | 11 | 4 | -10 |
| VT | 9 | 16 | 100 | -27 | 22 | -17 | -15 | -25 | -21 |
| Ss | -44 | -1 | -27 | 100 | -39 | 62 | 77 | 77 | 84 |
| At | 54 | -20 | 22 | -39 | 100 | -15 | -40 | 5 | -28 |
| SC | -25 | -22 | -17 | 62 | -15 | 100 | 16 | 61 | 47 |
| St | -37 | 11 | -15 | 77 | -40 | 16 | 100 | 69 | 56 |
| So | -23 | 4 | -25 | 77 | 5 | 61 | 69 | 100 | 66 |
| SE | -34 | -10 | -21 | 84 | -28 | 47 | 56 | 66 | 100 |

Non-Authoritarian Sample

| | V | T | VT | Ss | At | SC | St | So | SE |
|---|---|---|---|---|---|---|---|---|---|
| V | 100 | 18 | -3 | -45 | 33 | -15 | -19 | -18 | -23 |
| T | 18 | 100 | -6 | -10 | -6 | -4 | 10 | -3 | -8 |
| VT | -3 | -6 | 100 | 9 | -13 | -5 | 7 | -3 | 2 |
| Ss | -45 | -10 | 9 | 100 | -14 | 42 | 64 | 61 | 50 |
| At | 33 | -6 | -13 | -14 | 100 | 23 | -21 | 10 | -9 |
| SC | -15 | -4 | -5 | 42 | 23 | 100 | 13 | 44 | 25 |
| St | -19 | 10 | 7 | 64 | -21 | 13 | 100 | 67 | 42 |
| So | -18 | -3 | -3 | 61 | 10 | 44 | 67 | 100 | 51 |
| SE | -23 | -8 | 2 | 50 | -9 | 25 | 42 | 51 | 100 |

Evaluation (total sample r=-.21). As in the a priori analyses, these subsamples appear quite comparable in the present a posteriori analysis.

# Discussion

## Voice Main Effect

Contrary to much of the existing literature, the current investigation found that non-standard speakers were generally rated more positively than standard speakers on several speaker evaluation measures, including dimensions of general competence on an environmental topic (Speaker Evaluation r=-.28), Status (r=-.47), and Solidarity (r= -.21). The exception to this trend was the finding that Indian speakers were viewed as less physically attractive than their American counterparts (Attractiveness r=.47).

Speaker evaluation has been framed in two different ways in the literature. The first approach, which has been taken by a number of authors, has involved status and solidarity dimensions (Anisfeld et al., 1962; Kalmar et al., 1967; Luhman, 1990; Nesdale & Rooney, 1990; Callan et al., 1983; Ryan & Carranza, 1975; Ryan & Sebastian, 1980). A second approach employs the constructs of competence, personal integrity, and social attractiveness (Giles, 1972b; Lambert, 1967). It appears that status is roughly equivalent to competence and solidarity is similar to personal integrity. Thus, speaker evaluation has been viewed in terms of three basic components: Status, Solidarity, and Attractiveness.

In this study, Indian speakers were significantly favored on status measures (educated-uneducated, intelligent-stupid, wealthy-poor, and successful-unsuccessful). The correlation between ethnicity and a composite status dimension was -.47.

Americans and Indians were rated as approximately equal on individual solidarity items (trustworthy-not trustworthy, sympathetic-unsympathetic, friendly-unfriendly, and honest-dishonest). The exception was on the solidarity item "good-bad" in which Indian speakers were rated significantly more positively than American speakers. However, Indian speakers were favored on a composite solidarity dimension (r=-.21).

American speakers were rated more positively than their Indian counterparts on social/physical attractiveness traits, such as being athletic, tall, attractive, and sexually unrestrained (r=.47).

Interestingly, Giles' results (1972b) contrast with the results of this study. In his study using British standard speakers, Giles found that standard speakers were favored in terms of status, but that non-standard speakers were favored in terms of solidarity and social attractiveness dimensions. In contrast, the present investigation indicates that standard speakers were only favored with regard to attractiveness, and that non-standard speakers were favored on a status dimension, and somewhat favored on a solidarity dimension.

The finding that Indian speakers are evaluated more positively than American speakers on both status and solidarity dimensions merits further investigation due to its departure from much of the literature, which tends to suggest that non-standard speakers are seldom favored over standard speakers.

It is possible that America's economic recession and changing position in the world economy are related to higher status perceptions of foreigners. This notion is consistent with expectation states theory if Indian accents are eliciting higher competence expectations than American accents. It is unclear at this point whether Asian Indians are included in the "model minority" stereotype attributed to some Asian American groups, in which Asians and Asian Americans are seen as a group with few social problems.

Another possibility is that increasing numbers of well-educated immigrants are contributing to a stereotype of certain immigrant groups as white collar workers in high paying positions. Lambert and his colleagues (1965) had a similar finding in that Arab speakers in Israel were rated as more wealthy than either Yemenite or Ashkenazic Jews, although the economic situation of Arabs in that area was actually worse than the other two groups.

The significant main effect of Voice on overall speaker evaluations, as well as on status, solidarity, and attractiveness dimensions, lends support to the notion that

accented speech serves as a marker for ethnicity. Interestingly, Indian speakers were favored on solidarity and status measures, but not on an attractiveness dimension (on which American speakers were favored).

Topic Interaction and Main Effect

Consistent with other studies, no significant main effect of topic on speaker evaluation was detected. In this investigation, the messages for the two topics were designed to be psychologically identical, with virtually the only difference between them being the use of the words "India" or "America". That is, the messages were designed to preclude any main effect due to message quality or strength. The focus here was upon the interaction between speaker and topic. It was expected that an ethnicity-topic match would lead to more positive evaluations, although this result was not found. On the contrary, there was a slight negative correlation between a mismatch and positive speaker evaluations ($r=-.09$). Research using more emotionally charged issues or differing message quality may yet uncover a main effect of topic, but in this investigation, subjects evaluated the speaker on ethnicity in the same way for both topics.

Prior Experience with a Foreign Instructor

This study found no main effect of prior experience with a foreign T.A. on speaker evaluation. Additionally, there appears to be no significant interaction effect of speaker ethnicity and experience with a foreign instructor on Speaker Evaluation. The correlation between Voice and Speaker Evaluation for a sample with little experience with a foreign instructor was -.25, while the correlation for a sample with more experience with foreign instructors was -.31.

Missing Mediation Effects for Social Categorization

Although the Non-Authoritarian path model fit the data than the Authoritarian model, even the Non-Authoritarian model had large errors in the data from this investigation. The model assumed that there is a process by which an individual hears a speaker, compares the speaker to oneself, calls up available stereotypes, and formulates an evaluation. If this were true, then Social Categorization should have mediated the relationship between the message variables (Voice, Topic, and Voice-Topic interaction) and the dependent variables Stereotyping and Speaker Evaluation. This mediation effect was not found.

If categorization were a mediating variable, it would

be predicted that the correlations between the message variables and Social Categorization would be larger than the correlations between the message variables and Stereotyping or Speaker Evaluation. However, the correlations between Voice and the dependent variables did not support this notion. For the entire sample, the correlation of Voice with Social Categorization was -.21, whereas the correlations between Voice and Stereotyping (r=-.28) and Voice and Speaker Evaluation (r=-.28) were somewhat higher. That is, the correlation for Social Categorization was the smallest, rather than the largest of the three.

According to the mediation hypothesis, it would be expected that the beta-weights for the message variables would be zero when Stereotyping was examined as the dependent variable. This was not the case. The zero order correlation for the entire sample was -.28, and the beta-weight was -.26. If the mediation hypothesis were correct, one would expect that the beta-weight would be significantly smaller than the zero order correlation (if not zero), rather than almost identical to the zero order correlation as was found in this investigation. Thus, Social Categorization did not act as a mediating variable between the message variables and Stereotyping.

In the same way, the mediation model predicted that the beta-weights for the message variables should be zero when Speaker Evaluation is the dependent variable. However, the

beta-weight for Voice was -.09, which is substantially less than the zero order correlation between the two variables (r=-.28 for the entire sample), but still far from zero. This finding indicates that Categorization did not entirely mediate the effects of the message variables on Speaker Evaluation.

Hence, the results of this investigation clearly show that Social Categorization did not mediate the effects of the message variables on either Stereotyping or Speaker Evaluation. The two possible explanations for the failure of the mediation hypothesis are: (a) a true error in the model (meaning that a categorization process does not mediate the relationship between message variables and stereotyping or speaker evaluation) and (b) error of measurement (meaning that there was not good construct validity for one or more of the dependent variables).

Although these data were corrected for attenuation due to random error of measurement, there is still the possibility of systematic error of measurement, which cannot be corrected for attenuation. In this study, Social Categorization was measured as the extent to which a subject viewed the speaker as similar to himself. If the correlation between perceived similarity and categorization is not perfect, then the correlations for categorization would be systematically attenuated. If the measure of Social Categorization had greater construct validity,

perhaps these correlations would increase to the point of fitting the model.

If the Social Categorization dimension is a valid measure of categorization, then the mediation model fails. If this is true, then there must be another causal connection between message variables and Stereotyping and between message variables and Speaker Evaluation.

## Stereotyping and Prejudice

The classic view of prejudice involves the application of negative stereotypes to outgroup members. According to this view, it would be expected that ethnicity would be positively correlated with all three dependent variables. However, ethnicity was actually negatively correlated with all three variables, indicating that Indian speakers were rated as more "like me", received more positive ratings on personality measures (Stereotyping) and received better overall Speaker Evaluation ratings than did American speakers.

However, on an Attractiveness dimension, classic stereotyping did emerge in that American speakers were viewed as more physically attractive than Indian speakers (total sample r=.47). Thus, Attractiveness was actually negatively related to another component of speaker evaluation (Status: r=-.30) and was only weakly related to a

solidarity measure (Solidarity: r=.08).

Authoritarianism

The results of this study do not support the notion that the causal models for authoritarian and non-authoritarian subjects are qualitatively different. The Non-Authoritarian model fit both subsamples better than the Authoritarian model. In addition, the direction and size of errors for both samples were quite similar, indicating very little difference between the two groups.

However, at least in the original analyses, authoritarian subjects seemed to be more sensitive than non-authoritarian subjects to ethnicity. On the three original dependent variables, correlations with ethnicity for authoritarian subjects were larger in absolute value than the correlations for non-authoritarian subjects (Social Categorization: r=-.25 vs. r=-.15; Stereotyping: r= -.37 vs. r=-.19; Speaker Evaluation: r=-.34 vs. r=-.23). These results suggest that authoritarian subjects are more sensitive and responsive to ethnicity cues. However, examination of correlations between Voice and Status and between Voice and Solidarity show similar relationships for both authoritarian and non-authoritarian subjects (Status: r=-.44 vs. r=-.45; Solidarity: r=-.23 vs. r=-.18). Authoritarian and non-authoritarian subjects do differ on

the correlation between Voice and Attractiveness, with a correlation of .54 for authoritarian subjects and a correlation of .33 for non-authoritarian subjects.

Stereotyping and Evaluation

The more the subject perceived the speaker as "like me", the more likely the speaker was to be positively evaluated and seen as "above average" on a stereotyping dimension. This finding is consistent with conceptions of ingroup-outgroup biases, in that we tend to like those we see as similar to ourselves. However, it is inconsistent with the notion of stereotyping as a uniformly negative phenomenon. The finding that Indian speakers were seen in a more positive light than American speakers may indicate that a "model minority" stereotype associated with other Asian ethnic groups is also being applied to them. This stereotype assumes that Asians are super-achievers with few social problems (Brand, 1987).

According to the Authoritarian model for authoritarian subjects, the relationship between message variables and Speaker Evaluation are mediated by both Social Categorization and Stereotyping. For the authoritarian sample, the correlation between Social Categorization and Stereotyping was .16 and the correlation between Stereotyping and Speaker Evaluation was .56. Thus, the path

model predicts that the correlation between Social Categorization and Evaluation is the product of these two correlations, (.56)(.16)=.09. However, the actual correlation between Social Categorization and Speaker Evaluation was .47, which is a large and significant difference (z=1.95). This error leads to the failure of the Authoritarian model.

The Non-Authoritarian model works better for both the non-authoritarian and the authoritarian samples. The Non-Authoritarian model assumes that Social Categorization as well as Stereotyping mediate the relationship between message variables and Speaker Evaluation. When both of the mediating variables are controlled, the model predicts that correlations between message variables and Speaker Evaluation will drop to zero. However, an examination of the regression equations shows that the correlation between Voice and Speaker Evaluation (r=-.28) is still far from zero (beta-weight=-.09) even when the two mediating variables are controlled.

The drop from -.28 to -.09 gives some evidence of mediation for Speaker Evaluation. This is also consistent with the large beta-weight for Stereotyping (beta-weight=.46) and the moderately large beta-weight for Social Categorization (beta-weight=.28). However, these data also show a departure from the mediation model.

Again, the problems with the mediation model could be

due to problems of construct validity for Social Categorization, or could be due to missing causal connections between the message variables and Speaker Evaluation.

## The Radical Measurement Model

Because of the poor fit of both a priori path models, a two-dimensional radical measurement model was employed to test the viability of the dimensions representing the dependent variables, especially Social Categorization and Stereotyping. In this model, Attractiveness and Status were used as predictors of the other dependent variables (whereas the original Non-Authoritarian model employed Social Categorization and Stereotyping as predictors of Speaker Evaluation). Errors for the two-dimensional model were small in magnitude, and the model seemed to fit the data.

In addition, the two-dimensional model seemed to fit the data for both authoritarian and non-authoritarian subjects. However, the authoritarian sample showed higher correlations than the non-authoritarian sample between Speaker Evaluation and Status ($r=.84$ vs. $r=.5$), Solidarity ($r=.66$ vs. $r=.51$) and Attractiveness ($r=-.28$ vs. $r=-.09$), perhaps indicating that authoritarian subjects give more extreme evaluations than non-authoritarian subjects.

The largest error in the two-dimensional model also

occurred in the original Non-Authoritarian model, in that both models predicted a stronger correlation between Social Categorization and Stereotyping than was found.

A status dimension was highly correlated to all of the original dependent variables (Social Categorization: r=.55; Stereotyping: r=.76; Speaker Evaluation: r=.70). In addition, Status and Solidarity were highly correlated (r=.74), indicating that, for this sample, these two dimensions may have been measuring roughly the same thing, such as "perceived character".

In contrast, Attractiveness, while correlating strongly with ethnicity (r=-.47), did not correlate as highly with the other two evaluative dimensions, Status (r=-.30) and Solidarity (r=.08), indicating that Attractiveness may represent a separate evaluative dimension. The correlation between Speaker Evaluation and Attractiveness (r=-.21) may have been strengthened if the measure of Speaker Evaluation had focused on evaluating the speaker as a human being rather than evaluating his competence and knowledge of the subject matter he was discussing.

The strong correlations between Status and Social Categorization (r=.55) and between Solidarity and Social Categorization (r=.56) suggest that all three dimensions may be related to a tendency toward showing generally positive reactions to others as well as ourselves.

Limitations

Future studies may benefit from using a sample comprised of more upperclassmen, due to the lack of experience with foreign instructors and teaching assistants among freshman and sophomore students. Unfortunately, the sample in this study included an over-representation of underclassmen, many of whom were in their first semester of college and had had little or no exposure to foreign instructors and teaching assistants.

This investigation's finding that authoritarian subjects viewed themselves more positively than did non-authoritarian subjects (correlation between authoritarianism and self-evaluation was .29) and the non-significant trend in which authoritarian subjects were more likely than non-authoritarian subjects to use stereotypes in evaluating speakers (correlation between authoritarianism and stereotyping was .11) suggest that there may be important differences between these two groups that merit further investigation.

In future investigations, it may be helpful to include Context as a part of the quantitative path model, in order to investigate its utility to the conceptual model. In this way, it may be possible to systematically study the process of speaker evaluation in a variety of situations.

A major issue in this area of research is that of measurement. Attempts at measuring abstract constructs such as social categorization, stereotyping, and speaker evaluation, were one area of concern in this investigation. In addition, the elusive nature of some of the constructs may lead to a lack of clarity as to what is actually being measured.

Stereotyping is an elusive construct in that one can measure the degree to which a subject views a speaker positively or negatively, but it is more difficult to determine whether this perception is based upon stereotypes, response sets, or true speaker personality characteristics. In this study, stereotyping was measured by summing the absolute values of differences between the subject's rating of the speaker and a rating of "average" (a score of 4 on a speaker perception item on the questionnaire). It was hoped that subjects would differ in their evaluations of speakers from different ethnic backgrounds, so that stereotyping could be inferred.

Because the purpose of the study was not to distinguish between stereotyping which puts the speaker in a favorable light from stereotyping which unfavorably describes the speaker, absolute values, rather than positive and negative values, were summed for the composite variable.

Speaker evaluation items, on the other hand, were scored such that a high value indicated a positive

evaluation and a low value indicated a negative evaluation. Because the speakers delivered an intellectual discussion of an environmental topic, it seemed appropriate to evaluate the speakers on their knowledge and understanding of content of their speech. There are certainly other situations that would warrant a different angle on the speaker evaluation construct, such as in social and non-academic arenas. In this investigation, Status, Solidarity, and Attractiveness dimensions were added to supplement this form of evaluation. Interestingly, Attractiveness ratings were inversely correlated with the other two components of speaker evaluation.

## Future Directions

Because of the changing ethnic composition of America, it is becoming necessary to better understand the dynamics of intercultural exchanges in order to reduce potential conflicts and misunderstandings, and to facilitate productive and harmonious relationships. Further investigations into areas involving non-standard speakers, foreign T.A.s, and contrasting cultural values may be helpful in achieving these aims. Because of the importance of this area of research, every effort should be made to clarify measurement issues in the interest of accurately describing the phenomena involved in evaluating an accented

speaker.

This type of research may be especially timely in the academic arena, as more and more Indian Teaching Assistants (T.A.s) are found in instructional contexts, and increasing numbers of American students are exposed to their accents. In addition, there is evidence that American students actually avoid classes with foreign T.A.s, due to potential communication difficulties (Rubin & Smith, 1990), so research in this area may be useful to find ways to educate students as well as increase the effectiveness of foreign T.A.s.

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# Appendix A: The Questionnaire

Please fill out the first two pages completely. When you are finished with the first two pages, turn your questionnaire over. Do not continue until you are instructed to do so.

It is not necessary to write your name or student number anywhere in this questionnaire.

Part I

1. Age: _____
2. Sex: _____
3. Major: _____
4. Class (circle one): Freshman Sophomore Junior Senior
5. Ethnicity (circle one): Black White Hispanic Asian
   Native American
   Other (specify): _____
6. Socio-economic class (circle one): Low Middle High
7. Country of Birth (circle one): United States of America
   Other (specify): _____

Please circle the number from 1 to 7 that best reflects your perception of yourself on the following dimensions:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8. Slow | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Intelligent |
| 9. Educated | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Uneducated |
| 10. Poor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Wealthy |
| 11. Academically Successful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Academically Unsuccessful |
| 12. Sexually Unrestrained | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Sexually restrained |
| 13. Trustworthy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Untrustworthy |
| 14. Bad | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Good |
| 15. Disciplined | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Undisciplined |
| 16. Unsympathetic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Sympathetic |
| 17. Friendly | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unfriendly |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 18. | Dishonest | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Honest |
| 19. | Hardworking | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Lazy |
| 20. | Academically Incompetent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Academically competent |
| 21. | Conscientious | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Sloppy |
| 22. | Short | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Tall |
| 23. | Attractive | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unattractive |
| 24. | Introverted | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extroverted |
| 25. | Unathletic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Athletic |
| 26. | Elated | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Depressed |
| 27. | Quiet | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Loud |
| 28. | Unsure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Confident |
| 29. | Religious | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Atheist |
| 30. | Not Committed to Family | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Committed to Family |
| 31. | Agreeable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Disagreeable |
| 32. | Cruel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Kind |
| 33. | Traditional | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Untraditional |
| 34. | Not Believable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Believable |

PLEASE STOP HERE AND TURN YOUR QUESTIONNAIRE OVER.

In this portion of the questionnaire, you will be asked to make inferences about the speaker.

Part II

35. Speaker age: _____
36. Speaker sex (circle one): Male Female
37. Speaker ethnicity: _____
38. Speaker social class (circle one): Low Middle High
39. Speaker birth status (circle one): United States of America Other (specify): _____

Please evaluate the speaker on the following issues.

40. How well did the speaker understand the topic he was discussing?
Not at all 1 2 3 4 5 6 7 Very Much

41. How much do you agree with the speaker's point of view?
Not at all 1 2 3 4 5 6 7 Very Much

42. How competent is the speaker in this discussion?
Not at all 1 2 3 4 5 6 7 Very Much

43. How knowledgeable is the speaker on this topic?
Not at all 1 2 3 4 5 6 7 Very Much

44. How qualified is the speaker to discuss this topic?
Not at all 1 2 3 4 5 6 7 Very Much

It is often possible to make inferences about personality characteristics of a speaker from his or her voice. Please circle the number from 1 to 7 that best reflects your perception of the speaker on the following dimensions.

45. Slow 1 2 3 4 5 6 7 Intelligent

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46. Educated | 1 | 2 | 3 | 4 | 5 | 6 | 7 Uneducated |
| 47. Poor | 1 | 2 | 3 | 4 | 5 | 6 | 7 Wealthy |
| 48. Academically Successful | 1 | 2 | 3 | 4 | 5 | 6 | 7 Academically Unsuccessful |
| 49. Sexually Unrestrained | 1 | 2 | 3 | 4 | 5 | 6 | 7 Sexually restrained |
| 50.Trustworthy | 1 | 2 | 3 | 4 | 5 | 6 | 7 Untrustworthy |
| 51. Bad | 1 | 2 | 3 | 4 | 5 | 6 | 7 Good |
| 52.Disciplined | 1 | 2 | 3 | 4 | 5 | 6 | 7 Undisciplined |
| 53.Unsympathetic | 1 | 2 | 3 | 4 | 5 | 6 | 7 Sympathetic |
| 54. Friendly | 1 | 2 | 3 | 4 | 5 | 6 | 7 Unfriendly |
| 55. Dishonest | 1 | 2 | 3 | 4 | 5 | 6 | 7 Honest |
| 56. Hardworking | 1 | 2 | 3 | 4 | 5 | 6 | 7 Lazy |
| 57. Academically Incompetent | 1 | 2 | 3 | 4 | 5 | 6 | 7 Academically competent |
| 58.Conscientious | 1 | 2 | 3 | 4 | 5 | 6 | 7 Sloppy |
| 59. Short | 1 | 2 | 3 | 4 | 5 | 6 | 7 Tall |
| 60. Attractive | 1 | 2 | 3 | 4 | 5 | 6 | 7 Unattractive |
| 61. Introverted | 1 | 2 | 3 | 4 | 5 | 6 | 7 Extroverted |
| 62. Unathletic | 1 | 2 | 3 | 4 | 5 | 6 | 7 Athletic |
| 63. Elated | 1 | 2 | 3 | 4 | 5 | 6 | 7 Depressed |
| 64. Quiet | 1 | 2 | 3 | 4 | 5 | 6 | 7 Loud |
| 65. Unsure | 1 | 2 | 3 | 4 | 5 | 6 | 7 Confident |
| 66. Religious | 1 | 2 | 3 | 4 | 5 | 6 | 7 Atheist |
| 67. Not Committed to Family | 1 | 2 | 3 | 4 | 5 | 6 | 7 Committed to Family |
| 68. Agreeable | 1 | 2 | 3 | 4 | 5 | 6 | 7 Disagreeable |
| 69. Cruel | 1 | 2 | 3 | 4 | 5 | 6 | 7 Kind |

70. Traditional 1 2 3 4 5 6 7 Untraditional

71. Not Believable 1 2 3 4 5 6 7 Believable

72. How likely would you be to accept the speaker as a classmate?
Not at all 1 2 3 4 5 6 7 Very Much

73. How likely would you be to accept the speaker as a teaching assistant?
Not at all 1 2 3 4 5 6 7 Very Much

74. How likely would you be to accept the speaker as a neighbor?
Not at all 1 2 3 4 5 6 7 Very Much

75. How likely would you be to accept the speaker as a friend?
Not at all 1 2 3 4 5 6 7 Very Much

76. How likely would you be to accept the speaker as a relative by marriage?
Not at all 1 2 3 4 5 6 7 Very Much

Please indicate the number of courses in which:

77. Your instructor or teaching assistant was not a native speaker of English _____

78. You chose to avoid or drop a class because the instructor or teaching assistant was not a native speaker of English _____

79. Your final course grade was hurt because the instructor or teaching assistant was not a native speaker of English _____

80. Your final course grade was hurt because of any instructor's or teaching assistant's poor communication skills _____

Please circle the number from 1 to 7 that best represents your views. "1" indicates "Strongly Agree" and "7" indicates "Strongly Disagree".

81. Laws have to be strictly enforced if we are going to preserve our way of life.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

82. People should pay less attention to the Bible and the other old traditional forms of religious guidance, and instead develop their own personal standards of what is moral and immoral.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

83. Women should always remember the promise they make in the marriage ceremony to obey their husbands.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

84. Our customs and national heritage are the things that have made us great, and certain people should be made to show greater respect for them.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

85. Capital punishment should be completely abolished.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

86. National anthems, flags, and glorification of one's country should all be de-emphasized to promote the brotherhood of all men.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

87. The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and trouble makers if we are going to save our moral standards and preserve law and order.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

88. A lot of our society's rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other peoples follow.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

89. Our prisons are a shocking disgrace. Criminals are unfortunate people who deserve much better care, instead of so much punishment.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

90. Obedience and respect for authority are the most important virtues children should learn.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

91. Organizations like the army and the priesthood have a pretty unhealthy effect upon men because they require strict obedience of commands from supervisors.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

92. One good way to teach certain people right from wrong is to give them a good stiff punishment when they get out of line.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

93. Youngsters should be taught to refuse to fight in a war unless they themselves agree the war is just and necessary.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

94. It may be considered old-fashioned by some, but having a decent, respectable appearance is still the mark of a gentleman and, especially, a lady.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

95. In these troubled times laws have to be enforced without mercy, especially when dealing with the agitators and revolutionaries who are stirring things up.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

96. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

97. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

98. Rules about being "well-mannered" and respectable are chains from the past which we should question very thoroughly before accepting.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

99. The courts are right in being easy on drug offenders. Punishment would not do any good in cases like these.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

100. If a child starts becoming a little too unconventional, his parents should see to it that he returns to the normal ways expected by society.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

101. Being kind to loafers or criminals will only encourage them to take advantage of your weakness, so it's best to use a firm, tough hand when dealing with them.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

102. A "woman's place" should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

103. Homosexuals are just as good and virtuous as anybody else, and there is nothing wrong with being one.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

104. It's one thing to question and doubt someone during an election campaign, but once a man becomes the leader of our country we owe him our greatest support and loyalty.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly Disagree |

105. Please describe, in your own words, what you believe to be the purpose of this experiment.

Thank you very much for your participation.