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Sounds of leadership? A mismatch between Asian Americans' communication style and

norms for leaders in the United States

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Sounds of leadership? A mismatch between Asian Americans' communication style and

norms for leaders in the United States

By

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An abstract of A dissertation submitted to the Faculty of the James T. Laney School of Graduate Studies of Emory University in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business 2019

Abstract

Sounds of leadership? A mismatch between Asian Americans' communication style and norms for leaders in the United States

By Sarah Lee

Asian Americans in the United States are overrepresented in professional occupations, yet underrepresented in top management. Extant literature in management suggests that leadership potential is signaled through self-expression, confidence, and optimism. However, the cultural psychology and sociolinguistics literatures suggest that communication norms for Asian Americans may conflict with these leadership expectations, because of Asian Americans' cultural background and minority experience in the United States. I tested whether differential communication norms were observable in aspiring Asian- and White-American leaders' nonaccented, naturalistic speech, and whether these differences would affect evaluations of leadership potential and hireability/promotability. Results supported predictions that Asian- (vs. White-) American aspiring leaders would speak with less self-expression, less confidence, and less optimism (Study 1). Moreover, Asian- (vs. White-) American aspiring leaders were rated lower on communication effectiveness, leadership potential, and hireability, when participants were blind to speaker ethnicity (Study 2). These differences in perceptions were not exacerbated when participants were aware of speaker ethnicity (Study 3). Finally, showing the causal link between communication style and leadership outcomes, interviewees speaking in the Asian- (vs. White-) American style received lower ratings by business professionals (Study 4). I suggest that these culturally grounded communication differences pose an obstacle to Asian-American employees, causing them to be inaccurately perceived as deficient as leaders, and suggesting a possible explanation for the "bamboo ceiling."

Keywords: leadership, communication, Asian American, bamboo ceiling

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Sounds of leadership? A mismatch between Asian Americans' communication style and norms for leaders in the United States

Asian Americans are commonly referred to as the "model minority" of the United States (Maddux, Galinsky, Cuddy, & Polifroni, 2008). According to the U.S. Census Bureau, Asian Americans have the highest median income and the highest college graduation rate, as well as the lowest incarceration rates, of any ethnic group, including Whites, Blacks, Hispanics, and Native Americans. Yet Asian Americans face obstacles as they move toward higher positions in their careers. Although they comprise 5% of the population and about 11% of professional workers, Asian Americans account for only 1.9% of corporate officers and 1.4% of Fortune 500 CEOs (U.S. Equal Employment Opportunity Commission, 2015). Furthermore, even if Asian Americans are performing better than their White-American counterparts overall, they are still disadvantaged in employment, earnings, and number of people supervised, even when controlling for field of study, education level, and other demographic variables (Hurh & Kim, 1989; Sakamoto, Woo, & Yap, 2006); this is especially true for women (Kim & Zhao, 2014).

The diminishing presence of Asian Americans in the higher rungs of the corporate ladder has been labeled the "bamboo ceiling" (Hyun, 2005). This phenomenon occurs even in industries that are stereotypically hospitable to Asian Americans (e.g., engineering; Tang, 1993). In addition to the objective statistical underrepresentation, 48% of Asian-American men and

¹ Throughout the paper I use the term "Asian American" to refer to individuals who live in the United States and whose families originate from East Asia (e.g., Korea, Japan, and China). I purposely exclude individuals from Southeast Asia (e.g., Philippines, Vietnam, Cambodia), because people from these cultural contexts have been less studied in past research and are not as reliably stereotyped as the "model minority" in the United States due to their own difficulties reaching higher levels of education and representation in professional careers. I also exclude individuals from the Indian subcontinent (e.g., India, Pakistan, Kashmir), because the stereotypical perceptions of Asian Americans most strongly apply to the members of East Asian descent. Although I recognize that Asian American is an overarching term that includes many different subgroups of Asians, my focus on those of East Asian descent is to address the issues they face in the specific context of upward mobility in higher management positions.

women in the U.S. report that they have difficulty having to "act, look, and sound" like the established leaders in their workplace (Hewlett, Rashid, Forster, & Ho, 2011). According to a study conducted by the Center for Work Life Policy in 2011 (Mundy, 2014), only 28% of Asian Americans say they feel very comfortable "being themselves" at work, versus 40% of African Americans, 41% of Hispanics, and 42% of Caucasians. Asian-American managers also report lower levels of self-disclosure and lower feelings of positive supervisor-subordinate relationships (Xin, 2004). The "bamboo ceiling" implies that, regardless of technical skill, educational advancements, and fluency in English, Asian Americans still face a struggle in reaching higher positions in the workplace (Hewlett et al., 2011).

The purpose of this research is to investigate one possible cause of the bamboo ceiling. Much research in organizational behavior examines how stereotypes and discrimination persist in hiring and promoting practices (Bertrand & Mullainathan, 2003; King, Mendoza, Madera, Hebl, & Knight, 2006; Rosette, Koval, Ma & Livingston, 2016). Other work on leadership aims to identify specific traits or behaviors that are desirable for leaders (Bass & Avolio, 2000; Conger & Kanungo, 1987; House, 1977; Sashkin, 1988; Shamir, House & Arthur, 1993), and research on global leadership identifies the ways that cultural differences matter in organizations (Hofstede, 2005; Javidan, Dorfman, deLuque, & House, 2016; Markus & Kitayama, 1991). My work extends previous research by showing that the existing leader prototype may be problematic for Asian Americans, specifically with regard to communication style. I theorize that the underrepresentation of Asian Americans in leadership positions may be partially driven by differences in how Asian Americans (relative to White Americans) communicate, even in the context of fluent, unaccented English, due to Asian Americans' Eastern cultural background as well as their experience as a minority group in the United States. To make this argument, I draw

from sociolinguistics research, which differentiates between speaking a language grammatically (linguistic competence) and speaking a language effectively given a certain socio-cultural context (communicative competence, Hymes, 1992). The latter is the focus of the current research. Communicative competence refers to the knowledge of the socio-cultural rules and norms that inform the way one speaks and interprets others' speech (Hymes, 1992). Thus, Asian Americans might be called the "model minority" because of their accomplishments in certain domains (e.g., educational attainment), but as the statistics show, they are underrepresented in leadership. I propose that the mismatch of their communication style, or communicative competence, with prescribed leadership norms in the United States, might be one of the reasons.

Study 1 tested for the existence of linguistic differences in naturalistic speech from a sample of Asian- and White-American aspiring leaders. Study 2 tested for the link between linguistic differences and leadership evaluations, hypothesizing that Asian (vs. White) Americans would be rated lower on both communication- and leadership-related measures when participants are blind to speaker ethnicity. Study 3 tested whether indicating the speaker's ethnicity (Asian or White American) would affect participants' ratings of the speakers' communication effectiveness and leadership potential. Study 4 tested for the causal effect of communication differences on evaluations; specifically, whether business professionals would rate interviewees who spoke in the Asian- (vs. White-) American style lower on communication and leadership evaluations. Overall, this work highlights one mechanism – perceptions of communicative competence – by which Asian Americans might be disadvantaged in moving up the corporate ladder. More broadly, my research addresses the need to reevaluate common beliefs about the antecedents of leader emergence and what actually constitutes an effective leader.

Theory

Asian Americans are Underrepresented in Leadership

Asian Americans are labeled the "model minority" as a result of their achievements in education -53.8% of Asian Americans have earned a college degree or higher (U.S. Census Bureau, 2017). However, despite their academic success, they are relatively underrepresented in upper management and board positions. For instance, although Asian Americans represent 6.8% of the United States population, they comprise only 1.8% of Fortune 500 board director seats; nearly 80% of such boards have no Asian Americans at all (Ascend, 2014). Even in areas where Asian Americans are highly populated in professional careers, such as Silicon Valley, Asian Americans encounter this issue. Data from the U.S. Equal Employment Opportunity Commission on five companies based in Silicon Valley – HP, Google, Intel, LinkedIn, and Yahoo – found that Asian Americans made up 30% of professionals, but just 12.5% of managerial positions (U.S. Equal Employment Opportunity Commission, 2015). In fact, White Americans are the only group whose proportion of representation increases as they rise through the ranks. Although substantial progress has been made in the United States in increasing representation of minorities in professional industries, these current data challenge the model-minority myth, and demonstrate that Asian Americans face challenges to upward mobility, much like other minority groups. This project explores one potential reason why Asian Americans might be perceived as not suitable for leadership, and thus face a barrier in advancing their careers.

Leader Prototypes in the United States

Leadership categorization theory (LCT) states that leaders are evaluated as most effective when they are perceived to possess characteristics that match existing leadership prototypes (Lord, 2019). LCT is largely based on traditional categorization theory, which describes how

individuals create categories to organize and process information (Rosch & Lloyd, 1978). Prototypes, in turn, develop from categories; when people become familiar with examples from categories, they learn which characteristics are central or not to a category. According to LCT, people develop beliefs about what leaders "should" be, based on frequency of their experiences with those in leadership positions (Alvesson & Spicer, 2011). For example, in the United States, those in leadership positions are usually White males. According to the theory, evaluators compare a target person with a knowledge or belief about a specific leader prototype (e.g., White male presidents). This particular process is called a recognition-based process (Rosch & Lloyd, 1978) and can influence evaluators' perceptions of targets. This can lead to a match or mismatch between the target person's traits and the traits that are common to the evaluators' leadership prototype. When a match occurs, target individuals who are perceived to be more prototypical leaders are evaluated more favorably (Eagly & Karau, 2002; Phillips & Lord, 1981). Thus, the perceiver plays an important role in determining whether or not someone is adequate to be a leader.

Because White Americans comprise the majority of top leadership positions across industries and geographies, being White is a prototypical characteristic of leaders (Rosette, Leonardelli, & Phillips, 2008; Gundemir, Homan, Dreu, & Vugt, 2014). Much empirical work in this field has established the connection between leadership prototypes and race. Rosette and colleagues (2008) find that when participants are presented with texts depicting either a leader or an employee, they guessed that leaders (but not subordinates) were White American, finding that being a leader "signaled" being White (vs. African or Asian) American. Furthermore, they found that White (vs. non-White) leaders were evaluated as more effective leaders, and as having more leadership potential. Other researchers find that participants view White (vs. Asian) Americans

as more prototypical business leaders when the agentic (vs. competent) leader prototype is activated, due to stereotypes of Asians' lack of agency (Festekjian, Tram, Murray, Sy, & Huynh, 2014; Sy, Shore, Strauss, Shore, Tram, Whiteley...2010). Further, White (vs. Asian) Americans were perceived as better leaders when the occupation was in sales (vs. engineering), due to beliefs about Asian Americans' lack of social skills (Sy et al., 2010). These are examples of cognitive processes that affect leadership perceptions, which can pose a problem for aspiring leaders who might not match the perceiver's expectations of what a leader should be (Hogue & Lord, 2007).

Cultural Differences in Ideal Leadership

Research on individualism and collectivism suggests that people from Eastern (vs. Western) cultures are more collectivistic, meaning they emphasize and value the group (vs. individual) identity (Triandis, 2018). Other work on independence and interdependence shows that people from Eastern cultures have higher levels of interdependence, which means that their identity is tightly tied to those with whom they have close relationships, and there is more emphasis on the needs of the group (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). People from Western cultures, on the other hand, are more independent and value having a unique sense of self that does not depend as much on a group. Indeed, the United States was established by voluntary settlers who brought existing values of independence and selfsufficiency (Oyserman, Coon & Kemmelmeier, 2002). In contrast, collectivist cultures (e.g., China, Korea, and Japan) emphasize the value of being connected to others while accepting one's status in the hierarchy (Oyserman et al., 2002).

Because of these cultural differences in values and norms, there are also different expectations for leadership in Eastern vs. Western cultures (Markus & Kitayama, 1991). In fact,

the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research program, which compared countries around the world, found that in China, leaders were expected to be more collectivist and less assertive than leaders in the United States (Hofstede, 2005; Javidan et al., 2006). For example, even the word "self" in Chinese has a negative connotation in the context of the workplace (Javidan et al., 2006). In Western cultures, leaders are expected to metaphorically stand ahead of the group, in a "front" position, signaling individual assertion, whereas Eastern leaders are expected to stand behind their groups, in a "back" position, which indicates a more collective emphasis (Menon, Sim, Fu, Chiu, & Hong, 2010). Furthermore, in Eastern (vs. Western) cultures, leaders are held more responsible for the entire group's behavior and are more likely to be blamed for the firm's success or failure as a whole (Zemba, Young, & Morris, 2006). In summary, there are cultural differences in what is expected of leaders, which influences how people who aspire to be leaders might behave given their cultural background and upbringing.

Communication in Leadership

In the United States, leaders are generally expected to project a confident and dynamic presence via eye contact, gestures, and facial expressiveness; and by exuding more energy (Bryman, 1992). Followers describe their leader as charismatic when they perceive the leader to be inspiring, extraordinary, and feel as if they share an intimate experience with him or her (Antonakis, Fenley, & Liechti, 2011; House, 1977). Below I outline the objective aspects of communication found in both the management and sociolinguistics literatures that capture charisma.

Self-Expression. Leaders are expected to speak in a self-expressive way, as self-expression is strongly related to perceived leader performance, leader satisfaction, and

subordinates' team commitment (deVries, Bakker-Pieper, & Oostenveld, 2009). Self-expression is demonstrated by loud and fast speech, the use of imagery, and enthusiasm (Rosenberg & Hirschberg, 2009). Furthermore, self-expressive speech is characteristic of people with more (vs. less) power in organizations (Brescoll, 2011).

Confidence. Leaders are also expected to be confident, which signals their comfort in their abilities, thus reassuring followers (Yukl, 2012). Expressing confidence and being resolute has been found to predict perceived leader effectiveness and positive subordinate attitudes (deVries et al., 2010).

Optimism. Leaders are expected to speak with optimism and to emphasize positive (vs. negative) emotions. Leaders' expression of positive emotions is positively related to followers' motivation, creativity, and sense of well-being, as well as to their attraction to the leader and positive leader effectiveness ratings (Bono & Ilies, 2006). For example, "encouraging" and "empowering" speech has been shown to increase subordinate attitudes and perceived leader effectiveness (Yukl, 2012).

Overall, charisma is communicated through showing self-expression, confidence, and optimism, all of which are communication styles preferred for leadership positions in the United States.

Cultural Differences in Communication

Culture and context determine what effective and appropriate communication is (Trompenaars & Hampden-Turner, 2013). Asian Americans in the United States are simultaneously influenced by the norms of their Eastern cultural background, along with American norms. Note that the focus of the current paper is on native speakers (both of East Asian descent and of European descent) of American English who are fully fluent, yet are

hypothesized to differ in communication style. I do not suggest that Asian Americans are necessarily any less fluent in their ability to speak and understand English (as evidenced by their educational attainment and overall occupational success in the United States), but rather that Asian Americans might differ in their communicative competence (Parmenter, 2003). Specifically, although immigrants regularly assimilate to their host country's cultures and norms, aspects of culture are inevitably sticky, even across generations. The culture of previous generations may manifest in subtle linguistic patterns and communication styles of descendants (Labov, 2007). Thus, due to their Eastern cultural background, Asian Americans may retain and transmit subtle aspects of their parent language, even after learning fluent English (Huebner & Uyechi, 2013). For example, a comparative study finds differences in discourse style between second- and third-generation Asian- and European-American women; Asian Americans spoke more indirectly and passively, true to the norms of their previous generations' Eastern cultural background, despite being fluent English speakers (Huebner & Uyechi, 2013).

In addition to cultural differences, being a member of a minority group in the United States yields a fundamentally different life experience compared to membership in the dominant group (Deaux & Verkuyten, 2014). Asian Americans in particular are subject to identity denial, or the denial of in-group membership by others (Cheryan & Monin, 2005). For instance, in one study, Asian Americans were seen as less "American" than White Americans, despite being U.S. citizens, showing that there is a prototypical ethnicity associated with being "American" (Devos & Banaji, 2005). My work focuses on one aspect of this discrepancy, which is the communication style of prototypical leaders in the United States.

Despite being fluent English speakers and native to a major urban city, people from ethnic minority groups sound different from their White American counterparts (such as having,

for example, "a breathier voice" or "longer voice onset times for voiceless stops"), which contributes to a sense of familiarity when conversing with an ingroup speaker (Newman & Wu, 2011). For example, people are able to distinguish the speech of Asian-American New Yorkers from the speech of New Yorkers of different backgrounds, although listeners were rarely able to articulate the sources of the differences (Hanna, 1997); this has been shown for African and Latinx Americans as well (Thomas & Reaser, 2004). Thus, despite being on par or even above their White counterparts in educational attainment, Asian Americans' communication styles are less likely to match up to the highly valued traits in American leaders, as described below.

Self-Expression. There are measurable differences in how members of Eastern and Western cultures express themselves in speech. When asked to describe past life experiences, people from Western cultures tended to describe their personal feelings and experiences in detail and greater length, whereas people from Eastern cultures tended to be more concise and stick to objective events (Winskel, 2009). Another objective difference is the relative use of verbs (which explain what happened) vs. adjectives (which may express one's description of what happened) in speech. People from Western (vs. Eastern) cultures used more descriptive adjectives when talking about themselves (Maass, Karasawa, Politi, & Suga, 2006). Furthermore, individuals who are part of an immigrant subculture may also be less likely to use traditional idioms from that language, which signals less communicative competence and expressiveness (Antonakis et al., 2011; Nordmann, Cleland, & Bull, 2014). Lastly, when people vary the pitch and volume of their speech, they are seen as more expressive (Signorello, D'Errico, Poggi, Demolin, & Mairano, 2012). I predict that Asian Americans (vs. White Americans) will show less self-expression in their speech by speaking fewer words, using more verbs and words related to time, fewer words related to feelings and idioms, and having less variability in their pitch and volume.

Confidence. Feeling identity denial may cause Asian Americans to have less confidence in themselves as leaders (Festekjian et al., 2014). As such, Asian (vs. White) Americans might use more mitigated speech (e.g., "maybe," "perhaps") or filler words, (e.g., "umm," "like"). Another way to measure confidence is to see how people respond to compliments. People in Eastern (vs. Western) cultures are less likely to accept compliments that are given to them (Barnlund & Araki, 1985; Chen, 1993; Itakura, 2013). Further, the use of first-person pronouns (e.g., "I," "me") is a reflection of a person prioritizing his or her identity as an individual (vs. a member of a group) and to signal authority (Karapetjana, 2011). Indeed, politicians use the pronoun "I" to present themselves as individuals and to highlight their good qualities and accomplishments (Bramley, 2001). Speaking with higher volume is another way to show confidence; being louder indicates a level of comfort and demand for attention (Signorello et al., 2015). There are mixed findings on pitch with regards to confidence; some research finds that lower pitch is indicative of dominance and authority (Wolff & Puts, 2010), while other work finds that higher pitch is related to power and hierarchy (Ko, Sadler, & Galinsky, 2014). Thus, I do not make any predictions for pitch, because I do not have any strong evidence in either direction. In sum, I predict that Asian (vs. White) Americans will exhibit less confidence in their speech by using more mitigated speech, filler words, fewer first-person pronouns and lower volume.

Optimism. Although positive emotions are generally more desirable than negative emotions across all cultures, this ideal is especially strong in Western cultures (Diener, 2009). Negative emotions are seen as inherently undesirable in Western cultures, whereas in Eastern cultures, negative emotions are seen as tolerable and a part of life (Miyamoto, Ma, & Petermann, 2014; Oyserman et al., 2002). Indeed, people from Eastern (vs. Western) cultures report feeling

negative emotions more frequently (Miyamoto & Ma, 2011). Therefore, I predict that Asian (vs. White) Americans will be more likely to use words related to negative emotion in their speech.

In summary, due to differences in cultural background and their experience as a minority group in the United States, I expected that Asian-American aspiring leaders will speak with less self-expression (e.g., more verbs, more time-related words, fewer words related to feelings, fewer idioms, fewer words per minute, shorter words, less pitch and volume variability), less confidence (e.g., fewer first-person pronouns, more mitigated speech, more filler words, and lower volume), and less optimism (e.g., more words related to negative emotions), than their White-American counterparts.

Hypotheses

I predicted that Asian- and White-American aspiring leaders would communicate differently on a number of speech dimensions that are relevant to leadership. Specifically, I predicted that the speech of Asian- (vs. White-) American aspiring leaders would show less selfexpression (operationalized as using more verbs, more words related to temporal events, fewer words related to feelings, less use of idioms, fewer words per minute, shorter words, and less variability in both pitch and volume), less confidence (operationalized by using fewer firstperson pronouns, more mitigated speech, more filler words, and lower volume), and less optimism (operationalized by using more words related to negative emotions).

Hypothesis 1. Asian- (vs. White-) American aspiring leaders will speak with less selfexpression, confidence, and optimism.

I tested this hypothesis in Study 1, gathering data on the communication styles of Asianand White-American aspiring leaders, using samples of their entrepreneurial speech.

Once I found these differences, I then tested if they affected perceptions of leadership potential, as prior research suggests that the way a person speaks affects how he/she is perceived as a potential leader (Anderson & Klofstad, 2012). Because of the emphasis on communication style in the new theories of leadership, I expected the Asian Americans' speaking style to be less prototypical of an ideal leader, and thus to negatively affect evaluations of Asian-American speakers' communicative ability and leadership potential. Specifically, I predicted that Asian-(vs. White-) American speakers would be rated lower on both communication and leadership effectiveness.

Hypothesis 2a. Asian- (vs. White-) American aspiring leaders will be evaluated lower on communication effectiveness.

Hypothesis 2b. Asian- (vs. White-) American aspiring leaders will be evaluated as having less leadership potential and hireability/promotability.

Hypothesis 2*c*. *The relationship between speaker ethnicity and subjective evaluations will be mediated by differences in self-expression, confidence, and optimism.*

Although the main focus of this paper is on the link between communication style and leadership outcomes, in real life, hiring and promoting decisions are rarely made without meeting and seeing the candidate. Thus, it is important to take into consideration how participants react when they are aware of a speaker's ethnicity, and if that changes their interpretation of the speaker's communication style.

One concern is the role of stereotypes once participants are made aware of speaker ethnicity. Research building on the stereotype content model shows that Asian Americans as a whole are seen as competent, but not warm; good at academics, but not in social skills; meek, not assertive, and untrustworthy (Lin, Kwan, Cheung, & Fiske, 2005). These stereotypes might affect the way that people judge Asian Americans. Thus, Asian-American individuals might be disadvantaged when perceivers are aware of their ethnicity.

Hypothesis 3. The relationship between speaker ethnicity and subjective evaluations will be moderated by indication of speaker race, such that the tendency for Asian- (vs. White-) American aspiring leaders to be evaluated more negatively will be exacerbated when speaker ethnicity is indicated.

I tested this in Study 3, by indicating speaker ethnicity to half of the participants to compare ratings of those who did (vs. did not) know the ethnicity of the speaker.

One limitation of Studies 1-3 is the lack of true experimental manipulation of speaking style. To establish the causal link from speaker ethnicity to differential evaluations of leadership, the communication style differences identified from Study 1 have to be manipulated. Thus, the main purpose of Study 4 was to manipulate the mediator – communication differences – to show that the communication differences identified in Study 1 can indeed *cause* evaluators' lower ratings of leadership potential. Further, for external validity, I tested whether the effects of communication styles would emerge in a different context, outside of YouTube. I chose the interview setting as it is a common context where candidates are evaluated for their speaking style in hiring and promoting decisions.

Hypothesis 4. Interviewees speaking in the Asian- (vs. White-) American communication style will be evaluated lower on communication- and leadership-related variables.

Overview of Studies

These hypotheses were tested in a series of four multimethod studies that identified whether differential communication norms were observable in aspiring Asian- and White-American leaders' non-accented, naturalistic speech, and whether these differences would affect

evaluations of leadership potential and hireability/promotability. The goal of Study 1 was to test Hypothesis 1, that Asian- (vs. White-) Americans differed in their communication styles. Toward that end, differences in speech from Asian- and White-American aspiring leaders were measured by using a naturalistic sample from YouTube. YouTube videos of the top-appearing entrepreneurs of both ethnic backgrounds were systematically collected, audio clips of these videos were extracted, and transcribed into text. Then, linguistic and auditory software were used to identify differences in communication, testing Hypothesis 1. Next, Study 2 investigated whether communication differences were linked to lower evaluations of leadership potential for Asian- (vs. White-) American speakers, testing Hypothesis 2. In an online experiment, participants were asked to listen to two audio clips of the YouTube speakers, one Asian American and one White American. Then, participants were asked to judge the speakers on both communication-related and leadership-related measures, without knowledge of the speaker's ethnic background. Study 3 manipulated speaker ethnicity, testing Hypothesis 3. Finally, Study 4 tested whether interviewees who spoke in the Asian- (vs. White-) American speaking style were rated lower by people with professional experience, testing Hypothesis 4.

Because gender is important to leadership expectations and evaluations, both male and female targets were included in the studies. There are gender differences when evaluating leaders (Rudman, 1998; Phelan, Moss-Rascusin, & Rudman, 2008); specifically, across Western and Eastern cultural backgrounds, women in general are expected to be more communal, more submissive, and less dominant than men (Rudman, 1998; Brescoll, 2011). Although research shows that intersections of gender and race may result in different leader evaluations as well (Hall, Galinsky, & Phillips, 2015; Rosette et al., 2016), and that female immigrants (vs. male immigrants) might have different experiences (Fong, 1997). However, no *a priori* predictions

regarding the interaction of gender and race were made; because of competing stereotypes/norms, I was not confident in making directional predictions about the perceived leadership potential among Asian and White, men and women.

Study 1: Identifying Differences in Communication Style between Asian- and White-American Aspiring Leaders

My aim was to identify a set of communication samples of aspiring leaders speaking in a voluntary, naturalistic manner. In particular, I was interested in identifying a context of *aspirational* (rather than established) leadership, because of my theoretical interest in the antecedents of leader emergence. Asian- (vs. White-) American aspiring leaders were predicted to show less self-expression (fewer words per minute, more verbs, fewer time-related words, fewer feeling-related words, shorter words, lower pitch and volume variability), less confidence (fewer first-person pronouns, more filler words, more mitigated speech, fewer idioms, and lower volume), and less optimism (more words related to negative emotions), testing Hypothesis 1.

The video-uploading website YouTube was used as a source of naturalistic communication from those who aspire to be leaders and influencers. YouTube is a novel yet fitting context for my research question. For many people, YouTube is a way to have widespread impact, to highlight expertise, to found a brand, to earn money, to gain social standing, to express passion, and to influence others – all aspects of what leadership fundamentally means (Wesch, 2008). It also is open to all, with few barriers to entry. Thus, this study context includes a broad representation of Americans, of both Asian and European descent, who have aims of entrepreneurship and leadership.

Samples of speech were found from "how-to" videos, in which speakers describe or demonstrate some task in which they have expertise. This widely used category was particularly

likely to include aspiring leaders who are promoting their brand and are hoping to obtain followers for their channels. Therefore, the prediction that Asian-American aspiring leaders would speak differently than White-American aspiring leaders was studied in the context of YouTube how-to videos demonstrating their knowledge and expertise. The process of data collection and analyses are described below.

Method

Data Collection

Within how-to videos, I chose topical categories according to the following three criteria: First, categories must not have been clearly stereotypical of either Asian- or White-Americans. For this reason, topics such as "solving math problems" or cooking demonstrations with culturally specific foods were excluded. Second, categories must have included at least 1,000 videos in order to provide sufficient numbers of high-quality videos that included both Asianand White-American aspiring leaders. Third, categories must have been generally targeted toward either men or women. This was done to constrain gender variability within each content topic. The final list of categories and sample sizes can be found in Table 1.

Once the categories were chosen, I scrolled through the list of available videos and chose the first-appearing, relevant videos that met these criteria: (1) videos must have included either an Asian- or a White-American speaker who lives in North America, as indicated by their location (stated on profile); (2) the video must have been made by the aspiring entrepreneur himor herself, in contrast to professional videos created by existing companies trying to promote a specific product or service; (3) the video must have shown the speaker's face, for purposes of coding the independent variable of ethnicity; (4) the speaker must have spoken North American

English with no identifiable accent (e.g., British or Australian accents); (5) the video must have been recent (within the last year).

The goal was to find at least 20 videos with Asian-American speakers and 20 videos with White-American speakers within each category. One challenge I encountered, however, was that videos meeting my criteria were more common in the female-oriented categories than in the male-oriented categories. Men making how-to videos were less likely to personally appear in their videos or to show their own faces (for example, they might keep the camera on a product being demonstrated). Further, since Asian Americans as a numerical minority were less common on YouTube overall, suitable videos with Asian-American men were in particularly short supply. As such, the sample sizes for men, particularly Asian-American men, are somewhat lower than those for women (see Table 1).

Once all the videos had been identified and downloaded, they were transcribed in the following manner. I first used a widely used software program, Transcribe, to generate an initial transcription of the audio files. Next, to ensure accuracy, two research assistants (both native English speakers) reviewed the transcription and made any necessary corrections to make sure that the transcriptions precisely matched the audio files.

Independent Variable

The independent variable is the cultural background of the speaker, Asian American versus White American. I define "Asian Americans" in this paper as Asians of East Asian descent (e.g., Korea, Japan, China) who currently live in North America. I excluded Southeast Asians (e.g., Philippines, Vietnam, Malaysia) and South Asians (e.g., India, Pakistan).

Speaker cultural background (Asian- vs. White-American) was identified by having multiple coders (American-raised research assistants of both White and Asian cultural

backgrounds) independently decide whether a person in the video was White American, Asian American, or neither. Agreement in a set of sample videos was 98%, suggesting that identifying and differentiating between White- and Asian-American speakers reached consensus. Last, nationality of the speakers was assessed by accessing their profiles on YouTube, Facebook, Instagram, and Twitter (YouTubers frequently include links to their other social-media profiles) to identify speakers' geographical location.

Dependent Variables

Textual analysis of the video transcripts was conducted using a well-validated program called Linguistic Inquiry and Word Count (LIWC), a text-analysis software that calculates the degree to which people use different categories of words. This was especially useful for this project because it counts words in psychologically meaningful categories (Tauscik & Pennebaker, 2009). The auditory qualities of the video clips such as pitch and volume were analyzed with Praat, a software program made for the scientific analysis of speech in phonetics, including advanced algorithms for pitch analysis and graphical representations of speech (Boersma & Weenink, 2011). LIWC and Praat were both used to test predictions that different communication styles would exist between White and Asian Americans with regards to self-expression, confidence, and optimism.

Self-expression. Asian (vs. White) Americans were predicted to show less selfexpression in their speech, which was measured by using the following LIWC variables: *words per minute, words* >6*ltrs, verbs, time related words;* and the following Praat measures: *volume variability and pitch variability*.

Words per minute. LIWC's word count function was used to measure words per minute by first determining the number of words in a YouTube video, then dividing by the video length in minutes. Asian (vs. White) Americans were predicted to use fewer words per minute.

Verbs. The LIWC category of *verbs*, which included words such as "run" and "smile," was used to test verb use. Asian (vs. White) Americans were predicted to use more verbs in their speech.

Time related words. Time-related words were measured by using the LIWC category of *time*, which includes words like "until" and "end." Asian (vs. White) Americans were predicted to use more time-related words.

Words > 6 letters long. The LIWC category of *sixltr*, which measures the percentage of words used that are longer than six letters, was used to test the prediction that Asian (vs. White) Americans would use fewer words that were longer than six letters.

Pitch variability. Praat was used to measure the variance between the minimum and maximum pitch (i.e., frequency (f0)) among the audio clips. Asian (vs. White) Americans were predicted to show less variability in their pitch.

Volume variability. Praat was used to measure the variance between the minimum and maximum volume (i.e., intensity in decibels (dB)) among the audio clips. Asian (vs. White) Americans were predicted to show less variability in their volume.

Confidence. Asian (vs. White) Americans were predicted to exhibit less confidence in their speech, as indexed by the following LIWC variables: *first-person pronouns, filler words, mitigated speech*, and *idioms*; and the Praat measures of *volume*.

First-person pronouns. The LIWC category "I" was used to count the number of firstperson singular pronouns in the YouTube transcripts. White (vs. Asian) Americans were predicted to use more first-person pronouns.

Filler words. A lack of confidence is reflected in speech by the use of fillers (e.g., "I mean," "you know"). This was measured using the LIWC category of *fillers*; = Asian (vs. White) Americans were predicted to use more filler words.

Mitigated speech. Mitigated speech was measured with the LIWC category of *discrep*, which includes words such as "would," "could," and "should." Asian (vs. White) Americans were predicted to use mitigated speech more frequently.

Idioms. Idioms are indicative of how familiar a speaker is with the language as it is colloquially spoken; thus, people who are more confident in their speech might use more idioms. I used the database of idioms compiled by the Office of English Language Programs in the United States Department of State to create my own dictionary of idioms in LIWC. This dictionary reflects standard American (White) English rather than any specific subculture. I then counted the number of idioms used in each video. I predicted that Asian (vs. White) Americans would use fewer traditional idioms.

Volume. White (vs. Asian) Americans were predicted to talk with higher levels of volume, indicating more confidence in their speech. The level of volume in speech was measured in decibels by using Praat.

Optimism. Asian (vs. White) Americans were predicted to use more negative emotion words in their speech, as people from Western cultures are more likely to avoid expressing negative emotion than people of Eastern cultures.

Negative emotions. Asian (vs. White) Americans were predicted to use more negative emotions, which was measured by using the LIWC category of *negemo* (e.g., "hurt," "ugly").

Results

To test Hypothesis 1, LIWC categories were first indexed as the percentage of words in each category out of the total number of words in the transcript, whereas Praat variables were recorded as the mean scores of volume (dB), as well as the variability of pitch (Hz) and volume (dB). Next, the dependent variables were examined as a function of ethnic background. A series of analyses of covariance (ANCOVAs) was used, with speaker ethnic background (Asian American vs. White American, within-subjects) and speaker gender (male vs. female, between subjects) as the independent variables, and the category topics (see Table 1) as the covariates. Predictions focused on the main effects of ethnicity, whereas analyses regarding gender were exploratory. Because the covariates are categorical variables, dummy codes were created and the largest category was omitted from each of the female and male category topic groups –"what to carry in your purse" and "men's hairstyle tutorials," respectively – and used those as the reference groups. The main effects of ethnicity are reported first, testing Hypothesis 1. Means and standard deviations for all variables are presented in Table 2. The following speech differences are discussed with regard to self-expression, confidence, and optimism.

Self-Expression

Words per minute. Asian (vs. White) Americans were predicted to talk less (indexed by words per minute, which was calculated by dividing the LIWC category of *word count* by video length in minutes). This prediction was supported. Asian Americans used significantly fewer words per minute than did White Americans, F(1, 301) = 7.22, p < 0.01.

Verbs. Asian (vs. White) Americans were predicted to use more verbs (indexed by the LIWC category of *verbs*, which includes words such as "run" and "shout"). This prediction was not supported; there was no significant difference between Asian and White Americans' use of verbs, F(1, 301) = 2.48, p = 0.57.

Time words. Asian (vs. White) Americans were predicted to use more time-related words (indexed by the LIWC category of *time*, which includes such words as "end" and "until"). This prediction was not supported; there was no significant difference between Asian and White Americans' use of time-related words, F(1, 301) = 2.70, p = 0.10.

Long words. Asian (vs. White) Americans were predicted to use fewer long words (indexed by the LIWC category of *sxltr*, which measures the percentage of words that are longer than six letters). This prediction was not supported; there was no significant difference between Asian and White Americans' use of long words, F(1, 301) = 0.78, p = 0.38.

Pitch variability. Asian (vs. White) Americans were predicted to speak with less variability in their pitch (by using Praat to measure the variance of pitch measured in Hertz (Hz)). This prediction was partially supported; Asian- (vs. White-) American speakers spoke with marginally less variability in their pitch, F(1, 300) = 3.03, p = 0.08.

Volume variability. Asian (vs. White) Americans were predicted to speak with less variability in their volume (by using Praat to measure the variance of volume measured in decibels (dB)). This prediction was not supported; Asian (vs. White) Americans actually spoke with marginally more variability in their volume, F(1, 300) = 3.86, p = 0.05.

Confidence

First-person pronouns. Asian (vs. White) Americans were predicted to show less selffocus (indexed by the LIWC category of *I*, which includes such words as "I" and "myself"). This prediction was not supported; there was no significant difference between Asian and White Americans' use of first-person pronouns, F(1, 301) = 1.65, p = 0.20.

Filler words. Asian (vs. White) Americans were predicted to show less confidence in their speech (indexed by the LIWC category of *fillers*, which include words like "I mean" and "you know"). This prediction was not supported; there was no significant difference between Asian (vs. White) Americans' use of filler words, F(1, 301) = 2.06, p = 0.15.

Mitigated speech. Asian (vs. White) Americans were predicted to use more mitigated speech (indexed by the LIWC category of *discrep*, which include words like "might" or "just"). This prediction was supported; Asian (vs. White) Americans used significantly more mitigated speech, F(1, 301) = 4.70, p = 0.03.

Idioms. Asian (vs. White) Americans were predicted to use fewer idioms in their speech (indexed against the list of idioms I incorporated into LIWC). This prediction was supported; Asian (vs. White) Americans used significantly fewer idioms, F(1, 301) = 5.56, p = 0.02.

Volume. Asian (vs. White) Americans were predicted to speak with a lower volume, conveying less confidence (measured in Praat by recording level of volume in decibels (dB). This prediction was supported; there was a significant difference between Asian and White Americans' volume level, F(1, 300) = 36.03, p < 0.01.

Optimism

Negative emotion use. Asian (vs. White) Americans were predicted to express more negative emotions in their speech (indexed by the LIWC category of *negemo*, which include words like "hurt" and "ugly." This prediction was partially supported; Asian (vs. White) Americans used marginally more words that expressed negative emotions, F(1, 301) = 3.20, p = 0.08.

Speaker Gender – Exploratory Analyses

Because there are differences in the way that men and women are prescribed to speak and communicate, gender was included as an exploratory independent variable, to test whether the effect of ethnicity on communication differences differed for women and men. Although no formal predictions were made about any speaker ethnicity by gender interaction effects, some such interactions emerged, as reported below (see Table 3).

Self-Expression.

Words per minute. Results showed a marginally significant speaker ethnicity by gender interaction, F(1, 301) = 3.51, p = 0.06, such that Asian-American women spoke significantly fewer words per minute than White-American women, F(1, 191) = 22.07, p < 0.01, whereas Asian-American and White-American men did not differ in their words spoken per minute, F(1, 110) = 0.16, p = 0.69.

Verbs. There was no speaker ethnicity by gender interaction, F(1, 301) < 0.01, p = 0.99.

Time words. There was no speaker ethnicity by gender interaction, F(1, 301) = 0.42, p = 0.42,

0.52.

Long words. Results showed a significant speaker ethnicity by gender interaction, F(1, 301) = 5.43, p = 0.02, such that Asian-American women spoke significantly fewer long (i.e., words longer than six letters) than White-American women, F(1, 191) = 8.18, p < 0.01, whereas Asian- and White-American men did not differ in words spoken per minute, F(1, 110) = 0.69, p = 0.41.

Pitch variability. There was no speaker ethnicity by gender interaction, F(1, 301) = 0.17, p = 0.68.

Volume variability. There was no speaker ethnicity by gender interaction, F(1, 301) = 0.01, p = 0.94.

Confidence.

First-person pronouns. There was no speaker ethnicity by gender interaction, F(1, 301) = 1.67, p = 0.20.

Filler words. There was no speaker ethnicity by gender interaction, F(1, 301) = 0.67, p = 0.41.

Mitigated speech. There was no speaker ethnicity by gender interaction, F(1, 301) = 1.22, p = 0.27.

Idioms. Results showed a significant speaker ethnicity by gender interaction, F(1, 301) = 4.19, p = 0.04, such that Asian-American men used significantly fewer idioms than White-American men, F(1, 110) = 4.81, p = 0.03, whereas Asian- and White-American women did not differ in use of idioms, F(1, 191) = 0.10, p = 0.75.

Volume. There was no speaker ethnicity by gender interaction, F(1, 301) = 1.49, p =

0.22.

Optimism.

Negative emotion use. There was no speaker ethnicity by gender interaction, F(1, 301) < 0.01, p = 0.99.

Overall, significant speaker gender by speaker ethnicity interactions emerged for some variables (words per minute, long words, and idioms). However, because only two interactions were significant, and one marginally significant, and because the direction of the patterns were inconsistent, the results do not suggest that the effects of speaker ethnicity differed reliably for

men and women. Thus, I continued to examine gender at the same exploratory level for the subsequent studies.

Discussion

Results showed partial support for predictions, suggesting that, to a degree, Asian- (vs. White-) American aspiring leaders spoke with less self-expression, less confidence, and less optimism. Specifically, predictions that Asian- (vs. White-) American aspiring leaders would be less self-expressive, as indexed by words per minute and, marginally, pitch variability; and less confident, as indexed by mitigated speech, use of idioms, and volume; were supported. The prediction that Asian- (vs. White-) American aspiring leaders would be less optimistic, as indexed by negative emotion use, was marginally supported. However, the predictions that Asian- (vs. White-) American aspiring leaders would be less self-expressive as indexed by verbs, long words, and volume variability; or less confident, as indexed by filler words, were not supported.

Overall, these findings provide partial support for my theorizing that there are differences in the way that aspiring Asian- and White-American leaders speak and communicate on dimensions relevant to leadership. This is important because it implies that Asian Americans do not fit the prototype of how a leader should speak and communicate, which might lead to different judgments of their leader potential.

It is notable that these findings emerged even in a context in which speakers of all ethnic backgrounds are actively trying to promote themselves on YouTube. As such, this context arguably represented a conservative test of the predictions, given that the sample was composed of possibly self-focused speakers. This study provides support for Hypothesis 1, which proposed that Asian (vs. White) Americans would communicate differently, but does not directly address

whether these differences have real consequences for leader evaluation (Hypothesis 2). This question is considered next.

Study 2: Subjective Ratings of Asian and White Americans' Entrepreneurial Speech

The aim of Study 2 was to test for, in addition to the *objective* speech differences I found in Study 1, differences in *subjective* ratings of communication effectiveness between the Asianand White-American speakers from YouTube. The subjective ratings of communication were meant to capture the listeners' feelings and perceptions of the communication styles of the speakers, mirroring what happens in everyday life. Listeners make judgments about others after hearing them speak, whether they are aware or not of objective differences like the number of words spoken per minute, for example. Another reason for Study 2 was to test if these subjective judgments would affect attitudes about the speaker's leadership potential.

Specifically, I hypothesized that Asian- (vs. White-) American speakers would be rated lower on communication effectiveness (Hypothesis 2a) and leader potential (Hypothesis 2b), and that the disparity in leader potential would be due to differences in communication effectiveness (Hypothesis 2c).

Method

Participants

Online participants from Amazon Mechanical Turk were recruited to participate in a study on judging leadership potential based on communication styles. The final total sample size was 480, after discarding 9 participants who failed attention checks, 51 who had suspicious IP addresses, and 60 who had duplicate IP addresses. Suspicious IP addresses were those that signaled locations that did not make sense (for example, in the middle of a lake in the forest) or were outside of the United States (e.g., Pakistan, South Africa). People who were not in the

United States were not included, because the phenomenon of the "bamboo ceiling," as well as stereotypes about Asian-Americans, is specific to the U.S.

The ethnic breakdown of the participants was: White/Caucasian American (68%), African American (6.6%), Hispanic/Latino (4.8%), Asian American/Pacific Islander (5.5%), Native American (1%), other (0.3%), and declined to indicate (13.8%). They were 52.7% female, with a mean age of 39.25 years. The highest education levels attained are: high school graduates (12.2%), college degrees (61%), professional degrees (16.7%), and no response (10.1%). A majority of participants were working full time (53.3%) and some were working part time (13.2%); some had previous hiring experience (41.0%) and some had previous experience as a supervisor (45.8%).

Materials & Procedure

Participants were asked to participate in an online 10-15 minute study. After confirming consent, they were asked to listen to audio clips of two different speakers, and to rate the speakers on communication effectiveness and leadership potential. The order of clips was random, and most importantly, participants were blind to the manipulation of speaker ethnicity.

The audio clips were extracted from the original YouTube videos, so that the visual portion of the video was no longer apparent. Each speaker's audio file was systematically segmented into one-minute clips. Then, I selected the one-minute long audio clip from each speaker that maximized sound quality (i.e., minimal background noise) and avoided references to their ethnicity. Research assistants then confirmed that each audio clip met the above criteria.

Measures of communication effectiveness. Participants were asked to rate the speakers on two measures of communication effectiveness.

The first measure was a 5-item comprehensibility scale, which captured general ease of understanding of the speaker ("How would you describe the speech of this candidate?") on a 5-point Likert scale (1 = easy to understand, 5 = hard to understand; Isaacs & Trofimovich, 2012). From here on, I will refer to this measure as "comprehensibility" (Cronbach's alpha = 0.91).

Participants were also asked to answer questions about the speaker's overall ability to communicate (e.g., "the speaker's rate of speech") on a 5-point Likert scale (1 = did not interfere with understanding, 5 = interfered completely with understanding; Rubin, 1992). This 5-item scale is a measure of English fluency and sophistication (Cronbach's alpha = 0.97). I will refer to this as "command of language" throughout the rest of the paper.

Measures of leadership potential. Participants were then asked to rate the speakers in the clips on a series of measures of leadership potential, all on a 5-point Likert scale (1 = not at all, 5 = very much so):

Conger and Kanungo's (1987) 7-item scale was used to measure perceptions of charisma (e.g., "Inspirational; able to motivate by articulating effectively," "Entrepreneurial; seizes new opportunities in order to achieve goals"). I will refer to this as "perceived charisma" throughout (Cronbach's alpha = 0.94).

Two relevant factors of the Multi-factor Leadership Questionnaire (MLQ) were also used, *Idealized Influence* (e.g., "This person would make others feel good around him/her") *and Intellectual Stimulation* (e.g., "This speaker would enable others to think about old problems in new ways"; Bass & Avolio, 1995). I chose not to use the other factors (*Contingent Reward*, *Inspirational Motivation, Management-by-Exception (Passive), Management-by-Exception* (*Active*), and Laissez-Faire) because they did not make sense in the context (e.g., "this speaker is satisfied when others meet agreed upon standards"). I will refer to the 3-item MLQ factor of

Idealized Influence as "MLQ-Idealized Influence" (Cronbach's alpha = 0.85) and the 3-item factor of Intellectual Stimulation as "MLQ-Intellectual Stimulation" (Cronbach's alpha = 0.92).

To measure perceived leader effectiveness, I also used a 10-item Leadership Effectiveness Measure (Holladay & Coombs, 1993), with items such as "He/she would (not) be an effective leader." From here, I will call this "leader effectiveness" (Cronbach's alpha = 0.84).

Finally, I used Rudman & Glick's (2001) 4-item hireability measure (e.g., "I would personally hire this person for the job"), and a parallel 4-item promotability measure I created by replacing "hire" with "promote" (e.g., "I would personally promote this person for the job"). I will call these measures "hireability" (Cronbach's alpha = 0.88) and "promotability" (Cronbach's alpha = 0.91).

Perceived demographic measures. Participants were next asked to guess the speakers' demographics, such as their ethnicity, level of education, and income. This was to determine whether participants could detect speaker ethnicity, and, if so, if their detection accuracy would explain any differential leadership evaluations between Asian- and White-American speakers.

Participant demographic measures. Finally, participants provided their own demographic information, including ethnicity, gender, place of birth, level of education, and income.

Participants were asked to submit the study when they were finished.

Results

Guided by theory, leadership measures were grouped into two dimensions. The first dimension, "leader potential," was meant to capture participants' judgments of the speakers' overall perceived potential as an effective leader; it comprised the charisma scale, the two MLQ factors, and the leadership effectiveness scale (Cronbach's alpha = 0.95). The second dimension,

"hireability/promotability," was comprised of the two hireability and promotability scales; which was meant to capture not just the perceptions of leader potential but also the propensity to act upon such perceptions, such as making decisions regarding hiring or promoting (Cronbach's alpha = 0.93).

Data were analyzed using a series of analyses of covariance (ANCOVAs), with speaker ethnicity (Asian American vs. White American) and speaker gender (male vs. female) as the independent variables, and eight of the category topics as covariates (dummy coded), after using one category from each gender as the reference category. Estimated marginal means and standard deviations can be found in Table 4.

Measures of Communication Effectiveness

I hypothesized that Asian (vs. White) Americans would be rated as less effective communicators (Hypothesis 2a). Supporting predictions, Asian (vs. White) Americans were rated lower in comprehensibility, F(1, 457) = 20.54, p < 0.01, and in command of language, F(1, 470) = 19.11, p < 0.01.

Leadership-Related Variables

I also hypothesized that Asian (vs. White) Americans would be rated as less effective leaders (Hypothesis 2b). Results showed that Asian (vs. White) Americans were rated marginally significantly lower in leader potential, F(1, 470) = 3.31, p = 0.07, and significantly lower in decisions to hire/promote, F(1, 470) = 11.64, p < 0.01, supporting Hypothesis 2b.

Mediation Analyses

Mediation analyses tested the hypothesis that objective communication differences (identified in Study 1) and subjective communication evaluations (measured in the current study) would mediate the relationship between speaker ethnicity and leadership outcomes, testing

Hypothesis 2d. In other words, these analyses tested whether differences in communication were the reason why Asian- (vs. White-) American speakers were rated lower in leader potential and led to lower decisions to hire/promote.

All of the communication variables from Studies 1 and 2 that were significantly related to speaker ethnicity were tested as possible mediators for the relationship between speaker ethnicity and the two leadership-related measures in Study 2 (leadership potential,

hireability/promotability). MEMORE (Montoya & Hayes, 2017), a macro for SPSS that estimates the total, direct, and indirect effects of X on Y through one or more mediators in a two-condition repeated measures design, was used to run these analyses.

Objective communication variables as mediators. The communication differences that were found to be significantly different between Asian- and White-American speakers in Study 1 (words per minute, mitigated speech, idioms, negative emotion, volume, volume variability and pitch variability) were tested as mediators of the relationship between speaker ethnicity and leadership ratings (leader potential and hireability/promotability). All indirect effects and confidence intervals are listed in Table 5.

Words per minute. The confidence intervals around the indirect effect of speaker ethnicity via words per minute excluded 0 for both leader potential and hireability/promotability. Thus, the tendency of Asian (vs. White) Americans to speak more slowly partially explained their lower ratings on leader potential and lower decisions to hire/promote.

Pitch variability. The confidence intervals around the indirect effect of speaker ethnicity via pitch variability included 0 for leader potential and hireability/promotability. Thus, the tendency of Asian (vs. White) Americans to speak with less pitch variability did not explain their lower ratings on leader potential and lower decisions to hire/promote.

Mitigated speech. The confidence intervals around the indirect effect of speaker ethnicity via mitigated speech included 0 for leader potential and hireability/promotability. Thus, the tendency of Asian (vs. White) Americans to speak with more mitigated speech did not explain their lower ratings on leader potential and hireability/promotability.

Idioms. The confidence intervals around the indirect effect of speaker ethnicity via idioms included 0 for leader potential and hireability/promotability. Thus, the tendency for Asian (vs. White) Americans to use fewer idioms did not explain their lower ratings on leader potential and hireability/promotability.

Volume. The confidence intervals around the indirect effect of speaker ethnicity via volume included 0 for leader potential and hireability/promotability. Thus, using lower volume in speech did not explain why Asian (vs. White) Americans were rated lower on leader potential and hireability/promotability.

Volume variability. The confidence intervals around the indirect effect of speaker ethnicity via volume included 0 for leader potential and hireability/promotability. Thus, using less volume variability in speech did not explain why Asian (vs. White) Americans were rated lower on leader potential and hireability/promotability.

Negative Emotion. The confidence intervals around the indirect effect of speaker ethnicity via negative emotion use included 0 for leader potential and hireability/promotability. Thus, the tendency for Asian (vs. White) Americans to use more negative emotion words did not explain their lower ratings on leader potential and hireability/promotability.

Subjective communication ratings as mediators. I then tested whether participants' subjective ratings of communication effectiveness (comprehensibility and command of language) mediated the relationship between speaker ethnicity and leadership ratings (leader

potential and hireability/promotability). All indirect effects and confidence intervals are listed in Table 5.

Comprehensibility. The confidence intervals around the indirect effect of speaker ethnicity via comprehensibility excluded 0 for leader potential and hireability/promotability. Thus, lower ratings of comprehensibility for Asian (vs. White) Americans explained their lower ratings on leader potential and hireability/promotability.

Command of language. The confidence intervals around the indirect effect of speaker ethnicity via command of language excluded 0 for leader potential and hireability/promotability. Thus, lower ratings of command of language for Asian (vs. White) Americans did explain their lower ratings on leader potential and hireability/promotability.

In summary, one objective communication variable, words per minute, and the two subjective communication variables, comprehensibility and command of language, mediated the relationship between speaker ethnicity and leader potential and hireability/promotability.

Speaker Gender – Exploratory Analyses

As in Study 1, although I did not make explicit predictions regarding speaker gender, I explored the role of gender in moderating the effects of speaker ethnicity (see Table 6). None of the interactive effects of speaker ethnicity and speaker gender were significant for any of the dependent variables. The lack of gender effects suggests that the tendency for Asian Americans to be rated lower in communication and leadership measures than their White American counterparts did not differ for men and women.

Participants' Guesses of Speaker Ethnicity – Exploratory Analyses

I next explored whether correctly or incorrectly identifying speakers as Asian American or White American would moderate the effects of speaker ethnicity on ratings of communication

effectiveness and leader potential. Listeners guessed most speakers to be White; 89.2% of participants correctly guessed the ethnicity of the White-American speaker, whereas only 12.1% of participants correctly guessed the ethnicity of the Asian-American speaker (see Table 7). The following analyses explore whether correctly identifying speakers' ethnicities exacerbated the tendency to rate Asian (vs. White) Americans more poorly. To test this, I performed a series of ANCOVAs examining participants' ratings as a function of whether ethnicity was guessed correctly versus incorrectly, separately for ratings of Asian- and White-American speakers, (see Table 8 for means):

Asian-American speakers. For all dependent variables, the effect of guess correctness was not significant; all ps > 0.09. Correctly versus incorrectly guessing Asian Americans' ethnicity had no effect on participants' ratings of their communication effectiveness and leadership potential.

White-American speakers.

Communication related variables.

Comprehensibility. For ratings of White-American speakers, the effect of guess correctness was significant, F(1, 466) = 9.35, p < 0.01, such that White-American speakers were rated higher in comprehensibility when participants correctly (vs. incorrectly) identified White Americans' ethnicity.

Command of language. Results showed a significant effect of guess correctness, F(1, 470) = 12.11, p < 0.01, such that White-American speakers were rated higher in command of language when participants correctly identified White Americans' ethnicity.

Leadership related variables.

For both leadership-related dependent variables, the effect of guess correctness was not significant; ps > 0.44. Correctly or incorrectly guessing White Americans' ethnicity had no effect on participants' ratings of their hireability/promotability or leader potential.

Thus, even though the correct guesses of White Americans' ethnicity significantly boosted their ratings of communication effectiveness, in general, results show no strong relationship between correctly guessing speakers' ethnicity and participants' ratings overall.

Discussion

These findings show that, when blind to speaker ethnicity, participants perceived Asian (vs. White) Americans to be significantly less effective communicators, supporting Hypothesis 2a. They also were seen as having marginally less leader potential, and as less suitable for hiring and promotion, supporting Hypothesis 2b.

Mediation analyses showed that one objective communication measure, words per minute, as well as the two subjective communication measures, comprehensibility and command of language, mediated the relationship between speaker ethnicity and leader potential and hireability/promotability, partially supporting Hypothesis 2c. In other words, it was the perception of communication effectiveness that explained the differences in ratings of leader potential and hireability/promotability between Asian (vs. White) Americans.

None of the interactive effects of speaker ethnicity and speaker gender were significant for any of the dependent variables, indicating no difference between men and women in the tendency for Asian Americans to be rated lower in communication and leadership measures than their White American counterparts.

Finally, the accuracy of participants' guesses of Asian Americans' ethnicity was not related to their ratings of Asian Americans. The accuracy of participants' guesses of White

Americans' ethnicity was related to their communication-related ratings of White Americans, such that when participants guessed White Americans' ethnicity correctly, they believed them to be better in comprehensibility and command of language. However, the accuracy of participants' guesses of White Americans' ethnicity was unrelated to their ratings of White Americans' leadership potential. This indicates that participants' ideas of what the speaker's ethnicity was did not affect ratings of leader potential for either Asian or White Americans.

Overall, my findings show that Asian (vs. White) Americans are perceived to be worse communicators, as shown by the lower ratings in the two subjective communication-related variables. Further, these lower ratings of communication effectiveness are *the reason* why participants perceive Asian Americans lower on leader potential and hireability/promotability. These results show that participants' subjective judgments of communication effectiveness hinder Asian (vs. White) Americans' upward mobility. I found less support for the prediction that objective communication differences mediated the relationship between speaker ethnicity and ratings of leadership-related variables, which I will address in Study 4.

One limitation of this study is that only one of the objective communication variables emerged as significant mediators of the relationship between speaker ethnicity and leader potential and hireability/promotability. Although I know that subjective communication ratings predict differences in leader potential, I cannot be certain about which specific linguistic differences influence the subjective communication attributions. For example, it is uncertain whether it was the use of idioms or the use of negative emotions that led participants to judge speakers' command of language.

Another limitation of this study is that while participants were asked to guess speaker ethnicity, they could not be certain that they were correct (and often were not). Further, it lacks

external validity because in most hiring decisions, the speaker's ethnicity is already known, which might introduce stereotypes associated with that particular ethnic group. Study 3 helps address this concern.

Study 3: Ratings of Asian and White Americans when Ethnicity is Revealed

One method that has proven to alleviate occupational discrimination is to remove or decrease information indicating the candidates' demographic background, such as race or gender. This has shown to be successful in increasing representation of the traditionally underrepresented: in male-dominated fields like science, a switch to double-blind review for journals such as *Behavioural Ecology* increased the number of female first authors who were accepted and published (Budden, Tregenza, Aarssen, Koricheva, Leimu, & Lortie, 2008); in male-dominated classical music, blind auditions (in which musicians play behind a screen) have helped increase the number of female musicians in major United States symphonies such as the New York Philharmonic (Goldin & Rouse, 2000). Further, "whitening" resumes by removing indications of Asian and Black background (e.g., changing stereotypically sounding names, omitting involvement in cultural clubs) helped increase callbacks for Asian and Black candidates (Kang, DeCelles, Tilcsik, & Jun, 2016).

However, the opposite has been shown when an individual's minority background is revealed: when candidates indicate an African or Asian sounding name, they are less likely to be hired (Bertrand & Mullainathan, 2003; Oreopoulos, 2011). Likewise, indicating mother-hood on a resume (in the form of participation in a Parent-Teacher Association) led women to be penalized on measures such as perceived competence, and they were also recommended a lower starting salary (Correll, Benard, & Paik, 2007). Much of this discrimination is due to occupational stereotypes, which are assumptions about who is (or should be) employed in a

particular occupation (Lipton, O'Connor, Terry, & Bellamy, 1991). The current stereotype of people of East Asian descent as competent but cold might activate feelings of envy and threat (Fiske, Cuddy, Glick, & Xu, 2002) which may explain why White Americans view Asian Americans, more than other minority groups, as competition (Maddux et al., 2008). The East Asian stereotype also includes attributes of being nondominant and passive, thus unlikely to seek positions of leadership (Lin et al., 2005). These stereotypes can lead toward prejudice and a desire to exclude Asian Americans from leadership positions (Berdahl & Min, 2012). For example, students gave non-accented, fluent English-speaking Chinese or Korean (vs. White) professors lower ratings on RateMyProfessor, mainly due to their perceptions of Asian instructors' lower communicative competence (Subtirelu, 2015). In fact, this phenomenon where people believe to hear an accent (when there actually is no accent) when primed with an Asianlooking face is called "Yellow English" in sociolinguistics literature (Reyes & Lo, 2009). Furthermore, occupational stereotyping might limit Asian Americans to only be seen as suitable for careers such as engineering or accounting, and not for leadership or managerial occupations.

In Study 3, I explore whether knowledge of the speaker's ethnicity moderates the effect of actual speaker ethnicity on leadership perceptions. Because of evidence in the stereotyping literature of prejudice towards minority groups, I explore the possible moderating effect of knowing speakers' ethnicity on the relationship between actual speaker ethnicity and leadership evaluations. If the tendency for Asian (vs. White) Americans to be evaluated as poorer leaders is exacerbated when their ethnicity is known, this would suggest that stereotypes about Asian Americans do play a role in moderating the effect of their actual ethnicity and leadership evaluations.

Further, this study adds external validity; in actual hiring processes, it is unlikely that a candidate would go through an entire job search process without revealing any demographic information. Thus, in Study 3, I provide participants with a photo of the speaker they are evaluating (e.g., for Asian-American speakers, participants are shown a photo of an Asian-American person; for White-American speakers, they are shown a photo of a White-American person), to mimic what happens in the actual hiring and promoting process in the workplace. The current study is a 2 (speaker ethnicity: Asian- vs. White-American, within subjects) by 2 (speaker gender: female vs. male, between subjects) by 2 (ethnicity indicated: indicated vs. not, between subjects) experimental design, testing the negative moderating effect of knowledge of Asian- (vs. White-) American speaker ethnicity on the relationship between actual speaker ethnicity and ratings of perceived leadership potential and hireability/promotability (Hypothesis 3).

Method

Participants

I recruited 600 online participants from Amazon Mechanical Turk to participate in a study on judging leadership potential based on communication styles. I aimed to select participants who had prior managerial experience through a screening option on TurkPrime, a crowdsourcing data acquisition platform. There were 21 participants who did not complete the study and 23 participants who were not located in the U.S., and who were removed from the sample. TurkPrime had specific tools to block bots and suspicious IP addresses. The final total sample size was 556.

The ethnic breakdown of the participants was: White/Caucasian American (73.3%), African American (8.3%), Hispanic/Latino (5.8%), Asian American/Pacific Islander (10.2%),

Native American (2.0%), and other (0.3%). They were 51.4% male, with a mean age of 37. The highest education levels attained were: high school graduates (10.8%), college degrees (76.7%), professional degrees (12.5%). Although I intended to recruit only for participants who were working full time and who had prior managerial experience, due to apparent errors in the TurkPrime prescreening process, ultimately 62.4% of participants in the sample reported working full time, 48.9% had previous hiring experience, and 57.5% had previous experience as a supervisor.

Materials

Following the results of a pilot study², photos that varied in ethnicity (Asian and White American) and gender (male and female) but were maximally similar on attractiveness, age, and racial phenotypic stereotypicality were used. The point of the photo was to indicate speaker ethnicity to the participant. Four photos were used total, one photo for each ethnicity/gender combination (e.g., the same Asian-American female photo was used for all the Asian-American female audio clips).

The same audio clips and survey questions from Study 2 were used in Study 3, with the addition of one 5-item scale created to assess leadership potential and influence in the YouTube setting specifically. The five items were: (1) "I would follow this person's videos if I wanted to know more about this topic," (2) "I would recommend this person to people who are interested in this topic,"(3) "I would not trust this person's advice on this topic (reverse scored)," (4) "I think this person has potential to be successful on YouTube," (5) "I really don't see this person

² After collecting 30 photos of each group (Asian-American female/male, White-American female/male) I recruited 240 Amazon MTurk participants to rate the photos (10 photos per participant) on perceived ethnicity, age, attractiveness, and racial stereotypicality. I selected the photos that were agreed upon to be Asian and White, and had the highest agreeance on all other dimensions.

becoming successful as a YouTube entrepreneur (reverse scored)," A 5-point (1 = strongly disagree, 5 = strongly agree) scale was used. I will refer to this variable as "YouTube influence" (Cronbach's alpha = 0.90).

Procedure

Participants were invited to an online 10-15 minute study. After confirming consent, they were asked to listen to audio clips of two different speakers, and to complete a survey answering questions about the speakers.

This was a 2 (speaker ethnicity: Asian American vs. White American, within subjects) by 2 (speaker gender: male vs. female, between subjects) by 2 (ethnicity indicated: indicated vs. not indicated, between-subjects) design. The procedure to Study 3 was virtually identical to that of Study 2, except for the additional ethnicity-indicated condition. To replicate Study 2, I kept a condition where ethnicity was not indicated, in which the participants did not see any photo at all and were blind to speaker ethnicity. In the condition in which ethnicity was indicated, however, participants saw one Asian-American photo and one White-American photo (both of the same gender). The photo, which always matched the actual ethnicity and gender of the speaker, appeared and remained on the screen while participants listened to the audio clips extracted from speakers' YouTube videos. As in Study 2, the order of all the clips was random. After the participants completed and submitted the survey, they received payment.

Results

Data were analyzed using a series of analyses of covariance (ANCOVAs), with speaker ethnicity (Asian vs. White American, between subjects), speaker gender (male vs. female, within subjects) and ethnicity indicated (indicated vs. not, within subjects) as the independent variables. Category topics (dummy coded) were included as covariates, with the largest female topic

("What to carry in your purse") and largest male topic ("Men's hairstyle tutorial") as the two reference groups. Dependent variables were comprehensibility, command of language, YouTube influence, leader potential, and hireability/promotability.

For each dependent variable, I first report the results of the main effects of speaker ethnicity, testing Hypotheses 2a and 2b, followed by the interactions between speaker ethnicity and ethnicity indicated (vs. not), testing Hypothesis 3, and exploratory interactions involving speaker gender. The next set of results reports tests of whether communication ratings mediate the relationship between speaker ethnicity and leadership ratings. All estimated marginal means and standard deviations are reported in Table 9 (for main effects of speaker ethnicity) and Table 10 (for exploratory analyses with speaker gender and indication of ethnicity).

Communication Effectiveness

Comprehensibility. Results show that Asian (vs. White) Americans were rated lower in comprehensibility, F(1, 544) = 12.46, p < 0.01, supporting Hypothesis 2a and replicating Study 2.

Effects of indicating ethnicity. There was no main effect of indicating ethnicity, F(1, 544) = 0.08, p = 0.78. More importantly, the interaction of speaker ethnicity and indicating ethnicity was not significant, F(1, 544) = 1.53, p = 0.22, meaning that indicating speaker ethnicity did not worsen the difference in comprehensibility between Asian (vs. White) Americans, which fails to support Hypothesis 3.

Effects of speaker gender (exploratory). Neither the two-way interaction of speaker ethnicity and gender, F(1, 544) = 2.23, p = 0.14, nor the three-way interaction involving speaker ethnicity, speaker gender, and indication of ethnicity, was significant, F(1, 544) = 0.82, p = 0.78,

meaning that the effect of speaker ethnicity on comprehensibility between Asian (vs. White) Americans was not moderated by speaker gender.

Command of language. Results show that Asian (vs. White) Americans were rated lower in command of language, F(1, 538) = 33.81, p < 0.01, supporting Hypothesis 2a and replicating Study 2.

Effects of indicating ethnicity. There was no significant main effect of indicating ethnicity, F(1, 538) = 1.42, p = 0.23.

The interaction of speaker ethnicity and indication of ethnicity was significant, F(1, 538)= 5.27, p = 0.02; the difference in ratings of command of language between Asian (vs. White) Americans worsened when speaker ethnicity was indicated, F(1, 272) = 22.69, p < 0.01; than when speaker ethnicity was not indicated F(1, 258) = 10.31, p < 0.01.

Effects of speaker gender (exploratory). Neither the two-way interaction of speaker ethnicity and speaker gender, F(1, 538) = 0.65, p = 0.42, nor the three-way interaction involving speaker ethnicity, speaker gender, and indication of ethnicity, F(1, 538) = 1.36, p = 0.25, were significant.

In summary, Hypothesis 3 was not supported; in fact, the opposite effect occurred. Participants rated Asian (vs. White) Americans lower on command of language when they were blind to speaker ethnicity. Speaker gender did not account for any of the differences in ratings between Asian- and White-American speakers.

Leadership Evaluations

YouTube influence. Results show that Asian (vs. White) Americans were rated lower on YouTube influence, F(1, 544) = 31.93, p < 0.01.

Effects of indicating ethnicity. Neither the main effect of indicating speaker ethnicity, F(1, 544) = 1.03, p = 0.31, nor the interaction of speaker ethnicity and indication of ethnicity, F(1, 544) = 1.74, p = 0.19, were significant; indicating speaker ethnicity did not worsen the difference in YouTube influence ratings between Asian (vs. White), which fails to find support for Hypothesis 3.

Effects of speaker gender (exploratory).

Neither the interaction of speaker ethnicity and gender, F(1, 544) = 0.30, p = 0.58; nor the three-way interaction involving speaker ethnicity, speaker gender, and indication of ethnicity, F(1, 544) = 1.10, p = 0.30, was significant.

In summary, I did not find support for Hypothesis 3; the relationship between speaker ethnicity and ratings of YouTube influence were not moderated by indication of speaker ethnicity. Speaker gender did not account for any of the differences in ratings between Asian (vs. White) Americans.

Leader potential. Results show that Asian (vs. White) Americans were rated lower on leader potential, F(1, 544) = 9.96, p < 0.01, supporting Hypothesis 2b and replicating Study 2.

Effects of indicating ethnicity. The main effect of indicating ethnicity was not significant, F(1, 544) = 0.84, p = 0.36.

The interaction of speaker ethnicity and indication of ethnicity was significant, F(1, 544)= 7.72, p < 0.01; indicating speaker ethnicity worsened the difference in ratings of leader potential between Asian (vs. White) Americans, finding support for Hypothesis 3. Thus, when participants saw the photo that matched speaker ethnicity, they rated Asian (vs. White) Americans worse, F(1, 264) = 5.38, p = 0.02; than when they were blind to speaker ethnicity, F(1, 272) = 3.63, p = 0.06.

Effects of speaker gender (exploratory). The interaction of ethnicity and gender was significant, F(1, 544) = 4.15, p = 0.04. The difference in ratings of leader potential between Asian (vs. White) Americans was greater for women than men, such that Asian- (vs. White-) American women were rated much lower in leader potential, F(1, 284) = 12.00, p < 0.01, than Asian- (vs. White-) American men, F(1, 260) = 0.75, p = 0.39.

The 3-way interaction was not significant, F(1, 544) = 0.02, p = 0.89.

In summary, Asian (vs. White) Americans were rated lower in leader potential. The speaker ethnicity by indication of ethnicity interaction was significant, supporting Hypothesis 3. There was a significant speaker ethnicity by speaker gender interaction, such that the difference between Asian- (vs. White-) American women was significant, but there was no difference between Asian- (vs. White-) American men.

Hireability/promotability. Results show that Asian- (vs. White-) Americans were indeed rated lower on hireability/promotability, F(1, 543) = 14.64, p < 0.01.

Effects of indicating ethnicity. The main effect of indicating ethnicity was not significant, F(1, 543) = 1.61, p = 0.21.

The interaction of ethnicity and indicating ethnicity was significant, F(1, 543) = 9.13, p < 0.01, but in the opposite direction, such that indicating speaker ethnicity did not worsen the difference in ratings of hireability/promotability between Asian (vs. White) Americans, F(1, 263) = 6.51, p = 0.01, as compared to keeping participants blind to speaker ethnicity, F(1, 272) = 6.71, p = 0.01, not finding support for Hypothesis 3.

Effects of speaker gender (exploratory). Neither the interaction of speaker ethnicity and speaker gender, F(1, 543) = 1.70, p = 0.19, nor the three-way interaction involving speaker ethnicity, speaker gender, and indication of ethnicity, F(1, 543) < 0.01, p = 0.94, was significant.

Overall, Asian (vs. White) Americans were rated lower in hireability/promotability. However, contrary to my predictions, the difference in ratings of hireability/promotability was actually greater when ethnicity was not indicated (vs. indicated), such that Asian Americans were penalized less when their ethnicity was indicated.

In summary, results consistently support Hypothesis 2a and 2b, finding lower ratings of communication- and leadership-related variables for Asian (vs. White) Americans. There was no support for Hypothesis 3; when ethnicity was indicated, Asian (vs. White) Americans actually rated higher on leader potential. For all other dependent variables, there was no support for Hypothesis 3.

Mediation Analyses

Mediation analyses were conducted to test whether differences in communication evaluations were the reason why Asian (vs. White) Americans were rated lower in perceived YouTube influence, leader potential, and hireability/promotability. Specifically, the subjective communication evaluations (comprehensibility, command of language) were tested as possible mediators for the relationship between speaker ethnicity and the three leadership-related measures (YouTube influence, perceived leadership potential, and hireability/promotability). MEMORE was used to conduct my analyses (Montoya & Hayes, 2017). The entire sample of speakers was included, collapsing across indication of ethnicity. All indirect effects and confidence intervals are listed in Table 11.

Comprehensibility. The confidence intervals around the indirect effect of ethnicity via comprehensibility excluded 0 for ratings of YouTube influence, leader potential and hireability/promotability. Thus, lower ratings of comprehensibility did explain why Asian (vs.

White) Americans were rated lower on leader potential, YouTube influence, and hireability/promotability.

Command of language. The confidence intervals around the indirect effect of ethnicity via command of language excluded 0 for ratings of YouTube influence, leader potential and hireability/promotability. Thus, lower ratings of command of language did explain why Asian (vs. White) Americans were rated lower on leader potential and hireability/promotability.

Discussion

Results show that participants rated Asian (vs. White) Americans significantly lower in comprehensibility, command of language, YouTube influence, leader potential, and hireability/promotability, replicating the results of Study 2 and continuing to support Hypothesis 2. Again, this suggests that Asian (vs. White) Americans are speaking in a systematically different way that leads to lower evaluations of both communication- and leadership-related measures.

I found support for Hypothesis 3 only for the variable of leader potential; indicating speaker ethnicity exacerbated the lower ratings of Asian (vs. White) Americans on leader potential. Outside of this dependent variable, however, the indication of ethnicity did not make ratings of Asian (vs. White) Americans notably worse than if the participants were blind to the speaker's ethnicity. In fact, sometimes indicating ethnicity led to directionally *better* ratings of Asian (vs. White) Americans, which is opposite of what I predicted. Instead of interpreting the lack of support for Hypothesis 3 as the absence of discrimination against Asian-American aspiring leaders, I think that one cause of this finding might be due to social desirability, which is the tendency for people to project a favorable image of themselves, thus often responding to self-report measures inaccurately for impression management reasons (Fisher & Katz, 2000). This

often happens when people are asked to self-report beliefs about sensitive topics such as racial discrimination or prejudice, and the result of this behavior is data that are systematically biased toward respondents' ideas of what is societally acceptable or desirable (King & Bruner, 2000). In the current study, participants may have rated the speakers equally well in order to seem fair or equitable, and to mask their true tendencies to rate Asian (vs. White) Americans lower on communication and leadership measures.

Mediation analyses also showed that subjective ratings of communication effectiveness accounted for the effects of speaker ethnicity on perceived leadership potential and hireability/promotability, again replicating Study 2. Thus, participants' ratings of speaker communication style consistently explain why Asian Americans were rated lower on leadership-related measures.

Only one significant speaker ethnicity by speaker gender interaction emerged as significant, which could have been due to chance. This suggests that, consistent with prior studies, there were no strong or systematic trends indicating gender differences in the ratings between Asian (vs. White) Americans.

One limitation of this study is it does not show a causal relationship between communication styles and leadership outcomes, which I addressed in Study 4.

Study 4: Testing for the Causal Link between Asian (vs. White) Americans' Communication Style and Interviewee Evaluations

Study 4 tested the hypothesis that differences in the way that Asian and White Americans typically speak would *cause* Asian Americans to be perceived as poorer leaders within the U.S. context. Experimental manipulation of the mediating variable (in this case, communication differences) is a better approach for showing causality than utilizing mediational analyses,

because it shows the direct link from the mediating variable being manipulated and the dependent variable (Pirlott & McKinnon, 2016; Spencer, Zanna & Fong, 2005).

Another purpose of Study 4 was to increase the overall level of external validity. Instead of using YouTube audio clips as stimuli, job interview related stimuli were used. Interviews are a very common step in getting a job, and judgments about a person's potential are made in job interviews. Further, the current sample was comprised of business school students and alumni, many of whom have hiring experience. Thus, this study examines a setting in which the "bamboo ceiling" effect would be likely to emerge.

Research shows that non-prototypical candidates are less likely to be seen as effective leaders (Hogg, Hains, & Mason, 1998), and are seen as less influential and important (Abrams & Hogg, 2004). In the context of job interviews, self-presentation styles are highly predictive of evaluations. In one study, conducted in a North-American interview context, people who were chronic self-promoters, employed frequent self-praise, and used active ingratiation techniques were given the most positive evaluations (Paulhus, Westlake, Calvez, & Harms, 2013). As previously demonstrated, however, this chronic self-promotion and self-praise may be less typical of Asian Americans' speech. In this study, I tested if speaking in a non-prototypical way (i.e., the speaking style captured in Study 1 as more typical of Asian Americans) would lead to lower evaluations of interviewe speech.

Study 4 used a 2 (speaking style: Asian- vs. White-American, within subjects) by 2 (actual speaker ethnicity: Asian- vs. White-American, within subjects) by 2 (speaker gender: male vs. female, between subjects) experimental design. Actors of both Asian- and White-American background provided answers to typical job-interview questions, delivered in either the so-called "Asian-American speaking style" or the "White-American speaking style"

(reflecting the actual group differences identified in Study 1). Participants provided their opinions of two ostensible job candidates, one speaking in each style.

This study tested whether speaking in the Asian- (vs. White-) American speaking style would lead to lower evaluations of communication effectiveness (comprehensibility and command of language) and perceived leadership effectiveness (leader potential and hireability/promotability), testing Hypothesis 4. Although I did not make any predictions about actual speaker ethnicity and speaker gender, I included both as independent variables, in case there were any interactive effects of being male (vs. female) or being Asian (vs. White) American on ratings of communication and leadership when they spoke in a specific speaking style. This helps ensure that it is indeed the communication differences, specifically the use of an Asian- (vs. White-) American speaking style, rather than other characteristics of the actors, that affect ratings of leadership potential.

Method

Participants

MBA students and alumni were recruited from two sources; there were 200 participants total. Alumni were recruited through an email newsletter, as well as through social media platforms such as Twitter. Current students were recruited through in-classroom announcements. The study was presented as a way to help undergraduate business school students improve their interviewing skills. There were 68 participants who did not finish the study, and were excluded from the dataset, leaving a final sample of 132.

This sample was chosen because the majority had prior hiring experience (69%), thus demonstrating a level of expertise in judging interview answers. The breakdown of participant ethnicity is as follows: 50.8% White, 32.5% Asian, 7.9% African American, 6.3%

Hispanic/Latino, 2.4% other. The mean age was 31.7 years, and 48.7% of the participants were female. None of the participants were given monetary compensation, as this was a voluntary study. However, participants who were current MBA students received extra credit in their courses.

Materials

Communication style differences were manipulated in the form of audio clips that ostensibly captured two entry-level job candidates' answers to two interview questions of the type that commonly arise in interviews'. The questions were "Can you tell me a little bit about yourself?" and "What are your strengths and weaknesses?". Each participant heard an actor answer each question, but the answers were provided by two different actors who differed in speaking "style." There were two "styles" (Asian- vs. White-American) for each question, yielding four clips examples total. I manipulated the communication style differences that showed significant differences between Asian- and White-American speakers in Study 1⁺, specifically: words per minute, time-related words, mitigated speech, filler words, negative emotion words, words longer than six letters, idioms, and volume. See Appendix A for full scripts.

Words per minute was manipulated by making the White-American style scripts longer but instructing the actors to read both scripts in the same amount of time. Specifically, the White-

³ Scripts were pilot-tested on Amazon MTurk (n = 89) to maximize similarity on dimensions of competence and warmth. Results of a *t*-test showed that mean ratings of competence and warmth between interview responses within speaking style were not significantly different. The means and standard deviations for warmth for questions 1 and 2 were 3.75 (0.75) and 3.57 (0.76), respectively. The means and standard deviations for competence for questions 1 and 2 were 3.48 (0.77) and 3.37 (0.89), respectively.

⁴ At the time of writing the scripts, initial analyses from Study 1 had suggested significant effects of ethnicity on: words per minute, time-related words, mitigated speech, filler words, negative emotion words, words longer than six letters, idioms and volume. However, a more appropriate reanalysis of the data from Study 1 conducted after the completion of Study 4 resulted in the disappearance of significance for these variables: time-related words, filler words, and words longer than six letters.

American scripts were 262 and 253 words, and the Asian-American scripts were 193 and 185 words. As such, actors spoke more quickly when presenting in the White-American style.

Time-related words were chosen to be relevant in the context (e.g., "last semester," "the night before our presentation"). These were included only in the Asian-American scripts; 4 sets of time-related statements were incorporated in both interview responses. For example, in response to one question, the speaker says, "the internship I did last summer."

Mitigated speech words (e.g., "maybe," "kinda") were used in only the Asian-American scripts; 5 mitigated speech statements were incorporated in both interview responses. For example, the Asian-American script included comments such as "I kinda think maybe my greatest weakness is..."

Filler words (e.g., "umm," "like") were used in only the Asian-American scripts; similar numbers of filler words (10 and 12, respectively) were incorporated into both interview responses. For example, when asked to tell the interviewer about themselves, in the White-American condition, the script said "I am originally from Los Angeles, California," whereas in the Asian-American condition, the script said "Uh yeah, so I am from Los Angeles, California."

Negative emotion words (e.g., "problem," "doubt") were used in only the Asian-American scripts; 3 negative emotion words were incorporated in both interview responses. For example, the script says "I doubt that I'm the best at soccer."

Words longer than six letters (e.g., "immediately," "definitely") were used in only the White-American scripts; 11 words longer than six letters were used in both interview question scripts. For example, the White-American script incorporates words like "brainstorm solutions and strategies."

Idioms (e.g., "learn the ropes," "put my best foot forward") were used in only the White-American scripts; 10 idioms were used in both interview question scripts. For example, "these experiences helped me really get a handle on learning the ropes of leadership, teamwork, and problem solving."

Lastly, to manipulate volume, actors were told to speak louder when reading the White-American script and told to speak softer when reading the Asian-American script.

Once the scripts were developed, four undergraduate actors were hired from the university acting department: one Asian-American male, one Asian-American female, one White-American male, and one White-American female. The actors were blind to the hypothesis that speaking in a certain style in an interview setting would lead to differential judgments of their leadership potential. Each actor read all four scripts, to account for actual actor ethnicity (Asian- vs. White-American) and the manipulated speaking style (Asian- vs. White-American), resulting in 16 audio clips.

Procedure

Participants listened to two audio clips, one reflecting the Asian-American speaking style and one reflecting the White-American speaking style, in randomized order. They listened to one of each of the interview question types, so they had both answers. However, the two answers were each read by a different actor, to make it clear that two different job candidates were being presented. Neither the ethnicity associated with the speaking style nor the speaker's actual ethnicity were indicated to participants.

After listening to the clips, participants were asked to evaluate the candidates on the same communication- and leadership-related dependent variables from Studies 2 and 3. Last, participants filled out demographic information about themselves.

Results

Data were analyzed using a series of analyses of variance (ANOVAs), with speaking style (Asian- vs. White-American, within-subjects), actual speaker ethnicity (Asian vs. White American, within-subjects) and speaker gender (male vs. female, between-subjects) as the independent variables. Of primary interest was the effect of speaking style on ratings of comprehensibility, command of language, leader potential, and hireability/promotability, testing Hypothesis 4. All means and standard deviations are listed in Table 12 (showing the main effect of speaking style) and Table 13 (separating results by speaker gender and speaker ethnicity).

Communication Effectiveness

Comprehensibility. Results show that interviewees who spoke in the Asian- (vs. White-) American style were rated lower in comprehensibility, F(1, 128) = 26.70, p < 0.01, supporting Hypothesis 4.

There was a significant main effect of gender, such that female interviewees were rated harder to comprehend than male interviewees, F(1, 128) = 5.74, p = 0.02. However, neither the speaking style by gender interaction, F(1, 128) = 1.58, p = 0.21, nor the three-way interaction of speaking style by gender by actual speaker ethnicity, F(1, 128) = 1.90, p = 0.17, was significant. Also, none of the main or interactive effects of actual speaker ethnicity was significant, all ps >0.41.

Command of language. Results show that interviewees who spoke in the Asian- (vs. White-) American style were rated lower in command of language, F(1, 128) = 7.91, p < 0.01, supporting Hypothesis 4.

None of the main or interactive effects of speaker gender or actual speaker ethnicity was significant, all ps > 0.20.

Leadership

Leader potential. Results show that interviewees speaking in the Asian- (vs. White-) American style were rated lower in leader potential, F(1, 128) = 166.40, p < 0.01, supporting Hypothesis 4.

None of the main or interactive effects of speaker gender or actual speaker ethnicity were significant, all ps > 0.12.

Hireability/promotability. Results show that interviewees speaking in the Asian- (vs. White-) American style were rated lower in hireability/promotability, F(1, 128) = 129.18, p < 0.01.

None of the main effects or two-way interactive effects of speaker gender or actual speaker ethnicity were significant, all ps > 0.24.

There was a significant 3-way speaking style by speaker gender by speaker ethnicity interaction, F(1, 128) = 4.65, p = 0.03, such that the tendency for responses in the Asian- (vs. White-) American style to be perceived as less hireable/promotable emerged more strongly with White-American speakers, particularly White-American women, than with Asian-American speakers.

In summary, there were a significant main effect of speaking style on communication effectiveness (comprehensibility and command of language) perceptions of leadership (leader potential and hireability/promotability), such that speaking in the Asian- (vs. White-) American style led to lower ratings, supporting Hypothesis 4. This was true regardless of actual speaker ethnicity, and in general, speaker gender.

Mediation Analyses

As in Study 2 and 3, mediation analyses were conducted by using the SPSS macro MEMORE (Montoya & Hayes, 2017), to test whether perceptions of communication effectiveness would mediate the relationship between speaking style and leadership perceptions. Specifically, I hypothesized that the differences in subjective ratings of communication (comprehensibility and command of language) would explain why speaking in the Asian- (vs. White-) American style led to lower ratings of leadership perceptions (leader potential and hireability/promotability). All indirect effects and confidence intervals are listed in Table 14.

Comprehensibility. The confidence intervals around the indirect effect of speaking style via comprehensibility excluded 0 for both leader potential and hireability/promotability, indicating significant mediation. Thus, lower ratings of comprehensibility did explain why speaking in the Asian- (vs. White-) American style led to lower ratings of leader potential and hireability/promotability.

Command of language. The confidence intervals around the indirect effect of speaking style via command of language included 0 for leader potential but excluded 0 for hireability/promotability, indicating significant mediation. Thus, ratings of command of language did not explain why speaking in the Asian- (vs. White-) American style led to lower ratings of leader potential, but it did explain why speaking in the Asian- (vs. White-) American style led to lower ratings of lower ratings of hireability/promotability.

Discussion

In summary, speaking in a communication style previously identified as more typical of Asian- (vs. White-) American speakers led to lower ratings of communication effectiveness (comprehensibility and command of language) and leadership (leader potential and hireability/promotability), supporting Hypothesis 4. This established the causal mechanism,

demonstrating that speaking in the Asian- (vs. White-) American style *caused* perceivers to rate interviewees lower on all dimensions. These results highlight the important role that communication style plays in perceptions of leader potential and decisions for hiring and promoting. Moreover, it means that Asian Americans as a whole are disadvantaged and seen as less leaderlike because of the way that they communicate.

Additionally, ratings of comprehensibility mediated the relationship between speaking style and ratings of leader potential and hireability/promotability, and ratings of command of language mediated the relationship between speaking style and ratings of hireability/promotability. As in Studies 2 and 3, this shows that subjective ratings of communication effectiveness are the reason why the communication style differences between Asian and White Americans lead to differential ratings of leadership effectiveness.

There was minimal evidence that these effects were dependent on the actual ethnicity or gender of the actor; only one interaction effect (the three-way interaction effect on hireability/promotability) emerged as significant. This means that despite actual actor ethnicity, it is mainly the speaking style that drives the effect in lower ratings of communication and leadership. Thus, this suggests Asian Americans as people are not fundamentally less qualified in their leadership abilities, but rather it is the speaking style that Asian (vs. White) Americans tend to have due to cultural background that is what leads people to perceive them as less prototypical leaders.

This study showed that speaking style indeed leads to differential ratings of leader potential and hireability/promotability. By manipulating speaking style in a controlled experiment, results show that speaking in the Asian- (vs. White-) American style *caused* participants' lower ratings of leader potential and hireability/promotability. Further, this study

focused on the antecedents of career outcomes, specifically in the context of a job interview. The sample was made up of professionals who have experience hiring and judging interview speech, and the audio clips were of more consistent quality. Lastly, the participants were blind to speaker ethnicity, reducing the amount of social desirability that might have occurred in Study 3.

General Discussion

This project found observable differential communication styles in aspiring Asian- and White-American leaders' non-accented, naturalistic speech. Asian- (vs. White-) American aspiring leaders spoke with less self-expression, less confidence, and less optimism (Study 1), tendencies that led them to be seen as less effective communicators, worse potential leaders, and lower on hireability/promotability (Studies 2 and 3). Contrary to predictions, these effects did not worsen when speaker ethnicity was known (Study 3). However, a final experiment showed that speaking in ways identified as more typical of Asian (vs. White) Americans caused job candidates to be rated lower ratings as potential leaders (Study 4).

These findings illuminate the challenges that Asian Americans face in career upward mobility, despite their stereotyped identity as the "model minority" in the United States. This work suggests implications for racial inequality in employment, especially at the top management level. Specifically, this work implies that Asian Americans may face discrimination, not because of their lack of ability or technical skill, but rather because of perceptions that they lack leader potential through the interpretation of their communication styles.

Implications for the Leadership Literature

Existing leadership research has shown that individuals who do not fit the leadership prototype are perceived to be less effective leaders, and are often penalized (Eagly & Karau,

2002). Yet these penalties may reflect a degree of bias or error in how leaders are evaluated. For example, although extraversion is seen as prototypical of good leaders (Judge, Bono, Ilies, & Gerhardt, 2002), introverts are in fact better leaders in situations that require more listening, or when working with more proactive followers (Grant, Gino, & Hofmann, 2011). Similarly, although leadership has traditionally been viewed as the domain of men (Schein, Mueller, Lituchy, & Liu, 1996), female (vs. male) leaders in fact tend to be more democratic, and manifest leadership styles associated with higher performance (Eagly & Johnson, 1990). Further, although people desire optimism in their leaders and think that optimism is associated with leader potential (Chemers, Watson, & May, 2000), they also tend to incorrectly overestimate the relationship between optimism and performance (Tenney, Logg, & Moore, 2015).

In other words, followers' preferred traits in leaders do not necessarily predict actual leader performance. In fact, followers tend to make choices based on those preferences that might harm leaders who do not fit that prototype. My work shows one area where this occurs; leaders who communicate in the "desirable" way are perceived to be more effective and have more potential than those who do not, despite a lack of evidence that this is true. To address this gap, research in leadership should focus on empirically testing the desired characteristics of leaders to measure if they are truly predictive of higher performance from both the leader and the followers, rather than relying on assumptions based on cultural and societal preferences of leader traits and behaviors.

My work also speaks to the leader emergence literature. Current research on leader emergence shows that aspiring leaders' domain competence, willingness to serve, and credibility all influence the likelihood that a person will emerge as a leader (Norton, Murfield, & Baucus, 2014). However, perceivers' judgements on these dimensions might be inaccurate, because of a

mismatch of communication style. Scholars should continue to study the role of communication on leader emergence, particularly contextual factors that might determine when and why leaders are selected. For example, Asian Americans are more likely to be appointed as leaders when the organization experiences performance decline, because Asian Americans are stereotypically assumed to be willing to sacrifice their self-interest to improve the welfare of others (Gundemir et al., 2014). This is similar to the glass cliff phenomenon, in which women are appointed leadership roles during periods of crisis or downturn, when the chance of failure is highest (Ryan & Haslam, 2005). Thus, examining situational factors that might affect judgments of leader potential could draw attention to situations in which negative *or* positive consequences for certain groups' leadership attainment might emerge.

Implications for Diversity and Inclusion Scholarship

My work also helps address the lacuna of research on Asian Americans, relative to other ethnic minorities, in the diversity literature. The "model minority" myth presumes that Asian Americans have attained adequate success in the United States and do not face any struggles, which may be one reason for their neglect by scholars (Museus & Kiang, 2009). However, there are actually negative implications of this seemingly positive stereotype: for example, Asian Americans who are reminded of their stereotype of high academic achievement and low agency had higher levels of psychological distress because of the pressure to live up to this standard, and were less likely to seek help when they needed it (Chan & Mendoza-Denton, 2008; Gupta, Szymanski, & Leong, 2011). Moreover, the stereotype of Asian Americans and Pacific Islanders (AAPIs) as educational overachievers may paint this group with too broad a brush – for instance, one study found that, 54.9% of Hmongs, 40.7% of Cambodians, and 33.9% of Laotians had not completed the 5th grade (Li, 2005). In fact, there is sparse research on AAPIs in higher education

– only 1% of articles published in the field of higher education have given specific attention to
 AAPIs (Museus & Kiang, 2009). Thus, more research on Asian

Americans is needed in order to adequately address the myth of the model minority stereotype regarding assumptions of success in higher education.

Diversity scholars have established many ways that organizations perpetuate inequality in hiring, promoting, and compensation for underrepresented groups (e.g., race, gender, sexual orientation; Bertrand & Mullainathan, 2003; Kang et al., 2016; King et al., 2006; Phelan et al., 2008; Rosette et al., 2008). My work adds to this conversation by showing that not only is there racial or gendered discrimination when it comes to leader prototypes, there is yet another way that racial groups are differentiated in the workplace. Communication style as a source of discrimination is relatively understudied in this literature.

Many scholars study the role of stereotypes in holding minorities back, which is important and valid work. However, the present findings suggest that stereotypes may not be the main problem when it comes to workplace discrimination against Asian Americans. As I show in Study 3, it was not the indication of speaker ethnicity through the photograph prime that was the cause of the lower ratings of communication- and leadership-related variables for Asian Americans. Rather, it was the differential communication styles of Asian and White Americans, as well as the participants' subjective ratings of communication, that led to Asian Americans being interpreted as lower on leader potential, hireability and promotability. Thus, according to the current perspective, it may be simply that being part of an outgroup means that one's upbringing and life experiences will differ from the ingroup, yielding actual – not just perceived or stereotypical – differences.

Implications for Asian-American Professionals

This work also has implications for Asian Americans in the work force. For those who aspire to lead, my work does not suggest changing the way one communicates or interacts with others. I do not agree with the idea of conforming to the current norm for leaders in the United States, as doing so would perpetuate and justify discriminatory practices. One example of this is how the norms for African Americans' hair styles at work are changing to increasingly allow natural and traditional styles, rather than requiring African American employees to conform to White prototypes of a "professional" look (Randle, 2015). Instead, I suggest that individuals who communicate differently than the prototype focus on the other qualities they possess that are valued in a leader (e.g., intelligence, empathy), and work to actively show these qualities through different forms of communication, such as writing. Individuals who do not possess prototypical leader traits (such as extraversion) are encouraged to show other leadership skills while staying true to their personalities.

Implications for Organizations

Finally, this work has implications for organizations and their selection and promotion processes. Despite the lack of evidence that interviews, especially unstructured interviews, are accurate predictors of job performance (Dana, Dawes, & Peterson, 2013), they remain central to many hiring decisions (Highhouse, 2008). My research reveals just how problematic this may be. Even in short audio clips of interviewee speech, participants made strong conclusions about the interviewees' leader potential, and ultimately whether or not they should be hired or promoted. Because those at the top are mainly White males in the United States (Eagly & Karau, 2002; Gundemir et al., 2014), the similar-to-me effect, or the propensity to prefer others who are similar to oneself, is inevitably perpetuating imbalance in the higher echelons. My work suggests

that moving away from interviews in judging candidates will bolster organizations' diversity and inclusion goals and help them avoid biased leader selection processes.

Last, my research suggests that the "cult of charismatic leadership" (Cavalli, 1998) that is overemphasized in the corporate world should be reconsidered; there is little empirical evidence that exciting leaders are actually more effective than leaders who seem more boring (Andersen, 2015). In fact, people often mistake narcissism for charisma, and the rate of narcissism in leaders who are perceived to be charismatic is very high, which actually leads them to be more selfserving and egocentric (Galvin, Waldman, & Balthazard, 2010). Thus, the more that organizations come to recognize that non-prototypical individuals possess skills and strengths that are desirable, if less visible, in leaders, the more the ideal leader prototype can shift into one that is more inclusive of different types and styles of leadership.

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Category	Number of videos with Asian-American speakers	Number of videos with White-American speakers
Female speakers		
Book haul	9	20
How to tie your hair in a bun	16	19
Makeup tutorial	10	20
What to carry in your purse	18	19
Do-it-yourself (DIY) facemask	14	17
January fashion haul	17	16
Total (female speakers)	84	111
Male speakers		
How to breakdance	16	14
Men's hair style tutorial	16	17
Sunglass product review	6	18
How to do a pushup	7	20
Total (male speakers)	45	68
Total (both male & female speakers)	129	180

Table 1Study 1: Video Categories Selected from YouTube

Study 1: Estimated Marginal Means and Standard Deviations as a function of Speaker *Ethnicity*

Dependent variable category	Dependent variable	Asian-American speakers	White-American speakers
Self-expression	Words per minute** Verbs Time words Words >6 letters Pitch variability [†] Volume variability [†]	138.27 (61.20) 16.22 (2.95) 6.20 (1.97) 10.41 (2.55) 21480.74 (12153.28) 50.03 (140.01)	160.37 (47.89) 16.23 (2.78) 5.56 (1.72) 11.32 (3.35) 23386.19 (16733.81) 27.90 (78.94)
Confidence Optimism	First-person pronouns Filler words Mitigated speech* Idioms* Volume** Negative emotion use [†]	5.83 (3.12) 0.91 (0.68) 1.82 (0.96) 0.25 (0.28) 68.19 (8.24) 0.82 (0.71)	5.22 (3.25) 0.75 (0.67) 1.59 (0.90) 0.32 (0.40) 73.25 (8.15) 0.68 (0.53)

 $^{\dagger} p < .10, ^{*} p < .05, ^{**} p < .01$

Study 1: Estimated Marginal Means and Standard Deviations as a function of Speaker Ethnicity and Speaker Gender

Dependent variable category	Dependent variable	Speaker gender	Asian-American speakers	White-American speakers
Self-expression	Words per minute [†]	Female** Male	134.72 (55.49) 145.06 (71.04)	162.84 (37.22) 156.41 (61.34)
	Verbs	Female Male	15.90 (3.07) 16.82 (2.64)	15.88 (2.63) 16.78 (2.94)
	Time words	Female Male	6.41 (1.97) 5.81 (1.92)	5.82 (1.49) 5.15 (1.98)
	Words >6 letters*	Female** Male	10.03 (2.55) 11.14 (2.41)	11.22 (3.36) 11.47 (3.34)
	Pitch variability	Female Male	26808.45 (10723.62)	29208.07 (13110.50)
	Volume variability	Female	11298.91 (7262.05) 57.26 (166.92)	13936.19 (17726.02) 39.37 (98.19)
Confidence	First-person pronouns	Male Female	36.21 (61.64) 6.77 (3.11)	9.28 (13.66) 6.58 (3.03)
	Filler words	Male Female	4.03 (2.26) 0.87 (0.69)	3.05 (2.28) 0.77 (0.62)
	Mitigated speech	Male Female	0.98 (0.67) 1.69 (0.99)	0.73 (0.75) 1.55 (0.92)
	ldioms*	Male Female	2.07 (0.86) 0.34 (0.30)	1.65 (0.87) 0.24 (0.32)
	Volume	Male* Female	0.10 (0.15) 68.66 (7.87)	0.45 (0.49) 72.88 (7.67)
Optimism	Negative emotion use	Male Female Male	67.29 (8.93) 0.86 (0.71) 0.75 (0.72)	73.85 (8.90) 0.74 (0.50) 0.59 (0.55)

 $^{+}p < .10, ^{*}p < .05, ^{**}p < .01$

Asterisks in the Dependent variable column denote significant interactions between speaker ethnicity and speaker gender. Asterisks in the Speaker gender column denote significant simple effects of speaker ethnicity among male or female speakers, for variables in which the interaction was significant. Standard deviations are listed in parentheses.

Study 2: Estimated Marginal Means and Standard Deviations as a function of Speaker *Ethnicity*

Dependent Variable	Asian-American speakers	White-American speakers
Comprehensibility**	4.05 (0.91)	4.37 (0.82)
Command of language**	4.07 (1.19)	4.32 (1.19)
Leader potential [†]	3.45 (0.80)	3.55 (0.84)
Hireability/promotability**	3.26 (0.96)	3.50 (0.92)
$t_{n} < 10^{**} n < 01$. ,	. ,

 $^{\dagger} p < .10, ^{**} p < .01$

Study 2: Mediation Analyses, Indirect Effects and Confidence Intervals

Mediator	Effect of speaker ethnicity on leader potential	Effect of speaker ethnicity on hireability/promotability
Words per minute	-0.03	-0.05
-	(-0.06, -0.01)	(-0.09, -0.02)
Pitch variability	-0.01	-0.01
	(-0.05, 0.02)	(-0.06, 0.02)
Volume variability	-0.78	-0.40
	(-1.83, 0.07)	(-1.55, 0.57)
Mitigated speech	-0.02	-0.03
	(-0.06, 0.02)	(-0.08, 0.01)
Idioms	0.001	0.006
	(-0.01, 0.01)	(-0.01, 0.02)
Volume	-0.005	-0.01
	(-0.03, 0.02)	(-0.04, 0.01)
Negative emotions	0.08	0.09
	(-0.12, 0.73)	(-0.14, 0.83)
Comprehensibility	-0.17	-0.22
	(-0.23, -0.11)	(-0.30, -0.14)
Command of	-0.10	-0.14
language	(-0.16, -0.05)	(-0.22, -0.08)

Significant mediators are in bold. 95% confidence intervals are listed in parentheses.

Study 2: Estimated Marginal Means and Standard Deviations as a function of Speaker Ethnicity and Speaker Gender

Dependent variable		Asian-American	White-American
		speakers	speakers
Comprehensibility	Female	4.03 (0.92)	4.43 (0.78)
	Male	4.08 (0.89)	4.27 (0.88)
Command of language	Female	4.05 (1.21)	4.35 (1.17)
	Male	4.11 (1.17)	4.28 (1.11)
Leader potential	Female	3.36 (0.79)	3.59 (0.84)
	Male	3.58 (0.79)	3.50 (0.84)
Hireability/promotability	Female	3.17 (0.97)	3.55 (0.89)
	Male	3.40 (0.92)	3.41 (0.96)
Ctandard deviations are listed in		. ,	

Study 2: Guessed Ethnicity of Speaker

Guessed ethnicity	Actual ethnicity		
	Asian-American speaker	White-American speaker	
Guessed to be Asian American	12.1%	1.9%	
Guessed to be White American	70.1%	89.2%	
Guessed as other	7.8%	7.4%	

Correctly guessed ethnicity is in bold.

Study 2: Estimated Marginal Means and Standard Deviations as a function of Actual Speaker Ethnicity and Accuracy of Guessed Ethnicity

Dependent variable		Correctly guessed ethnicity	Incorrectly guessed ethnicity
Comprehensibility	Asian-American speaker	4.08 (0.90)	4.04 (0.91)
	White-American speaker**	4.41 (0.79)	4.03 (0.93)
Command of language	Ásian-American speaker	4.30 (1.01)	4.02 (1.22)
	White-American speaker**	4.38 (1.12)	3.84 (1.25)
Leader potential	Ásian-American speaker	3.34 (0.91)	3.45 (0.78)
	White-American speaker	3.56 (0.83)	3.46 (0.87)
Hireability/promotability	Asian-American speaker	3.25 (0.97)	3.26 (0.95)
	White-American speaker	3.51 (0.92)	3.42 (0.92)
**			

^{**} *p* < .01

Asterisks indicate a significant difference between ratings of participants who guessed speaker ethnicity correctly versus incorrectly. Standard deviations are listed in parentheses.

Study 3: Estimated Marginal Means and Standard Deviations as a function of Speaker Ethnicity and Ethnicity Indication Condition

Dependent variable	Ethnicity indication	Asian- American speakers	White- American speakers
Comprehensibility	Yes	4.04 (0.96)	4.22 (0.89)
	No	3.98 (0.98)	4.32 (0.83)
	Total	4.01 (0.97)	4.28 (0.86)
Command of language*	Yes**	4.17 (1.13)	4.32 (1.12)
	No**	3.99 (1.17)	4.38 (1.10)
	Total**	4.08 (1.15)	4.35 (1.11)
YouTube influence	Yes	3.25 (1.05)	3.42 (0.94)
	No	3.28 (1.03)	3.66 (0.91)
	Total	3.26 (1.04)	3.54 (0.93)
Leader potential**	Yes*	3.39 (0.81)	3.40 (0.80)
	No†	3.24 (0.92)	3.53 (0.85)
	Total**	3.32 (0.87)	3.46 (0.83)
Hireability/promotability**	Yes**	3.30 (0.89)	3.37 (0.85)
	No*	3.16 (0.98)	3.54 (0.87)
	Total**	3.23 (0.94)	3.46 (0.87)

[†] *p* < .10, ^{*}*p* < .05, ^{**} *p* < .01

Asterisks in the Dependent variable column denote significant interactions between speaker ethnicity and the indication of ethnicity. Asterisks in the Ethnicity indication column denote significant simple effects of speaker ethnicity among ethnicity indicated or ethnicity not indicated for variables in which the interaction was significant. Standard deviations are listed in parentheses.

Study 3: Estimated Marginal Means and Standard Deviations as a function of Speaker Ethnicity, Ethnicity Indication Condition, and Speaker Gender

Dependent variable	Speaker gender	Ethnicity indication	Asian- American speakers	White- American speakers
Comprehensibility	Female	Yes No Total	4.01 (1.02) 3.94 (1.04) 3.98 (1.03)	4.28 (0.88) 4.41 (0.74) 4.35 (0.81)
	Male	Yes No Total	4.08 (0.90) 4.02 (0.92) 4.05 (0.91)	4.16 (0.91) 4.25 (0.93) 4.20 (0.92)
Command of language	Female	Yes No Total	4.14 (1.14) 4.03 (1.14)	4.38 (1.03) 4.40 (1.08)
	Male	Yes No	4.08 (1.15) 4.21 (1.12) 3.95 (1.21)	4.39 (1.05) 4.26 (1.21) 4.34 (1.14)
YouTube influence	Female	Total Yes No	4.08 (1.17) 3.32 (1.06) 3.26 (1.07)	4.30 (1.17) 3.46 (0.95) 3.76 (0.90)
	Male	Total Yes No	3.29 (1.06) 3.18 (1.04) 3.31 (0.98)	3.62 (0.93) 3.38 (0.93) 3.54 (0.92)
Leader potential	Female	Total Yes No	3.24 (1.01) 3.31 (0.85) 3.18 (0.90)	3.46 (0.93) 3.43 (0.77) 3.59 (0.80)
	Male	Total Yes No Total	3.24 (0.87) 3.49 (0.76) 3.30 (0.94) 3.40 (0.86)	3.51 (0.79) 3.37 (0.83) 3.46 (0.90) 3.41 (0.87)
Hireability/promotability	Female	Yes No Total	3.40 (0.80) 3.25 (0.93) 3.08 (1.01) 3.16 (0.98)	3.41 (0.87) 3.41 (0.81) 3.59 (0.85) 3.50 (0.83)
	Male	Yes No Total	3.35 (0.84) 3.26 (0.95) 3.31 (0.89)	3.33 (0.89) 3.47 (0.90) 3.40 (0.90)

Table 11Study 3: Mediation Analyses, Indirect Effects and Confidence Intervals

Mediators	Effect of speaker ethnicity on YouTube influence	Effect of speaker ethnicity on Leader potential	Effect of speaker ethnicity on hireability/promotability
Comprehensibility	-0.17 (-0.23, -0.11)	-0.16 (-0.22, -0.10)	-0.18 (-0.24, -0.11)
Command of language	-0.14 (-0.19, -0.09)	-0.13 (-0.19, -0.09)	-0.16 (-0.22, -0.11)

Significant mediators are in bold. 95% confidence intervals are listed in parentheses.

Table 12

Study 4: Estimated Marginal Means and Standard Deviations as a function of Speaking Style

Dependent variable	Asian-American speaking style	White-American speaking style
Comprehensibility**	3.72 (0.92)	4.22 (0.81)
Command of language**	3.95 (0.98)	4.20 (0.95)
Leader potential**	2.55 (0.68)	3.52 (0.63)
Hireability/promotability**	2.22 (0.08)	3.42 (0.07)

^{**} *p* < .01

Study 4: Means and Standard Deviations as a function of Speaking Style, Actual Speaker Ethnicity, and Actual Speaker Gender

Dependent variable	Actual speaker ethnicity	Actual speaker gender	Asian- American Style	White- American Style
Comprehensibility	Asian American	Female	3.43 (0.88)	4.00 (0.95)
		Male	3.83 (0.88)	4.43 (0.65(
		Total	3.63 (0.89)	4.22 (0.83)
	White American	Female	3.61 (1.01)	4.28 (0.71)
		Male	3.99 (0.84)	4.15 (0.87)
		Total	3.81 (0.94)	4.21 (0.80)
Command of language	Asian American	Female	3.95 (1.03)	4.17 (0.94)
		Male	3.75 (1.13)	4.22 (1.14)
		Total	3.85 (0.98)	4.19 (1.06)
	White American	Female	3.91 (0.93)	4.17 (0.91)
		Male	4.20 (0.75)	4.25 (0.74)
		Total	4.07 (0.84)	4.21 (0.82)
Leader potential	Asian American	Female	2.68 (0.75)	3.50 (0.58)
		Male	2.66 (0.69)	3.55 (0.71)
		Total	2.67 (0.71)	3.53 (0.64)
	White American	Female	2.45 (0.49)	3.62 (0.55)
		Male	2.39 (0.73)	3.41 (0.65)
		Total	2.42 (0.63)	3.51 (0.61)
Hireability/promotability*	Asian American	Female	2.40 (1.08)	3.37 (0.94)
		Male	2.29 (0.99)	3.48 (0.87)
		Total	2.34 (1.03)	3.43 (0.90)
	White American**	Female**	2.01 (0.64)	3.67 (0.70)
		Male**	2.18 (0.86)	3.16 (0.77)
		Total**	2.10 (0.76)	3.39 (0.78)
*n< 05 ** n< 01				-

**p* < .05, ** *p* < .01

Table 14

Study 4: Mediation Analyses, Indirect Effects and Confidence Intervals

Mediators	Effect of speaker ethnicity on leader potential	Effect of speaker ethnicity on hireability/promotability
Comprehensibility	-0.12 (-0.22, -0.05)	-0.19 (-0.31, -0.09)
Command of language	-0.01 (-0.07, 0.01)	-0.07 (-0.15, -0.01)

Note: Significant mediators are in bold. 95% confidence intervals are listed in parentheses.

Appendix A: Scripts for Study 4

Question 1: "Can you tell me a little bit about yourself?"

<u>(White-American speaking style):</u> Note to actor: Speak with higher volume, faster-paced

"Hi! Yeah, totally! So I am originally from Los Angeles, California. At school, I am in my junior year, I'm a business school student studying Marketing. (*pause, as if you're thinking about the next part*)

A little bit about myself - I would describe myself as an innovative leader and team player because of my passion for working with others and my ability to go with the flow to brainstorm solutions and strategies.

One example of this is that I serve as the Vice President of an organization that consults small businesses and nonprofits in the local community, this is truly my labor of love.

In addition to things I do academically, outside of the classroom, I also have served as a Resident Advisor and an Orientation Leader, which have allowed me to lend a hand to other students so they can have a better collegiate experience. I think these experiences helped me really get a handle on learning the ropes of leadership, teamwork, and problem solving. (*pause again, thinking about transition to next part*)

For fun, one hobby of mine is that I am an avid member of the Club Soccer team; I'm not the star player but it definitely whips me into shape!

Overall, I would definitely say that my previous internship at National Bank taught me the ins and outs of what this job entails, so I am head over heels about this opportunity to interview with your firm and I bet my bottom dollar that I will use my skills to make an impact this summer through this internship."

(Asian-American speaking style):

"Hi. Uh yeah, so I am from Los Angeles, California. At school, I am currently a junior business school student studying Marketing. (*pause, as if you're thinking about the next part*)

A little bit about myself - I would sorta describe myself as kinda a leader and team player because of my passion for working with others to solve problems.

One example of this, like right now um I serve as the Vice President of an organization that consults small businesses and nonprofits in the local community.

Since last year, I have served as a Resident Advisor and an Orientation Leader to help other students like get used to college life. (*pause again, thinking about transition to next part*)

For fun, I also am a member of the Club Soccer team. I uh doubt that I'm the best at soccer but, ya know it is still good hard exercise.

Overall, I guess the internship I did last summer at National Bank to try and maybe learn what this job entails. Um, so yeah, I'm thankful to interview with your firm and will hopefully like use my skills to make an impact this summer.

Question 2: "What are your greatest strengths & weaknesses?"

(White-American speaking style): Note to actor: speak with higher volume, more fast paced

My greatest strength? I would definitely say that my greatest strength is my ability to keep my cool and stay calm even when I get the rug pulled out from underneath me.

So one example of this - in my business negotiations class, we often have to complete a bunch of group projects. And this one time, one of my classmates who was on my team, she got extremely sick with the stomach flu and unfortunately it was her job to actually put all the slides together for our Powerpoint presentation.

So what I did was, I immediately volunteered to take over her portion of the exercise, to keep the ball rolling for the rest of my team members, and not let this jeopardize our grade.

I had to really play my cards right to make sure I could manage my time and juggle doing all my other homework assignments for my different classes, but to also be able to complete the slides for the presentation in the nick of time. (*pause, as if you're thinking about the next part*)

Honestly, okay, so in terms of my weaknesses, I think I sometimes run myself to the ground when I try to go above and beyond in my responsibilities, my academic advisor says I should learn to take it easy and relax sometimes. But hey, I just try to put my best foot forward and take every experience in stride, no matter what the situation is, I just try to maintain a positive outlook.

(Asian-American speaking style):

Um, ok. So I suppose my greatest strength is my ability to stay calm even in bad or unlucky events.

So in my business negotiations class, for example, we often have to work in groups. Um, yea, and this one time last semester one of my classmates got sick with the stomach flu the night before our presentation and it was her job to put the slides together.

So what I did was, I said I could take over her part, to ya know help the rest of my team. Uh, so yeah, I kinda had to manage my time well for the rest of that night to make sure I could complete the slides. (*pause, as if you're thinking about the next part*)

Hm... er, ok so I think maybe my greatest weakness is that I kinda sometimes get burnt out when I try to do too much, my advisor says I should learn to relax sometimes. But ya know, I guess I just try not to get too sad or mad about it, no matter what the situation is in that given moment.

Key: red=time words blue= mitigated speech pink: filler words green: negative emotion purple: words > 6 letters orange: idioms