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THE INVISIBLE OTHER IN CROSS-CULTURAL CARE: INTERNATIONAL MEDICAL GRADUATES/ NONNATIVE PHYSICIANS IN PROVIDER-PATIENT INTERACTIONS

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THE INVISIBLE OTHER IN CROSS-CULTURAL CARE: INTERNATIONAL MEDICAL GRADUATES/ NONNATIVE PHYSICIANS IN PROVIDER-PATIENT INTERACTIONS

A THESIS APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

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The thesis is dedicated to my parents, Qichun Liao and Yonghong Zhao.

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Abstract

The field of cross-cultural care has been primarily focused on examining doctor-patient communication when patients are minorities, immigrants, and refugees, conceptualizing nonnative physicians/ International Medical Graduates as invisible other. This thesis investigates the role of nonnative physicians, and how their identity markers impact patients' evaluation. Specifically, the study adopts a 2 (accent: standard American accent, nonnative accent) × 3 (race: Caucasian, Chinese, Indian) between-subjects factorial design, examining the effects of physicians' race and accent on patient satisfaction and their trust in physicians. Multilevel analysis of means reveals no significant results, but pairwise analysis of each item finds that regarding whether the physicians are considerate of patients' needs, Chinese physicians are evaluated higher than Indian physicians. In terms of whether patients are pleased with their visits, Caucasian physicians speaking standard accent and Indian physicians speaking foreign accent are evaluated as higher than Indian physicians speaking standard accent. The theoretical framework adopted in the study, physicians' social status, social desirability, and positive stereotypes towards Asians are utilized to explain the results. Limitations and future directions are proposed.

Key words: International Medical Graduates (IMGs); nonnative physicians; cross-cultural care; message effects; race; accent

Chapter 1: Introduction

Cross-cultural care[1], as a subfield within the larger field of healthcare delivery, has grown tremendously in the last few decades. Within the field of cross-cultural care, researchers and practitioners have examined patients' experience of racial and ethnic disparities when the providers and patients do not share the same culture. In other words, the larger literature of cross-cultural care is often confounded with the literature on immigrant and minority health, conceptualizing the patient as a "cultural other". Health care providers become invisible in the contexts of cross-cultural care. It is important to recognize that patients are not the only individuals who may represent a "cultural other" in cross-cultural care. Cross-cultural care takes place when a provider and a patient do not share the same culture.

Cross-cultural care in health contexts can take many different forms. Researchers have argued that culture is regarded as a set of factors such as gender, national origin and socioeconomic status that affect people's thinking, perception and behavior (Kreps & Kunimoto, 1994). In other words, any identity an individual possesses can serve as a cultural factor distinguishing one person from another. For instance, doctors and patients belong to different cultural groups due to differences regarding their identities and views of medical cultures (Teal & Street, 2009). Patients as a group, view illness and health through lay knowledge and experience, whereas doctors regard health and illness from a more professional perspective. Therefore, patients' and doctors' diverse perspectives on illness and health differentiate these two cultural groups, which may complicate medical encounters. From this perspective, any intergroup communication, such as doctor-patient communication, is a communicative

process between culturally different groups, given the distinctiveness regarding identities and worldviews.

However, other researchers have argued that intercultural communication is a particular type of intergroup interaction. Gudykunst (2002) treats intercultural communication as a type of intergroup communication between individuals of distinct national origins. While one may argue that health care providers share the same culture of *medicine*, health care providers' perceptions and attitudes toward health and diet are highly aligned with the cultural values of their national origins and/or ethnic backgrounds (Leeman, Fischler, & Rozin, 2011). For example, American physicians have different practices regarding disclosure and decision-making processes about end-of-life care from physicians of other national origins, such as Japan, China, and Hungary (Asai, Lo, & Fukuhara, 1995; Csikos et al., 2010; Feldman, Zhang, & Cummings, 1999; Parsons et al., 2007). Physicians are not culture-free, despite the fact that they are often constructed and conceptualized to be culturally invisible in Western medicine.

Despite the lack of research, physicians-as-cultural-others is a common and prevalent phenomenon in the United States. Approximately one-fourth of physicians in the United States were born or received their education outside North America (Hagopian, Thompson, Fordyce, Johnson, & Hart, 2004; Xierali, 2013). In the past few years, the interaction and inequality between developing and developed nations regarding economy and education have facilitated the progress of physician migration (Cheng & Yang, 1998; Cohen, 2006). Since World War II, the migration pattern changed dramatically from which physicians from developed countries migrating to

developing countries to the exact opposite direction (Dublin, 1974; Hagopian et al., 2004). The better living condition and advanced education system in developed countries, especially in the United States, have attracted well-trained providers born and trained in other countries to practice medicine (Cohen, 2006). The number of nonnative providers has increased steadily in the past few years, which has fulfilled the shortage of physicians in the U.S. health market. Among those countries providing nonnative physicians for the United States' health market, physicians from India make the greatest portion, followed by physicians from Philippines and Mexico (Hagopian et al., 2004). Notably, the number of Chinese Medical Graduates (CMGs) has also increased steadily in the past ten years, gathering at the urban areas mostly (Xierali, 2013). Nonnative providers are believed to play a vital role in American medical system by fulfilling positions that are less favored by their U.S. counterparts, enriching health-related research and education (Cohen, 2006). On the other hand, it brings about several problems in the home countries of physicians, especially the imbalance of health workforce (Cohen, 2006; Hagopian et al., 2004). Nearly 10 percent of Indian physicians are practicing in developed countries such as the United States and Canada, resulting in physician shortage in India (Mullan, 2006).

A literature search using terms such as cross-cultural care and intercultural health communication reveals that most existing studies in these areas have examined communication between immigrant patients and providers from dominant cultural groups (e.g., Morrison, Wieland, Cha, Rahman, & Chaudhry, 2012; Ong, 1995; Rogers-Sirin, Melendez, Refano, & Zegarra, 2015). Nevertheless, according to the definition of culture defined in previous paragraphs, the inconsistency of national/ethnic cultures

between providers and patients characterizes cross-cultural care. Cross-cultural care is not limited to medical encounters between providers from dominant cultural groups and immigrant patients. Instead, medical encounters between nonnative health professionals and patients from dominant cultures also belong to the realm of cross-cultural care.

The current study is intended to explore how cues of physicians' cultural identity may shape patients' understanding and evaluation of provider-patient interaction. By recognizing physicians as cultural beings, I am interested in exploring how a physician's marker of his/her cultural identity can impact quality of care. Health care providers use a narrower definition of culture more often in their daily encounters, equaling culture with national identity (Jirwe, Gerrish, & Emami, 2010). In addition, even though different ethnic groups residing in one country may share the same language, their cultural values and norms also impact their attitude and behavior in a profound way (Bruijnzeels & Visser, 2005).

Although attempts have been made to understand nonnative providers/International Medical Graduates (IMGs)[2], previous research examined this topic from providers' perspective (e.g., Jain, 2014; Jain & Krieger, 2011). Few studies examined how patients evaluate and understand their interaction with nonnative providers. The current study thus limits cross-cultural care as the interaction between providers and patients of different national origins or ethnic groups. Specifically, a 2 × 3 experimental design was adopted to investigate the effects of providers' race and accent on patient satisfaction and trust in physicians. The results reveal how physicians' race and accent impact American patients' evaluation of nonnative providers.

Chapter 2: Literature Review

Culture-free Providers: Certification, Education, and Acculturation

In the United States, medicine, as a field of practice, constructs cultural-free providers by setting high standard licensure process. To acquire unlimited license to practice medicine in the United States, IMGs are required to pass strict examinations and receive sufficient education, which requires multiple steps and the combination of efforts from different parties (Educational Commission for Foreign Medical Graduates, n.d.-b). Physicians who receive medical education outside the United States must obtain Educational Commission for Foreign Medical Graduates (ECFMG) certificate, the prerequisite for entering residency and fellowship programs in the United States (Educational Commission for Foreign Medical Graduates, 2016, n.d.-b; Whelan, Gary, Kostis, Boulet, & Hallock, 2002). The examination of obtaining ECFMG certificate is composed of different sections, evaluating both theoretical and practical abilities of IMGs. Specifically, IMGs must pass Step 1 and Step 2 of United States Medical Licensing Examination (USMLE, 2016), which is the prerequisite for acquiring ECFMG certificate and for taking Step 3 of USMLE (Educational Commission for Foreign Medical Graduates, 2016). The Step 1 of USMLE measures IMGs' ability and knowledge of medical science, including their scientific understanding and knowledge of health, illness, and medicine (USMLE, 2016). The Step 2 of USMLE is composed of two sections, in which one assesses Clinical Knowledge (CK), and the other assesses Clinical Skills (CS) (Educational Commission for Foreign Medical Graduates, 2016). From 1998 to 2004, IMGs were required to take Clinical Skill Assessment (CSA), which was then replaced by Step 2 CS of USMLE (van Zanten, 2011). The essence of

CSA is to examine IMGs' communicative abilities and skills in obtaining and interpreting information provided by patients (Whelan et al., 2002). The assessment process imitates real medical encounters by utilizing standardized patients (Boulet, van Zanten, McKinley, & Gary, 2001; Whelan, 1999; Whelan et al., 2002). Similar to CSA, Step 2 CS also uses standardized patients to examine IMGs' abilities in gathering patient information and conducting physical examination (USMLE, 2016). Physicians' skills in questioning, establishing rapport, and English proficiency are rated by standardized patients during the examination. Importantly, IMGs' oral English proficiency is not measured on the basis of whether they have foreign accents, but is based on a more generic consideration of the effectiveness of doctor-patient communication (van Zanten, 2011). Only when IMGs obtain medical degrees, pass USMLE, and be certified by ECFMG can they be eligible to find positions in residency and fellowship programs in the United States, which is the start of their medical career. The strict examinations attempt to ensure IMGs practicing medicine in the United States have acquired adequate scientific knowledge about illness, health and medicine as well as abilities in communicating with patients from various cultural backgrounds just as their U.S. counterparts.

To construct culture-free providers, health institutions and organizations also provide intervention programs to enhance IMGs' English proficiency and communication competence. Before entering residency programs, diverse types of English classes, known as English for specific purpose (ESP), are available for IMGs to improve their linguistic ability (Rozycki, Connor, Lipsig Pylitt, & Logio, 2011). Educational institutions provide courses emphasizing professional medical English, in

order to enhance IMGs' overall English skills in the medical field, along with their oral and listening English during medical encounters (Piñeiro, 2011). Nuances in language such as English pronunciation are also addressed through intensive linguistic courses (Labov & Hanau, 2011). Furthermore, realizing that language barrier is not the only factor that results in misunderstanding in doctor-patient communication, universities started to offer courses to help IMGs enhance their understanding of the appropriate behavior of a medical resident in the United States (Rozycki et al., 2011). Education for IMGs then expands from basic linguistic education to broader education on cultural context and cultural competence (Rozycki et al., 2011). These courses provide several pragmatic strategies that can be utilized in real healthcare settings. For instance, one acculturation curriculum that helped IMGs before their entry to residency program instructed them about strategies including shared decision-making, end-of-life care and bad news delivering in the U.S. healthcare settings, which is shown to be effective in minimizing medical errors (Porter, Townley, Huggett, & Warrier, 2008). Besides, IMGs who have received medical training before entering residency programs expressed satisfaction of the training program and fewer concerns toward adaptation (Rosner, Dantzker, Walerstein, & Cohen, 1993).

Apart from efforts from health organizations and institutions, IMGs also employed multiple strategies to acculturate and become culturally competent in doctor-patient communication. IMGs/ nonnative providers reported heightened sensitivity when interacting with patients to avoid miscommunication (Barreto, 2013). Compared to USMGs, IMGs reported having engaged in more relational strategies to maintain relationship with patients (Jain, 2014). In addition, in order to enhance English

proficiency and become more culturally competent in the doctor-patient interaction, IMGs learned native English expressions through mass media and daily interactions with friends, or even attempted to reduce foreign accent by changing the speed and volume they speak (Jain & Krieger, 2011). Non-verbal gestures that show empathy such as smiling and warm eye contact were also utilized by IMGs as tools to minimize the distance with patients (Jain & Krieger, 2011). Foreign-born therapists reported that they began to understand and interpret patients' behavior and emotion based on the cultural context they were embedded in (Barreto, 2013).

The acculturation strategies adopted by nonnative providers and the complicated licensure process for selecting eligible IMGs reinforce the idea that Western society attempts to create culture-free providers. Providers are expected to practice medicine focusing on the pathological aspect of symptoms and disease without taking into account patients' personal features. This idea is the reflection of Foucault (1973)'s *medical gaze*. As indicated by Foucault (1973), Western clinics, which embrace a biomedical viewpoint, have experienced tremendous change since the eighteenth century, in which the dialogue between providers and patients switches from asking personal issues to the discourse about illness symptoms. The practice of *medical gaze* in Western clinics attempts to homogenize and objectify patients (Foucault, 1973). Personalized treatment and cultural issues give priority to the pathological aspect of illness. As a consequence, when patients intend to seek professional help, they are responsible for letting their body to be seen as the same object as others' body for medical treatment (Davenport, 2000). When medicine is no longer culturally based and constructed, it becomes a way of seeing that diagnoses disease based merely on images

and symptoms without the appearance of patients (Gray & Gunderman, 2016). Under this circumstance, patients' words and feelings are no longer the center of medical conversation, what matters are the aspects such as radiologic images that facilitate diagnosis and treatment giving (Gray & Gunderman, 2016).

Providers as Cultural Beings

Western societies create an environment enforcing foreign-born or foreign-trained providers to reduce language and cultural barriers by providing specialized education, set high standards for certification and initiate self-acculturation. However, nonnative providers cannot completely rid themselves of their native culture (Croucher & Kramer, 2017).

First of all, illness itself is culturally constructed and shaped by individuals' cultural experience. People's understanding and interpretation of everyday lives are contingent upon social interaction, thus creating culturally different construction of illness and health (Wright, Sparks, & O'Hair, 2013). One apparent cultural variation is people's belief and perception of causes and symptoms of illness. People from the same cultural background usually develop a framework for interpreting causes and symptoms of a certain type of disease (Anderson, Scrimshaw, Fullilove, Fielding, & Normand, 2003; Garro, 1988; Jecker, Carrese, & Pearlman, 1995), an interpretation differing from individuals from other cultural backgrounds. Westerners are more likely to interpret health and illness from a biomedical viewpoint, using a universal standard to treat illness, attributing illness to an unhealthy lifestyle and virus, and urging for prevention of disease (Spector, 1996). On the contrary, Asians and Africans have a tendency to embrace the vital role of spiritual forces in illness and health (Dutta & Basu, 2011).

Wallin and Ahlström (2010) interviewed patients diagnosed with diabetes in Somalia, concluding that those patients regarded health as a gift given by God, and God can decide and protect people from illness. Javanese women with type II diabetes adopt a more holistic and fluid view of health and illness, instead of a biomedical perspective separating every part of the illness experience (Pitaloka & Hsieh, 2015). In addition, the cultural framework developed through the process of social interaction affects people's lifestyle, which further influences their perception of appropriate methods of treatment and illness management (S. J. Shaw, Huebner, Armin, Orzech, & Vivian, 2009). For example, in contrast to biomedical view in Western medicine (e.g., ridding oneself of "disease" through surgical and chemical interventions), Chinese believe in the effectiveness of traditional Chinese medicine such as herbs, finding health through harmony of the body and mind balance (Chung et al., 2014). Elderly Chinese immigrants employ traditional Chinese medicine not only as an illness management strategy, but as a method for sustaining and reinforcing their cultural and social identity (Kong & Hsieh, 2012). Apart from the wide utilization of Chinese medicine, people in other Asian and African countries regard their own indigenous medical practice as more effective than Westerners' ways of treatment (Dutta & Basu, 2011).

As illustrated above, since health and illness are constructed and shaped by culture, influencing almost all the cultural members growing and living in that cultural context, doctors are not exceptions. Even though nonnative providers are forced by health organizations and institutions in the United States to embrace a biomedical perspective of illness and health by passing examinations and receiving education, their cultural beliefs about health, communication styles as well as their personal

characteristics may still play a significant role in the doctor-patient communication. People from different cultural backgrounds cannot hold the same attitudes and beliefs toward illness and health (Jecker et al., 1995). Nonnative providers may be raised in another country where people believe in the integration of mind and body, indigenous treatment for disease or even a different attitude towards death. As a result, doctors' health belief, which is affected by their cultural backgrounds, will not only influence their interpretation of illness, but also sway their medical decisions (Seeleman, Suurmond, & Stronks, 2009).

Second, nonnative providers cannot avoid cultural influence in doctor-patient interaction because culture can impact their adopted communication styles, especially nuances in verbal and non-verbal communication. In language use, for instance, individuals from Eastern world attempt to avoid the use of words emphasizing the identification of individuals and their language is of high ambiguity, whereas Westerners constantly confirm their individual identities in conversations and underscore accuracy of language (Lim, 2002). In terms of non-verbal behavior, for example, it is usual for doctors in Western society to touch patients in order to show empathy and care, but Muslins avoid touching unfamiliar people (Sirois, Darby, & Tolle, 2013). In addition, according to face negotiation theory (Ting-Toomey, 2005) individuals of different cultural origins vary in their ways of solving conflicts: Easterners tend to protect other's image, whereas for those grow up in Western countries, enhancing and protecting self-image is of great importance during conflicts. While instituting high certification standards may allow nonnative providers to understand the necessary standards and cultural practices of the host society, these

providers may still feel obligated to follow their cultural norms (Solomon, 1997), which may differ from that of the host society.

Finally, nonnative providers may carry identity markers that highlight their status as a foreign other. While the United States is a multi-cultural and multi-ethnic society, skin color and accent are still important markers of one's minority status. Nonnative providers retain immutable characteristics such as foreign identity and accent. These characteristics, referring to primary identity, cannot be transferred or abandoned even when residing in the host country for a long period of time (Kramer, Callahan, & Zunckerman, 2013). In a multi-cultural and multi-ethnic society, individuals distinguish out-group members through different characteristics of individuals, such as ways of speaking, behaving and cultural traditions (Morris, 1996). Although ethnic minority and immigrants can acculturate by adopting mainstream behavior, it is impossible to eliminate their physical traits that identify them as out-group members (Morris, 1996). In addition to appearance, foreign accent can hardly be taken off because eliminating the phonology of one's first language is almost impossible (Moyer, 2004). Since immigrants can only change and become multicultural through an additive process rather than abandoning primary characteristics (Kramer et al., 2013), nonnative providers are unable to abandon several features characterizing their identity and the impacts of these elements on medical encounters. Therefore, well-acculturated providers still cannot avoid the influence of their physical features and accent that identify them as *foreigners*, which are possible factors impacting patient evaluation.

Culture and Health Disparity

A myriad of studies have examined the existence of health disparity in healthcare settings when patients are immigrants, who do not share the same language and ethnic identity with health care providers (For detailed reviews, see Edberg, Cleary, & Vyas, 2011; Levine & Ambady, 2013). Immigrants, refugees, and racial minorities are confronted with health disparity (Institute of Medicine, 2003; Morrison et al., 2012), even when they are given equal access as Whites. Moreover, immigrants' health conditions diminish after several years' residence in the United States in spite of their previous good health status (Edberg et al., 2011). Providers' bias and prejudice against immigrants' identity, along with immigrants' limited language proficiency are believed to be two main factors resulting in negative consequences on immigrants' health conditions.

Race and health disparity. Racial discordance might affect patient satisfaction, quality of medical encounters, and patients' use of services, but results of previous studies are inconclusive (Meghani et al., 2009). Concordance is conceptualized as the shared identity between providers and patients (Street Jr, O'Malley, Cooper, & Haidet, 2008). LaVeist and Nuru-Jeter (2002) found that in racially concordant doctor-patient interactions, patients report significantly higher satisfaction. However, some researchers have argued for a more nuanced understanding of racial concordance. A study has mixed findings for provider-patient racial concordance, noting that patient's race as an important contextual factor on patient satisfaction (Konrad, Howard, Edwards, Ivanova, & Carey, 2005). When Hispanics and African Americans encountered providers sharing the same ethnicity with them, no significant reduced rates of negative perception exist

compared to racially discordant pairs, whereas Asian patients expressed significantly more satisfied and favorable communication with providers from Asian origins (J. Blanchard, Nayar, & Lurie, 2007). One possible reason is that the relationship between providers and patients are so complicated that cannot be influenced by one factor independently (Thornton, Powe, Roter, & Cooper, 2011). Instead, racial concordance might influence the quality of healthcare through the interaction with other factors such as language (Meghani et al., 2009).

Although the consequences of studies on the relationship between racial concordance and healthcare quality are inconsistent, the fact that racial minorities and immigrants experience health disparity is conclusive. One mechanism through which health disparity occurs is providers' prejudice and stigma against minority and immigrant patients (Balsa & McGuire, 2003; J. C. Blanchard, Haywood, & Scott, 2003). Stigma is known as the features that differentiate a person from the optimal category he or she should belong to in a negative way (Goffman, 1963; Major & O'Brien, 2005). When a patient is an out-group member, especially a member of stigmatized groups, his or her identity is rejected and discounted. Providers enact prejudice and stigma in medical encounters, despite the fact that most of them regard prejudice as unprofessional and opposed to their values (Institute of Medicine, 2003). Physicians tend to regard white patients and patients with higher socio-economic status as more intelligent and more likely to adhere to advice given by physicians (van Ryn & Burke, 2000). Furthermore, physicians see themselves being more closely associated with white patients than African American patients (van Ryn & Burke, 2000). In some cases, health disparity resulting from providers' prejudice and bias are enacted through

language use and different decisions made in medical interactions, but in most cases, a subtle mechanism is how prejudice and bias function (Balsa & McGuire, 2003; Levine & Ambady, 2013). People in current society tend to explicitly claim their egalitarian attitude, while at the same time enact discrimination in a subtle and indirect way (Dovidio et al., 2008). Subtle non-verbal behavior such as the frequent shifting eye contact, facial expressions and physicians' tone will result in less trust and satisfaction of minority patients (Levine & Ambady, 2013). As a result of subtle discrimination from providers, patients report less satisfying experience, worse health outcomes (Piette, Bibbins-Domingo, & Schillinger, 2006) and less trust towards health care providers (Dovidio et al., 2008). In addition to the prejudice and bias toward providers displayed in medical encounters through straightforward or unconscious and subtle behavior, the perceived prejudice experienced by minority patients which impedes them from actively engaging in medical conversation is another mechanism through which health disparity occurs (Gordon, Street, Sharf, & Souchek, 2006). The reluctance of engaging in medical interview leads to less information exchanged between physicians and patients, resulting in health disparity among minority patients (Gordon et al., 2006).

Language and health disparity. Apart from prejudice against race and immigrant identity, language barriers are documented as another main factor that result in health disparity (For detailed reviews, see Jacobs, Chen, Karliner, Agger-Gupta, & Mutha, 2006; Terui, 2015; Timmins, 2002). Terui (2015) proposed that language barriers could contribute to health disparity through either direct pathways, comprising situations without the process through medical system, or indirect pathways that prevent patients' from accessing medical services or create barriers that diminish the quality of

medical encounters. Several studies provided evidence supporting that language barrier has negative impacts on the quality of healthcare (Timmins, 2002). Language barriers reduce patients' ability in medical comprehension (Wilson, Hm Chen, Grumbach, Wang, & Fernandez, 2005). Patients with limited English proficiency (LEP) had difficulties understanding discussions initiated and instructions given by providers, interpreting testing results accurately (Carrasquillo, Orav, Brennan, & Burstin, 1999), and understanding medications (Wilson et al., 2005). In addition, LEP patients asked less questions during medical encounters and recalled less information compared to native English speakers (Seijo, Gomez, & Freidenberg, 1991). Moreover, the lack of language concordance brings about the lack of trust established between providers and patients (Sherraden & Barrera, 1996). As a consequence of less information consumed and less trust established between two parties, LEP patients felt reluctant to adhere to treatment suggestions and reported reduced satisfaction about the quality of medical encounters (Jacobs et al., 2006; Seijo et al., 1991).

Conceptualizing Nonnative Providers

Although it is conclusive that immigrants and racial minorities experience prejudice against identity, and language barriers impede effective communication, which leads to health disparity, little is known about whether providers' race and language impact the quality of medical encounters. This situation is similar to the interaction between native providers and immigrant patients, since two parties do not share the same racial identity and native language. However, the circumstance when providers are nonnative is different from the situation when patients are immigrants in several aspects.

First, nonnative providers experience more tensions in their identity than immigrant patients during medical encounters. Nonnative providers are stigmatized due to their racial and immigrant background, but at the same time, they possess authoritative status in the interaction. The authoritative status possessed by providers may mitigate the stigma and prejudice against ethnic identity, since authority usually creates an impression of credibility. However, the nonnative identity, which is stigmatized, may taint the authoritative status of nonnative health care providers.

Social identity theory (SIT) proposed by Tajfel and Turner (1979) and self-categorization theory, known as the extended version of SIT, provide conceptual frameworks to understand normative bias and prejudice in intergroup relations, which gives insights to our understanding of nonnative providers. Consistent with normative bias investigated in studies on cross-cultural care, SIT proposes that people tend to interact with one another not as individuals with idiosyncratic characteristics, but rather as members of the salient groups they belong to. Motivated by the desire to enhance self-esteem, group members attempt to enact group comparisons, which then generates the favoritism towards in-group members and unfavorable attitudes towards out-group members (Tajfel & Turner, 1979). The intergroup communication is a process where people interact depending upon their cognitive conceptualization of large-scale social groups (Hogg, Abrams, Otten, & Hinkle, 2004; Scott, 2007). Differing from personal identity which is constructed on the basis of personal traits that distinguish one person from another, social identity is similar to group membership, a sharing identity constructed through the identification of social groups and other members in the social groups (Hogg et al., 2004). As individuals in the collective social groups, people treat

themselves as similar to other group members, and develop some degree of emotional attachment to the social groups (Tajfel & Turner, 1979). Once identified with social groups, people's social identity indicates self-concept, norms and appropriate behavior they should enact under different circumstances (Scott, Corman, & Cheney, 1998).

According to self-categorization theory, prejudice initiated during cross-cultural care is the result of prototype activation and depersonalization. In order to enhance self-image and reduce uncertainty, people cognitively construct the attributes of different social groups through prototypes, a set of related traits that distinguish one social group from others (Hogg et al., 2004; Hogg & Terry, 2000). Once prototype has been activated, the process of depersonalization begins, through which people attempt to interact based on their social category rather than personal traits (Hogg & Terry, 2000). This process allows people to maximize their distinctiveness with out-group members and regard in-group members and themselves as a unified entity, commonly known as stereotyping (Hogg & Terry, 2000).

Skin color is a maker of racial/ethnic identity, which often activates people's stereotypical perception of certain racial/ethnic groups. It is easy for people to activate stereotypes of racial groups, because skin colors make it easy for people to distinguish group members, viewing group members as homogeneous (Bowler, 1993). For example, Asians are regarded as a homogeneous group associated with both positive traits such as intelligent and hard-working, and negative traits including nerdy, lacking social skills (Ho & Jackson, 2001), and untrustworthy (Suzuki, 2002). Although people regard all Asians as a homogeneous group, nuances still exist among individuals from different national origins. Chinese, for example, are not just limited to attributes listed

above. People view Chinese as disciplined (Madon et al., 2001) and polite, but also associated with unique negative attributes such as annoying and oblivious (Ruble & Zhang, 2013). Differing from the stereotype of Chinese, Westerners' view of Indians is based normally on their religions, food and cultural traditions, regarding them as people who worship multiple gods and strange outsiders (Sodowsky & Carey, 1987).

Nonnative providers possess multiple identities and are involved in multiple intergroup relations when facing domestic patients. One layer of this relationship is intercultural communication, in which providers and patients are from different national origins, possessing distinctive cultural backgrounds. Another layer is the broadly defined intergroup communication between providers who have authoritative status and patients who are relatively vulnerable in the relationship. Although providers and patients have multiple identities in this scenario, self-categorization theory suggests that social identity is contingent upon social context and will readily transform, since people are likely to refer to the most accessible large-scale social categories in a particular circumstance (Hogg et al., 2004). As indicated by Hogg et al. (2004), only one of those identities can be made salient during intergroup communication, motivating people to interact with out-group members by recognizing their stereotypical images. In this scenario, unknown is whether patients' ethnic identity or their identity as patients will be activated. If ethnic/ national identity takes priority over identity as patients, native patients will rely on their stereotypical images of providers as foreigners to make judgment, bringing about normative bias and prejudice against nonnative providers. In contrast, activating identity as patients allows them to conceptualize foreign-born doctors as credible and reliable persons. The complicated nature of cross-cultural care

involving nonnative providers distinguishes it from healthcare involving immigrant patients, requiring more empirical investigations.

Second, language barriers under the circumstance when providers are nonnative should be distinguished from the situation involving immigrant patients. Some immigrant patients can speak fluent English, but patients who have resided in the United States for a short period of time may not communicate effectively with native providers or even need health interpreters to assist with medical interviews. In contrast, nonnative providers usually speak proficient English, because they have experienced complicated and high-standard examinations to ensure their theoretical and practical skills in the medical field. Compared to medical encounters involving LEP patients, fewer barriers exist in the interaction between nonnative providers and domestic patients.

Granted that nonnative providers might have fewer barriers communicating with native patients, they can hardly escape from the impacts of nonnative accent. Nonnative providers can hardly abandon foreign accent, since those who reside in the host country for a long period time and master language in the host country cannot completely eliminate the phonology of their first language (Moyer, 2004). Proficient English with nonnative accent is stigmatized in several public social settings (For detailed review, see Gluszek & Dovidio, 2010). One possible reason is that listening to speakers associated with different accent from the listeners requires much more efforts to comprehend (Ryan, 1983). People, especially in American society, evaluate standard American accent as more favorable than English with nonnative accent (Fuertes, Gottdiener, Martin, Gilbert, & Giles, 2012), since they hold normative bias towards

certain foreign accents. For example, a study shows that native English speakers in the United States expressed that Chinese are speaking "broke English", stating that Chinese could not distinguish "L" from "R" in pronunciation, and speak high toned English (Lindemann, 2005). Indian accent, though is evaluated favorably by some people, is treated as unclear and difficult to consume (Lindemann, 2005). Linguistic studies indicate that even the small increase in nonnative accent is able to induce the negative evaluation of the speaker (Ryan, Carranza, & Moffie, 1977).

Normative bias against accent is not the sole mechanism through which people develop negative attitude towards nonnative English speakers. Researchers claim that nonnative accent is able to elicit the stereotype pertaining to a certain racial group, thus resulting in negative evaluation of nonnative speakers (Hosoda, Stone-Romero, & Walter, 2007). In other words, people's perception and reaction to a certain language are not contingent upon the language itself, but instead depends upon the speaker's identity (Lindemann, 2005). As a way to claim immigrant identity (Nguyen, 1993), nonnative accent also elicits shared attributes associated with the foreign groups that the speaker belongs to. The elegance and logics characterizing the language are not central factors influencing people's perception of others (Edwards, 1999). Instead, the stereotypical social identity that conveyed by nonnative accents determines people's cognitive and affective perception of the speakers (Edwards, 1999; Wated & Sanchez, 2006). For example, a meta-analysis of 20 language attitudes studies found that individuals rate standard accent as significantly higher than non-standard accent on three commonly discussed dimensions, including status, dynamism, and solidarity (Fuertes et al., 2012). In other words, if a speaker communicates with non-standard

accent, especially accent belong to minority groups, he or she will be assessed as less intelligent, less attractive, and less active compared to those who communicate with standard accent. Although researchers have found significant difference between people's assessment of standard and non-standard accent, they also argue that the level of prejudice towards non-standard accent varies across distinct contexts, in which situations that are formal and with high risk generates more prejudice towards non-native accent than less formal situations (Cargile, 1997; Fuertes et al., 2012).

Researchers should conceptualize the role of nonnative providers and patients' reaction towards them. It is acknowledged that immigrant and minority patients experience health disparity (Institute of Medicine, 2003; Morrison et al., 2012) due to providers' prejudice and bias against immigrants' ethic identity (Balsa & McGuire, 2003; J. C. Blanchard et al., 2003) and language barriers between two parties (Timmins, 2002). Even though medical encounters with nonnative providers appear to be similar to interaction between immigrant patients and domestic providers, differences in terms of providers' intertwined identities and the less extent of language barriers bring about more questions. The questions become whether the high social status in medical encounters can mitigate the stigma towards racial identity and whether stigma against nonnative accent impacts patients' satisfaction and reduces the quality of medical interview. Therefore, it is important for researchers to conceptualize the impact of nonnative providers and conduct empirical studies on this issue.

Patient Satisfaction and Trust

Patient satisfaction. Examining the relationship between providers' characteristics and patient satisfaction is significant due to the importance of patient

satisfaction in healthcare settings. During and after medical encounters, patients are believed to generate certain values and assess various aspects of health service they receive (Pascoe, 1983; Speight, 2005). The assessment, also known as patient satisfaction, is a dynamic process incorporating multiple changes and facets (Pascoe, 1983). Originated from the field of consumer marketing (Kupfer & Bond, 2012), patient satisfaction is a multidimensional construct incorporating patients' psychological reaction and assessment of health service experience (Pascoe, 1983). This evaluative process encompasses patients' cognitive and affective reaction towards the particular experience in healthcare settings (J. K. Burgoon et al., 1987). Patient satisfaction is an evaluative construct of patients' assessment of general quality of health services or evaluation of specific medical encounters (M. Burgoon, Birk, & Hall, 1991), communicative aspects, and technical skills of providers (Sitzia & Wood, 1997). In this article, because of the focus of the study, I conceptualize patient satisfaction as a micro construct, focusing particularly on patients' evaluation of specific doctor-patient interaction, especially their overall satisfaction and their perception of providers' competence.

As an important standard reflecting opinions from medical service consumers, patient satisfaction has been widely utilized by researchers and health organizations to examine the quality of medical treatment and service (Hekkert, Cihangir, Kleefstra, van den Berg, & Kool, 2009; Speight, 2005). In addition, researchers regard patient satisfaction as an important predictor of other constructs associated with health outcomes, such as medical adherence, potential referral and likelihood of receiving future health service (Pascoe, 1983).

Apart from the significant role patient satisfaction has in medical service, researchers should investigate the relationship between doctors' personal attributes and patient satisfaction because of relatively less attention paid to this particular aspect. Previous research has examined the impact of patients' personal traits, such as age, on patient satisfaction as well as how initial expectations patients possess affect ultimate satisfaction (Pascoe, 1983; Sitzia & Wood, 1997). Although studies have investigated providers' gender and its impact on patient satisfaction (e.g., Janssen & Lagro-Janssen, 2012; Schmid Mast, Hall, & Roter, 2007), few have studied effects of other traits of providers such as race and accent on patient satisfaction.

Trust in physicians. Another potential outcome variable of physicians' attributes is patients' trust in physicians. Although trust in physicians is strongly correlated with patient satisfaction, trust is concerned more about patients' attitude towards physicians' attributes, behavior and the established relationship (Hall, Dugan, Zheng, & Mishra, 2001). In essence, healthcare delivery requires patients exposing their vulnerable aspects and inability to providers (Hillen, de Haes, & Smets, 2011). Entering healthcare settings means patients are supposed to let providers take charge of their body, diagnose problems and restore their health. This exposure of vulnerability to another party entails a sense of uncertainty and anxiety (Stepanikova, Mollborn, Cook, Thom, & Kramer, 2006). The willingness to accept this process in an optimistic way is the process of building trust (Hall et al., 2001).

Generally, trust in physicians comprises both patients' belief in physicians' technical competence and interpersonal communicative skills (Kraetschmer, Sharpe, Urowitz, & Deber, 2004; Thom & Campbell, 1997). Trust is established when patients

believe that their physicians are honest, respectful, possess adequate professional skills, protect and use their personal information appropriately (Hall, Camacho, Dugan, & Balkrishnan, 2002; Hall et al., 2001). Despite the fact that physicians' technical and interpersonal abilities are both important in building trust in doctor-patient relationship, Thom and Campbell (1997) stated that patients consider more interpersonal aspects of physicians than technical skills because patients lack abilities in evaluating professional competence. Consistent with previous conceptualization, this research conceptualizes trust in physicians as a multi-dimensional construct, focusing particularly on patients' subjective attitudes toward physicians' interpersonal and professional competence, and patients' willingness to expose their vulnerability to physicians.

Trust in physicians is essential because it can influence patients' attitude and behavior, as well as health outcomes in medical settings (Hall, Zheng, et al., 2002). Although trust established in doctor-patient relationship may not directly influence health outcomes, its impact on other constructs closely associated with health outcomes has been well studied. For example, several researchers have pointed out that trust in physicians could predict whether patients would adhere to prescribed regimen (Hall, Camacho, et al., 2002; Hillen et al., 2011; Thom & Campbell, 1997), patients' willingness to consult other physicians (Hall, Camacho, et al., 2002; Hall, Zheng, et al., 2002), patients' fear (Hillen et al., 2011), and patients' desire to disclose health-related information to physicians (Ozawa & Sripad, 2013), all of which are closely associated with patients' health outcomes.

Introduction to Hypotheses and Research Questions

Researchers need to conceptualize and study patients' perception of nonnative providers empirically and the importance of relating providers' personal traits to the constructs of patient satisfaction and trust in providers. Based on the literature and arguments above indicating the prejudice and bias towards racial minority and nonnative accent, it can be proposed that:

H1: Patients' satisfaction and their trust in Caucasian physicians are higher than in nonnative physicians.

H2: Patients' satisfaction and trust in physicians speaking standard American accent are higher than in physicians speaking nonnative accent.

However, little is known about how the two factors interact in terms of people's evaluation. In addition, few studies have been done examining individuals' attitudes towards different nonnative accent speech. Researchers also conceptualize Asians as a generic category, without making nuanced distinction among each Asian group (e.g., Kawai, 2005). Since nonnative providers are of different national origins, it would be crucial to explore how patients react towards physicians from different regions of Asia. Therefore, I propose the following research questions:

RQ1: Will race and accent of physicians have interaction effects on patient satisfaction and trust?

RQ2: Will patient satisfaction and their trust in physicians differ between physicians of Chinese and Indian origins?

RQ3: Will patient satisfaction and trust in physicians differ between physicians speaking Chinese accent and Indian accent?

Chapter 3: Method

Design and Procedure

After acquiring Institutional Review Board (IRB) approval of the study, a 2 (accent: standard American accent, nonnative accent) × 3 (race: Caucasian, Chinese, Indian) × 2 (sex: male, female) full factorial between-subjects study was performed. Data related to physicians' sex were used for future study. The purpose of the current study was to investigate both the main effects and interaction effects of physicians' accent and race on patient satisfaction and trust in physicians.

The experiment was conducted in a computer laboratory by adopting Qualtrics. Once arriving at the laboratory, participants were given sufficient time to read and complete informed consent. After completing informed consent and demographic information, they were randomly assigned to one of the 12 conditions described above. Due to the process of data collection, those who participated in the study after March.19th, 2017, were assigned to one of the six conditions (the independent variable of gender was removed). Participants filled out the questionnaire including manipulation check questions, questions measuring outcome variables, and open-ended questions which would be used for future studies (see Appendix B for the questionnaire). Three attention verification questions were employed to ensure data used for analysis were valid.

Participants

College students in a large university located at South Central United States were recruited by adopting the research pool in communication department. Participants (N= 230) completed the experiment in exchange for extra credit for their

communication courses, including both introductory level and senior level courses. Participants who watched the video of female physicians were not included in the analysis (n = 51). Since the purpose of the thesis is to examine domestic patients' evaluation of nonnative physicians, participants who reported that their countries of origin were not the United States were not included in the analysis (n = 14). Participants who failed to answer the verification questions were also excluded from the data analysis (n = 18). Based on the criteria mentioned above, 147 participants were included in the statistical analysis (mean age, 20.07, SD = 2.18; Caucasian with standard accent, n = 25; Caucasian with nonnative accent, n = 24; East Asian with standard accent; n = 27; East Asian with nonnative accent, n = 23; South Asian with standard accent, n = 23; South Asian with nonnative accent, n = 25). Among the 147 participants, 78.2% were Caucasian, 8.8% were Hispanic or Latino, 5.4% were Asian, 3.4% were African American, 2.7% were American Indian or Alaska native, and 1.4% were other races. 74.8% of the participants were female and 25.2% of the participants were male.

Materials

Information about type II diabetes were chosen as messages for physicians to deliver in the videos for two reasons. First, type II diabetes has become a prevalent chronic illness around the world, and the cases of type II diabetes will increase by 54% from 2010 to 2030 (J. E. Shaw, Sicree, & Zimmet, 2010). Its prevalence and steady increase around the world determine the necessity to examine the message effects on this particular illness. Second, this project intends to investigate whether physicians' race and accent would impact patient satisfaction and trust in physicians. If the information delivered is widely accepted as true, there will not be any effects on

participants. For example, if the physician is talking about treatment of fever, which is a less controversial disease, participants might have high trust of any physician due to the accepted fact of the treatment. To solve this problem, information delivered in the videos should be complicated and controversial. When the information is controversial, whether patients will accept the idea will be largely contingent upon the physicians. World Health Organization (2016) reported that type II diabetes is the result of the interplay of multiple risk factors, including genetic, environmental, and personal lifestyles. Managing type II diabetes is also believed to be a complex task involving medical treatment and lifestyle adjustment. Therefore, the complexity of causes and management strategies of type II diabetes makes it a desirable material for this study.

Scripts used in the videos were adopted from American Diabetes Association. The content was modified into a conversation between a physician and a patient who had been diagnosed with type II diabetes. Physicians in the videos delivered information about the causes and management strategies of diabetes, with a few inquiries and doubts from the patients (see detailed scripts in Appendix C).

Each video captured a physician talking to a patient diagnosed with type II diabetes. Six non-professionals assisted with creating stimulus materials. The actors and actresses recruited for the project were of Caucasian, Chinese, and Indian origins. Each actor or actress was asked to maximize his or her original accent on purpose. After creating all the videos, Caucasian actors and actresses were asked to match the lips of Chinese and Indian physicians with standard American accent by using a professional software, in order to create scenarios of Chinese Americans and Indian Americans who can speak standard American accent. Since the videos imitated real situations when

doctors talked to participants directly, the face of the patients was not shown in the videos. An American female was asked to play the patient's voice in every scenario. When choosing actors and actresses, I attempted to minimize their differences regarding their appearance and age (24-28 years old). In addition, all the actors and actresses wore the same pair of glasses and similar white coats. I also created all the videos at the same location and used software to make the light of every condition similar. The length of each video was around 90 seconds.

Outcome Measures

The outcome measures and manipulation check measures described below, unless pointed out specifically, adopt 5-point Likert scales (*1 = strongly disagree*; *5 = strongly agree*).

Patient satisfaction. Patient satisfaction was measured using two dimensions adapted from Grayson-Sneed et al. (2016). One of the dimensions containing three items measures patients' evaluation of the physician's competence ($M = 3.72$, $SD = 1.03$, Cronbach's $\alpha = .92$). Sample questions include "I have confidence in this doctor's abilities"; "This doctor seems to know what he/she is doing". The other dimension containing three items measures patients' overall satisfaction of their visits with the doctor ($M = 3.37$, $SD = 1.09$, Cronbach's $\alpha = .86$). Sample questions include "I am pleased with my visit with this doctor".

Trust in physicians. Trust in physicians was measured by adapting the original measurement incorporating 11 items from Thom, Ribisl, Stewart, Luke, and The Stanford Trust Study (1999). A principle component analysis (PCA) was performed to examine whether the trust in physicians scale contains multiple components. Based on

the results of the first round of PCA, item 11 under trust ("I sometimes worry that the doctor may not keep the information we discuss totally private.") was removed from the measurement, because of the low communality with other items. After removing item 11, the second round of PCA was performed, finding that all the items under the measurement of trust have acceptable communalities (higher than 0.50) (Tabachnick & Fidell, 2007). The eigenvalues and the screen plot of the second-round PCA suggest that only one component is observed among the 10 items under trust. The 10 items retained in the measurement of trust in physicians have high internal consistency (M = 3.41, SD = 0.88, Cronbach's α = .92)

Quality of information received (data used for future study). Quality of information participants received was measured by using three multiple-choice questions and two true/false questions. These questions captured the important information delivered by the doctors in the videos, such as causes of diabetes as well as prescriptions and advice given by the doctor. The number of correct answers was served as the indicator of the quality of information received.

Manipulation Check Measures

Perceived race. Two items (The doctor in the video looks Caucasian/Asian") adopted from Rubin, Healy, Gardiner, Zath, and Moore (1997) were developed to check whether participants' perception of the physician's race was induced (M = 2.73 , SD = 1.68). The two items measuring perceived race are significantly related, r = .69, $p <$ .001.

Perceived accent. Similar to the measurement of perceived accent, another two items ("The doctor in the video sounds like a native/ foreign speaker") were adopted

from Rubin et al. (1997) to check the manipulation of accent ($M = 2.70$, $SD = 1.61$). The two items measuring perceived accent are also highly correlated, $r = .82$, $p < .001$.

Perceived realism. To ensure the external validity of the study, participants were asked to imagine that they were the patients in the video. One item regarding whether the interaction is realistic was asked to examine the realism of the situation and make sure each situation has the similar level of realism.

Chapter 4: Results

In the whole dataset, only two values are missing, which can be understood as randomly missing values. The two missing values under the measurement of satisfaction and trust are replaced by series means. No outliers have been observed in the entire dataset.

Manipulation Check

Perceived race. Levene's *F* test shows that the variances across each race group is significantly different, $F(2, 144) = 15.02$, $p < .001$. Field (2013) suggests that, if researchers encounter a situation when assumption of homogeneity of variances has been violated, it would be better to use a more robust test called Welch's test (Welch, 1951). The result of Welch's test shows that participants' perceived race is significantly different among three groups, $F(2, 83.24) = 480.51$, $p < .001$. Post-hoc test named Games-Howell was adopted to determine detailed picture of differences across groups. Obviously, the Chinese physician ($M = 1.23$, $SD = 0.81$) is perceived as more like an Asian than the Caucasian physician ($M = 4.80$, $SD = 0.39$), $p < .001$. The Indian physician ($M = 2.19$, $SD = 0.90$) is also perceived by participants to be more like an Asian than the Caucasian physician ($M = 4.80$, $SD = 0.39$), $p < .001$. These results indicate that the manipulation of race is accomplished. Surprisingly, the Chinese physician ($M = 1.23$, $SD = 0.81$) is perceived to be more like an Asian than the Indian physician ($M = 2.19$, $SD = 0.90$), $p < .001$.

Perceived accent. An independent samples *t*-test was performed to examine whether the manipulation of accent was successful across different conditions. The results suggest that participants watched videos capturing physicians with standard

American accent (M = 3.86, SD = 1.35) regard physicians as more like native speakers than participants watching the physicians with foreign accent (M = 1.50, SD = 0.76), t (117.16)= 13.15, $p < .001$, d = 2.15. The significant difference between two levels suggests that the manipulation of accent is successful.

Perceived realism. A descriptive analysis of perceived realism was conducted to examine whether participants regarded the scene captured by the video as realistic. The results show that the videos have moderate level of imitating realistic situation (M = 2.90, SD = 1.28). One-way analysis of variance (ANOVA) was performed to examine whether each condition has the similar level of realism. Levene's F test which examines the assumption of homogeneity of variance (Field, 2013), shows that variances across six groups are not significantly different, $F(5, 141) = 0.91$, $p = .474$, suggesting that the assumption is not violated. The results of ANOVA reveal that there is no significant difference among the six conditions, $F(5, 141) = 1.04$, $p = .400$, $\eta^2 = .035$, which support that the videos in six conditions produce similar level of realism.

Examining Hypotheses and Research Questions

The hypotheses and research questions of this study concern the main effects and interaction effects of race and accent of physicians on patient satisfaction and their trust in physicians. The independent variables are physicians' race and accent, and the dependent variables are patients' overall satisfaction, perceived competence of physicians, and trust in physicians. Based on Tabachnick and Fidell (2007), I utilized multivariate analysis of covariance (MANCOVA) to investigate the effects of physicians' race and accent on perceived physicians' competence, patients' overall satisfaction and trust in physicians. Participants' sex, age, race, and frequency of

visiting nonnative physicians were utilized as covariates. The results of MANCOVA reveal that no significant interaction effects exists regarding means of patient satisfaction and trust in physicians (see Appendix A for tables), Wilks' $\lambda = 0.98$, $F(6, 270) = 0.44$, $p = .854$, $\eta_P^2 = .010$. The results suggest that physicians' race does not have significant main effects on the means of patients' overall satisfaction, perceived physicians' competence and trust, Wilks' $\lambda = 0.95$, $F(6, 270) = 1.21$, $p = .303$, $\eta_P^2 = .026$. In addition, physicians' accent does not have significant main effects on the means of patient satisfaction and trust, Wilks' $\lambda = 0.98$, $F(3, 135) = 1.01$, $p = .390$, $\eta_P^2 = .022$. Among the covariates, only participants' age has significant effects on perceived physicians' competence, overall satisfaction, and trust in physicians, Wilks' $\lambda = 0.94$, $F(3, 135) = 2.84$, $p = .041$, $\eta_P^2 = .059$. Based on the results of the first round of MANCOVA, a second round of MANCOVA was performed with participants' age as the covariate. The results show that, with participants' age controlled, no significant interaction effects was observed regarding means of patients' overall satisfaction, perceived physicians' competence, and trust in physicians, Wilks' $\lambda = 0.98$, $F(6, 276) = 0.49$, $p = .814$, $\eta_P^2 = .011$. The results suggest that physicians' race does not have significant main effects on the means of patients' overall satisfaction, perceived physicians' competence and trust, Wilks' $\lambda = 0.95$, $F(6, 276) = 1.20$, $p = .307$, $\eta_P^2 = .025$. In addition, physicians' accent does not have significant main effects on the means of patient satisfaction, perceived competence, and trust, Wilks' $\lambda = 0.98$, $F(3, 138) = 1.05$, $p = .374$, $\eta_P^2 = .022$.

To have a more nuanced understanding of variables and subscales within the variables, I conducted multiple pairwise comparisons of the main effects of physicians'

race and accent, as well as the interaction effects of physicians' race and accent, on each item under the measurement of patient satisfaction and trust in physicians. In terms of the main effects of physicians' race, item 2 ("The doctor is considerate of my needs and puts them first") under the measurement of trust suggests that participants evaluate physicians of Chinese origin (M = 3.60, SD = 1.12, 95% CI [3.28, 3.93]) greater than physicians of Indian origin (M = 3.11, SD = 1.22, 95% CI [2.77, 3.44]) (see Appendix A for tables). Pairwise comparison of the main effects of physicians' accent does not suggest any significant results on any items.

In terms of the interaction effects of physicians' race and accent on each item under satisfaction, pairwise comparisons suggest that significant difference exists between the score on the Caucasian doctor speaking standard accent (M = 3.37, SD = 1.22, 95% CI [2.90, 3,84]) and the Indian doctor speaking standard accent (M = 2.45, SD = 1.12, 95% CI [1.96, 2.94]) regarding item 5 under the measurement of satisfaction ("I was pleased with my visit with the doctor"). Additionally, on the same item, the Indian doctor speaking foreign accent (M = 3.18, SD = 1.30, 95% CI [2.71, 3.65]) receives significantly higher evaluation than the Indian doctor speaking standard accent (M = 2.45, SD = 1.12, 95% CI [1.96, 2.94]).

With regard to the interaction effects of physicians' race and accent on trust, pairwise comparisons suggest that the Chinese doctor speaking foreign accent (M = 3.53, SD = 1.04, 95% CI [3.02, 4.04]) is evaluated as significantly greater than the Indian doctor speaking standard accent (M = 2.71, SD = 1.25, 95% CI [2.20, 3.22]) on the reverse coded item 1 ("I doubt that my doctor really cares me as a person"), which indicates participants doubt the Indian physician speaking standard American accent

more than the Chinese physician speaking foreign accent. The same pattern is also found in item 2 ("The doctor is considerate of my needs and puts them first"), with the Chinese doctor speaking foreign accent (M = 3.58, SD = 1.12, 95% CI [3.10, 4.06]) having significantly higher score than the Indian doctor speaking standard accent (M = 2.76, SD = 1.20, 95% CI [2.28, 3.23]). For the same item, the Chinese doctor speaking standard accent (M = 3.63, SD = 1.14, 95% CI [3.19, 4.07]) is also evaluated as significantly greater than the Indian doctor speaking standard accent (M = 2.76, SD = 1.20, 95% CI [2.28, 3.23]). On the same item, the Indian doctor speaking foreign accent (M = 3.45, SD = 1.20, 95% CI [2.99, 3.92]) is evaluated higher than the Indian doctor speaking standard accent (M = 2.76, SD = 1.20, 95% CI [2.28, 3.23]).

Chapter 5: Discussion and Conclusion

Discussion

The study aims to understand whether patient satisfaction and trust in physicians will be different when patients encounter nonnative physicians versus domestic physicians. Participants in the study were randomly assigned to one of the experimental conditions capturing a physician talking about causes and treatment of diabetes. Manipulation of physicians' race and accent was used. The results of the study reveal that, at the multivariate level, neither main nor interaction effects of physicians' race and accent exist regarding patients' evaluation of their satisfaction of visits, and their overall trust in physicians. The extent of overall satisfaction of medical interview and patients' trust in physicians are similar across different experimental groups with the manipulation of physicians' race and accent at the multivariate level. However, follow-up analysis of pairwise comparisons found that compared to physicians of Indian origins, physicians of Chinese, regardless of their accents, are evaluated higher on multiple items under the measurement of trust. Indian physicians of Indian accent are evaluated as better than Indian physicians speaking standard American accent on one item under measurement of trust. Caucasian physicians speaking standard American accent are evaluated as better than Indian physicians speaking standard accent on one item under satisfaction.

Although few studies have examined the topic of nonnative physicians/IMGs, the results of the multivariate analysis of means are consistent with previous findings. The current project found non-significant effects of physicians' race and accent on patients' satisfaction and trust, which is consistent with previous studies examining

nonnative physicians/IMGs. For instance, Rubin et al. (1997) used physicians' pictures and audiotapes to examine the language attitudes of patients towards nonnative physicians. Their research found that only participants' perceived attractiveness of physicians is predicted by the physicians' race, and the manipulation of accent and race has no significant effects on other dependent variables. They also observed that, although participants' perceived accent predicts two outcome variables (superiority and attractiveness) widely adopted in language attitude research, variables of particular interest in health communication field, such as medical compliance, are not subject to participants' perceived accent (Rubin et al., 1997). Additionally, Adams et al. (2015) found that whether physicians adopt patient-centered communication is a more profound predictor than racial concordance between physicians and patients. Physicians' gender and age are more influential predictor of patients' evaluation of their visits, whereas physicians' race has no significant effects on the health-related variables (Shah & Ogden, 2006).

However, the results of this study are different from language attitudes research examining other contexts. A number of language attitudes studies found that participants assess standard-accented speech as more favorable on multiple measurements than foreign-accented speech (e.g., Bresnahan, Ohashi, Nebashi, Liu, & Morinaga Shearman, 2002; Hosoda, Nguyen, & Stone-Romero, 2012), which is not the case in this study. Researchers argue that the contexts of the speech may have profound effects on listeners' evaluation. For example, accented speech does not have significant influence on employment interviews, but it affects listeners' evaluations of the instructors within the context of college class (Cargile, 1997). Even the topics of the

speech exert significantly different impacts on listeners' evaluations (Rubin & Smith, 1990). However, few studies, except for Rubin et al. (1997), have investigated the context of doctor-patient communication. The interaction between doctors and patients might serve as a contextual factor that shapes participants' attitudes toward and evaluation of physicians.

First, the theoretical framework adopted in the current study may explain how the context of doctor-patient communication impacts the results at the multivariate level. As suggested by both SIT (Tajfel & Turner, 1979) and self-categorization theory (Hogg & Terry, 2000), people interact with each other through their cognitive conceptualization of their group membership, instead of the emphasis on idiosyncratic personal identity. Even though people possess multiple identities, only one identity will be cognitively recognized as salient in a certain situation due to the dynamic nature of social identity (Hogg et al., 2004). When interacting with others, people tend to draw on the most accessible and meaningful identity at the moment. The activated identity fits the situation and explains the behavior in the specific situation. Once people realize they are self categorizing, they will tend to focus or depend on the prototype of the out-group members when deciding how to think and behave (Hogg & Terry, 2000).

The current study found no significant difference between patients' overall evaluation of native and nonnative physicians, which could be explained by the fact that the social identity of patients, instead of racial identity, is activated during medical encounters. In healthcare settings, patients are vulnerable and hold the desire to be cured and restored. They tend to categorize themselves as patients who want to be treated. Therefore, the most meaningful and accessible social identity is the identity as

patients who are supposed to expose their vulnerability and problems to the out-group member—the doctor. At this particular moment, people give priority to their social identity as patients over the social identity as defined by their race and national origins. It is acknowledged that physicians are associated with traits of high social status, intelligence, and professionalism. As a consequence, the prejudice and bias against their race and origins becomes less salient and be mitigated by the social status of physicians, which explains why different experimental conditions are rated similarly in terms of the means of patient satisfaction and trust. A recent study by Rubin, Coles, and Barnett (2016) found that elders' satisfaction of health care aides varies significantly as the accent of the aides varies. In their study, health care aides are associated less with professionalism and relatively in lower status compared to physicians, which indicates that powerful social status and professionalism could mitigate the prejudice towards race and nonnative accent. Their results indirectly support my speculation that high status and professionalism may mitigate the bias and prejudice towards racial identity and foreign accent.

Another explanation of the non-significant results would be social desirability. According to Nederhof (1985), social desirability refers to participants' likelihood of providing socially desirable answers when participating in social science research, in order to maintain their favorable images. As mentioned in the literature review, prejudice and bias towards out-group members are usually delivered through subtle and implicit ways, such as non-verbal cues in interactions (Dovidio et al., 2008; Levine & Ambady, 2013). Due to the impact of social desirability, especially college students who are well educated, participants in the study may provide ratings that display less

prejudice towards racial minority and accented speech, which leads to the non-significant results of the manipulation.

Additionally, positive stereotypes of Asians may mitigate the prejudice towards nonnative physicians. Asian Americans experience a dialectical tension of positive and negative stereotypes, in which their competence compared to other minorities makes them *model minority*, while their over-competence makes them subject to the negative stereotype of *yellow peril* (Kawai, 2005). Asians are associated with features such as disciplined and polite (Madon et al., 2001; Ruble & Zhang, 2013). They are also perceived to be of high competence and professionalism compared to people of other origins (Lee & Fiske, 2006), which can be considered as good qualities especially for people working in healthcare settings. Shah and Ogden (2006) found that patients rated Asian physicians higher compared to American physicians regarding their ability to notice and care about patients' emotions. In contrast to Westerners, Asians are cultivated to notice and understand other's feelings since their childhood (Nisbett, 2003). Health care providers belong to the helping profession that requires the devotion of caring and emotion (Miller & Considine, 2009). The positive stereotypes of Asians in terms of their better skills in noticing and managing emotions and the stereotype of professionalism may become an advantage that soften the prejudice against their negative stereotypes. Moreover, Lee and Fiske (2006) note that documented immigrants, meaning those have legal status, are not treated as different than Americans. Since being a nonnative physician is a job of high social status and legal status, the bias towards immigrants would be lessened.

Pairwise comparisons of the main effects and interaction effects of race and accent were performed on each item to provide a more nuanced understanding of the results. However, as aforementioned, Caucasian physicians speaking standard accent and Chinese physicians regardless of their accent, are evaluated as better than Indian physicians regarding (a) whether the physician made it easy to understand patients' health condition; (b) whether the physician is considerate of patients' needs; (c) whether the visit with the physician is pleased; (d) whether patients doubt the physicians' ability. Interestingly, Indian physicians, regardless of their accent, are evaluated as less satisfying than Caucasian physicians speaking standard American accent on multiple items. In the meantime, participants trust more in Chinese physicians, regardless of their accent, than in Indian physicians on multiple items. The difference observed between Chinese physicians and Indian physicians are somewhat counterintuitive, since they are both Asians. Indians, similar to Chinese, are also susceptible to the myth of *model minority* (Saran, 2015). Previous studies examining stereotypes of Asians tend to categorize all Asians as a generic group, without taking into account the geographic location and skin color of Asians in different regions (e.g., Kawai, 2005; Wing, 2007; Yee, 1992). The differences between evaluation of Chinese physicians and Indian physicians observed in this study indicate that people may adopt different standards in evaluating East Asian and South Asian physicians and their relationships may differ. As suggested by the results of manipulation check, the Chinese physician is evaluated as more like an Asian than the Indian physician, which may implicate that Chinese physicians, who are marked by the color of yellow tan or light brown, are closer to Americans' perception of Asians than Indians marked by the brown skin color. The

difference between these two groups in terms of the multiple items might be explained by the fact that East Asians are closer to Americans' perception of *model minority* than South Asians. However, since few studies make clear distinction and examines the differences between these two populations, more empirical investigations should be conducted in the future. However, one result of this study is somewhat hard to explain. In terms of whether the participants are pleased with their visits, Indian physicians speaking foreign accent are evaluated higher than Indian physicians speaking standard accent.

The results have practical implications, especially for IMGs and the training institutions. Since patients' evaluation of domestic and nonnative providers does not differ significantly, it is possible for IMGs to achieve success in healthcare settings by improving technical skills and enhancing communication competence. Their positive stereotypes may serve as an advantage during medical encounters, which contributes to their medical career in the United States.

Limitations

The thesis project has several limitations. First, the current study adopts convenience sampling to recruit participants from a university in South Central United States. The results drew on this particular sample may not be generalizable. Specially, college students are educated to show equality, thus prejudice and bias might be covered by the socially desirable results. Diverse sample including other populations, such as people living in urban areas and elders, may provide more profound results regarding this topic. Second, due to the timing of collecting data, the number of participants recruited for this study needs to be increased. Currently, the number of

participants recruited for each experimental condition is around 25, which might make the study under power.

The last limitation of the current project concerns the experimental design. Due to the difficulty of finding actors and actresses who are fluent in speaking both standard American accent and nonnative accent, the current project does not adopt the "matched guise" design, a design widely utilized in language attitude studies (e.g., Bresnahan et al., 2002; Cargile & Giles, 1998), which uses the same person to play different types of accent in order to reduce the effects of other variables, such as voice, on evaluation. Although the researcher of the current study makes efforts to keep every condition consistent, the effects of voice is not eliminated. In addition, this study utilizes voiceover technique to imitate real medical encounters, in order to increase the external validity of the study. Although the voiceover is successful given the non-significant results across each group regarding the realism of conditions, the voiceover may still be perceived as awkward by participants, which might affect the results of the study.

Future Directions

As stated in the literature review, bias and prejudice are often practiced in subtle manners (Dovidio et al., 2008), which could not be easily noticed through self-report data. In order to gain better understanding of patients' attitudes toward nonnative providers, research in more naturalistic situations should be conducted. For example, researchers can observe the verbal and non-verbal cues exchanged among patients and their nonnative providers, and compare them with the interaction involving American providers and patients. The more naturalistic settings allow researchers to capture nuances in doctor-patient communication.

In addition, researchers should examine the ways nonnative providers communicate with patients. As indicated by the results of the current study, providers' race and accent do not contribute significantly to patient evaluation. Adams et al. (2015) suggest that what matters is whether physicians have engaged in patient-centered communication. Therefore, researchers should examine in naturalistic healthcare settings, the communication patterns adopted by nonnative providers and its difference from the communication styles employed by American physicians. Studies in more naturalistic settings would provide valuable practical implications for nonnative providers' practice and health institutions.

Furthermore, researchers should examine whether patients' race has effects on their evaluation of nonnative providers. Examining how patients' race influences their perception of nonnative providers is a prospective research direction that future studies might rely on. Future research should not simply divide groups into racially concordant and racially discordant groups. Instead, more nuanced understanding of how each minority group perceive nonnative providers should be addressed.

Last, researchers are expected to examine the difference of how patients perceive health care providers of different status. As indicated in the current study, participants do not perceive physicians of different origins and accent differently, but as found by Rubin et al. (2016), health care aides of different accent are perceived differently by elders. In the discussion, the social status of physicians is speculated as buffer of negative stereotypes. To gain more reliable and valid results, future studies should examine how health care providers of different status, such as nurses, physicians, aides, differ in terms of how patients perceive them.

Conclusion

This thesis investigates patients' evaluation of providers of different racial origins and accent by conducting full factorial design. Results of the thesis suggest that participants' satisfaction of visits and their trust in physicians are similar to a certain extent when facing American and nonnative physicians. The non-significant results may be subject to the activation of prototype of physicians who possess high status and professionalism, social desirability of college students, and positive stereotypes of Asians. However, follow-up analysis suggests more nuanced results that Indian physicians are evaluated as less favorable in terms of patient satisfaction and trust compared to Chinese and Caucasian physicians. The results suggest practical implications for nonnative providers/IMGs and related training programs.

Endnotes

[1] In communication area, intercultural communication is the study of interaction between people who have different national origins, while cross-cultural communication concerns the comparison of cultures (Rogers & Hart, 2002). However, this paper uses cross-culture care to represent the intercultural communication between health care providers and patients because of the term's popularity in medical field.

[2] According to Educational Commission for Foreign Medical Graduates (n.d.-a), IMGs are defined as doctors who obtained their medical degrees or training outside the United States and Canada. In this paper, the definition of IMGs is consistent with the one given by ECFMG. When I use the term "health providers", I refer health providers (not limited to doctors) to those who were born and raised up outside the United States and Canada

References

Adams, A., Realpe, A., Vail, L., Buckingham, C. D., Erby, L. H., & Roter, D. (2015). How doctors' communication style and race concordance influence African–Caribbean patients when disclosing depression. *Patient Education and Counseling, 98*, 1266-1273. doi:10.1016/j.pec.2015.08.019

Anderson, L. M., Scrimshaw, S. C., Fullilove, M. T., Fielding, J. E., & Normand, J. (2003). Culturally competent healthcare systems: A systematic review. *American Journal of Preventive Medicine, 24*, 68-79. doi:10.1016/S0749-3797(02)00657-8

Asai, A., Lo, B., & Fukuhara, S. (1995). Attitudes of Japanese and Japanese-American physicians towards life-sustaining treatment. *The Lancet, 346*, 356-359. doi:10.1016/S0140-6736(95)92230-X

Balsa, A. I., & McGuire, T. G. (2003). Prejudice, clinical uncertainty and stereotyping as sources of health disparities. *Journal of Health Economics, 22*, 89-116. doi:10.1016/S0167-6296(02)00098-X

Barreto, Y. K. (2013). The experience of becoming a therapist in a foreign culture. *Journal of Humanistic Psychology, 53*, 336-361. doi:10.1177/0022167812471076

Blanchard, J., Nayar, S., & Lurie, N. (2007). Patient-provider and patient-staff racial concordance and perceptions of mistreatment in the health care setting. *Journal of General Internal Medicine, 22*, 1184-1189. doi:10.1007/s11606-007-0210-8

Blanchard, J. C., Haywood, Y. C., & Scott, C. (2003). Racial and ethnic disparities in health: An emergency medicine perspective. *Academic Emergency Medicine, 10*, 1289-1293. doi:10.1197/s1069-6563(03)00501-3

Boulet, J. R., van Zanten, M., McKinley, D. W., & Gary, N. E. (2001). Evaluating the spoken English proficiency of graduates of foreign medical schools. *Medical Education, 35*, 767-773. doi:10.1046/j.1365-2923.2001.00998.x

Bowler, I. (1993). 'They're not the same as us': midwives' stereotypes of South Asian descent maternity patients. *Sociology of Health & Illness, 15*, 157-178. doi:10.1111/1467-9566.ep11346882

Bresnahan, M. J., Ohashi, R., Nebashi, R., Liu, W. Y., & Morinaga Shearman, S. (2002). Attitudinal and affective response toward accented English. *Language & Communication, 22*, 171-185. doi:10.1016/S0271-5309(01)00025-8

Bruijnzeels, M., & Visser, A. (2005). Intercultural doctor-patient relational outcomes: need more to be studied. *Patient Education and Counseling, 57*, 151-152. doi:10.1016/j.pec.2005.03.002

Burgoon, J. K., Pfau, M., Parrott, R., Birk, T., Coker, R., & Burgoon, M. (1987). Relational communication, satisfaction, compliance-gaining strategies, and compliance in communication between physicians and patients. *Communication Monographs, 54*, 307. doi:10.1080/03637758709390235

Burgoon, M., Birk, T. S., & Hall, J. R. (1991). Compliance and satisfaction with physician-patient communication: An expectancy theory interpretation of gender differences. *Human Communication Research, 18*, 177-208. doi:10.1111/j.1468-2958.1991.tb00543.x

Cargile, A. C. (1997). Attitudes toward Chinese-accented speech: An investigation in two contexts. *Journal of Language and Social Psychology, 16*, 434-443. doi:10.1177/0261927x970164004

Cargile, A. C., & Giles, H. (1998). Language attitudes toward varieties of English: An American-Japanese context. *Journal of Applied Communication Research, 26*, 338-356. doi:10.1080/00909889809365511

Carrasquillo, O., Orav, E. J., Brennan, T. A., & Burstin, H. R. (1999). Impact of language barriers on patient satisfaction in an emergency department. *Journal of General Internal Medicine, 14*, 82-87. doi:10.1046/j.1525-1497.1999.00293.x

Cheng, L., & Yang, P. Q. (1998). Global interaction, global inequality, and migration of the highly trained to the United States. *The International Migration Review, 32*, 626-653. doi:10.2307/2547766

Chung, V. C. H., Ma, P. H. X., Lau, C. H., Wong, S. Y. S., Yeoh, E. K., & Griffiths, S. M. (2014). Views on traditional Chinese medicine amongst Chinese population: A systematic review of qualitative and quantitative studies. *Health Expectations, 17*, 622-636. doi:10.1111/j.1369-7625.2012.00794.x

Cohen, J. (2006). The role and contributions of IMGs: A U.S. perspective. *Academic Medicine, 81*, 17-21. doi:10.1097/01.ACM.0000243339.63320.98

Croucher, S. M., & Kramer, E. (2017). Cultural fusion theory: An alternative to acculturation. *Journal of International & Intercultural Communication, 10*, 97-114. doi:10.1080/17513057.2016.1229498

Csikos, A., Mastrojohn Iii, J., Albanese, T., Moeller, J. R., Radwany, S., & Busa, C. (2010). Physicians' beliefs and attitudes about end-of-life care: A comparison of selected regions in Hungary and the United States. *Journal of Pain and Symptom Management, 39*, 76-87. doi:10.1016/j.jpainsymman.2009.05.019

Davenport, B. A. (2000). Witnessing and the medical gaze: How medical students learn to see at a free clinic for the homeless. *Medical Anthropology Quarterly, 14*, 310-327. doi:10.1525/maq.2000.14.3.310

Dovidio, J. F., Penner, L. A., Albrecht, T. L., Norton, W. E., Gaertner, S. L., & Shelton, J. N. (2008). Disparities and distrust: The implications of psychological processes for understanding racial disparities in health and health care. *Social Science & Medicine, 67*, 478-486. doi:10.1016/j.socscimed.2008.03.019

Dublin, T. D. (1974). Foreign physicians: Their impact on U.S. health care. *Science, 185*, 407-414. doi:10.1126/science.185.4149.407

Dutta, M. J., & Basu, A. (2011). Culture, communication and health: A guiding framework. In T. L. Thompson, R. Parrott, & J. F. Nussbaum (Eds.), *The Routledge Handbook of Health Communication* (2nd ed., pp. 320-334). New York, NY: Taylor & Francis.

Edberg, M., Cleary, S., & Vyas, A. (2011). A trajectory model for understanding and assessing health disparities in immigrant/refugee communities. *Journal of Immigrant & Minority Health, 13*, 576-584. doi:10.1007/s10903-010-9337-5

Educational Commission for Foreign Medical Graduates. (2016). 2017 information booklet. Retrieved January 2, 2017, from http://www.ecfmg.org/2017ib/2017ib.pdf

Educational Commission for Foreign Medical Graduates. (n.d.-a). Definition of an IMG. Retrieved January 12, 2017, from http://www.ecfmg.org/certification/definition-img.html

Educational Commission for Foreign Medical Graduates. (n.d.-b). IMGs in the United States. Retrieved September 27, 2016, from http://www.ecfmg.org/certification/imgs-united-states.html - note

Edwards, J. (1999). Refining our understanding of language attitudes. *Journal of Language and Social Psychology, 18*, 101-110. doi:10.1177/0261927x99018001007

Feldman, M. D., Zhang, J., & Cummings, S. R. (1999). Chinese and U.S. internists adhere to different ethical standards. *Journal of General Internal Medicine, 14*, 469-473. doi:10.1046/j.1525-1497.1999.06318.x

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Sage.

Foucault, M. (1973). *The birth of the clinic*. New York, NY: Vintage Books.

Fuertes, J. N., Gottdiener, W. H., Martin, H., Gilbert, T. C., & Giles, H. (2012). A meta-analysis of the effects of speakers' accents on interpersonal evaluations. *European Journal of Social Psychology, 42*, 120-133. doi:10.1002/ejsp.862

Garro, L. C. (1988). Explaining high blood pressure: Variation in knowledge about illness. *American Ethnologist, 15*, 98-119. doi:10.1525/ae.1988.15.1.02a00070

Gluszek, A., & Dovidio, J. F. (2010). The way they speak: A social psychological perspective on the stigma of nonnative accents in communication. *Personality and Social Psychology Review, 14*, 214-237. doi:10.1177/1088868309359288

Goffman, E. (1963). Stigma and social identity. In E. Goffman (Ed.), *Stigma: Notes on the management of spoiled identity* (pp. 1-41). New York: Simon & Schuster.

Gordon, H. S., Street, R. L., Sharf, B. F., & Souchek, J. (2006). Racial differences in doctors' information-giving and patients' participation. *Cancer, 107*, 1313-1320. doi:10.1002/cncr.22122

Gray, B. R., & Gunderman, R. B. (2016). Lessons of history: The medical gaze. *Academic Radiology, 23*, 774-776. doi:10.1016/j.acra.2016.01.016

Grayson-Sneed, K. A., Dwamena, F. C., Smith, S., Laird-Fick, H. S., Freilich, L., & Smith, R. C. (2016). A questionnaire identifying four key components of patient satisfaction with physician communication. *Patient Education and Counseling, 99*, 1054-1061. doi:10.1016/j.pec.2016.01.002

Gudykunst, W. B. (2002). Intercultural communication: Introduction. In W. B. Gudykunst & B. Mody (Eds.), *Handbook of international and intercultural communication* (2nd ed., pp. 179-182). Thousand Oaks, CA: Sage.

Hagopian, A., Thompson, M. J., Fordyce, M., Johnson, K. E., & Hart, L. G. (2004). The migration of physicians from sub-Saharan Africa to the United States of America: Measures of the African brain drain. *Human Resources for Health, 2*, 1-10. doi:10.1186/1478-4491-2-17

Hall, M. A., Camacho, F., Dugan, E., & Balkrishnan, R. (2002). Trust in the medical profession: conceptual and measurement issues. *Health Services Research, 37*, 1419-1439. doi:10.1111/1475-6773.01070

Hall, M. A., Dugan, E., Zheng, B., & Mishra, A. K. (2001). Trust in physicians and medical institutions: What is it, can it be measured, and does it matter? *Milbank Quarterly, 79*, 613-639. doi:10.1111/1468-0009.00223

Hall, M. A., Zheng, B., Dugan, E., Camacho, F., Kidd, K. E., Mishra, A., & Balkrishnan, R. (2002). Measuring patients' trust in their primary care providers. *Medical Care Research and Review, 59*, 293-318. doi:doi:10.1177/1077558702059003004

Hekkert, K. D., Cihangir, S., Kleefstra, S. M., van den Berg, B., & Kool, R. B. (2009). Patient satisfaction revisited: A multilevel approach. *Social Science & Medicine, 69*, 68-75. doi:10.1016/j.socscimed.2009.04.016

Hillen, M. A., de Haes, H. C. J. M., & Smets, E. M. A. (2011). Cancer patients' trust in their physician—a review. *Psycho-Oncology, 20*, 227-241. doi:10.1002/pon.1745

Ho, C., & Jackson, J. W. (2001). Attitude toward Asian Americans: Theory and measurement. *Journal of Applied Social Psychology, 31*, 1553-1581. doi:10.1111/j.1559-1816.2001.tb02742.x

Hogg, M. A., Abrams, D., Otten, S., & Hinkle, S. (2004). The social identity perspective. *Small Group Research, 35*, 246-276. doi:doi:10.1177/1046496404263424

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25*, 121-140. doi:10.5465/AMR.2000.2791606

Hosoda, M., Nguyen, L. T., & Stone‐Romero, E. F. (2012). The effect of Hispanic accents on employment decisions. *Journal of Managerial Psychology, 27*, 347-364. doi:10.1108/02683941211220162

Hosoda, M., Stone-Romero, E. F., & Walter, J. N. (2007). Listeners' cognitive and affective reactions to English speakers with standard American English and Asian accents. *Perceptual and Motor Skills, 104*, 307-326. doi:10.2466/pms.104.1.307-326

Institute of Medicine. (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, DC: National Academies Press.

Jacobs, E., Chen, A. H., Karliner, L. S., Agger-Gupta, N., & Mutha, S. (2006). The need for more research on language barriers in health care: A proposed research agenda. *Milbank Quarterly, 84*, 111-133. doi:10.1111/j.1468-0009.2006.00440.x

Jain, P. (2014). Intergroup, interpersonal, and intercultural nature of patient–provider communication: A comparison of IMG and USMG physicians. *The Communication Review, 17*, 27-44. doi:10.1080/10714421.2014.872498

Jain, P., & Krieger, J. L. (2011). Moving beyond the language barrier: The communication strategies used by international medical graduates in intercultural medical encounters. *Patient Education and Counseling, 84*, 98-104. doi:10.1016/j.pec.2010.06.022

Janssen, S. M., & Lagro-Janssen, A. L. M. (2012). Physician's gender, communication style, patient preferences and patient satisfaction in gynecology and obstetrics: A systematic review. *Patient Education and Counseling, 89*, 221-226. doi:10.1016/j.pec.2012.06.034

Jecker, N. S., Carrese, J. A., & Pearlman, R. A. (1995). Caring for patients in cross-cultural settings. *The Hastings Center Report, 25*, 6-14. doi:10.2307/3562484

Jirwe, M., Gerrish, K., & Emami, A. (2010). Student nurses' experiences of communication in cross-cultural care encounters. *Scandinavian Journal of Caring Sciences, 24*, 436-444. doi:10.1111/j.1471-6712.2009.00733.x

Kawai, Y. (2005). Stereotyping Asian Americans: The dialectic of the model minority and the yellow peril. *Howard Journal of Communications, 16*, 109-130. doi:10.1080/10646170590948974

Kong, H., & Hsieh, E. (2012). The social meanings of traditional Chinese medicine: Elderly Chinese immigrants' health practice in the United States. *Journal of Immigrant and Minority Health, 14*, 841-849. doi:10.1007/s10903-011-9558-2

Konrad, T. R., Howard, D. L., Edwards, L. J., Ivanova, A., & Carey, T. S. (2005). Physician-patient racial concordance, continuity of care, and patterns of care for hypertension. *American Journal of Public Health, 95*, 2186-2190. doi:10.2105/ajph.2004.046177

Kraetschmer, N., Sharpe, N., Urowitz, S., & Deber, R. B. (2004). How does trust affect patient preferences for participation in decision-making? *Health Expectations, 7*, 317-326. doi:10.1111/j.1369-7625.2004.00296.x

Kramer, E. M., Callahan, C., & Zunckerman, Z. D. (2013). *Intercultural communication and global integration*. Dubuque, IA: Kendall Hunt.

Kreps, G. L., & Kunimoto, E. N. (1994). *Effective communication in multicultural health care settings*. Thousand Oaks, CA: Sage.

Kupfer, J. M., & Bond, E. U. (2012). Patient satisfaction and patient-centered care: Necessary but not equal. *JAMA, 308*, 139-140. doi:10.1001/jama.2012.7381

Labov, J., & Hanau, C. (2011). Pronounciation as life and death: Improving the communication skills of non-native English speaking pathologitsts. In B. J. Hoekje & S. M. Tipton (Eds.), *English language and the medical profession: Instructing and assessing the communication skills of International physicians* (pp. 261-286). Howard House, UK: Emerald Group Publishing Limited.

LaVeist, T. A., & Nuru-Jeter, A. (2002). Is doctor-patient race concordance associated with greater satisfaction with care? *Journal of Health and Social Behavior, 43*, 296-306. doi:10.2307/3090205

Lee, T. L., & Fiske, S. T. (2006). Not an outgroup, not yet an ingroup: Immigrants in the Stereotype Content Model. *International Journal of Intercultural Relations, 30*, 751-768. doi:10.1016/j.ijintrel.2006.06.005

Leeman, R. F., Fischler, C., & Rozin, P. (2011). Medical doctors' attitudes and beliefs about diet and health are more like those of their lay countrymen (France, Germany, Italy, UK and USA) than those of doctors in other countries. *Appetite, 56*, 558-563. doi:10.1016/j.appet.2011.01.022

Levine, C. S., & Ambady, N. (2013). The role of non-verbal behaviour in racial disparities in health care: Implications and solutions. *Medical Education, 47*, 867-876. doi:10.1111/medu.12216

Lim, T.-s. (2002). Language and verbal communication across cultures. In W. B. Gudykunst & B. Mody (Eds.), *Handbook of International and intercultural communication* (2nd ed., pp. 69-87). Thousand Oaks, CA: Sage.

Lindemann, S. (2005). Who speaks "broken English"? US undergraduates' perceptions of non-native English1. *International Journal of Applied Linguistics, 15*, 187-212. doi:10.1111/j.1473-4192.2005.00087.x

Madon, S., Guyll, M., Aboufadel, K., Montiel, E., Smith, A., Palumbo, P., & Jussim, L. (2001). Ethnic and national stereotypes: The Princeton trilogy revisited and revised. *Personality and Social Psychology Bulletin, 27*, 996-1010. doi:10.1177/0146167201278007

Major, B., & O'Brien, L. T. (2005). The social psychology of stigma. *Annual Review of Psychology, 56*, 393-421. doi:10.1146/annurev.psych.56.091103.070137

Meghani, S. H., Brooks, J. M., Gipson-Jones, T., Waite, R., Whitfield-Harris, L., & Deatrick, J. A. (2009). Patient-provider race-concordance: Does it matter in improving minority patients' health outcomes? *Ethnicity & Health, 14*, 107-130. doi:10.1080/13557850802227031

Miller, K. I., & Considine, J. R. (2009). *Communication in the helping professions* (L. R. Frey & K. N. Cissna Eds.). New York, NY: Routledge.

Morris, D. (1996). *The human zoo: A zoologist's classic study of the urban animal*. New York, NY: Kodansha USA, Inc.

Morrison, T. B., Wieland, M. L., Cha, S. S., Rahman, A. S., & Chaudhry, R. (2012). Disparities in preventive health services among Somali immigrants and refugees. *Journal of Immigrant and Minority Health, 14*, 968-974. doi:10.1007/s10903-012-9632-4

Moyer, A. (2004). *Age, accent, and experience in second language acquisition: An integrated approach to critical period inquiry*. Clevedon, UK: Multilingual Matters.

Mullan, F. (2006). Doctors for the world: Indian physician emigration. *Health Affairs, 25*, 380-393. doi:10.1377/hlthaff.25.2.380

Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology, 15*, 263-280. doi:10.1002/ejsp.2420150303

Nguyen, B. B.-D. (1993). Accent discrimination and the test of spoken English: A call for an objective assessment of the comprehensibility of nonnative speakers. *California Law Review, 81*, 1325-1361. doi:10.2307/3480920

Nisbett, R. E. (2003). *The geography of thought: How Asians and Westerners think differently...and why*. New York: The Free Press.

Ong, A. (1995). Making the biopolitical subject: Cambodian immigrants, refugee medicine and cultural citizenship in California. *Social Science & Medicine, 40*, 1243-1257. doi:10.1016/0277-9536(94)00230-Q

Ozawa, S., & Sripad, P. (2013). How do you measure trust in the health system? A systematic review of the literature. *Social Science & Medicine, 91*, 10-14. doi:10.1016/j.socscimed.2013.05.005

Parsons, S. K., Saiki-Craighill, S., Mayer, D. K., Sullivan, A. M., Jeruss, S., Terrin, N., . . . Block, S. (2007). Telling children and adolescents about their cancer diagnosis: Cross-cultural comparisons between pediatric oncologists in the US and Japan. *Psycho-Oncology, 16*, 60-68. doi:10.1002/pon.1048

Pascoe, G. C. (1983). Patient satisfaction in primary health care: A literature review and analysis. *Evaluation and Program Planning, 6*, 185-210. doi:10.1016/0149-7189(83)90002-2

Piette, J. D., Bibbins-Domingo, K., & Schillinger, D. (2006). Health care discrimination, processes of care, and diabetes patients' health status. *Patient Education and Counseling, 60*, 41-48. doi:10.1016/j.pec.2004.12.001

Piñeiro, C. (2011). Courses for health and medical professionals. In B. J. Hoekje & S. M. Tipton (Eds.), *English Language and the Medical Profession: Instructing and Assessing the Communication Skills of International Physicians* (pp. 229-260). Howard House, UK: Emerald Group Publishing Limited.

Pitaloka, D., & Hsieh, E. (2015). Health as submission and social responsibilities: Embodied experiences of Javanese women with type II diabetes. *Qualitative Health Research, 25*, 1155-1165. doi:10.1177/1049732315577607

Porter, J. L., Townley, T., Huggett, K., & Warrier, R. (2008). An acculturization curriculum: Orienting International Medical Graduates to an internal medicine residency program. *Teaching and Learning in Medicine, 20*, 37-43. doi:10.1080/10401330701542644

Rogers, E. M., & Hart, W. B. (2002). The histories of intercultural, international, and development communication. In W. B. Gudykunst & B. Mody (Eds.), *Handbook of international and intercultural communication* (2nd ed.). Thousand Oaks, CA: Sage.

Rogers-Sirin, L., Melendez, F., Refano, C., & Zegarra, Y. (2015). Immigrant perceptions of therapists' cultural competence: A qualitative investigation. *Professional Psychology: Research and Practice, 46*, 258-269. doi:10.1037/a0018814.

Rosner, F., Dantzker, D. R., Walerstein, S., & Cohen, S. (1993). Intensive one-week orientation for foreign medical graduates entering an internal medicine residency program. *Journal of General Internal Medicine, 8*, 264-265. doi:10.1007/BF02600094

Rozycki, W., Connor, U. M., Lipsig Pylitt, L., & Logio, L. (2011). Assessing cultural knowledge among International Medical Graduates in the United States. In B. J. Hoekje & S. M. Tipton (Eds.), *English language and the medical profession: Instructing and assessing the communication skills of International physicians* (pp. 111-132). Howard House, UK: Emerald Group Publishing Limited.

Rubin, D. L., Coles, V. B., & Barnett, J. T. (2016). Linguistic stereotyping in older adults' perceptions of health care aides. *Health Communication, 31*, 911-916. doi:10.1080/10410236.2015.1007549

Rubin, D. L., Healy, P., Gardiner, T. C., Zath, R. C., & Moore, C. P. (1997). Nonnative physicians as message sources: Effects of accent and ethnicity on patients' responses to AIDS prevention counseling. *Health Communication, 9*, 351-368. doi:10.1207/s15327027hc0904_4

Rubin, D. L., & Smith, K. A. (1990). Effects of accent, ethnicity, and lecture topic on undergraduates' perceptions of nonnative English-speaking teaching assistants. *International Journal of Intercultural Relations, 14*, 337-353. doi:10.1016/0147-1767(90)90019-S

Ruble, R. A., & Zhang, Y. B. (2013). Stereotypes of Chinese international students held by Americans. *International Journal of Intercultural Relations, 37*, 202-211. doi:10.1016/j.ijintrel.2012.12.004

Ryan, E. B. (1983). Social psychological mechanisms underlying native speaker evaluations of non-native speech. *Studies in Second Language Acquisition, 5*, 148-159. doi:10.1017/S0272263100004824

Ryan, E. B., Carranza, M. A., & Moffie, R. W. (1977). Reactions toward varying degrees of accentedness in the speech of Spanish-English bilinguals. *Language & Speech, 20*, 267-273. doi:10.1177/002383097702000308

Saran, R. (2015). *Navigating model minority stereotypes*. Florence: Taylor and Francis.

Schmid Mast, M., Hall, J. A., & Roter, D. L. (2007). Disentangling physician sex and physician communication style: Their effects on patient satisfaction in a virtual medical visit. *Patient Education and Counseling, 68*, 16-22. doi:10.1016/j.pec.2007.03.020

Scott, C. R. (2007). Communication and social identity theory: Existing and potential connections in organizational identification research. *Communication Studies, 58*, 123-138. doi:10.1080/10510970701341063

Scott, C. R., Corman, S. R., & Cheney, G. (1998). Development of a structurational model of identification in the organization. *Communication Theory, 8*, 298-336. doi:10.1111/j.1468-2885.1998.tb00223.x

Seeleman, C., Suurmond, J., & Stronks, K. (2009). Cultural competence: A conceptual framework for teaching and learning. *Medical Education, 43*, 229-237. doi:10.1111/j.1365-2923.2008.03269.x

Seijo, R., Gomez, H., & Freidenberg, J. (1991). Language as a communication barrier in medical care for Hispanic patients. *Hispanic Journal of Behavioral Sciences, 13*, 363-376. doi:10.1177/07399863910134001

Shah, R., & Ogden, J. (2006). 'What's in a face?' The role of doctor ethnicity, age and gender in the formation of patients' judgements: an experimental study. *Patient Education and Counseling, 60*, 136-141. doi:10.1016/j.pec.2004.12.005

Shaw, J. E., Sicree, R. A., & Zimmet, P. Z. (2010). Global estimates of the prevalence of diabetes for 2010 and 2030. *Diabetes Research and Clinical Practice, 87*, 4-14. doi:10.1016/j.diabres.2009.10.007

Shaw, S. J., Huebner, C., Armin, J., Orzech, K., & Vivian, J. (2009). The role of culture in health literacy and chronic disease screening and management. *Journal of Immigrant & Minority Health, 11*, 460-467. doi:10.1007/s10903-008-9135-5

Sherraden, M. S., & Barrera, R. E. (1996). Prenatal care experiences and birth weight among Mexican immigrant women. *Journal of Medical Systems, 20*, 329-350. doi:10.1007/BF02257044

Sirois, M. L., Darby, M., & Tolle, S. (2013). Understanding Muslim patients: cross-cultural dental hygiene care. *International Journal of Dental Hygiene, 11*, 105-114. doi:10.1111/j.1601-5037.2012.00559.x

Sitzia, J., & Wood, N. (1997). Patient satisfaction: A review of issues and concepts. *Social Science & Medicine, 45*, 1829-1843. doi:10.1016/S0277-9536(97)00128-7

Sodowsky, G. R., & Carey, J. C. (1987). Asian Indian immigrants in America: Factors related to adjustment. *Journal of Multicultural Counseling and Development, 15*, 129-141. doi:10.1002/j.2161-1912.1987.tb00388.x

Solomon, M. Z. (1997). From what's neutral to what's meaningful: Reflections on a study of medical interpreters. *Journal of Clinical Ethics, 8*, 88-93.

Spector, R. (1996). *Culture and diversity in health and illness*. Stamford, CT: Appleton Lange.

Speight, J. (2005). Assessing patient satisfaction: Concepts, applications, and measurement. *Value in Health, 8*, S6-S8. doi:10.1111/j.1524-4733.2005.00071.x

Stepanikova, I., Mollborn, S., Cook, K. S., Thom, D. H., & Kramer, R. M. (2006). Patients' race, ethnicity, language, and trust in a physician. *Journal of Health and Social Behavior, 47*, 390-405. doi:10.1177/002214650604700406

Street Jr, R. L., O'Malley, K. J., Cooper, L. A., & Haidet, P. (2008). Understanding concordance in patient-physician relationships: Personal and ethnic dimensions of shared identity. *Annals of Family Medicine, 6*, 198-205. doi:10.1370/afm.821

Suzuki, B. H. (2002). Revisiting the model minority stereotype: Implications for student affairs practice and higher education. *New Directions for Student Services, 2002*, 21-32. doi:10.1002/ss.36

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allen and Bacon.

Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Teal, C. R., & Street, R. L. (2009). Critical elements of culturally competent communication in the medical encounter: A review and model. *Social Science & Medicine, 68*, 533-543. doi:10.1016/j.socscimed.2008.10.015

Terui, S. (2015). Conceptualizing the pathways and processes between language barriers and health disparities: Review, synthesis, and extension. *Journal of Immigrant and Minority Health*, 1-10. doi:10.1007/s10903-015-0322-x

Thom, D. H., & Campbell, B. (1997). Patient-physician trust: an exploratory study. *Journal of Family Practice, 44,* 169.

Thom, D. H., Ribisl, K. M., Stewart, A. L., Luke, D. A., & The Stanford Trust Study, P. (1999). Further validation and reliability testing of the trust in physician scale. *Medical Care, 37*, 510-517.

Thornton, R. L. J., Powe, N. R., Roter, D., & Cooper, L. A. (2011). Patient–physician social concordance, medical visit communication and patients' perceptions of health care quality. *Patient Education and Counseling, 85*, e201-e208. doi:10.1016/j.pec.2011.07.015

Timmins, C. L. (2002). The impact of language barriers on the health care of Latinos in the United States: A Review of the literature and guidelines for practice. *The Journal of Midwifery & Women' s Health, 47*, 80-96. doi:10.1016/S1526-9523(02)00218-0

Ting-Toomey, S. (2005). The matrix of face: An updated Face-Negotiation Theory. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication* (pp. 71-92). Thousand Oaks, CA: Sage.

USMLE. (2016). Bulletin of Information. Retrieved October 2, 2016, from http://www.usmle.org/pdfs/bulletin/2017bulletin.pdf

van Ryn, M., & Burke, J. (2000). The effect of patient race and socio-economic status on physicians' perceptions of patients. *Social Science & Medicine, 50*, 813-828. doi:10.1016/S0277-9536(99)00338-X

van Zanten, M. (2011). Evaluating the spoken English proficiency of International Medical Graduates for certification and licensure in the United States. In B. J. Hoekje & S. M. Tipton (Eds.), *English language and the medical profession: Instructing and assessing the communication skills of International physicians* (pp. 75-90). Howard House, UK: Emerald Group Publishing Limited.

Wallin, A.-M., & Ahlström, G. (2010). From diagnosis to health: A cross-cultural interview study with immigrants from Somalia. *Scandinavian Journal of Caring Sciences, 24*, 357-365. doi:10.1111/j.1471-6712.2009.00729.x

Wated, G., & Sanchez, J. I. (2006). The role of accent as a work stressor on attitudinal and health-related work outcomes. *International Journal of Stress Management, 13*, 329-350. doi:10.1037/1072-5245.13.3.329

Welch, B. L. (1951). On the comparison of several mean values: An alternative approach. *Biometrika, 38*, 330-336. doi:10.2307/2332579

Whelan, G. P. (1999). Educational Commission for Foreign Medical Graduates: Clinical skills assessment prototype. *Medical Teacher, 21*, 156-160. doi:10.1080/01421599979789

Whelan, G. P., Gary, N. E., Kostis, J., Boulet, J. R., & Hallock, J. A. (2002). The changing pool of international medical graduates seeking certification training in U.S. graduate medical education programs. *JAMA, 288*, 1079-1084. doi:10.1001/jama.288.9.1079

Wilson, E., Hm Chen, A., Grumbach, K., Wang, F., & Fernandez, A. (2005). Effects of limited English proficiency and physician language on health care comprehension. *Journal of General Internal Medicine, 20*, 800-806. doi:10.1111/j.1525-1497.2005.0174.x

Wing, J. Y. (2007). Beyond black and white: The model minority myth and the invisibility of Asian American students. *The Urban Review, 39*, 455-487. doi:10.1007/s11256-007-0058-6

World Health Organization. (2016). Global reports on diabetes. Retrieved January, 6, from http://apps.who.int/iris/bitstream/10665/204871/1/9789241565257_eng.pdf?ua=1

Wright, K. B., Sparks, L., & O'Hair, H. D. (2013). *Health communication in the 21st century*. Malden, MA: John Wiley & Sons.

Xierali, I. M. (2013). The characteristics and distribution of International Medical Graduates from mainland China, Taiwan, and Hong Kong in the US. *GeoJournal, 78*, 139-150. doi:10.1007/s10708-011-9435-5

Yee, A. H. (1992). Asians as stereotypes and students: Misperceptions that persist. *Educational Psychology Review, 4*, 95-132. doi:10.1007/BF01322396

Table 1. Means of Physician Competence, Overall Satisfaction, and Trust in Physicians

Race	Accent	Physician Competence (*SE*)	Patient Satisfaction (*SE*)	Trust in Physicians (*SE*)
Caucasian	Standard	3.66 (0.21)	3.65 (0.21)	3.47 (0.18)
	Foreign	3.68 (0.21)	3.39 (0.22)	3.30 (0.18)
Chinese	Standard	3.67 (0.20)	3.36 (0.21)	3.54 (0.17)
	Foreign	3.89 (0.21)	3.43 (0.22)	3.49 (0.18)
Indian	Standard	3.47 (0.21)	3.02 (0.22)	3.14 (0.18)
	Foreign	3.93 (0.21)	3.36 (0.21)	3.50 (0.18)

Note. SE stands for standard error.

Table 2: Pairwise Comparisons of Main Effects of Race

Item	Race (I)	Race (J)	Mean Difference (I-J)	*SE*	Significance	95% CI for Difference	
						LB	UB
Trust 2: The doctor is considerate of my needs and puts them first.	Caucasian	Chinese	-0.32	0.23	.175	-0.78	0.14
	Caucasian	Indian	0.18	0.24	.449	-0.29	0.65
	Chinese	Indian	0.50	0.24	.036*	0.03	0.96

Note. *SE* stands for standard error. CI stands for confidence interval. LB stands for lower bound, and UB stands for upper bound.
*. The mean difference is significant at the .05 level.

Table 3: Pairwise Comparisons of Interaction Effects of Race and Accent on Patient Satisfaction

Item	Race by Accent (I)	Race by Accent (J)	Mean Difference (I-J)	*SE*	Significance	95% CI for Difference	
						LB	UB
Satisfaction 5: I am pleased with my visit with the doctor.	Caucasian Standard	Caucasian Foreign	0.26	0.34	.452	-0.42	0.93
		Chinese Standard	0.34	0.33	.311	-0.32	0.99
		Chinese Foreign	0.49	0.34	.155	-0.19	1.17
		Indian Standard	0.92	0.34	.008*	0.24	1.60
		Indian Foreign	0.20	0.34	.561	-0.47	0.86
	Caucasian Foreign	Chinese Standard	0.08	0.33	.812	-0.58	0.74
		Chinese Foreign	0.23	0.35	.503	-0.45	0.92
		Indian Standard	0.67	0.35	.056	-0.02	1.35
		Indian Foreign	-0.06	0.34	.857	-0.74	0.61
	Chinese Standard	Chinese Foreign	0.15	0.34	.649	-0.51	0.82
		Indian Standard	0.59	0.34	.084	-0.08	1.25
		Indian Foreign	-0.14	0.33	.671	-0.80	0.51
	Chinese Foreign	Indian Standard	0.43	0.35	.219	-0.26	1.12
		Indian Foreign	-0.30	0.34	.392	-0.97	0.38
	Indian Standard	Indian Foreign	-0.73	0.34	.036*	-1.41	-0.05

Note. *SE* stands for standard error. CI stands for confidence interval. LB stands for lower bound, and UB stands for upper bound. *. The mean difference is significant at the .05 level.

Table 4: Pairwise Comparisons of Interaction Effects of Race and Accent on Trust 1

Item	Race by Accent (I)	Race by Accent (J)	Mean Difference (I-J)	*SE*	Significance	95% CI for Difference	
						LB	UB
Trust 1(Reverse coded): I doubt that the doctor really cares me as a person.	Caucasian Standard	Caucasian Foreign	-0.12	0.36	.744	-0.82	0.59
		Chinese Standard	-0.02	0.35	.948	-0.71	0.66
		Chinese Foreign	-0.41	0.36	.260	-1.11	0.30
		Indian Standard	0.42	0.36	.251	-0.30	1.13
		Indian Foreign	-0.24	0.35	.487	-0.94	0.45
	Caucasian Foreign	Chinese Standard	0.09	0.35	.787	-0.59	0.78
		Chinese Foreign	-0.29	0.36	.428	-1.01	0.43
		Indian Standard	0.53	0.36	.144	-0.18	1.25
		Indian Foreign	-0.13	0.36	.721	-0.83	0.58
	Chinese Standard	Chinese Foreign	-0.38	0.35	.279	-1.08	0.31
		Indian Standard	0.44	0.35	.216	-0.26	1.13
		Indian Foreign	-0.22	0.35	.523	-0.91	0.46
	Chinese Foreign	Indian Standard	0.82	0.37	.027*	0.10	1.54
		Indian Foreign	0.16	0.36	.654	-0.55	0.87
	Indian Standard	Indian Foreign	-0.66	0.36	.069	-1.37	0.05

Note. *SE* stands for standard error. CI stands for confidence interval. LB stands for lower bound, and UB stands for upper bound. *. The mean difference is significant at the .05 level.

Table 5: Pairwise Comparisons of Interaction Effects of Race and Accent on Trust 2

Item	Race by Accent (I)	Race by Accent (J)	Mean Difference (I-J)	*SE*	Significance	95% CI for Difference	
						LB	UB
Trust 2: The doctor is considerate of my needs and puts them first.	Caucasian Standard	Caucasian Foreign	0.25	0.33	.452	-0.41	0.91
		Chinese Standard	-0.22	0.32	.500	-0.86	0.42
		Chinese Foreign	-0.17	0.34	.621	-0.83	0.50
		Indian Standard	0.66	0.34	.054	-0.01	1.32
		Indian Foreign	-0.04	0.33	.892	-0.69	0.61
	Caucasian Foreign	Chinese Standard	-0.47	0.33	.150	-1.12	0.17
		Chinese Foreign	-0.42	0.34	.220	-1.09	0.25
		Indian Standard	0.40	0.34	.236	-0.27	1.07
		Indian Foreign	-0.30	0.33	.377	-0.96	0.37
	Chinese Standard	Chinese Foreign	0.05	0.33	.873	-0.60	0.71
		Indian Standard	0.87	0.33	.009*	0.22	1.53
		Indian Foreign	0.18	0.32	.591	-0.47	0.82
	Chinese Foreign	Indian Standard	0.82	0.34	.018*	0.14	1.50
		Indian Foreign	0.12	0.34	.717	-0.54	0.79
	Indian Standard	Indian Foreign	-0.70	0.34	.040*	-1.37	-0.03

Note. *SE* stands for standard error. CI stands for confidence interval. LB stands for lower bound, and UB stands for upper bound. *. The mean difference is significant at the .05 level.

Appendix B: Questionnaire

What is your gender?
- ❍ Male
- ❍ Female
- ❍ Other

What is your age? _____

What is your ethnicity/race?
- ❍ Caucasian
- ❍ African American
- ❍ Hispanic or Latino
- ❍ Asian
- ❍ American Indian or Alaska native
- ❍ Other; Please specify _____

What is your country of origin?
- ❍ The United States
- ❍ China
- ❍ India
- ❍ Other; Please specify _____

Instruction: Please watch the video carefully by clicking the red button at the center. The video captures a doctor-patient interaction. While watching this video, imagine you were the patient in this video interacting with the doctor.

Indicate how much you agree with the statements presented on the left by selecting the option that corresponds to your choice on the right.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The doctor in the video is a male.	❍	❍	❍	❍	❍
The doctor in the video is a female.	❍	❍	❍	❍	❍
The doctor in the video looks Caucasian.	❍	❍	❍	❍	❍
The doctor in the video looks Asian.	❍	❍	❍	❍	❍
The doctor in the video sounds like a native speaker.	❍	❍	❍	❍	❍
The doctor in the video sounds like a foreign speaker.	❍	❍	❍	❍	❍
The interaction captured by the video is realistic.	❍	❍	❍	❍	❍

The doctor in the video is talking about:

❍ Cancer
❍ Diabetes
❍ Heart disease
❍ Flu

Instruction: Suppose you were the patient in the video you watched just now. Please evaluate the doctor in the video by answering the following questions.
Indicate how much you agree with the statements presented on the left by selecting the option that corresponds to your choice on the right.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have confidence in this doctor's abilities.	❍	❍	❍	❍	❍
This doctor seems to know what he/she is doing.	❍	❍	❍	❍	❍
I have a good deal of confidence in this doctor.	❍	❍	❍	❍	❍
Please choose "somewhat disagree".	❍	❍	❍	❍	❍
This doctor made it easy to understand what, if anything, was wrong with me.	❍	❍	❍	❍	❍
I am pleased with my visit with this doctor.	❍	❍	❍	❍	❍
Overall, I am satisfied with this doctor.	❍	❍	❍	❍	❍

Indicate how much you agree with the statements presented on the left by selecting the option that corresponds to your choice on the right.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I doubt that this doctor really cares me as a person.	❍	❍	❍	❍	❍
The doctor is considerate of my needs and puts them first.	❍	❍	❍	❍	❍
I trust this doctor so much, so I will try to follow his/her advice.	❍	❍	❍	❍	❍
If the doctor tells me something is so, then it must be true.	❍	❍	❍	❍	❍
I distrust this doctor's opinions and would like a second one.	❍	❍	❍	❍	❍
I trust the doctor's judgments about my medical care.	❍	❍	❍	❍	❍
I feel the doctor does not do everything he/she should about my medical care.	❍	❍	❍	❍	❍
I trust the doctor to put my medical	❍	❍	❍	❍	❍

needs above all other considerations when treating my medical problems.					
Please choose "strongly disagree".	❍	❍	❍	❍	❍
The doctor is well qualified to manage (diagnose and treat or make an appropriate referral) medical problems like mine.	❍	❍	❍	❍	❍
I trust this doctor to tell me if a mistake was made about my treatment.	❍	❍	❍	❍	❍
I sometimes worry that the doctor may not keep the information we discuss totally private.	❍	❍	❍	❍	❍

Please recall the information given by the doctor in the video and answer the following multiple choice or True/False questions.

According to information given by the doctor in the video, which of the following is mentioned as the risk factor (s) leading to Type II diabetes?

- ❍ Excessive sugar consumption
- ❍ Family history
- ❍ Unhealthy meal plan choices
- ❍ All of above

According to information given by the doctor, diabetes can hardly be cured.

- ❍ True
- ❍ False

According to information given by the doctor, injecting insulin is not necessary for this patient.

- ❍ True
- ❍ False

Which test is suggested by the doctor to observe blood sugar?

- ❍ B1C
- ❍ A1C
- ❍ A1C1
- ❍ CCA

The doctor recommended taking the above test at least how many times a year?

- ❍ Once
- ❍ Twice
- ❍ Three times
- ❍ Four times

Please write a short paragraph regarding your impression of the doctor in the video (at least 50 words).

Please list at least two strengths of the doctor in the video.

Please list at least two weaknesses of the doctor in the video.

How often did you encounter nonnative health providers?

- ❍ Never
- ❍ Rarely
- ❍ Sometimes
- ❍ Very often
- ❍ Always

Appendix C: Scripts

Doctor: Your test result shows that you have type II diabetes. Diabetes is a disease that your body cannot use insulin properly, which causes blood sugar levels to rise higher than normal.

Patient: That's impossible. I don't feel sick at all.

Doctor: When people first find out that they have diabetes, it's sometimes really scary, or sad, or even hard to believe. I know that you probably don't feel sick, or any different than you felt before you were told you have diabetes. However, it is very important to take this disease seriously.

Patient: Why do I have type II diabetes?

Doctor: Actually, scientists do not know the exact cause of type II diabetes. There are several risk factors such as family history, physical inactivity, and obesity.

Patient: My neighbor said that there are cures for diabetes now. Can I be cured?

Doctor: Well, type II diabetes can hardly be cured, but you can manage it if you follow my advice. I'll prescribe insulin. You should inject insulin once a day.

Patient: But I've heard insulin is not necessary for this disease.

Doctor: It is true some people with type II diabetes can manage it with healthy eating and exercise, but your condition is different. You need to use insulin because your blood sugar is too high. Regular exercise is also a key part of managing diabetes. When you are active, your cells become more sensitive to insulin so it can work more efficiently. You need to do more exercise, especially aerobic exercise and strength training. Healthy eating is also important. Beans, whole grains and fat-free milk, or yoghurt are all good choices. Besides, you should get an A1C test at least twice a year so we can know how well you control your blood sugar.